### 09-316 Senumstad bru Hovedinspeksjon 2015



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# Bridge main data

- Location: Birkenes / Aust-Agder
- Road: Fv 406
- Spans: 7.5 + 93 + 7.5 m
- Road width: 5.50 m
- Cables: 2 x 3 cables Ø 65 mm
- Deck: reinforced concrete
- Towers: H = 9.2 m above deck
- Particularities: Moderate dynamic response to wind and traffic action
- No limitation of traffic loads

#### Abutments

- Good condition
- Previous leakage through joint caused minor erosion
- Stabilized settlement at abutment axis nº 1



#### Abutments

• Settlement at abutment axis nº 1



## Concrete pylons

- Good condition
- Leakage due to too short drainage pipes
- Insignificant cracks



# Steel pylons

- Good condition
- Punctual corrosion due to a lack of maintenance
- Minor damages



## Main cables

- Starting corrosion due to spalling of painting
- Steel plates anchorage in good conditions



#### Hangers

- Punctual corrosion in hangers and conections with main cables.
- Losses of painting on some bolts



### Hangers



### Concrete deck

- Good condition in general terms
- Spalling and corroded rebars due to insufficient concrete cover, especially in access spans
- No significant cracks over abutments



#### Concrete deck





# Edge steel girders

- Generally good condition, some debris and vegetation
- Deterioratio of painting and starting corrosion
- Minor damages in contact with transverse girders



#### Transverse steel girders

- Generally good condition
- Starting corrosion in contact with edge girders and in sorroundings of hanger anchorages.



#### Joints

• Lots of debris in joints over both pylons



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# Railling

- Extensive corrosion due to a lack of maintenance
- Puntual damages due to impacts



#### Pavement

• Good condition



# Summary and recommendation

Elements	Recommendation
Concrete elements (deck, abutments and concrete pylons)	Patch repair where spalling and corrosion is appeared within 3 years Improvinig erosion protection against erosion within 7 years
Steel elements (longitudinal and transverse girders and steel towers)	Re-painting within 7 years Remove debris from longitudinal beams
Cables, hangers and connections	Re-painting within 3 years
Railing	Re-painting within 3 years and replacing railing damaged by impacts
Drainage system	Enlarge drainage pipies in concrete pylons