

Alternatives Unacceptable

Precast double T's were not favoured for this application due to: the complexity of the layout; the structural and economic demands of the new drainage standards, (a sloped topping and/or a sloped frame); and the probability of last minute adjustments in design and construction schedules. When suppliers quoted uncertain delivery dates, the combination of all factors indicated this to be the most expensive and unreliably timed method.

A post-tensioned alternative was similarly turned down because the complexity of the project placed it at a structural and economic disadvantage. Additionally, the owner and the designers were concerned about possible major problems with unbonded post-tensioned strands when exposed to a road-salt corrosive environment typically found in all parking garages.

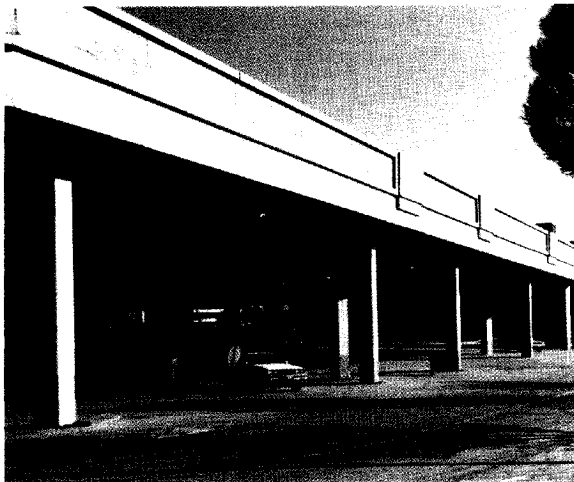
Epoxy Coated Rebar Used

Areas particularly vulnerable to corrosive salts, such as parapet walls, ramp beams, ramps, curbs and expansion joints are reinforced with protective epoxy-coated rebar. The ramps are kept ice-free with an electric heating system. The deck surface is protected with a multi coat 100% urethane waterproofing membrane, its top coat containing abrasion-resistant aggregates.



A self-supporting parapet wall forms a barrier around the perimeter.

Epoxy coated rebar was used in areas vulnerable to corrosive salts.



Workable & Affordable

By contrast, the inherent flexibility of cast-in-place, conventionally reinforced concrete, provided workable and affordable solutions to problems thwarting the other two systems.

It allowed the designer to provide the sloped deck slab as called for in the standard at an acceptable cost. This slab was 7 inches thick, two-way reinforced and supported by a concrete frame. A self-supporting parapet wall provides the necessary barrier around the perimeter of the deck. Downturned beams, with contiguous expansion joints, support the tops of the ramps leading to the parking lot.