CITY OF HOLTON
HOLTON, KANSAS

SIDEWALK STANDARD PLANS AND SPECIFICATIONS

(amended 3/18/91)

Authority: City of Holton City Code. 1983; Chapter XIII Section 13-102

CITY OF HOLTON
HOLTON. KANSAS
SIDEWALK STANDARD PLANS AND SPECIFICATIONS
Authority: City of Holton City Code. 1983; Chapter XIII Section 13-102 (amended 3/18/91)

A. GENERAL

1. CONSTRUCTION SUPERVISED BY CITY - All sidewalks shall be constructed. repaired. and reconstructed under the supervision of the City. and in accordance with the provisions of the City Ordinances and these Standard Plans and Specifications. Any sidewalk NOT so constructed shall be removed and reconstructed at the Contractors or Owners expense.

2. OWNER OR CONTRACTOR TO NOTIFY CITY - The Contractor or Property Owner shall give the City notice of his/her intention to construct. reconstruct or repair a sidewalk.

3. CONTRACTOR TO PROTECT PUBLIC - The Contractor/Owner shall. at all times during the process of construction. protect the public from injury by the use of necessary warning signs. barricades and lights. as required by the City Street Superintendent. All Contractors shall have adequate liability insurance.

4. LOCATION - All sidewalks shall be located with the Street Right
of Way with the inside edge two (2) feet from the property line; except extensions of and additions to existing sidewalks shall match such existing walks; provided. that in the Business District a sidewalk may be against the property line; provided further. that the City Manager or his authorized representative may grant permission to construct a sidewalk in a different location.

5. WIDTH - All sidewalks in residential areas shall be a minimum of four (4) feet in width; provided that replacement of walks shall conform to the existing width. unless a change thereto shall be authorized by the City Manager. Business sidewalks shall conform to the existing widths. Where is deemed necessary or advisable the City Manager may order a greater or lesser width.

B. SIDEWALK TYPES AND CONSTRUCTION

1. TYPES - There shall be allowed two (2) types of sidewalk surfaces for new or replacement construction. For localized repairs. the same type of materials shall be used as the surrounding existing sidewalk. If the existing surface is fired brick. then the repairs shall be made with brick of the same type. only in good condition; provided that the maximum area to be classified as a "local repair" is less than 50% of the total sidewalk area adjoining one property owner.

a. Type 1 -Single Course Concrete -Section C.
b. Type 2 -Concrete Block/Fired Brick Pavers -Sec. D.

C. TYPE 1 SINGLE COURSE POURED CONCRETE

1. THICKNESS
a. Residential Sidewalks - The thickness of the concrete in residential areas shall be a minimum of four (4) inches thick except where such sidewalk will cross a driveway it shall a minimum of six (6) inches thick and in those driveway areas there shall be installed welded wire mesh of6"X6" or equivalent.

b. Business District - The thickness of the concrete in the Business District (areas zoned for Business) shall be a minimum of 6" thick. In areas where there is a driveway or delivery area where there is a possibility of vehicles driving over the sidewalk there shall be installed welded wire mesh of6"X6" or equivalent.

2. SLOPE - All sidewalks shall slope toward the curb between 1/8 and 1/4 inches per foot of sidewalk width. This requirement may be waived by the Street Superintendent in writing if the surrounding existing sidewalks or the elevation of the existing curbing makes it prohibitive.

3. MATCHING EXISTING WALKS - Where new walks are added adjacent to old brick walks the new concrete walks shall be carried to the property line to grade. A tapered section shall then be constructed to the adjoining old brick walks to prevent an ununiformed step or obstruction. This section shall be removed at the time of reconstruction.

4. EXCAVATION - Excavation shall be made to the required depth and to a width that will permit the installation and bracing of the forms. Where it is necessary to add more earth to bring it to proper grade, such earth shall be deposited in layers of four (4) inches or less and thoroughly compacted between successive lifts or layers.

5. FORMS - Forms shall extend for the full depth of the concrete. all forms shall be straight and free from warp and of sufficient strength to resist the pressure of the concrete without springing. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal.Flexible strips may be used on curves. They shall be rigidly held to line and grade by an adequate number and size of stakes or braces.

