



Tasman District Council

Engineering Standards and Policies 2013



Do it once – Do it right!

Kia ki te mea Tuatahi – Kia Oranga!

FOREWORD

This 2013 edition of the Tasman District Council “Engineering Standards and Policies” is the result of a review process aimed at encapsulating changes affecting Council’s infrastructure. The document is effective from 1 November 2013.

The primary purpose of the Engineering Standards is to ensure that Council’s assets achieve acceptable levels of service and that they are modern, cost-effective and durable.

The previous standards were approved by Council in 2008. As technology and advancements in the way we do our business improve, so is the need for review.

Some of the technical changes affecting Council’s infrastructure include:

- Clarifying the requirements for Erosion and Sedimentation
- New requirements on Health and Safety and Training of Contractors.
- Global warming and potential flooding frequencies.
- Clarifying working on the road requirements.
- Clarify soil types in the Tasman area.
- Alternative road designs can be submitted for appraisal.
- Small bore pressure wastewater pump systems can be submitted for approval for non residential zone land
- Reserves section rewritten

The 2013 review has resulted in a number of improvements. New design objectives have been written that clarify what the Council is trying to achieve with the management of each asset. These objectives are tied in with the Council’s Activity Management Plans, and levels of service.

Each section is documented by chapter in a separate PDF document and followed by the respective appendices and engineering plans which have been updated.

The Engineering Standards and Policies will require continuous review and amendment to reflect changes in engineering best practice and feedback from users.

Public enquiries regarding these Engineering Standards and Policies will be managed by the Engineering Department. Written comments on the standards should be sent to:

Development Engineer
Tasman District Council
Private Bag 4
Richmond 7050

Tasman District Council acknowledges the input of consultants, contractors, developers, surveyors, legal advisors, Councillors and the general public to this edition of the Engineering Standards and Policies.



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1 INTRODUCTION

The purpose of the Council's Engineering Standards and Policies is to provide guidance and minimum standards for the design, construction and maintenance of all service infrastructure assets.

Design and construction in accordance with the standards ensures that all assets are managed effectively and efficiently.

The standards contained in this document serve as a basis for technical compliance for the subdivision and development of land, where these activities are subject to the Resource Management Act 1991 (RMA), and for the construction of assets under capital works contracts for Council. They also provide additional guidance to ensure the long-term cost effectiveness and efficiency of service provision to the Community.

1.1 Document Control

1.1.1 General

The Engineering Standards and Policies are a controlled document and amendment or re-issue is the responsibility of the Engineering Services Department of Tasman District Council delegated to the Engineering Manager.

1.1.2 Amendments

Amendments/reviews are carried out three-yearly. However, an earlier individual amendment may be made if an important alteration to a standard or technology arises.

Significant amendments will be reviewed and approved by Council's Engineering Services Committee.

1.1.3 Document Release

Each CD copy of the Engineering Standards and Policies will be available to existing copy holders and a register of these is held by the Engineering Manager.

1.1.4 Review Procedures

The Engineering Standards and Policies are generally reviewed on a three-yearly cycle and approved by the Engineering Services Committee.

1.2 Legal Context

The provisions in these standards must be read within the context of the Tasman Resource Management Plan (TRMP), which is the primary guiding document for all land development and infrastructure works in the Tasman District. Compliance with it can ensure the sustainable management of all resources in accordance with the Resource Management Act 1991.

The standards are also aimed at providing a standard of service that will ensure the health, safety and wellbeing of people and communities living in the Tasman District in terms of the Local Government Act 2002. The Local Government Act requires that the Council determine and prioritise those projects and services that can ensure this. The Act also requires that Council deliver those projects and services in the most cost-effective way. The standards also ensure compliance with the following statutes:

- *Building Act 2004*
- *Land Transfer Act 1952*
- *Unit Titles Act 1972*
- *Property Law Act 1952*
- *Local Government Official Information and Meetings Act 1987 (LGOIMA)*

These statutes provide Council with the powers and functions to request, provide and supply information pertaining to the land. In addition to these, any developer must also be aware of and comply with the following statutes where applicable:

- *Electricity Act 1992*
- *Health and Safety in Employment Act 1992*
- *Land Transport Management Act 2003*
- *Plumbers, Fitters and Drainlayers Act 2006*
- *Telecommunications Act 2001*
- *Transit New Zealand Act 1989*
- *Water Supplies Protection Regulations 1961*

1.3 Objectives

The objectives of the Tasman District Council Engineering Standards and Policies are:

