

## Lateral Connections to Stormwater Pipes

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The purpose of this bulletin is to clarify the appropriate standards and acceptance criteria in assessing stormwater lateral connections to public stormwater pipes that would be acceptable for vesting to Council. It should be noted that Auckland Council Code of Practice Chapter 4: Stormwater takes precedence, and any departures from Chapter 4 must be agreed with the ultimate asset owner. A **lateral connection is defined** as a pipe,

- with a diameter of 100mm connecting directly to a public stormwater line of 225mm diameter or greater, or
- with a diameter of 150mm connecting directly to a public stormwater line of 300mm diameter or greater and is not connecting to a manhole or chamber.

Auckland Council approval shall be obtained for any other connection arrangements i.e. pipe diameter.

### Why are Lateral Connections to Stormwater pipes important?

The lateral connection to the main stormwater pipe is a crucial point in the stormwater system and defects at the connection can lead to failure of the main stormwater pipe or leakage at the joint, which can ultimately lead to washing away bedding and/or surrounding soils, causing catastrophic failure which could potentially undermine adjacent structures. Therefore, it is critical that lateral connections are installed in accordance with the relevant standards and installation guidelines by a qualified contractor and evidence provided to Auckland Council.

### Standards

In addition to CoP Chapter 4: Stormwater, the following standards and guidelines shall be applied to relevant parts of the works. Note that these Standards and Guidelines, in turn, require reference to other standards. In all cases, the documents below shall include all amendments current at the time the works are undertaken.

All products/materials and workmanship shall comply with the following standards and guidelines, unless expressly noted otherwise:

AS/NZS 1254	PVC-U pipes and fittings for stormwater and surface water applications
AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent application
AS/NZS 2032	Installation of PVC pipe systems
AS/NZS 2033	Installation of polyethylene pipe systems
AS/NZS 2566	Buried flexible pipelines
AS/NZS 3725	Design for installation of buried concrete pipes
AS/NZS 4058	Precast concrete pipes (pressure and non-pressure)
AS/NZS 4129	Fittings for Polyethylene (PE) Pipes for Pressure Applications
AS/NZS 4130	PE Pipes for Pressure Application
AS/NZS 4131	Polyethylene (PE) Compounds for Pressure Pipes and Fittings
AS/NZS 4327	Metal-banded flexible couplings for low-pressure applications
AS/NZS 5065	Polyethylene and polypropylene pipes and fittings for drainage and sewerage application
NZS 7643	Code of practice for the installation of unplasticized PVC pipe systems.
BS EN 295-(1-7)	Vitrified clay pipe systems for drains and sewers

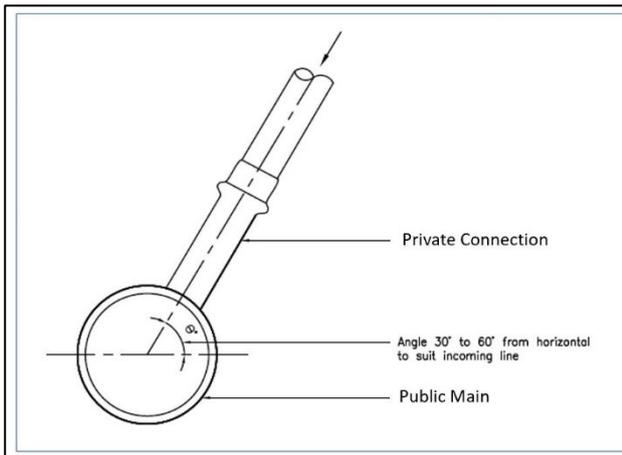
Plastic Industry Pipe Association of Australia (PIPA) guidelines, where applicable:

POP001	Electrofusion Jointing of PE Pipes and Fittings for Pressure Applications
POP003	Butt fusion jointing of PE pipes and fittings – recommended parameters
POP005	Packaging, Handling and Storage of Polyethylene Pipes and Fittings
POP007	Metal Backing Flanges for use with Polyethylene (PE) Pipe Flange Adaptors.

