

APPENDIX A

I. Construction Plan

- A. Profiles showing existing and proposed elevations along center lines of all roads. Where a proposed road intersects an existing road, the elevation along the center line of the existing road(s) within (300) three hundred feet of the intersection, shall be shown on the plan. Radii of all curves, lengths of tangents, and central angles on all streets.
- B. Plans and profiles showing the locations and typical cross-sections of street pavements, including curbs and gutters, sidewalks, drainage easements, rights-of-way, manholes, and catch basins; the location of street trees, street lighting equipment, and street signs. The location, size, and invert elevations of existing and proposed sanitary sewers, stormwater drains, and fire hydrants, showing connection to any existing or proposed utility systems/ and exact location and size of all water, gas or other underground utilities and structures.
- C. Location, size, elevation, and other appropriate description of any existing facilities or utilities including, but not limited to, existing streets, septic disposal facilities, sewers, drains, water mains, wells, easements, waterbodies, watercourses, and other pertinent features, such as surface drainage areas, swamps, railroads, buildings, at the point of connection to proposed facilities and utilities within the site. The water elevations of adjoining waterbodies or watercourses at the date of survey, and the approximate high and low water elevations of such waterbodies and watercourses.
- D. Topography at the same scale as the existing site conditions plan with a contour interval of two (2) feet, referred to sea level datum. All datum provided shall reference the latest applicable U.S. Coast and Geodetic Survey datum and should be noted on the plan.
- E. All other applicable provisions and references of the public works specifications.

II. Drainage, Erosion and Sedimentation Control

- A. General. The purpose of this regulation is to control soil erosion and sedimentation resulting from site construction and development. Subdivision and site plans shall include plans for controlling erosion and sedimentation as provided below.
- B. Design standards - erosion and sedimentation control. The following standards shall be applied in planning for erosion and sedimentation control:
 - 1. All erosion and sediment control measures in the plan shall meet the design standards and specifications set forth in the Erosion and Sedimentation Control Design Handbook for Developing Areas in New Hampshire as amended and adopted by the County Conservation District.
 - 2. Whenever practical, natural vegetation shall be retained, protected or supplemented. The stripping of vegetation will be done in a manner that minimizes soil erosion.
 - 3. Appropriate control measures shall be installed prior to removal of vegetation.
 - 4. The area of disturbance shall be kept to a minimum. Disturbed areas remaining idle for more than thirty (30) days shall be stabilized by appropriate measures.
 - 5. Measures shall be taken to control sediment and retain it within the project area. Sediment in runoff water shall be trapped and retained within the project area using approved measures. Very poorly drained soils and water bodies shall be protected from sediment.

6. Off-site surface water and runoff from undisturbed areas shall be carried non-erosively through the project area, or diverted away from disturbed areas where feasible.
7. Naturally occurring streams, channels and wetlands shall be used for conveyance of runoff leaving the project area.
8. All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within thirty (30) days.

C. Plan requirements - Erosion and Sediment Control.

1. Preliminary Plan Requirements. A preliminary plan is optional. If submitted, it shall include the following:
 - (a) Site drawing of existing and proposed conditions:
 - (i) Locus map showing property boundaries;
 - (ii) North arrow, scale and date
 - (iii) Property lines;
 - (iv) Easements;
 - (v) Structures, utilities, roads and other paved areas;
 - (vi) Topographic contours;
 - (vii) Critical areas;
 - (viii) Waterways, bodies of water, drainage patterns, and watershed boundaries;
 - (ix) Vegetation;
 - (x) Soils information from Soil Conservation Service published data or, where High Intensity Soil Maps are used, a conversion to a soil series map done by a Certified Soil Scientist;
 - (xi) Erosion and sediment control measures;
 - (xii) Areas of soil disturbance.
 - (b) Narrative section including discussion of each measure, its purpose, construction sequence, and installation timing as they apply to the site.
2. Final Plan Requirements. The Board shall require each of the following in the final plan unless specifically waived:
 - (a) Site drawing of existing and proposed conditions:
 - (i) Locus map showing property boundaries;
 - (ii) North arrow, scale and date;
 - (iii) Property lines;
 - (iv) Structures, roads, utilities, earth stockpiles, equipment storage, and stump disposal;
 - (v) Topographic contours at two-foot intervals;
 - (vi) Extent of 100-year flood plain boundaries if published or determined;
 - (vii) Soils information from Soil Conservation Service published data or, where High Intensity Soil Maps are used, a conversion to a soil series map done by a Certified Soil Scientist;
 - (viii) Easements;
 - (ix) Areas of soil disturbance.
 - (x) Areas of cut and fill
 - (xi) Areas of poorly and/or very poorly drained soils including any portion to be disturbed or filled;