- a) The standard of service ensures the health, safety and wellbeing of people and communities;
- b) Community identified outcomes have been achieved in accordance with the Long Term Plan (LTP);
- c) The management of natural and physical resources, in accordance with the Resource Management Act 1991(RMA), is sustainable;
- d) Technical guidance about the design and construction of services necessary to meet the objectives and policies of the Tasman Resource Management Plan (TRMP) has been provided;
- e) Other network utility providers have worked together with Council to deliver telecommunication, electrical and road network infrastructure works effectively and efficiently;
- f) Long-term life-cycle costs associated with all service infrastructure assets are effective and efficient;
- g) Good urban design and low impact design principles through land subdivision and development have been encouraged where they are appropriate and practicable;
- h) Innovation in the use of alternative methods for achieving design objectives has been encouraged, provided that minimum standards for safety and efficiency of infrastructure provision can be met in a cost-effective way for the Community and Council.

1.4 Applicability

The standards outlined in this document will apply to:

- a) All infrastructure assets that are to be vested in Council;
- b) All infrastructure assets constructed under contract for Council;
- c) Any development that may have an impact on Council's infrastructure assets;
- d) Development that requires a building consent or resource consent.

This covers:

- *subdivision development;*
- *any building or construction works;*
- *the design, construction and/or installation of any infrastructure assets;*
- *land activities that require modification of waterways and/or land disturbance; and*
- *any repair or maintenance works that may affect existing infrastructure.*

1.5 Overview

The Tasman District Council's Engineering Standards and Policies have been organised into two key parts for ease of reference.

Part 1 (Sections 1 to 3) contains standards that relate to the administration of Council's asset infrastructure. This includes:

- a) Section 1 – Definitions and interpretations of words.
- b) Section 2 – Process and information requirements particularly information about the key steps in the process and decision points where Council approval may be required.
- c) Section 3 – Legal which covers liability and responsibility issues, training and qualifications, and the location of services including land and asset ownership structures.

Part 2 (Sections 4 to 12) contains the engineering standards and guides, relating to the design, material specifications and construction and installation of all and any part of the infrastructure that will fall under Council's control. The sections covered are:

- a) Section 4 - Trenching and Reinstatement Works – standards and guides for all trenching and excavation work on underground services.
- b) Section 5 – Earthworks – standards and guides for land disturbance activities involving the preparation of sites for development.
- c) Section 6 – Roading Network – standards and guides for the design and construction of roads and the management of road reserve.
- d) Section 7 - Stormwater and Drainage – standards and guides for the design and construction of stormwater system. An "alternative assessment" framework enables alternative designs such as low impact design to be considered.

- e) Section 8 – Wastewater – standards and guides are for the design and construction of wastewater collection and disposal systems.
- f) Section 9 - Water supply – standards and guides for the design and construction of water supply systems.
- g) Section 10 - Electrical utilities – standards for electricity and road/streetlighting. This section is based on the requirements of network line operators.
- h) Section 11 Telecommunications utilities – standards for telecommunications which are based on the requirements of line operators.
- i) Section 12 – Reserves – standards and guides for parks, reserves, walkways and any public open space areas, in the context of land development.
- j) Section 13 – Contact details.

1.6 Definitions and Interpretations

Annual Exceedance Probability (AEP) – means the probability of exceedance in any 12-month period.

CBD – Central Business District (eg, in Richmond the block between and including Gladstone Road, McGlashen Avenue, Talbot Street, Oxford Street and Salisbury Road).

Consent Notice – A consent notice is a form of covenant between the Council and a land owner and can only be imposed through a subdivision consent. A consent notice will be registered on the title of a property alerting current and future property owners of certain obligations that must be complied with on a continuing basis by the owner, and subsequent owners, of a title. Because a consent notice is an agreement between the Council and the land owner, it is the Council which will enforce any non-compliance.

Council – shall mean the Tasman District Council or its officers.

Cycleway – means so much of any road as is laid out or constructed by authority of the territorial authority primarily for cyclists; and may include the edging, kerbing and channelling thereof.

Designer – shall mean the person responsible for producing and/or submitting the Engineering Drawings for approval and may be a Chartered Professional Engineer, Registered Professional Surveyor or authorised person experienced in the production, design and submission of plans.

Developer – means an individual or organisation having the financial responsibility for the development project and includes the owner.

Developer's Professional Advisor (DPA) – means the person, appointed by the developer being a Registered Professional Surveyor or a Chartered Professional Engineer, who shall be responsible for:

- a) The investigation, design and obtaining of approvals for the works;
- b) Contract administration and oversight of the works;
- c) Certification upon completion of the works;
- d) Sole point of communication with Council.

