

SUBSECTION 13.6 ROAD CONSTRUCTION STANDARDS

13.6A CONSTRUCTION SURVEY PROCEDURE

1. General

The centerline of the traveled portion of the road shall be placed in the center of the right-of-way, and shall be located in the field by a State licensed land surveyor. Suitable construction ties shall be established at all control points, which shall be protected during construction so that the centerline may be re-established at any time.

2. Stations

Stations shall be established every 50 feet and at all radius points (P.C. and P.T.'s). The beginning of this line shall be located in the gutterline of the intersected street. A construction stake shall be placed at right angles to each station, clear of construction and grading. This stake will show the station, the measured distance to centerline (offset) and on the face nearest to center line, the cut or fill which will establish the center line grade. A grade list showing the Stations, stake elevations, offset from centerline grade, cuts and fills shall be provided to the Town Engineer by the Applicant, or his designee who is to have charge of the construction layout, before construction begins.

3. Bench Marks

A permanent Bench Mark shall be established at the beginning and end of each road and at intervals not exceeding 500 feet along the length of the road. These Bench Marks shall be referenced to the same datum shown and identified on the construction drawings for the road.

4. Protection of Stakes and Bench Marks

Grade stakes and permanent Bench Marks shall be protected and preserved until the road construction has been approved by the Town Engineer. If such stakes or Bench Marks are disturbed, they shall be replaced immediately.

13.6B CLEARING AND GRUBBING

1. Staking of Clearing Limits

Prior to any site work, the limit of clearing shall be staked by the project surveyor and reviewed and approved by the Town.

2. Clearing

All trees, brush, boulders, structures, walls, fences, perishable matter and debris of whatever nature shall be removed from within the clearing limits, including areas necessary for cuts and fills, construction of storm drainage systems, and required sight lines, except that valuable shade trees may remain in shoulder areas as provided for in Section 13.6B.4.

3. Grubbing

All roots and stumps within the clearing limits shall be grubbed and excavated. No stumps shall be buried on site within the road right-of-way and associated easement areas.

4. Trees

Valuable shade trees may be permitted by the Commission to remain in shoulder areas as provided for in Section 13.5I.6, but not within three (3) feet of any curblin, if no substantial increase in the risk of injury or damage results by reason of its presence in the particular place where it stands. Any such tree shall be effectively protected and preserved so as to insure that it will suffer no damage during construction operations. All tree branches overhanging the roadway pavement or shoulder areas shall be trimmed to a clearance of fifteen (15) feet above the finished grade of the road.

5. Topsoil

Topsoil shall be stripped from all surfaces of the roadway section which will be disturbed by cut or fill operations. Topsoil so stripped shall be stockpiled on the site of the work and shall be reserved for roadway landscaping. Excess topsoil may only be removed from the site in a lawful manner after all disturbed areas associated with roadway construction have been stabilized.

13.6C ROADWAY EXCAVATION, FORMATION OF EMBANKMENT AND DISPOSAL OF SURPLUS MATERIAL

1. General

The excavation, filling, compaction, and the disposal of all surplus or unsuitable materials required to construct the roadbed, subgrade, shoulders, slopes and other associated improvements shall be accomplished in accordance with all applicable requirements of the State Standard Specifications for "Roadway Excavation, Formation of

Embankment and Disposal of Surplus Material" except as modified herein.

2. Unsuitable Material

All unsuitable material, including material removed during clearing and grubbing and preparation of subgrade, shall be removed from within the limits of the right-of-way and disposed of in a lawful manner.

3. Surplus Material

Surplus suitable material may be used to flatten fill slopes within the limits of the right-of-way and any slope easements if approved by the Town Engineer. Surplus suitable materials that cannot be so utilized shall be disposed of in a lawful manner.

4. Blasting

Blasting shall be performed only by licensed competent personnel and shall be done in accordance with all applicable State and Federal laws, local ordinances, rules and regulations pertaining thereto.