- (xii) Location of all structural and vegetative erosion and sedimentation control measures;
- (xiii) Identification of all permanent control measures.

(b) Narrative section including:

- (i) Construction schedule;
- (ii) Earth movement schedule;
- (iii) Description of temporary and permanent vegetative measures including seeding specifications;
- (iv) Description of all structural erosion and sedimentation control measures, with detailed drawings of each;
- (v) Design calculations for all temporary and permanent structural control measures;
- (vi) A proposed schedule for the inspection and maintenance of all measures;
- (vii) Identification of all permanent control measures and responsibility for continued maintenance.
- (viii) Calculations showing volume, peak discharge, and velocity of, present and future runoff.

D. Responsibility for installation/construction. The applicant shall bear final responsibility for the installation, construction and disposition of all erosion and sediment control measures required by the provisions of this regulation. The Board may require a bond or other security as described in Section IX. Site development shall not begin before the erosion and sediment control plan is approved and the control measures are installed as scheduled in the approved plan.

E. Maintenance. The applicant shall maintain all soil erosion and sediment control measures, including devices and plantings as specified in the approved plan, in effective working condition. Responsibility for maintenance by subsequent owners of the property on which permanent measures have been installed shall be included in the deed and shall run with the land. If the owner fails to adequately maintain such measures, the Town shall have the authority to perform required maintenance. The cost of such work shall be borne by the owner.

F. Plan approval and review. The Board shall indicate its approval of the erosion and sediment control plan, as filed, if it complies with the requirements and objectives of this regulation. If disapproved, a list of plan deficiencies and the procedure for filing a revised plan will be given to the applicant.

Technical review of any erosion and sediment control plan prepared under this regulation shall be reviewed by the consulting engineer at the applicant's expense.

G. Inspection. Inspection shall be made by an agent of the Board during development to ensure compliance with the approved plan and that control measures are properly installed or performed and maintained. The costs of such review shall be borne by the applicant.

H. Other Required Permits. In addition to local approval, the following may be required:

RSA 485-A:17 requires a permit from the N.H. DES Water Supply and Pollution Control Division for any person proposing to significantly alter the characteristic of the terrain, in such a manner as to impede natural runoff or create an unnatural runoff.. Regulations require this permit for any project involving more than 100,000 contiguous square feet of disturbance or if such activity occurs in or on the border of the surface waters of the State.

III. Stormwater Management Plan

- A. General. The purpose of this plan is to address the effects of the proposed development on the existing stormwater drainage situation and capacity. These plans will often be required in conjunction with an erosion and sedimentation control plans.
- B. Plan Requirements. The following standards and requirements shall meet and submitted as part of the stormwater management plans.
1. Calculations of stormwater displacement and flow shall be calculated for a 25 year storm event. All facilities and mediation methods must be designed to accommodate a 25 year storm event.
 2. The effects of stormwater drainage on downstream drainage facilities.
 3. Methods and provisions to eliminate any overload or significant increase in downstream facilities.
 - (i) Drainage easements.
 - (ii) Retention/detention ponds.
 - (iii) Any other facilities.
 4. Appropriate methods to extend and/or connect the proposed drainage system to adjacent land whether or not such land is developed.
 5. Appropriate accommodation of potential upstream development.
 6. Preservation of natural watercourses within the existing watershed drainage basin.
 7. Post-development surface runoff shall be equal to pre-development runoff rates.
- C. Plan approval and review. The Board shall indicate its approval of the stormwater management plan, as filed, if it complies with the requirements and objectives of this regulation. If disapproved, a list of plan deficiencies and the procedure for filing a revised plan will be given to the applicant.
- Technical review of any stormwater management plan prepared under this regulation shall be reviewed by the consulting engineer at the applicant's expense.
- D. Inspection. Inspection shall be made by an agent of the Board during development to ensure compliance with the approved plan and that management measures are properly installed or performed and maintained. The costs of such review shall be borne by the applicant.