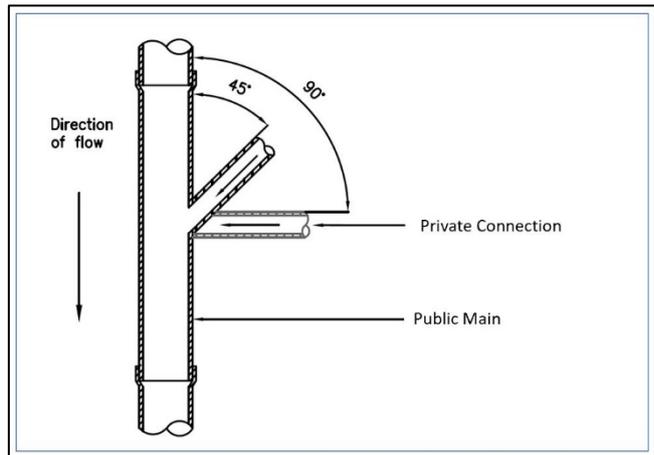
### General Criteria

- Lateral pipe materials shall comply with the appropriate standards listed above and CoP.
- Laterals ND300mm or greater shall be connected via a new manhole only.
- Cut out diameter for all lateral connections shall be less than 50% of host (Public Main) pipe diameter.
- Acceptable vertical and horizontal connection angles:

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Vertical connection angle



Horizontal connection angle

- All manhole openings shall be cut with a proprietary hole cutting tool to provide a clean orifice not greater than 15mm larger than the external diameter of the lateral insert. Any exposed reinforcement shall be sealed with an appropriate epoxy resin mortar.
- Connections to polypropylene main stormwater pipes shall be via new manholes only.
- Connecting laterals to rehabilitated pipes is specialist work, and a work method statement shall be approved by the ultimate asset owner prior to commencing.
- Specific Council approval (via the Engineering Plan Approval process) is required for any connection to clay pipes.

### Installation and Backfilling

Installation shall be carried out in accordance with the relevant Manufacturers Installation Guidelines and Standards, such as but not limited to: AS/NZS 3725:2007 and AS/NZS 2566.2:2002

Backfilling shall be in accordance with Auckland Council Standard Specification ACS510: Earthworks and the Auckland Council Stormwater Code of Practice drawing SW01. Mechanical compaction of the fill material directly above the pipe shall not be commenced until the total depth of cover above the pipe is adequate to prevent damage to the pipeline and the connection.

Bedding to lateral and saddle connection shall be appropriately placed and compacted to ensure that the lateral is fully supported and that there will be no differential settlement between lateral and the host pipe. Bedding to laterals shall be in accordance with the current version of the AC SWCoP and for laterals in the road corridor, the Auckland Transport Code of Practice (ATCOP).

### Quality assurance

The Contractor and/or its agents shall ensure that the products/materials comply in all respects with the relevant Standards, AC SWCoP, drawings and technical specifications and shall provide evidence of compliance including but not limited to post installation CCTV, photographs pre/post backfilling, bedding material/compaction test results, as-builts, etc. for each lateral connection installed. A Producer Statement, confirming compliance of the product/material and its installation with the relevant standards / guidelines stated in this Industry Bulletin, shall also be provided to Auckland Council.

All imported materials, products and systems, shall be tested, appraised, and certified in New Zealand or Australia by an IANZ/NATA accredited laboratory, to the appropriate AS/NZ Standard or other standards as referenced in this document and NZ Building Code (as applicable).

Any alternative testing regime, of an equivalent standard, shall be agreed by Auckland Council. Where testing is done outside of New Zealand and Australia, the Contractor shall be required to prove the chain of custody of materials to ensure that there has been no substitution of untested materials.

Materials that have not been tested in accordance with this Clause shall not be used.