La Guardia Precast Pavement Test Section Installation
(photos by Shiraz Tayabji)
- Sept. 26, 2002
Project Particulars

- Taxiway A (3,000 ft AC pavement) at LaGuardia is in need of rehabilitation
- AC option not preferred; cast-in-place PCC option not feasible due to time constraints
- Precast paving being considered
  - Rehab 300 ft in each 56 hour weekend
  - Mill 16 in AC, prepare base, place PCC panels
  - Provide for light can installation
- Two 200 ft sections constructed Fall 2002
  - A 16 in. and a prestressed 12 in. designs
## Thickness Design
### Conventional Precast Panels

<table>
<thead>
<tr>
<th></th>
<th>S.I. Units</th>
<th>English Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel Dimension</strong></td>
<td>3.8m x 7.6m</td>
<td>12.5’ x 25’</td>
</tr>
<tr>
<td><strong>Panel Thickness</strong></td>
<td>406mm</td>
<td>16”</td>
</tr>
<tr>
<td><strong>Dowel Diameter</strong></td>
<td>50mm</td>
<td>2”</td>
</tr>
<tr>
<td><strong>Grout Bed</strong></td>
<td>12.7mm</td>
<td>½”</td>
</tr>
</tbody>
</table>
Thickness Design
Pretensioned Precast Panels

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<th></th>
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<th>English Units</th>
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</thead>
<tbody>
<tr>
<td>Panel Dimension</td>
<td>3.8m x 7.6m</td>
<td>12.5’ x 25’</td>
</tr>
<tr>
<td>Panel Thickness</td>
<td>300mm</td>
<td>12”</td>
</tr>
<tr>
<td>Dowel Diameter</td>
<td>38mm</td>
<td>1 1/2”</td>
</tr>
<tr>
<td>Steel Strands (Diameter / Spacing)</td>
<td>12.7mm / 600mm</td>
<td>½” / 24”</td>
</tr>
<tr>
<td>Grout Bed</td>
<td>12.7mm</td>
<td>½”</td>
</tr>
</tbody>
</table>
Details - Setting Bolt

- Existing Asphalt Concrete
- Cement Grout Bed
- Milled Surface
- Steel Plate
- Threaded Rod (ASTM A36)
- Stainless Steel Threaded Sleeve
- Weld Nut to Rod
- Existing Asphalt Concrete to Remain
Details
Dowel Slot

- Provide roughened surface
- Smooth dowel bar
- Fill opening with concrete
- Existing asphalt concrete to remain
- Cement grout bed
As of April 2010