DI – Ductile iron pipes – generally socket jointed with Tyton elastometric seal rings.

DN – Nominal pipe bore diameter in millimetres. For polyethylene pipes, this relates to the pipes outside diameter. For other pipes this relates to the internal diameter.

DP (Design Pressure) – the maximum operating pressure that the designer expects to act on the pipeline in service.

Drainage – means wastewater drainage or stormwater drainage, and “drain” has a corresponding meaning.

Easement In Gross - An easement in gross is an easement that, unlike a normal easement, does not attach to any dominant tenement; examples are the right of public utilities, such as power, gas, phone, water and sewerage, to use part of the land (this means they remain forever on the property titles irrespective of ownership changes or subdivision)

Earthworks – means any modification to the shape of the ground surface by movement or removal of soil and includes excavation, infilling, recontouring, and construction of any road, track, embankment, or drainage channel.

Electrical Reticulation – means all “Electric Lines” that are owned by the “Line Owner” and form part of the Line Owner’s Electrical Reticulation System or “Network”.

Engineering Manager – shall mean the Engineering Manager of the Tasman District Council or their delegates.

Exclusive fittings – means those fittings used or intended to be used for the purpose of supplying electricity exclusively to that property.

Floodway – means part of a Greenway that caters for the design flood (normally a 1%AEP event) and includes allowance for mature riparian vegetation within flood flow capacity.

Footpath – means so much of any road as is laid out or constructed by authority of the territorial authority primarily for pedestrians; and may include the edging, kerbing and channelling thereof.

Geotechnical Engineer – means a Chartered Professional Engineer (CPEng) or an engineering geologist with recognised qualifications and experience in geotechnical engineering and experience related to the development.

Greenway – means a multi-functional green space used to protect natural waterways and stormwater flow paths, which accommodates primary and secondary stormwater flows, stormwater management features and open space, amenity and ecological values. Greenways may be made up of a mixture of reserve types including drainage reserve and local purpose reserves and may enhance local open space and transport networks by linking with other local reserves and walkways.

Ground – is used to describe the material in the vicinity of the surface of the earth whether soil or rock.

GRP – means glass reinforced plastic pipes, eg Hobas. This type of pipe is generally only used for major transfer or transmission mains since pipe diameters of less than DN 300mm are rare.

Household Unit or Dwelling Unit – means any building or group of buildings, or part thereof used, or intended to be used principally for residential purposes and occupied or intended to be occupied by not more than one household.

HCV – means a Heavy Commercial Vehicle.

Independent Qualified Person (IQP) – means a specialist approved by the territorial authority and having the appropriate skills and qualification to carry out specific procedures.

Installation – shall include excavation, the laying or thrusting of the pipe, ducting or cabling service, backfilling and reinstatement of surface.

Intermittent Watercourse - A watercourse which carries water a considerable portion of the time, but which ceases to flow occasionally or seasonally because bed seepage and evapo-transpiration exceed the available water supply.

Land Drainage System – refers to the flow of surface and ground water but concentrates mainly on peak surface discharges and their regulation under urban conditions.

Landowner – shall mean the consent holder or persons responsible for, or authorised persons subdividing or developing the land.

LGA – means the Local Government Act 2002.

LGOIMA – means the Local Government Official Information and Meetings Act 1987.

LHCE's – means Lamp Hole Cleaning Eyes

Line Owner – means a person or company that owns electrical reticulation (works) that are used or intended to be used for the conveyance of electricity.

LINZ – means Land Information New Zealand.

Low Flow Channel – refers to the stream channel that remains wetted during periods of low flow, resulting from groundwater discharge (baseflow) and light rainfall. The low flow channel should be kept to a minimum depth and maximum width necessary to provide for local ecological considerations, including shading by riparian vegetation and fish passage where appropriate. Design of low flow channels should also include consideration of ease of maintenance.

Low Impact Design (LID) – is as an approach to land development and stormwater management that recognises the value of natural systems in order to mitigate environmental impacts and enhance local amenity and ecological values. The approach promotes the use of stormwater management methods and solutions which protect, incorporate and mimic natural drainage processes of a given site or catchment.

LTP – means Long Term Plan.

Maximum Design Pressure (MDP) – The maximum instantaneous pressure that may be created within a pipeline, including for pressure surge effects.

Means of Compliance – means a method by which the requirements of the standard may be complied with. It implies that there may be other methods which may meet the requirement subject to specific consideration or approval.

MHWS – means Mean High Water Springs

Network Connection Point – means the position where a service connects to a Line Owner's network.

