



THE HARMAN GROUP
structural engineers
parking consultants

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**RE: STRUCTURAL DURABILITY
MORE PARK PARKING DECK SYSTEM**

MARK, The More Park structural system contains durability provisions to prolong the service life of the structure. The following provisions are included:

1. The structural steel superstructure is hot dipped galvanized conforming or exceeding the requirements of ASTM A123, which provides a 50-year life to the structural steel.
2. The precast panels are made from 5,000 psi concrete which exceeds the requirements of ACI 318 Chapter 4, Durability Requirements.
3. The concrete will be air-entrained as required by ACI 318 Section 4.4.1 to help resistance to freeze-thaw damage.
4. The chloride ion content of the concrete materials is controlled to limits as required by ACI 318 Chapter 4, Durability Requirements.
5. The concrete in the precast panels will contain a corrosion inhibitor at a rate of 3 gallons per yard of concrete.
6. Concrete cover to the reinforcing steel will be increased for additional protection as required by ACI 318 Section 7.7.6, Corrosive Environments.
7. The precast plank is cast in small sections in controlled precast facilities resulting in fewer opportunities for shrinkage cracks to form. The small size of the individual panels prevents thermal expansion/shrinkage stresses from building up reducing the chance of cracking due to seasonal temperature fluctuations.
8. Careful attention to the lifting and transportation process results in less micro-cracking.
9. All four edges of the precast panels are supported by structural steel. This means there is no differential deflection from one panel to the next reducing the wear on the sealant joints.
10. All joints between planks are kept to 1/2" to 3/4" maximum. This is optimum for the longevity of the joints.

We listen. We respond. We deliver.

11. All surfaces of the parking deck will be sloped to drain $\frac{1}{4}$ "/ft minimum. The key to parking deck durability is controlling the water. The faster the water, which carries the chlorides, is removed from the deck, the less chance it has to penetrate.
12. If a precast panel is showing signs of deterioration beyond easy repair, the entire panel can be lifted off the deck and replaced with a new panel. This process can occur in a short timeframe without impacting the bulk of the deck.

Based on the above durability provisions the More Park structural system, if properly maintained, will have a service life of approximately 50 years. At the completion of erection of the deck the Owner can be provided with a Maintenance Manual that outlines the maintenance procedures such as regular wash-downs, inspection and repair of joints timetable, etc. necessary to care for the parking deck and maximize its service life.

Should you have any questions please do not hesitate to call.

THE HARMAN GROUP, INC.



Malcolm D. Bland, P.E., LEED AP
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