

# Newport Waterways Canal Batter Maintenance Intervention Levels



## Maintenance Responsibilities

### Council

- Navigable Canal Channels
- All canal Beaches and public rock batters
- Canal Revetment Walls adjoining public access areas
- Public storm-water pipes
- Navigation aids and signs
- Litter removal
- Vegetation removal

### Private

- Canal Revetment Walls adjoining private property
- Private infrastructure such as pontoons, piles, gangways, boat ramps
- Scour extending up to 1m from boat ramps and piles - The 1m beach strip to either side of the boat ramp is considered the owner's responsibility as the scour is often caused by the infrastructure itself. Council will not interfere in this area unless the maintenance issue is beach depletion. Example photographs are shown below.

## Council Inspections

To address rubbish and litter collection, the canals are generally visited weekly and foreign materials removed at the time where possible.

To identify the condition of the remaining items throughout the canals, inspections are undertaken by Council generally on a yearly basis.

## Maintenance Issue

During these inspections the focus is on the items below.

**Erosion:** This generally applies to gravel beach areas above low tide level. It is mainly caused by stormwater drainage runoff from the adjacent land through concentration of flows due to landscaping treatments, modification of property levels or boat ramps. Other forms of erosion may result from direct or nearby placement of roof-water drainage outlets or swimming pool or spa filter backwash pipes near the canal revetment wall.

The erosion result is characterised by localised point source scours or rills across the beach generally perpendicular to the revetment wall.



**Example: Erosion - Condition State 4**

Residents can assist in minimising this type of maintenance requirement by consideration of the issues noted above.

**Beach Depletion:** Beach depletion results in a progressive widespread lowering of the beach.

Depletion of a beach generally results from erosion due to stormwater runoff from the adjacent land occurring along a revetment wall.

It may also result from:

- Wave or boat wash impact;
- High intensity rainfall;
- Concentrated foot traffic near the top of the beach such as at a park frontage; or
- Marine life disturbance.

In some cases where waves or boat wash tends to move beach material over time, this may result in accreted beaches leaving the beach higher than design level.



**Example: Beach Depletion - Condition State 4**

#### **Rock Batter:**

While by nature the rock batters are generally very erosion resistant and stable, slumping of rock could occur.

**Public Revetment Walls:** Council is responsible for revetment walls where they abut publicly-controlled land such as road, park and drainage reserves.

These walls can suffer from cracking, concrete spalling, rotation or undermining.

For further information on revetment walls, refer to Council's 'Canal Revetment Wall' fact sheet.

#### **Condition State**

The defects are categorised into five different condition states that are presented in the table below.

#### **Timing of Work**

Once the need for intervention has been identified, periodic work is programmed with consideration of:

- Barge availability
- Quantity of work to ensure efficiency can be achieved
- Opportunity to coordinate with other barge works
- Weather conditions

### **Example photographs - Private issues**



**Example: Pile erosion - owner responsibility**



**Example: Ramp erosion - owner responsibility**

#### **Who to contact**

If property owners have concerns regarding their revetment walls, it is recommended to seek advice from a suitably qualified professional engineer to assess the structural integrity of their revetment wall and undertake repairs if required.

## Condition State Table

Condition State	Subjective rating	Description	Comment
1	Good	Free of defects	-
2	Fair	Free of defects affecting structural performance, integrity and durability	-
3	Poor (monitoring required)	Defect might affect structural performance, integrity and durability	May be treated, depending on resource availability, number of issues identified and budget availability.
4	Very Poor (remedial action required)	Safety issues Defects affecting the performance and structural integrity Treatment required	Will be treated (it may only be possible to achieve a Condition 2 or 3 based on costs and available budget)
5	Unsafe	Areas and/or structures must be fenced off and excluded from usage.	Will be treated (it may only be possible to achieve a Condition 2 or 3 based on costs and available budget)

### Further information:

Moreton Bay Regional Council is committed to working with local property owners to ensure the long-term viability, safety and amenity of the Newport Waterways canal system.

**If you require further information, contact Moreton Bay Regional Council on 3205 0555.**

## Intervention Levels

Maintenance issue	Condition State 5	Condition State 4	Condition State 3	Condition State 2	Condition State 1
Subjective rating	Unsafe	Very poor	Poor	Fair	Good
<b>Erosion*</b>	Major erosion affects structural stability of nearby structures.	a.) Erosion is >300mm deep and >500mm top width OR: b.) Erosion is >500mm deep	>300mm deep and <500mm top width	<300mm and >150mm deep	<150mm deep
<b>Beach depletion**</b>	Major depletion affects structural stability of nearby structures. OR: The gravel layer disappeared and the mud is visible.	a.) Beach depletion is >300mm deep over extensive width OR: b.) Erosion is <300mm deep but has the potential to cause other defects (e.g. pile undermining, pontoon groundings etc.).	<300mm and >200mm deep over extensive width	<200mm and >100mm deep over extensive width	<100mm deep or <100mm high
<b>Rock batters</b>	Major failure of the rock batter affects structural stability of nearby structures.	Failure of the protection has allowed erosion and scouring of the banks to occur. Severe scour has undermined the toe of the protection and batter fill material is being eroded away. Settlement or movement of the protection has exposed areas with loss of fill material in the embankment.	Damage to the protection is more pronounced and spreading to larger areas. The batter material is being eroded from beneath the protective system. The toe of the protection is exposed over a reasonable distance.	There may be local damage to the protective system or minor differential settlement or movement. Minor local scour may be beginning to uncover the toe of the batter protection.	The batters and protective elements are in good condition with no damage, differential settlement or movements, and no scour beneath the toe of the protection.
<b>Public revetment walls</b>	Movement of wall or loss of fill puts nearby structures in danger of structural instability (e.g. nearby toilet blocks, playground).	Revetment walls on public land that are structurally affected (e.g. by cracking, spalling, corrosion, rotation, undermining, weepholes). There may be severe cracking or spalling due to corroding reinforcement or due to earth pressures. Revetment walls may be showing signs of large rotation or movements in excess of 40mm or may be leaning due to earth pressure on them, with possible loss of fill behind. Excessive bulging, settlement or separation of the elements may be allowing heavy loss of fill. Weepholes are not functioning anymore.	There may be moderate cracking and spalling due to corroding reinforcement or due to earth pressures. Walls may be showing signs of moderate rotation or movements of up to 40mm but having little effect on serviceability. Moderate bulging, settlement or separation of the elements may be allowing medium loss of embankment fill. Weepholes might not be functioning.	There may be minor cracking and spalling due to corroding reinforcement or due to earth pressures. Walls may be showing signs of minor rotation or movements of up to 10mm which are of no consequence. There may be minor bulging or settlement of elements but allowing only minor loss of fill from behind.	The elements are in good condition with only minor cracking or spalling noticed. There should be no movement or moment cracking in the walls. There should be no settlement of the elements or gaps between elements allowing loss of fill to occur.

\*Erosion is defined as local beach erosion, e.g. stormwater runoff

\*\* Beach depletion is of greater extent than localised erosion and affects several metres length