

ZONING AND LAND DEVELOPMENT

540 Attachment 3

Borough of Hawthorne

Schedule A: Street Construction Specifications

CHAPTER 540

BOROUGH OF HAWTHORNE MUNICIPAL CODE

SCHEDULE A

Street Construction Specifications

I. General requirements.

A. All streets, curbs, sidewalks, driveways and parking and loading areas shall be designed and constructed in accordance with the provisions set forth below, except where such provisions conflict with the Residential Site Improvement Standards at N.J.A.C. 5:21. In the event of a conflict between this schedule and the Residential Site Improvement Standards (RSIS), the RSIS shall govern.

B. The entire street right-of-way shall be cleared of all brush and trees. The materials and methods of construction shall be in accordance with the requirements set forth in the New Jersey Department of Transportation Standards Specifications for Road and Bridge Construction, latest edition. No street paving shall be performed between November 1 and April 1 of the following year without the prior written permission of the Borough Engineer.

C. Pavement.

1. The minimum compacted thickness of subbase bituminous pavement shall be as follows:

(a) For local streets: five inches of DGABC; five inches of bituminous stabilized base course; two inches of bituminous concrete surface courses (FABC).

(b) For collector streets: six inches of DGABC; six inches of bituminous stabilized base course; two inches of bituminous concrete surface courses (FABC).

(c) For arterial streets: six inches of DGABC; six inches of bituminous stabilized base course; two inches of bituminous concrete surface courses (FABC).

2. The minimum width of bituminous pavement shall be as follows:

(a) For local streets in conventional development: 26 feet.

(b) For collector streets: 40 feet as shown on the Master Plan of the Borough.

(c) For arterial streets: 46 feet as shown on the Master Plan of the Borough.

3. A minimum period of six months shall elapse between the placement of the bituminous stabilized base course and FABC surface course.

II. Subgrade.

A. All boulders, clay balls, organic matter, tree trunks, spongy soil and other objectionable material shall be removed and replaced by material approved by the Borough Engineer.

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- B. Roadway excavation.
1. Roadway excavation shall include the transportation of the material excavated and the disposal of surplus material in a manner and at a location satisfactory to the Borough Engineer.
 2. Roadway excavation shall be carried to the lines, grades and slopes shown on the plans or as approved by the Borough Engineer. All materials shall be removed within the prescribed neat lines of excavation.
 3. Rock slopes shall be finished to a uniform surface, and pieces of rock which are loose or may become loose shall be removed. Earth slopes and other surfaces shall be smooth and have a neat finish.
 4. Roadway excavation shall be carried out in such a manner that the subgrade is kept well-drained at all times.
- C. Embankment shall be constructed from excavated material only when suitable in a manner and at locations indicated upon the plans or as approved by the Engineer.
- D. Soil.
1. Soil in the road subgrade shall be tested and classified in accordance with the American Association of State Highway Officials Classification for Soils.
 2. The select material for subgrade, where required, shall be approved bank-run sand and gravel, quarry-processed material or other suitable material of similar structural characteristics as approved by the Borough Engineer.
- E. Preparation.
1. The subgrade shall be formed to the required lines, grades and cross sections. The preparing of the subgrade shall not be commenced until all underlying drains and other subsurface structures have been constructed and their trenches have been properly backfilled and consolidated.
 2. The subgrade shall be properly shaped, rolled and uniformly compacted with a ten-ton roller so as to conform with the lines, grades and typical cross sections of this specification and the approved final plat profile drawings.
 3. The subgrade shall be shaped and consolidated in maximum lifts at 18 inches by rolling with a three-wheel roller, weighing not less than 10 tons, until it presents a firm and unyielding surface.
 4. The subgrade shall be maintained in a satisfactory condition and properly drained until the pavement or pavement foundation is placed thereon.
 5. Pavement mixtures shall not be deposited on the subgrade until it is properly finished to the satisfaction of the Engineer or when it is wet or frozen.
- F. No cuts and fills with side slopes steeper than one on three will be permitted, except when this provision is specifically waived by the Borough Engineer.