13.6D PREPARATION OF SUBGRADE

1. General

All topsoil, peat, other organic matter and all soft and yielding material shall be stripped and removed to their full depth, and boulders and ledge rock removed to a depth of at least twelve (12) inches below finished subgrade. The surface shall then be backfilled up to subgrade elevation with bank or crushed gravel conforming to the requirements of the State Standard Specification Sections M.02.1 and M.02.06 (Grading B). All construction methods shall conform to the requirements of the State Standard Specifications for "Subgrade".

13.6E ROLLED GRANULAR BASE

1. General

After the subgrade has been compacted, proof rolled, tested as per Section 13.3C and approved by the Town Engineer, a rolled granular base shall be applied for the full required width of pavement plus one foot beyond each curb line. The rolled granular base shall not be less than eight (8) inches thick after compaction and shall have the cross-slope shown on the Standard Detail Drawings.

2. Materials and Methods

Construction methods shall conform to the requirements of the State Standard Specifications for "Rolled Granular Base", and materials shall conform to the requirements of the State Standard Specification Sections M.02.03 and M.02.06 (Grading A).

13.6F PROCESSED AGGREGATE BASE

1. General

After the rolled granular base has been placed compacted, and tested as per Section 13.3C, processed aggregate base shall be applied for the full required width of pavement plus one foot beyond each curb line. The process aggregate base shall not be less than six (6) inches thick after compaction and shall have the cross slope shown on the Standard Detail Drawings.

2. Materials and Methods

Construction methods shall conform to the requirements of the State Standard Specifications for "Processed Aggregate Base", and materials shall conform to the requirements of the State Standard Specification Section M.05.01.

13.6G BITUMINOUS CONCRETE PAVEMENT

1. General

After the processed aggregate base has been brought to the required grade and cross slope, rolled, compacted, and tested as per Section 13.3C, the roadway shall be surfaced with bituminous concrete Class I binder course for the full required width of pavement plus one foot beyond each curb line to a compacted depth of not less than 2 inches. After placement of bituminous concrete curbing on the binder course, a bituminous concrete Class II top or surface course not less than 1 ½ inches thick after compaction shall be placed. The total compacted depth of Class I binder course and Class II top or surface course shall not be less than 3 ½ inches. Prior to the pavement of the Class II surface course, the surface of the binder course shall be broomed clean and a tack coat applied. No paving shall be permitted between October 31 and April 1 unless the Town Engineer specifically permits an exception due to unusually mild weather conditions. No paving shall be permitted on any day where the base temperature is less than 35 degrees Fahrenheit or when weather conditions of fog or rain prevail or when the pavement surface shows any signs of

moisture. Pavement shall be placed so that each course shall have the cross-slope shown on the Standard Detail Drawings.

2. Sequence of Paving

Completion of the subgrade and all drainage improvements shall occur prior to the issuance of any building permits for lots accessing on said subdivision street. Completion of the Class I binder course shall occur prior to the issuance of Certificates of Occupancy for any lots accessing in said subdivision street. It is recommended that the Class II bituminous surface cannot be installed until a substantial portion of the construction associated with lots accessing on said subdivision street has been completed.

3. Materials and Methods

All materials and construction methods shall conform to the requirements of the State Standard Specifications for "Bituminous Concrete" except as modified herein. "Bituminous Concrete" shall conform to the requirements of the State Standard Specifications Sections M.04.01 and M.04.03 (Class I for the binder course and Class II for the top or surface course).

4. Source

All bituminous concrete pavement material shall be obtained from a plant certified by the State Department of Transportation for provision of such materials for use in State highway construction. Original signed copies of certification by the supplier that each load of bituminous concrete pavement materials incorporated in the work conforms to the requirements specified in Section 13.6G.1 shall be submitted to the Town Engineer.