Network Utility Operator - has the same meaning given to it by section 166 of the Resource Management Act 1991.

Nominal Pressure Rating (PN) – The pressure marked on the pipe or component and the maximum pressure that it can operate at throughout its design life.

Operating Pressure – means the internal pressure which occurs at a particular time and that on average will likely be experienced at a particular point in a water reticulation system on a typical day. For a gravity system, the operating pressure will depend on the water level of the reservoir, the ground level at the point on the pipeline under consideration, and the head loss due to demand in the system.

Operator – shall mean the party or parties either as approved by the Council or as approved as a network operator under the Telecommunications Act 2001 or as approved under any other service supply Act to carry out excavation, backfilling or reinstatement works within the road reserve under the control of the Tasman District Council.

Owner – the owner of the land that has the power to make decisions about the land and the power to sell the land. Includes the Crown, the Public Trustee, and any person, local authority, board, or other body or authority however designated, constituted or appointed.

PE – Polyethylene, generally pipes for water supply networks, for example PE 80B or PE 100. PE 80C is not recommended for long-term water reticulation networks.

Perennial Watercourse - A perennial watercourse is one which flows continuously all year or has significant surface water present year round (ie large pools, but not necessarily flowing).

PN8 – means quality and thickness of wall of pipe (the higher the number the higher the strength and quality).

Point of Supply – means the point at which the supply authority responsibility ends.

Primary Design Flow – is the estimated run-off selected to provide a reasonable degree of protection to the surrounding land and buildings. In most cases this flow will be piped or contained within relatively narrow confines under public control by reserve or easement.

Private Road – means any roadway, place or arcade laid out within a district on private land by the owner thereof intended for the use of the public generally.

Private Way – means any way or passage whatsoever over private land within a district, the right to use which is confined or intended to be confined to certain persons or classes of persons, and which is not open or intended to be open to the use of the public generally and includes any shared access or right of way.

PVC – (Polyvinyl Chloride) – material from which the pipe or fitting is produced; has a similar meaning for uPVC, mPVC, PVC-O. Note – no glue jointing is permitted.

Reserves Manager – shall mean the Reserves Manager of the Tasman District Council or their delegates.

RMA – means the Resource Management Act 1991.

Road – has the same meaning given to it by section 315 of the Local Government Act 1974.

Road Reserve – means the whole parcel/s of land designated as road reserve.

ROW – means Right-of-Way.

Runoff Cover – means extension of insurance cover if a company ceases trading.

Rural area – means an area designated as Rural 1 or Rural 2 on the Tasman Resource Management Plan planning maps.

Secondary Flow Path – refers to the path taken by run-off in excess of the primary design flow.

Service or Service Main – is the term for the cable (fitting), owned by the owner of premises and connecting premises to the electrical reticulation at an agreed network connection point.

STP – means System Test Pressure.

Street – has the same meaning as “road” as defined by section 315 of the Local Government Act 1974.

Stormwater – is rain water that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes into a defined surface water channel, open watercourse or a constructed infiltration facility.

Stormwater Interceptor Treatment Device – means a device that conveys stormwater through a treatment system in such a way that contaminants such as floating debris, oil and other hydrocarbons, and sediment that may otherwise be discharged in the stormwater are substantially retained by the device. These devices require site-specific design targeting anticipated stormwater contaminants.

Surface Water – means all naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a drain, stream, river, lake or sea.

Survey Plan – means a survey plan in terms of section 2 of the Resource Management Act 1991.

Swale – means a constructed watercourse shaped or graded in earth materials and stabilised with site-suitable vegetation, for the safe conveyance and water quality improvement of storm run-off.

System Test Pressure (STP) – The hydrostatic pressure to be applied to a newly laid pipeline (measured at the lowest point) to ensure its integrity and water tightness.

Telecommunications – can mean for the use of broadband and other media conveyance as well as telephone etc.

Territorial Authority (TA) – means a territorial authority defined in the Local Government Act 2002.

TMP – means Traffic Management Plan.

TP10 – means the Auckland Council Design Guide Manual Stormwater Treatment Devices – Technical Publication 10.

TRMP – means the Tasman Resource Management Plan.

Urban Drainage Area – means a drainage area as designated by Council.

Wastewater – is water that has been used and contains unwanted dissolved and/or suspended substances from communities, including homes, businesses and industries.

Water Supply Authority (WSA) – is the operational unit of the TA responsible for the supply of water, including its authorised agents.

Works – can be any type of construction or infrastructure and includes earthworks. Works can also be in the form of “money” as defined by the RMA.