III. Subbase.

The materials and methods of construction for the various types of subbase shall be as described in the New Jersey Department of Transportation Standards Specifications for Road

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and Bridge Construction, latest edition. In general, subbase materials shall consist of quarry-processed stone or clean stone at the direction of the Borough Engineer.

IV. Base course.

- A. The materials and methods of construction for the base course shall be as described in Department of Transportation Standards Specifications for Road and Bridge Construction, latest edition.
- B. Soil aggregates shall be natural or prepared mixtures, consisting predominantly of hard, durable particles of stone, sand and stone dust so combined that they will produce mixtures conforming to the gradation requirements specified herein.

| Sieve Size | Percent by Dry Weight Passing Sieve |
|------------|-------------------------------------|
| 1 1/2 | 100% |
| 3/4 | 55% to 90% |
| No. 4 | 25% to 60% |
| No. 10 | 20% to 50% |
| No. 40 | 15% to 30% |
| No. 200 | 5% to 20% |

- C. Where specified, the contractor shall furnish and lay a bituminous stabilized base course in the following manner:
 - 1. The material shall leave the plant at a temperature sufficient for workability under prevailing conditions. However, the temperature of the mixture when laid down shall not be less than 250° F. The material shall be laid using a paving machine.
 - 2. The base course shall be compacted in the following manner: Initial rolling will be done with a three-wheel ten-ton roller or with a three-wheel tandem, twenty-ton roller operating immediately in back of the spreader. The second, third and final rolling will be performed with a two- or three-wheel tandem roller until the mixture is thoroughly compacted to the satisfaction of the Borough Engineer. Immediately upon completion of the base course, “donuts” or “ramps” of the same material as the base course shall be placed around manholes, catch basins, waterline valve boxes and all other necessary protrusions.
 - 3. Traffic may be carried, if necessary, on the base course for the minimum time necessary to maintain traffic control. The contractor shall be responsible for the maintenance of the base at all times while it is exposed to traffic.
 - 4. Immediately prior to construction of subsequent pavement surface thereon, the base course shall be cleaned of all loose and foreign materials, and all damaged areas shall be repaired to the satisfaction of the Borough Engineer, all “donuts” or “ramps” shall be removed, and the tack coat shall be applied.
- D. A secondary tack coat shall be applied to the bituminous stabilized base course if, in the opinion of the Engineer, such layer becomes coated with dust, dirt or other foreign material

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sufficiently to prevent a good bond between the completed base course and the surface base course.

- V. Surface course.
 - A. The materials and methods of construction for the surface course shall be as described in the New Jersey Department of Transportation Standards Specifications for Road and Bridge Construction, latest edition. The surface of the base course shall be clean; shall be free from frost, foreign materials and leaves; shall be dry when paving operations are to start; and shall be maintained in that condition. Bituminous concrete mix, Mix No. I-5, or approved equal shall conform to the requirement of the New Jersey Department of Transportation Standards Specifications for Road and Bridge Construction, latest edition, including the materials, mixing, transportation and all other phases of construction.
 - B. The bituminous concrete mix shall have a uniform, compacted minimum depth of two inches unless a change in thickness is approved and authorized by the Borough Engineer. Four-inch-diameter core borings shall be taken by a certified testing laboratory, shall be examined, tested, etc., by this laboratory and their report shall be sent directly to the Borough of Hawthorne. The borings shall be taken one every 1,000 square yards of finished paving, with a minimum of three. Location of the borings shall be designated by the Borough of Hawthorne Engineering Department. The laboratory shall perform the following tests as a minimum:
 - 1. Specific gravity.
 - 2. Materials.
 - 3. Thickness.
 - 4. Density.
- VI. Curbs, underdrains and crowns.
 - A. Curbs shall be constructed along both sides of all streets of Belgian or granite blocks and underdrains will be required where the Borough Engineer deems necessary, all in accordance with Borough standards.
 - B. Curbs shall be so placed that the elevation of the top conforms to the following:
 - 1. On roads which have thirty-foot or less paving, the curb top shall be level with the elevation of the finished road pavement and surface at the center line.
 - 2. Where the paved width is 40 feet, the curb top shall be one inch below the elevation of the finished road pavement and surface at the center line.
 - 3. Where the paved width is 44 feet or greater, the curb top shall be 1 1/2 inches below the finished road pavement and surface at the center line.
 - C. Excavation shall be made to the depth as required by these specifications and drawings. The base shall be a firm, even surface. Where the curb is to rest on fill, this fill shall be thoroughly compacted.
 - D. Curb forms along the front and rear of the footing shall be set true to line and grade and held rigidly in place. The form surface shall be such as to permit a smooth even surface of neat appearance.