13.6H BITUMINOUS CONCRETE CURBING

1. General

Machine laid bituminous concrete curbing shall be placed on both sides of the pavement along the entire length of new and improved roads at the offset from centerline of road shown on the Standard Detail Drawings. Bituminous concrete curbing shall not be required on roads approved with open drainage systems, or on existing Town roads where it is determined by the Town Engineer that the installation of enclosed storm drainage systems is not warranted. Irregular or damaged curbing shall not be accepted, and the Town Engineer shall require that improperly placed curbing be removed and replaced.

2. Materials and Methods

All materials and construction methods shall conform to the requirements of the State Standard Specifications for "Bituminous Concrete Lip Curbing". Curbing shall be placed on the road binder course at a height which will maintain a 6 inch curb reveal after placement of the road surface course. Prior to the placement of any curbing, the surface of the pavement shall be cleaned of all loose and foreign material. The surface of the pavement, which shall be dry at the time the curbing is placed, shall be coated with an approved tack coat. All curbing shall conform to the shape shown in the Standard Detail Drawings.

13.6I GUIDE RAIL

1. General

Guide railing shall be installed in locations as required in Section 13.5L. The type of guide rail to be utilized shall be as follows:

- a) Metal beam rail or 3 cable guide rail with steel posts, in accordance with the State Standard Specifications, shall be required as directed by the Commission.
- b) Steel backed timber guide rail, or equal may be required in areas of aesthetic or historical significance, or along designated scenic roads, as determined by the Commission.
- c) On low volume residential access streets or residential lanes, an alternative guide rail design may be approved by the Commission.

2. End Anchorage

Regardless of the type of guide rail to be used, all leading and trailing ends shall be secured with concrete end anchors. Blunt or flared ends shall not be permitted.

13.6J MONUMENTS

1. General

Monuments shall be of reinforced concrete, not less than four (4) inches square at the top and not less than three (3) feet long, shall have a cross mark indented in the top to indicate the exact point of reference, and shall be set so as to project not more than two (2) inches above finished grade.

2. Exposed Ledge Areas

In exposed ledge areas, a brass plug 1/2 inch in diameter and three (3) inches long shall be installed in the ledge and cemented in place with Portland cement mortar.

13.6K TRAFFIC CONTROL DEVICES

1. General

The design and placement of sign, pavement markings, and object markers shall conform to the most current edition of the Manual of Uniform Traffic Control Devices.

2. Materials and Methods - Signs

Street signs shall be extruded aluminum with materials conforming to the requirements of the State Standard Specification Sections M.18.09, M.18.10, M.18.11 and M.18.12. Construction methods shall conform to the requirements of the State Standard Specification for "Sign Face - Extruded Aluminum". All other signs shall be sheet aluminum with materials conforming to the requirements of the State Standard Specification Sections M.18.09 and M.18.13.

3. Materials and Methods - Pavement Markings

Construction methods shall conform to the requirements of the State Standard Specifications for "Painted Pavement Markings", and materials shall conform to the requirements of the State Standard Specification Section M.07.20 for 15-minute dry paint.

13.6L SIDEWALKS

1. General

Where required, shall be constructed of 3000 PSI Portland Cement Concrete, with an air entraining admixture. Sidewalks shall be a minimum of four (4) feet in width and five (5) inches thick, and shall be constructed on a granular fill base having a minimum compacted thickness of eight (8) inches. The concrete thickness shall be increased to eight (8) inches, and welded wire fabric reinforcement provided at all driveway crossings.

2. Materials and Methods

All materials and construction methods shall conform to the requirements of the State Standard Specifications for "Concrete Sidewalks". "Granular

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Fill" shall conform to the requirements of the State Standard Specifications Sections M.02.01 and M.02.06 (Grading A). Portland Cement Concrete shall conform to the requirements of the State Standard Specifications Section M.03.01 (Class A). Welded wire fabric reinforcement shall be WWF 6x6 - W2.9xW2.9.