APPENDIX A

Checklist for Visual Inspection of Concrete Structure

Inspection Items	Description	Comments / Rating
Description of structure	1. Name, location, type, and size 2. Owner, project engineer, contractor, date of construction 3. Photographs involve general view and a detailed close-up of the condition of an area 4. Draw map-orientation showing the sunny and shady areas and the well and poorly drained regions.	
Nature of environmental and loading conditions	Exposure of the structure to various environmental and loading conditions: 1. Arid, subtropical, marine, freshwater, industrial environment. 2. Freezing and thawing, wetting and drying under a dry atmosphere. 3. Chemical corrosion and attack: sulfates, acids, bases, chloride, gases 4. Abrasion, erosion, cavitation, impact 5. Electrical conductivity 6. Deicing chemicals that contain chloride ions 7. Heat from adjacent sources	
Drainage	Flashing Joint, sealants, Weep holes, Contour Elevation of drains	
Loading conditions	1. Dead 2. Live 3. Impact 4. Vibration 5. Traffic 6. Seismic 7. Other types of loads	
Soils (foundation conditions)	1. Expansive soil 2. Compressible soil (settlement) 3. Evidence of pumping	
Distress indicators	1. Cracking 2. Staining 3. Surface deposits and exudations 4. Leaking	
Overall apparent alignment of structure	1. Settlement 2. Deflection 3. Expansion and contraction.	
General Condition of Concrete Surface	1. Good 2. Satisfactory 3. Poor	
Formed and finished concrete surfaces	1. Smoothness 2. Bugholes (surface air voids) 3. Sand streaks 4. Honeycomb 5. Soft areas 6. Cold joints 7. Staining	

Cracking	1. Location and frequency of cracks 2. Crack map 3. Crack width and pattern 4. Leaching	
Scaling of concrete	Scaling type, area, and depth	
Spalls and pop outs	Number, size, and depth type	
Stains, efflorescence	–	
Exposed reinforcement	Corrosion	
Curling and warping	–	
Erosion	Abrasion, Cavitation	
Previous patching or other repair	–	
Surface coatings/protective systems/linings/ toppings	1. Type and thickness 2. Bond to concrete 3. Condition	
Penetrating sealers	Type, Effectiveness, Discoloration	