

Section VI. Required Improvements For An Approved Subdivision

A. Streets-General

1. All streets shall be constructed and municipal services installed by the applicant. The following specific improvements are required within a subdivision.
2. The entire area within the exterior lines of all streets in the subdivision shall be cleared of all stumps, brush, roots, boulders, like material, and all trees not intended for preservation.
3. All loam and other yielding material shall be removed from the roadway area of each street or way and replaced with suitable material in accordance with the City of Haverhill zoning ordinances and other applicable elements of the City Code.
4. All roadways shall be constructed and inspected in compliance with specifications contained in these regulations as approved by the Planning Board; and shall be consistent with minimum requirements of the Standard Specifications of the Massachusetts Highway Department.

B. Underground Services

1. All water, sewer, drain, electric; street lighting systems, telephone conduits, television cables, and gas mains shall be installed in accordance with Section V. Street lighting with underground wiring along all roadways and cul-de-sacs shall be required to be installed by the owner/developer for all subdivision projects, prior to the base coat paving of each roadway, in accordance with the Massachusetts Electric Company and the Haverhill Wire Inspector requirements, and any Preliminary or Definitive Plans submitted to the Board shall note this requirement.
2. The installation of these underground services shall be inspected prior to any backfilling of trenches or other covering of structure (first inspection).

C. Street Grading

1. Street grades shall be formed according to the standards specified in Section V.
2. The roadway subgrade shall be inspected (second inspection) prior to any further roadway construction.

D. Roadway Surfacing

1. Roadway surfaces shall be formed in accordance with the standards specified in Section V.
2. Roadways shall be constructed for the full length and width. The centerline of such roadways shall coincide with the centerline of the streets right-of-way, unless specifically approved by the Board.
3. Following the construction of the base layer(s), the roadway again shall be inspected as hereinafter provided (third inspection).

E. Curbing

1. Curbing materials shall conform to the standards specified in Section V.
2. In all types of subdivisions, curbing shall be installed along each edge of the complete roadway and along the entire cul-de-sac, where applicable.
- c. When proposed curbed intersections involve one or more existing streets having a grassed shoulder, the curbing shall be placed within 5' of the edge of the roadway, and the pavement on the street or streets with such shoulder shall be widened to the full width of the roadway (thus meeting the curb) within a distance of 50' of the intersection, tapering down to normal width within 75' thereof.

F. Sidewalks

1. Sidewalks shall be constructed in accordance with the standards specified in Section V.
2. Sidewalks of a width specified by Section V shall be constructed on both sides of the roadway(s) in all approved subdivisions.

G. Planting Strips

Planting strips shall be provided on each side of the roadway, between the roadway and the sidewalk, in accordance with the standards specified in Section V.

H. Side Slopes

The area in back of the sidewalk shall be formed, graded, and loamed in accordance

shall be the responsibility of the developer to extend drains from the subdivision as required to properly dispose of all drainage from the subdivision in a manner to be determined proper by the Board.

Should any such outlet extend onto adjoining privately owned property, the developer should obtain all necessary easements running to the City of Haverhill including a "Right to Outlet" in a manner approved by the Board. Any connection to existing facilities shall also meet the requirements of the Department of Engineering.

9. The storm drainage system shall be laid out and constructed in conformity with the specifications of Department of Engineering.
10. In no case shall a catch basin be constructed at a driveway curb cut or a driveway curb cut placed at a catch basin location.
11. Storm drains shall be designed so as to maintain a minimum velocity of two point five (2.5) feet per second and a maximum velocity of fifteen (15) feet per second in piped sections and a maximum velocity of eight (8) feet per second on open channel sections with rip rap.
12. All drain pipe shall be a minimum of twelve (12) inches and all culverts shall be a minimum of thirty (30) inches inside diameter. All drainage pipes shall be reinforced concrete conforming to Massachusetts Department of Public Works specifications for Class III pipe, as such higher class as may be required by depth of cover which shall be not less than thirty (30) inches.
13. Underdrains may be required if in the opinion of the City Engineer, water tables are sufficiently high and road cuts are severe.
14. All catch basins and manholes shall be four (4) feet in diameter inside with a forty-eight (48) inch or four (4) times the diameter minimum slump on catch basins and shall be constructed of precast concrete units. Manhole frames and covers and all construction shall be in conformance with the specifications of the City Engineering Department. Any brick used shall be clay brick. All joints shall be well mortared with good grade cement mortar and eight (8) inch barrel blocks will be allowed in pipe courses only.
15. All storm drains, culverts, and related facilities shall be maintained during construction in accordance with the requirements and specifications of the Planning Board and the Engineering Department.

with the standards specified in Section V.

I. Monuments

Monuments of materials specified in Section V shall be installed at all street intersections, at all points of change in direction or curvature of right-of-way/lines and at other points as on the Definitive Plan and where in the opinion of the Board, permanent monuments are necessary.

J. Drainage

The drainage system shall be provided and constructed in accordance with the Definitive Plan and in conformance with the standards specified in Section V of these regulations.

K. Water

If a public water system is located within 400' of the subdivision, all lots shall connect to the public water system. If the system is not located within 400', the applicant may install private on-lot water systems, provided they are constructed in accordance with the standards of the Massachusetts Department of Public Health and City of Haverhill Board of Health and those specified in Section V of these regulations.

L. Sewage

1. If a public sewer system is located within 400' of the subdivision, the applicant shall connect all lots to the public sewer system.
2. If public sewer connections are not required according to these regulations, or if the planned public sewer system has not yet been installed to within 400' of the proposed subdivision, the applicant shall provide other means of sewerage disposal which meets the standards of the Massachusetts Department of Public Health and City Board of Health.

Sewers of sewerage systems shall be constructed in accordance with the standards specified in Section V.

M. Cleaning Up

The entire area must be cleaned up so as to leave a neat and orderly appearance free from debris and other objectionable materials. All catchbasins shall be properly cleaned out. Following the completion of this and all other items of work, a final

inspection (fourth inspection) shall be made.

N. As-Built Plans

An accurate as-built record plan and profile shall be submitted to the Department of Public Works, care of the City Engineer, after completion of the construction and upon receipt of final written approval of required improvements shown on the Definitive Plan. The as-built plan shall show the center line profile as constructed, the location and elevation of all underground utilities with rim and invert grades of sewer and drain lines. Ties to all electric and telephone vaults and junction boxes, gas shutoffs and drops, water gates and each individual water service shutoff and sewer stub shall be shown. The accuracy of such record plan shall be certified by a registered land surveyor.