Fletcher Living
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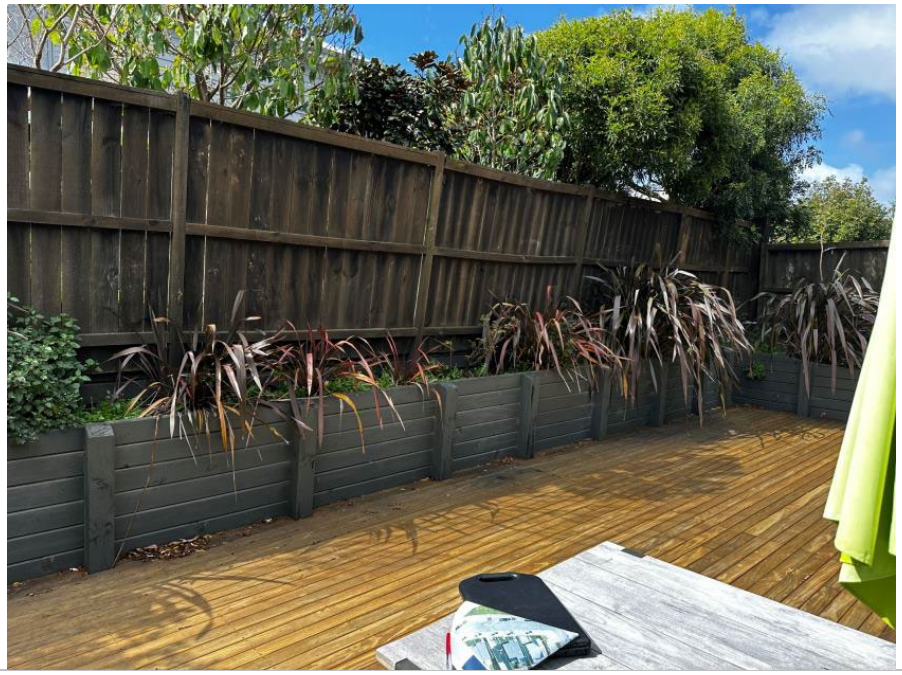
Customer Care Learn Document

Retaining Wall Failure

Outline the Scene	Issue	**Unconsented Retaining Wall Failure over WW line**
	Date Entered	12/04/2023
	Settlement Date of Home	02/12/2016
	Location	Between two standalone properties

What happened	

	• An unconsented timber retaining wall was constructed along the boundary between two properties. Wall extended across multiple boundaries (north, east, south) and wrapped around the lower property.
	• Built over a public wastewater (WW) line, increasing risk and constraints for remediation. No engineered design or consent → non-compliant structure.
	• Over time, wall showed bulging (~50mm), post rotation, fence movement, and ground instability, indicating failure.
	• Contributing factors included:
	  ○ Poor drainage / saturated ground conditions
	  ○ Downpipes discharging to ground and localised subsidence
	• Required full replacement with engineered retaining solution.
	• Total cost impact: $120K+



Here's some of our Learnings:

Design

- Any retaining walls over and near services should always be designed by a structural engineer and consented. You can build a retaining wall without consent if under 1.5m but FL rule of thumb is to include walls over 600mm in height in building consents.
- Consider whole-of-boundary design, especially where walls wrap multiple sides or affect multiple lots.
- Coordinate EPA, civil RW building consents, and civil as-builts (from LD and/or developers) and apply updates to residential building consents and construction drawings at the required stages
- Check works over and engineering (civil, structural) requirements, ensure drainage design is integrated (subsoil + stormwater) to prevent saturation-driven failure.

Procurement

- Ensure consented retaining walls are fully scoped as engineered elements, not treated as minor landscape works.
- Allow for additional drainage scope earlier in the work, these materially increase cost if they are to be done in the future.
- Flag risks early where shared ownership or boundary complexity exists.

