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Surgical Quay-wall Renovation

Renovation of ‘RDM kraanbaan 13’ quay-wall in Rotterdam Heijplaat

- Background
- Challenges
- Approach
- Lessons learned
Surgical renovation – RDM premises
Surgical renovation – Source of information
Surgical renovation – What we started with
Surgical renovation – preliminary design
**Surgical renovation - Approach**

- **Traditional Approach**
  
  *Full replacement of deck, keep all piles*

- **Old structure**
- **Failure**
- **Replace or major renovation**

**Results:**
- Good quality
- High impact
- High costs

Environment?
Approach project team

*Surgical quay-wall renovation*

Old structure

Replace only 'broken parts'

Results:
- Good quality
- Lower impact
- Lower costs
- Environment
Surgical renovation – Save the structure!
Surgical renovation – Test!
Surgical renovation – All in parallel...

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Summary approach

1. Detailed inspection, and tests
2. Team wants to save the structure
3. Back to original design & capabilities
4. Keep all that is still functional
5. All activities in parallel…
Surgical renovation - Approach

Advantages

1. Lower construction costs
2. Significantly lower environmental impact

Disadvantages

1. Higher preparation costs
2. Increased management attention required
Surgical renovation – Approach

Lessons learned

1. Follow the original design principles to prevent a cascade of modifications

2. Really want to keep as much as possible and design the renovation accordingly

3. Good communication and quick decision making