Specifications for the Century System (Concrete Interlocking Pavers)

1. Scope

This specification covers basis of purchase, production properties, and installation of high strength interlocking concrete paving stones. The contractor must have previous experience based on similar size and circumstance for a minimum of five years.

2. Basis of Purchase

2.1 The specifier shall specify the color and shape of the interlocking concrete paver desired.
2.2 Specifier shall determine use of pavers as to whether they will be used in pedestrian or vehicular areas, then specify thickness required.* Interlocking concrete paving stones are commonly manufactured in two (2) thicknesses, 6 cm pedestrian and 8 cm vehicular.
2.3 Interlocking concrete pavers shall have a minimum compressive strength of 7.500 psi with no individual stone testing less than 7.200 psi.
2.4 Interlocking concrete pavers shall have an absorption rate of less than 5%, when tested in accordance with ASTM C140 with no individual stone testing more than 7%.
* Recommended pattern for vehicular traffic is Herringbone.

3. Product

3.1 All interlocking concrete pavers shall be in accordance with specifications, listed herein and as shown on plans. This product shall be supplied by LPS Pavement Company, 67 Stonehill Road Oswego, Illinois, Phone: 630/551-2100; outside of Illinois: 800/232-1770.
3.2 All interlocking concrete pavers shall conform to ASTM C936 specifications.
Materials used to manufacture interlocking concrete pavers shall conform to the following:
3.3A Cement-ASTM C150 Portland Cement, Type 1
3.3B Aggregates-ASTM C33 (washed, graded sand and natural aggregates, no expanded shale or lightweight aggregates).
3.3C Admixtures should be added to mix to reduce efflorescence of pavers.
3.3D Coloring agent should be iron oxide synthetic pigment.
3.4 Proven field performance-all pavers submitted for approval must have been used on a job of similar environment, temperature range, and traffic volume, as is contemplated for this project. It is necessary to submit documentation and minimum time requirements.
3.5 Visual inspection-all units shall be sound and free of defects. Surface of pavers will be a fine, pleasing texture and will be the same as samples submitted. Minor cracks incidental to the usual methods of manufacture, or minor chipping resulting from customary methods of handling in shipment, delivery and installation, shall not be deemed grounds for rejection.

4. Installation

4.1 The contractor must have experience in installation of interlocking concrete pavers for a minimum of five years. Experience requirements will be based on the length of time the contractor has been doing this work and size of the jobs the contractor has completed. Documentation will be required.
4.2 Sub grade to be compacted by others to a 96% density, with particular attention being paid to trenches and filled foundations areas or other excavated areas. These areas will be filled with a compactable material and will be placed six (6) inch lifts and compacted to 96% density.

4.3 If the area is to be used for vehicular traffic, a soil separator fabric will be used (i.e. Typar by DuPont or X-Series Woven Geotextile by Mirafi or equal) on top on compacted sub grade, before base is placed.

4.4 Base requirements shall be determined by specifier, taking into consideration the type of traffic to be used on pavers. Base requirements will be from 4 to 15 inches of crushed road base, compacted to 96% density. Base course shall be installed in maximum 6" lifts. Additional moisture shall be added during the compaction process, if necessary, to achieve specified density.

4.4A Base course aggregate shall consist of sound, durable particle, free from clay, silt or organic materials. Recycled concrete shall not be used as a substitute for natural stone materials. Material shall be 100% crushed with fines graded to the following limits:

Sieve Size	% Passing
1 ½"	100-100
1"	90-100
½"	60-90
No. 4	30-60
No. 16	10-40
No. 200	4-15

4.5 Sand setting bed shall consist of clean, washed concrete sand to conform with the following gradation:

Sieve Size	% Passing
3/8"	100
No. 4	90-96
No. 100	10-30

The sand setting bed shall be screeded loose to a thickness of 1 inch to 1.5 inches. After the sand has been screeded, it will not be walked on, disturbed in any other way or pre-compacted.

4.6 Laying of interlocking concrete pavers will be performed by experienced crew members. Pavers should be laid hand tight with care taken to maintain straight and true lines.

4.7 Cutting where necessary can be accomplished with a masonry saw. Block splitting is not acceptable.

4.8 After pavers are installed, all edge restraints are in place and the cutting has been completed, the pavers are then compacted into the loose sand with a plate-type compactor, one pass on all areas. Compaction of the pavers shall be accomplished by the use of a vibratory plate compactor capable of 4,500 pounds of compaction force.

4.9 Sand is then swept into the joints and vibrated with a plate type compactor until joints are full. Joints must be filled all the way to the bottom of the chamfer on the pavers. Excess sand will be swept off and removed from the site.

4.10 Upon completion, the pavers should be approximately 3/16 of an inch above the adjacent surface. Pavers that are not at least flush should be removed and relayed to set pavers above adjacent surfaces.