

Appendix L: Testing Schedule Summary

APPENDIX L: TESTING SCHEDULE SUMMARY

Summary of testing requirements as specified in Whanganui District Council Land Development and Subdivision Engineering Document (Supplement to NZS 4404: 2010) Appendix I, Technical Specifications.

Testing Requirements	Frequency
<p>Section 2 Earthworks Earth fill density compaction</p> <p>For granular material, test required is density index test</p> <p>For non-granular material, test required is air voids & shear vane test.</p>	<p>Large Scale Operations greater than 1,500m², e.g. subdivisions, large lots or road embankments. 1 test per layer per material per 2500m² or 1 test per 500m³ distributed evenly throughout full depth and area or 3 tests per lot.</p> <p>Small scale operations e.g. (Individual residential lots) 1 test per layer per 1000m² or 1 test per 200m³ distributed evenly throughout full depth and area or 1 test per residential lot per layer.</p> <p>Concentrated operations less than 500m², e.g. backfill small farm dams, gullies and similar. 1 test per layer per 500m² or 1 test per 100m³ distributed throughout full depth and area or 3 tests per visit.</p> <p>Confined operations e.g. filling behind structure 1 test per 2 layers per 50m²</p> <p>Trenches 1 field density test per 2 layers per 40 linear metres.</p> <p>For earthworks, the test option to be used is whichever requires the most tests.</p>
<p>Section 3 Trench Excavation Clause 3.2.3</p> <p>Pipe foundation test as approved by the Authorised Representative</p>	<p>1 test per pipe length.</p>
<p>Section 4 Pipe line Construction Drainage.</p> <p>Grading on bedding material</p> <p>Bedding and haunch zone material compaction test.</p>	<p>As requested by the Authorised Representative.</p> <p>At least one test every 10 metres of trench</p>

Testing Requirements	Frequency
<p>Backfill material compaction</p> <p>For Granular Material, test required is Density Index test</p> <p>For Non granular Material, test required is Air voids & Shear Vane test.</p> <p>In berms</p> <p>In carriageways or under footpaths.</p> <p>Pipe Line testing, pressure and Vacuum tests</p>	<p>One test per layer of backfill per 15 metres of trench, with a minimum of two tests. 1 field density test per 2 layers per 40 linear metres.</p> <p>For indirect tests the Scala or Clegg Hammer may be used.</p> <p>One test per layer of backfill per 5 metres of trench, with a minimum of two tests. 1 field density test per 2 layers per 40 linear metres.</p> <p>For indirect tests the Scala or Clegg Hammer may be used.</p> <p>All pipe line lengths</p>
<p>Section 5. Pipeline Construction Water Supply</p> <p>Personnel Public health</p> <p>Hepatitis A</p> <p>Grading on bedding material</p> <p>Backfill compaction, clause 5.14.3</p> <p>In berms</p>	<p>Prior to starting work and retested every 12 months</p> <p>As requested by the Authorised Representative.</p> <p>Trenches</p> <p>One test per layer of backfill per 15 metres of trench, with a minimum of two tests. 1 field density test per 2 layers per 40 linear metres.</p>

Testing Requirements	Frequency
<p>In carriageways and under footpaths.</p> <p>Pipeline testing, pressure and vacuum tests.</p>	<p>One test per layer of backfill per 5 metres of trench, with a minimum of two tests. 1 field density test per 2 layers per 40 linear metres.</p> <p>For indirect tests the Scala or Clegg Hammer may be used.</p> <p>All pipe lines to be tested.</p>
<p>Section 6. Manholes and Sumps</p> <p>Manhole, water testing or inspection test.</p> <p>Backfill compaction tests</p>	<p>Each man hole.</p> <p>Where excavated area is greater than 0.5m² and less than 5m² one test per backfill layer is required.</p>
<p>Section 7 Concrete Work</p> <p>Test certificate for concrete materials</p>	<p>As requested by the Authorised Representative.</p>
<p>Section 8 Pavement Construction</p> <p>Subgrade Shape</p> <p>Subgrade Strength.</p> <p>Field Insitu CBR tests</p> <p>Laboratory soaked CBR tests</p> <p>Benkelmen Beam testing</p> <p>Pavement materials</p> <p>Subbase. Test required, grading, soaked CBR and Sand Equivalent.</p>	<p>Lift pegs installed at a maximum spacing of 20 metres on straights and 10 metres where super-elevation changes.</p> <p>Every 75m, with a minimum of 3, located at each end of the subdivision and midway between ends.</p> <p>Prior to starting the fill operation and on completion a test every 75m along the subgrade.</p> <p>At 10m intervals, in both wheel paths of each lane.</p> <p>One test prior to commencement and then two tests per site or one test per 200m³ of material. One test prior to commencement and then two tests per site or one test per 200m³ of material.</p>

Testing Requirements	Frequency
<p>Basecourse. Tests required, gradin, Sand Equivalent, broken faces. If shellrock is used clay index is required and broken faces not required.</p> <p>Pavement Surface finish.</p> <p>Benkelman Beam testing</p> <p>Surface Shape</p> <p>Pavement materials compaction, MDD testing</p> <p>Surface Roughness</p>	<p>One test prior to commencement and then two tests per site or one test per 200m³ of material. One test prior to commencement and then two tests per site or one test per 200m³ of material.</p> <p>Prior to surfacing, in both wheel paths of each lane at a maximum interval of 10 metres.</p> <p>As for subgrade surface shape.</p> <p>As required by TNZ B/2 Specification.</p> <p>Prior to surfacing, readings at 20 metre intervals and in each lane.</p>
<p>Section 9 Chip Sealing</p> <p>Sealing chip, chip size, shape and cleanliness</p>	<p>One test prior to commencement and then one test per chip size per 800 lineal metres of subdivision.</p>
<p>Section 10. Thin Asphaltic Surfacing.</p> <p>Provide job mix formula</p> <p>Asphalt Concrete</p>	<p>One test prior to commencement.</p> <p>One test to provide evidence of compliance with job mix</p>
<p>Section 11. Kerb & Channel, Footpath and Vehicle Crossings Construction</p> <p>Test certificate for concrete materials</p> <p>Kerb base</p>	<p>As requested by the Engineer</p> <p>CIV 35 @ 5m centres along length</p>