

# National Engineering Design Standards

## Technical FAQ's

### **What have the new National Engineering Design Standards been based upon and where has the source content come from?**

The standards have been New Zealand sourced content 'lifted and shifted' from the best of the current 45 standards and codes across the country.

The structure has been modelled on the Water Services Association of Australia (WSAA) codes for Wastewater and Water supply. These were chosen by the steering group as the best international example of a code that provides for easy navigation and is well adopted across its water sector.

### **How have the various councils' products and materials lists been adopted within the new standards?**

The review of approved materials and products that various New Zealand councils have adopted is currently out of scope. During the reform transition period the approved materials and products lists will move to the Water Services Entities. It will be the WSEs responsibility to review those products and materials lists and develop their own review and approval process, and over time, to potentially rationalise or improve on those lists.

Until the WSEs and its councils agree to change the held lists, they will remain valid in each Council area in which they are currently approved. ie no change from day one.

### **How have the regional variances been accommodated within the new standards?**

Initial review of the exiting 45 codes was undertaken to identify the regional variances. From that review it transpired that the majority of variances were in fact 'just doing something differently'. The instances where it is a genuine regional variance, for example, environmental or geophysical requirements, the variances are tabulated or presented as a workflow depending on location in New Zealand.

### **How have all the various guidelines, practice notes, and other related documents that are referenced within existing standards / codes been accommodated within the new standards?**

The various technical design guides, and the links to these, for each current council has been tabulated into matrix and included as appendices in the new standards, as these design guides will still be applicable during the transition of the new NEDS.

### **How does the new national codes relate to the Development Code required of all new Entities?**

The name National Engineering Design Standards is more reflective of The Water Services Entities Amendment Bill, which requires Water Services Entities to have a development code, a subset of the development code requires entities to ensure they specify applicable engineering design standards to water infrastructure.

### **Can we use the word standard in the title?**

The use of the word standard does not mean that this will become an Engineering Standard produced by Standards New Zealand.

The use of the term standards is common in NZ, many councils in NZ are currently using term standards to describe their minimum infrastructure requirements.

### **How are Councils current Bylaws incorporated / referenced within the new standards?**

This is still a work in progress, we will be able to provide further detail on this later in the year.

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## **Who has provided the technical input into the new NEDS?**

At the commencement of the development of the new NEDS, the DIA engaged a steering group to provide direction, governance and scope to the process of developing our new NEDS. The steering group comprises of council staff and representatives from major sector organisations such as ACE, Water NZ and CCNZ.

Once the direction was agreed by the steering group a Technical Working Group (TWG) comprising water services and land development engineers was formed. All councils were asked to nominate staff and 20 were nominated.

The 20 council representatives are from both large New Zealand city hubs and the smaller rural hubs. It is the TWG that has provided and reviewed the technical input into the new standards.

## **With housing intensification and housing infill, how has brownfield construction methods been incorporated within the new standards?**

Brownfield developments may be reliant on existing infrastructure that may have been built to standards that do not comply with these new standards and as such the WSE may require upgrades to existing infrastructure.

Upon WSE adoption of the NEDS all new infrastructure shall comply with the minimum requirements set within the NEDS. Dispensations due to constraints associated with existing infrastructure (water and other infrastructure) in brownfield developments will be agreed with the WSE's.

## **If a development has been approved and consented based on current council specific codes or specifications, will the developer have to revisit the design based on the new NEDS? What is the date of transition to the new NEDS?**

The transitional guidelines for the Development Code and the Engineering Design Standards are still a work in progress. These will be shared with the industry as soon as it is possible to do so.

## **Particularly with the Stormwater, how has climate change been accommodated within the new standards?**

New Zealand's communities and the water sector has faced the full impact of climate variability and change, including more variable rainfall, more heat extremes, and more frequent and intense storms. Climate change and increasing extreme weather events present challenges to New Zealand's WSEs including affecting the condition of water infrastructure and reducing its performance.