6. CONCRETE TYPE - The construction shall be single course Class A Portland Cement Concrete. The concrete may be Air Entrained, however it is not required **.**

7. EXPANSION JOINTS - Expansion Joints of1/2 inch premoulded joint filler (Nonextruding, Type B) shall be placed in all sidewalks to the full depth of the concrete at intervals of not less than sixty (60) feet and at lot lines and around all other existing concrete structures including street curbs. Where the sidewalk is parallel to a rigid structure a 1/2 inch premoulded joint filler (Nonextruding, Type B) shall be used between the new sidewalk and the rigid structure. Where the end of the sidewalk abuts a curb a
3/4" thick joint filler shall be used.

8. CONSTRUCTION JOINTS (Contraction Joints)

a. Spacing - shall be on spaced six (6) feet centers or less depending on the width of the walk. The spacing between joints shall be the width of the sidewalk; if the sidewalk is four (4) feet wide the spacing will be 4 feet, if it is five (5) feet wide the spacing will be 5 feet and so on. In the business district where the sidewalk is wider than six (6) feet then the sidewalk should be blocked into six (6) feet contraction joints.
b. Type - The joints may be tooled or sawed. If tooled they shall be rounded with a 1/4 inch radius rounding tool and shall extend into the concrete at least 1/3 of the depth of the concrete or by cutting entirely though the fresh concrete with a trowel. If sawed, the sawing can proceed as soon as concrete will allow sawing without tearing the sawed edge.

9. FINISHING - Sidewalks shall be finished with a straight edge
until the surface is brought to a true and uniform section then finished with a wooden float with a light broom finish to provide a non-slip surface. Brooming shall be completed before the concrete is in such condition that it will not be torn or unduly roughened. Sprinkling dry cement on the surface is PROHIBITED.

10. CURING
a. Finished concrete shall be kept wet for a minimum of seventy-two (72) hours or completely covered with white plastic film or a coating of liquid membrane forming curing compound as specified in AASHTO M148 specification.

b. Cold Weather Curing -When concrete is being placed and the ambient temperature may be expected to drop below 34 degrees F. during the curing period measures shall be taken such as straw, additional burlap, or other suitable blanketing materials and/or housing and artificial heat to maintain the concrete temperature above 32 degrees F. for a period of96 hours, and an approved curing compound placed on the concrete.

D. CONCRETE BLOCK PAVERS OR FIRED BRICK CLAY PAVERS

1. SUBGRADE - Compaction of the subgrade soil during construction should be at least 95% of maximum density. The effective depth of compaction for the subgrade should be at least the top six (6) inches.

2. SUBBASE/BASE - Minimum thickness of the granular subbase required shall be four (4) inches of materials equal to AB3 type gradation rock. Compaction of this layer should be at least 100% maximum density. Slope of the subbase should conform to the finish grade of the sidewalk which shall be a minimum of3% slope for water drainoff.

3. EDGE RESTRAINTS
a. Residential Areas -Edge restraints are required on all paver installations. They shall be wooden, plastic, aluminum, steel, concrete or a soldier course on edge of pavers.

a-a. Wooden restraints shall be treated to resist insects and rot. The edge shall extend down past the sand bed into the granular base. Pegs or stakes should be placed on the outside or below the pavers if placed on the inside. The stakes should extend below the granular base and into the soil subgrade.

a-b. Plastic edging shall be specifically designed for pavers. It shall be firmly anchored into the base with galvanized or painted metal pins of 3/8" diameter or more. Edging for planting beds and flower beds is NOT an

acceptable restraint.

a-c. Aluminum and steel edging shall provide a smooth edge on the paver side of the installation. The edging shall extend down past the sand leveling course and well into the base course. The stakes shall extend completely into the subbase material.

a-d. Concrete edging shall be minimum of 6" wide and set on compacted ground poured deeper than the bottom of the base material into the subbase. Concrete shall be Class A Portland Cement Concrete.

b. Business District -Concrete shall be the *only* edge restraint allowed in the Business District. Concrete edging shall be minimum of 6" wide and set on a compacted ground poured deeper than the bottom of the base material into the subbase. Concrete shall be Class A Portland Cement Concrete. The street curbing and/or 6" concrete sidewalk are adequate edge restraints.

c. Edge Restraints shall be installed before paving begins so the finished elevation for the bedding sand course can be set from the edge.

d. Edge pavers can be cut with a saw or block cutter to fit against the restraint. When the gap between the pavers and the edge exceeds 3/8", then the space shall be fitted with a cut paver.

