INCORPORATED VILLAGE OF FREEPORT

SPECIFICATIONS

for

TWO COURSE
PORTLAND CEMENT CONCRETE SIDEWALKS
AND CURBS

All Contractors constructing sidewalks or curbs or both in the Village streets, within the Incorporated limits of the Village of Freeport, shall be bonded to the Village.

They shall perform their work in accordance with the following specifications and will be held strictly responsible for any violation of same.

Cement:

Cement shall meet the requirements of the current Standard Specifications for Portland Cement of the American Society for Testing Materials. A sack containing 94 pounds of cement will be considered one cubic foot.

Fine Aggregate:

The fine aggregate shall consist of clean, hard, durable, uncoated particles of sand or stone, free from all organic material. 100% shall pass a 1/4 inch screen. Not more than 25% shall pass a 50 mesh screen. It shall be well graded from coarse to fine, and shall not contain more than 5% by weight of clay or loam, none of which shall be in lumps.

Coarse Aggregate:

Coarse aggregate may be broken stone or gravel.

The broken stone or gravel shall be clean, hard, durable, uncoated rock. It shall contain no vegetable or other deleterious matter and shall be free from soft, thin, elongated or laminated pieces.

One hundred per cent of the coarse aggregate shall pass a 1-1/4 inch screen and at least 95% shall be retained on a 1/4 inch screen, with all intermediate sizes retained.

Bank Run Aggregate:

Bank run gravel may be used in the first or basic course, providing it is well graded from coarse to fine. 100% shall pass a 1-1/4 inch screen, not more than 50% shall pass a 1/4 inch screen and not more than 15% shall pass a 50 mesh screen. It shall be clean, hard, durable, uncoated and contain not more than 5% of clay or loam.

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Water:

Water shall be clean and free from alkali, oils or acid.

Forms:

Forms shall be of lumber two inches thick, or of steel of equal strength, except on curves, where flexible strips may be used.

They shall be held rigidly in place by stakes or braces with top edges at true line and grade given by the Engineer. After the forms have been laid and before any concrete is placed within them, they shall be checked for line and grade by the Engineer. Twelve hours notice must be given the Engineer to make this check-up.

Subgrade:

The space over which the sidewalk is to be laid shall be graded eight (8") inches below the finished grade and parallel thereto. All soft, boggy or unsuitable material shall be removed to at least twelve (12") inches below trench bottom, refilled with suitable materials and well rammed.

On the subgrade thus prepared shall be placed clean steam cinders or sand in sufficient quantity to insure a uniform depth of at least four (4") inches after wetting, rolling or tamping until the surface is firm. This foundation shall project at least two (2") inches beyond the edge of the walk.

On this bed shall be placed the forms so that the inside edge of the finished walk will be eighteen (18") inches from the property or street line, unless otherwise directed by the Engineer. Walks shall be not less than four (4') feet in width and shall have a transverse slope of one quarter (1/4") inch per foot, toward curb.

The subgrade shall be damp, but not muddy, when concrete is placed upon it.

Thickness Proportions:

Two-course sidewalks shall consist of a base three (3") inches thick composed of concrete in the proportions of one (1) part Portland Cement, two (2) parts of fine aggregate and four (4) parts coarse aggregate and a top coat one (1") inch thick composed of mortar in the proportions of one (1) part Portland Cement and one and one-half (1-1/2) parts fine aggregate.

Lamp black is to be mixed with the top coat in the proportions of one (1) pound lamp black to four (4) bags cement. Dark cement for top coat may be used instead of lamp black coloring, as approved.
Driveways:

When a driveway occurs, the bottom course shall be thickened to at least five (5") inches and the top layer shall be one (1") inch thick. The bottom course shall be reinforced with steel wire mesh, 6" x 6" openings and weighing not less than 42 pounds per 100 square feet. The base course shall be of a greater thickness where required.

Where bank run gravel is used for the base it shall be mixed in the proportions one (1) part of Portland Cement to four (4) parts bank run.

As a substitute for the two course driveway, one course reinforced driveways may be constructed with a minimum thickness of six (6") inches. One course driveways shall be given a wood float finish. Bank run gravel will not be permitted in one course driveways.

Laying Base:

The base or bottom course shall be deposited on the subgrade and thoroughly compacted by tamping. It shall be nowhere less than one (1") inch below the finished surface.

Laying Wearing Surface:

Within 45 minutes after the bottom course is laid and before the initial set has taken place, it shall be covered by the mortar for the top coat.

Mixing:

The ingredients of the concrete shall be thoroughly mixed until each particle of fine aggregate is coated with cement and each particle of coarse aggregate is coated with mortar.

Where a mechanical mixer is used it shall be of an approved batch type. Each batch shall be mixed at least one minute from the time all the materials including water are in the drum until the beginning of the discharge.

The consistency of the mixed concrete shall be such that no separation of the ingredients takes place and that some tamping is necessary to bring the mortar to the surface.

Placing and Finishing:

The freshly mixed concrete shall be placed as already described. It shall then be struck off with a straight-edge advanced with a crosswise sawing motion.

It shall then be floated and rolled with a light sheet-iron roller weighing approximately one pound

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per linear inch of surface contact until the surface has a true contour and the concrete is thoroughly compacted.

One course driveways shall be given a wood float finish.

The placing of concrete shall not be suspended for 45 minutes or longer except at the end of a slab.

No concrete shall be placed on a frozen subgrade or when the temperature is, or is liable to be within 24 hours, below 35 degrees Fahrenheit.

Jointing:

The walk shall be cut into separate rectangular slabs. No plain concrete slab shall be longer than six (6') feet on any one side.

Where division plates have been used, they shall be removed after the concrete has hardened sufficiently to avoid breaking the edges or corners of the slabs.

Where division plates have not been used, the partially set concrete shall be cut through to the subgrade. Care shall be taken to make the cut at right angles to the surface of the sidewalk.

The surface edges of each slab shall be rounded to a radius of about one-fourth (1/4") inch. Markings shall be exactly at cuts between slabs.

Expansion Joints:

Expansion joints shall be one-half (1/2") inch in width and extend from the surface to the subgrade, be truly at right angles to the sidewalk surface. They shall be placed as follows:

At or near all places where the sidewalk intersects a curb or other sidewalk and at regular intervals not exceeding fifty (50') feet.

Curing:

All cement work exposed to a hot summer sun as soon as finished must be covered from the sun for two days and kept moist by sprinkling morning and afternoon until thoroughly set.
Curbs:

Curbs shall be cast on a foundation of four (4") inches of sand or steam cinders and constructed of 1:2:4 concrete as specified for sidewalk. Bank run gravel will not be permitted.

Curbs shall be cast to the following dimensions: Six (6") inches across the top, nine (9") inches across the bottom and not less than eighteen (18") inches in depth. The top of the curb shall be beveled or pitched one-quarter (1/4") inch toward the gutter and the back of the curb shall have a batter of three (3") inches in eighteen (18) away from the gutter.

Expansion joints one-fourth (1/4") inch thick shall be provided at eight (8") intervals.

Curbs shall be constructed in one course. The top surface shall be struck and tooled; the face of the curb shall be rubbed to a hard, smooth surface to at least seven (7") inches below the top of same.

Curbs at street corners shall be constructed to a radius of not less than ten (10") feet, as determined by the engineer.