

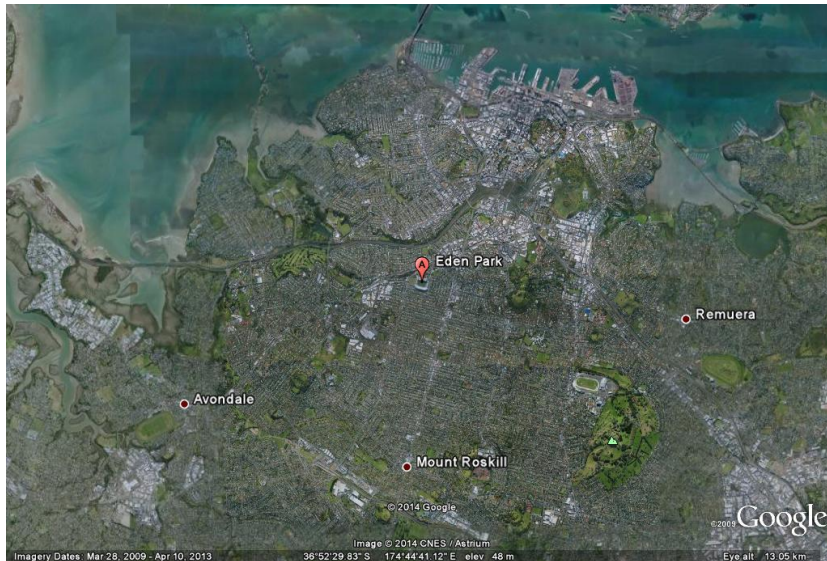
# Corrosion

External and Internal





- Much of NZ is a coastal environment
- Salt laden air travels far
  - 3.5km from Eden Park to Coxes Bay as the crow flies



So?



# NZS4541:2013 – External Environments

- Escutcheons Suitable grade of Stainless Steel
  - Apartment balconies, car parks, canopies, portes cocheres
- Galvanized mechanical couplings
  - Bolts
    - Galvanized
    - OEM Supplied
      - Do not purchase bolts yourself from a local merchant!!!!
        - » May not have mechanical strength

# NZS4541 -Pipe Work

- “Protected by suitable means”
  - States that galvanizing may be okay
    - “if threads protected”

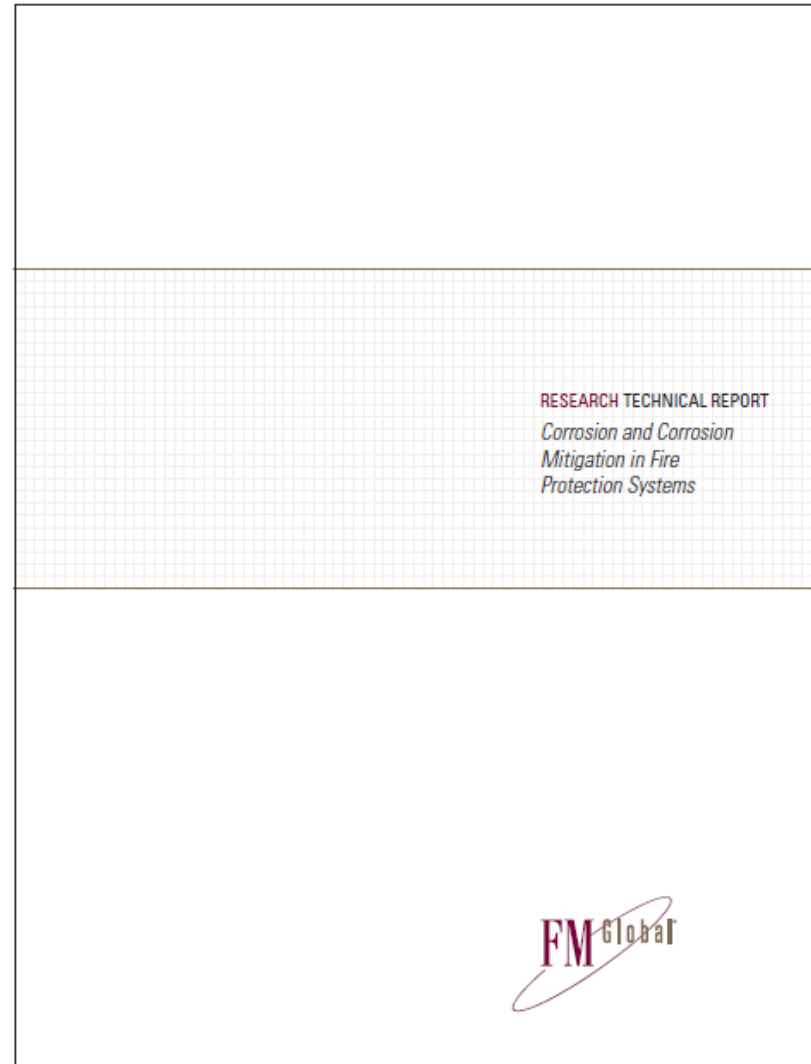
# But is it enough

- What is going to fail first?



# Internal Corrosion

- Internationally
  - Concerns
  - Standards changing?



# Causes

## Complex and Inter-related

- **Leaks**
- Raw water
- **Oxygen**
  - Dry Systems
- **Galvanized pipe**
  - Dry Systems
- **Jointing**
- Seam
  - metallurgy/orientation
- MIC
- Untreated galvanised welds
  - Not American practice



· Growing evidence that is exceptionally poor practice