The water industry is uniquely positioned to mitigate its impact on our climate, respond and adapt to the impacts of a changing climate on the delivery of its services, and improve the resilience of our communities and the environment in adapting to a changing climate.

The standards can contribute to responding to these challenges by adapting technical requirements for planning, design and construction of stormwater, water supply and sewerage reticulation infrastructure, which can have a profound impact on our performance.

However, the standards are transitional in nature and transformative change is only possible in future revisions.

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Hand in hand with technical NEDS requirements are approved products and materials registers. The WSEs will look closely at reducing to zero emissions via its suppliers and their supply chains in line with the government's stated goal of achieving net zero by 2050.

Recent amendments to the RMA 1991, the Local Government Act 2002 and the Building Act 2004 require local authorities to have particular regard to the effects of climate change when making decisions under these Acts. WSEs are subordinate to this requirement.

## **Who will hold, maintain and develop the NEDS after Rev1.0 is adopted by WSE's and councils?**

This is still a work in progress, we will be able to provide more information on this at a later date.

## **Will existing council codes be available and/or archived?**

Existing codes will have to remain available through councils for at least 5 years to be available to sign off the construction of developments. However, the WSEs will need to ensure they have their own copies available.

## **If a local detail that is in a council code or standard is not included in the new national standards can entities refer back to the old standard if that is the right outcome for that circumstance?**

Local solutions, if agreed with the Entity are acceptable. However, it is anticipated that the new national standards will be developed, and any necessary additional options/details will be added in Rev2.0.

## **What's in scope for version 1 of NEDS?**

- The NEDS cover entity / public reticulation infrastructure, therefore private infrastructure, treatment plants and reservoirs are excluded.
- For green infrastructure, the NEDS refer to current design guidance. No attempt has been made to nationalise this for version 1.
- Approved products and materials will be lifted from councils and transferred to the entities as is. No attempt has been made to rationalise or nationalise these.
- We have focused on the most common types of infrastructure; some specialised infrastructure has not been included in version 1 - but could be in future versions.
- Where there are gaps in New Zealand content we are (under license) filling these gaps with content from WSAA Codes.
- Regional variances have been included where there is a need to do so.
- We are working with the growth team around processes and linkage to the development code. This is a work in progress and will be included in the February working draft.
- Version 1 will be a pdf/paper-based document. It is anticipated that future versions will be electronically enabled.

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## What's out of scope for version 1 of NEDS?

WATER	WASTEWATER	STORMWATER
Customer side connections past the last fittings flange of the meter manifold box (water) + boundary (wastewater and stormwater)		
Approved products + materials		
Pipes greater than 300mm		
Treatment plants + reservoirs	Treatment plants	Stormwater pump stations
Pump stations	Ductile iron gravity sewers	
Wellheads	Horizontal + vertical curves in sewers	
	Larger, dry well or transmission wastewater pumping stations	
	Low pressure or vacuum pump networks + systems	
	The use of GRP, PE + PP manholes	

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## Format of current and proposed versions

Working draft - this version	Version 2 - completed by April 2024	Future versions
<p>Four separate documents</p> <ul style="list-style-type: none"><li>• Water</li><li>• Wastewater Gravity</li><li>• Wastewater Pumped</li><li>• Stormwater</li></ul>	<p>One document</p> <ol style="list-style-type: none"><li>1. Foreword</li><li>2. Introduction</li><li>3. Water</li><li>4. Wastewater Gravity</li><li>5. Wastewater Pumped</li><li>6. Stormwater</li></ol>	<p>Potential future content (e-enabled)</p> <ul style="list-style-type: none"><li>• Foreword</li><li>• Introduction</li><li>• Water</li><li>• Wastewater Gravity</li><li>• Wastewater Pumped</li><li>• Stormwater</li><li>• Pressure sewer</li><li>• Green Infrastructure</li><li>• Approved products and materials</li><li>• Other</li></ul>