4. GEOTEXTILE FABRIC

a. Placement -There shall be a geotextile construction fabric placed directly on the compacted granular subbase prior to placement of the sand cushion. The fabric shall be overlapped a minimum of eighteen (18) inches where necessary.

b. Material Requirements.

a-a. General -The geotextile fabric shall be a permeable textile material constructed of a polymeric material that will not deteriorate due to ultraviolet light, heat exposure and when in contact with soil. The fabric can be woven, nonwoven, or composite and finished to prevent the outer yarn or fibers from pulling away from the fabric.

a-b. Strength Requirements -(meet or exceed the following)
Tensile Strength (Grab Method) 150 lb.. (minimum in any direction)
Bursting Strength 300 psi
Puncture Strength (tear strength) 70 lb. Apparent Opening Size
(US Standard Sieve Size) 100 to 40

5. BEDDING SAND

a. Placement -The bedding sand shall be screeded down using the edge restraint as a guide holding a minimum of 3% slope of sidewalk edge to edge. The bedding sand shall remain uncompacted until after the pavers are installed. No one shall walk on the bedding sand after it has been screeded and before the pavers are installed.

b. Materials -The material used as the bedding layer for

placing the concrete paver blocks shall be a well graded, non plastic sand. The layer should be 2" thick before final surface block vibration and have a gradation as shown:
Same Size 3/8" No.4 No.8 No. 16 No.50 No.l00 No.200
% Passing 100 95-100 80-100 50-85 10-30 5-15 0-10
The bedding sand shall be kept covered after delivering to the job site to assure a uniform moisture content throughout the job.

6. INSTALLING PAVERS

a. Paving shall start at one point only in order that a uniform appearance is maintained throughout the sidewalk.

b. Pavers can be installed by hand or mechanically, depending
on the type of paver and project requirements, directly over the uncompacted bedding sand. Where required, cut pavers to fit. When the gap between the pavers and the edge exceeds 3/8", the space shall be filled with a cut paver.

c. Compact the pavers to level using a mechanical plate vibrator. Vibration compaction shall not begin until a minimum of20 square yards of pavers are laid. Vibrate 2 times over. Do not Vibrate within 1 yard of an unrestrained edge.

d. Use a sand material to fill the joint spacing between the paver blocks to provide adequate vertical block interlock. The gradation for this material shall be 100% passing the No. 16 sieve and 10% passing the No. 200 sieve. Sweep this material to fill the joints and recompact with the vibrator to complete the interlock.

7. CONCRETE PAVER BLOCK SPECIFICATION

a. The paver block shall be constructed of concrete and shall be high quality block specifically manufactured for the construction of paved surfaces purchased from a reputable dealer. Pavers should exceed 8,000 psi compressive strength and have less than 5% water absorption.

b. Minimum paver thickness for sidewalk installation shall be 2 3/8".

c. All paver blocks shall be sound and free from defects that would interfere with the proper placing of the block or impair the strength or performance of the construction.

8. FIRED CLAY PAVER SPECIFICATION

a. All pavers shall meet or exceed Specification ASTM # C-902 Class SX Type 1.

b. Minimum thickness of the Fired Brick Paver shall be 2 1/4 ". 9. CONCRETE BASE OPTION
a. 3" concrete may be substituted for the 4" granular subbase. This concrete shall meet the requirements laid out in Section C of these specifications.

c. A 1" thickness of sand bedding materials shall be laid over the concrete to lay the pavers on. The material shall meet the gradation list in 5b.