Construction

- Do not construct retaining walls without approved engineering and consent. Verify installation against design i.e. drainage behind wall and backfill material
- Ensure stormwater/downpipes are connected correctly, no uncontrolled discharge behind or above walls. Check with as-built provided by development teams.
- Escalate early where:
    - Movement, bulging, or rotation is observed
    - Ground conditions appear saturated or unstable

For more information, please contact;

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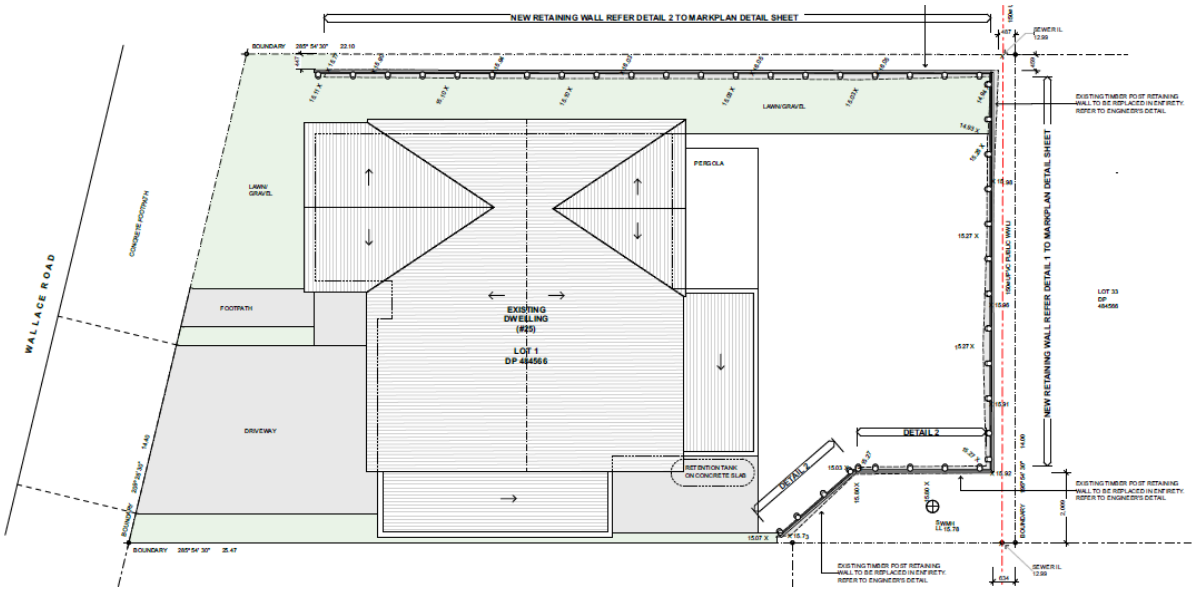
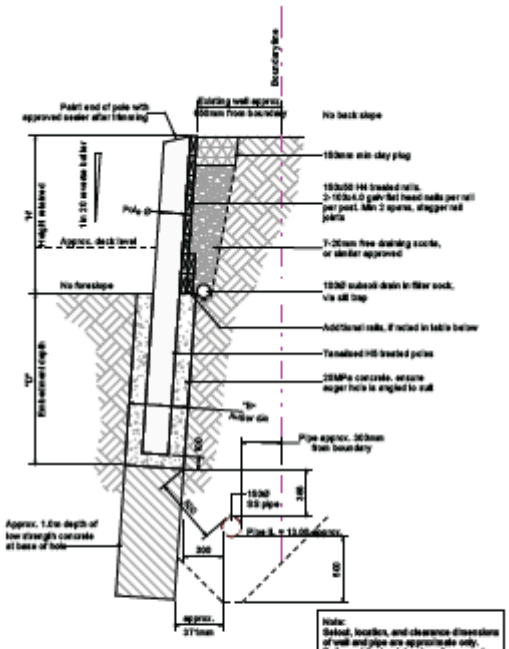
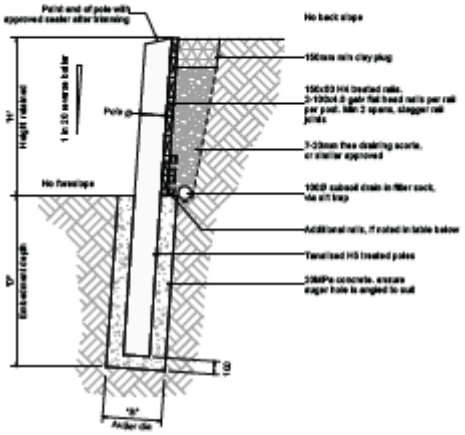




"H" Height retained	"D" Embedment depth	"B" Auger dia	Pole size @	Pole spacing	Rails
900	1100	400	150 SED	1000	1/150x50
1200	1300	400	150 SED	1000	1/150x50
1200	1500	400	175 SED	1000	1/150x50

1 TYPICAL POLE WALL DETAIL
1 : 20



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2 TYPICAL POLE WALL DETAIL
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