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- E. Fresh concrete shall be portland cement concrete, with an ultimate strength of 3,500 pounds per square inch and a slump of less than four inches. The concrete shall be placed on a moist but not muddy base. No concrete shall be placed in temperatures below 32° F. Immediately thereafter, and prior to initial set, granite and Belgium blocks shall be placed to the lines and grades specified on the plan.
 - F. For concrete curbs, if allowed by exception, expansion joints shall be placed at a maximum distance of 20 feet apart on straight runs and on curves whose radius exceeds 200 feet and elsewhere as the Borough Engineer may direct. The expansion joint material shall be 1/2 inch thick and will conform to the size and cross section of the curb, except that it shall set back 1/2 inch from the top and front faces of the curb.
 - G. The concrete curb shall be protected by usage of sealers, burlap or comparable material and kept in first-class condition throughout the construction period of the entire subdivision or until it is accepted by the Borough.
 - H. Granite and Belgium blocks shall measure four inches to five inches deep by five inches to six inches wide by 10 inches to 12 inches long.
- VII. Sidewalks and driveways.
- A. Sidewalks.
 - 1. Concrete sidewalks shall, in general, be built parallel to the street line within the street area as the Planning Board may direct. The provisions of Subsection VI.F and G above apply to sidewalk construction.
 - 2. Sidewalks shall be the minimum width specified in Chapter 540 or, if no minimum width is assigned, not less than four feet wide. Sidewalks shall be at least four inches thick, except across driveways and other passageways that might be used for vehicular traffic, in which case, the thickness should be six inches, and reinforcement, consisting of welded wire mesh, shall be utilized. The finished walk shall be scored such as to form squares, and expansion joints one-half-inch thick shall be provided at intervals not to exceed 24 feet.
 - 3. The surface shall be finished with a wood float. In no case shall a steel trowel be used. Each square shall have the four sides suitably edged. Sidewalks shall slope transversely towards the paved street at a pitch of 1/4 inch per foot.
 - 4. Sidewalks that are in close proximity to shade trees shall be constructed with six inches of three-fourths-inch clean stone below the concrete in order to deter root intrusion and sidewalk lifting.
 - 5. All sidewalks shall be constructed in accordance with the Americans with Disabilities Act (ADA) guidelines.
 - B. Driveways.
 - 1. Driveways shall be paved with bituminous concrete surface course (FABC), placed on a minimum of six inches compacted gravel base course. The surface course shall have a minimum compacted thickness of two inches.
 - 2. Depressed curbs at driveways shall project 1 1/2 inches above the top of the bituminous surface course. The transition from the full height of curb to the one-and-one-half inch high curb shall be a smooth one.

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3. All driveway aprons, curbs, sidewalks, underdrains, driveways, storm drains, etc., shall be constructed in accordance with Borough standards on file with the Borough Engineer’s office and all applicable ADA guidelines.

VIII. Parking and loading areas.

- A. All parking and loading areas on nonresidential lots shall be designed in accordance with the following construction details:

| Subgrade Class | | Minimum Compacted Thickness (inches) | HMA Mix |
|-----------------------|----------------|---|------------------|
| Good | Surface Course | 1 1/2 | 9.5M64 |
| | Base Course | 3 1/2 | 12.5M64 or 19M64 |
| | Subbase | 4 to 6 | DGABC |
| Medium | Surface Course | 1 1/2 | 9.5M64 |
| | Base Course | 4 1/2 | 12.5M64 or 19M64 |
| | Subbase | 4 to 6 | DGABC |
| Poor | Surface Course | 1 1/2 | 9.5M64 |
| | Base Course | 5 1/2 | 12.5M64 or 19M64 |
| | Subbase | 4 to 6 | DGABC |

Source: “Hot Mix Asphalt Pavement Design Guide,” New Jersey Asphalt Pavement Association.