IV. Traffic Impact Analysis

- A. Traffic interior and exterior circulation, access and egress, adequacy of adjacent streets and intersections, entrances and exits, traffic flow, sight distances, accident statistics, curb cuts, turning lanes, and existing or recommended signalization.
- B. Amount, nature, and impact of traffic generated by the proposed development.
- C. Pedestrian safety, interior and exterior circulation, access and egress.
- D. Off-street parking and loading.
- E. Emergency vehicle access.
- F. The Board may retain the services of a consultant qualified in traffic planning to review the traffic impact analysis and to ensure that adequate provisions are made in the development plan to reduce or eliminate those impacts. The Board may further require, pursuant to RSA

676:4 I(g) that the developer reimburse the Town for reasonable costs of this review. No plan shall be approved until such fees, if applicable, are paid in full.

V. Parking Design Standards

- A. Parking areas must be constructed to the following specifications:
1. Loam and/or yielding material must be removed to a depth *of no* less than 12 (twelve) inches below the final grade.
 2. A bank run gravel sub-base of six (6) inches must be applied and compacted, followed by a six (6) inch base of crushed gravel, which is then compacted and rolled true to grade lines with a roller.
 3. A one (1) inch binder course and a one (1) inch wearing surface of bituminous concrete and pavement must be installed with a self propelled mechanical spreader and rolled by a tandem roller.
 4. The minimum grade for parking areas shall be .5%, and the maximum grade shall be 5%.
 5. Parking areas must have adequate landscaping within the site and adjacent to loading facilities.
- B. Regarding the above construction standards for parking areas, the Board may consider waiving the standards and approving an alternative upon review and approval from the Board engineer.

VI. On-site Sewage System Design

- A. Regarding the installation of on-site sewage disposal systems, the following design standards shall apply:
1. Subsurface sewage disposal systems under 2,500 gallons/day must be designed by a septic system designer, licensed in the State of N.H., or a Professional Engineer. All systems must be designed in accordance with the most recent edition of Subdivision and Individual Sewage Disposal System Design Rules as published by the N.H. Water Supply and Pollution Control Division of the Department of Environmental Services. (Env-Ws 1003.01 (a),(b)).
 2. Systems over 2,500 gallons/day shall be designed by a permitted designer who is also a civil or sanitary engineer licensed in the State of New Hampshire. All systems are to be constructed in accordance with the most recent edition of the Subdivision and Individual Sewage Disposal System Design Rules as published by the N.H. Water Supply and Pollution Control Division of the Department of Environmental Services. (Env-Ws 1003.01 (d)).
 3. The Town of Newton, in an effort to protect from preventable elements of pollution and any other discharge into the environment, and to protect and improve water quality, incorporates the following requirements (as found in Env-Ws 1014.01 et seq.) as the minimum standards for design of on-site sewage systems in Newton. Any modification of these requirements, even if approved by the State shall require a waiver in accordance with Section X, Waivers.

Table SP-1 - Minimum Standards for Distances in Septic Systems
(All distances in feet)

System Element	SHWT	Impermeable Subsoil	Bedrock	Hydric B Soils	Hydric A Soils
Leaching field	2' above	6' above	6' above	75' lateral	75' lateral
Receiving area	N/A	2' above	3' above	75' lateral	75' lateral

4. In addition to the natural permeable soil requirement, fill material may be added when needed to raise the bottom of the leaching area above seasonal high groundwater table or impervious substratum. The fill material shall be a medium to course textured sand (0.5 to 1.0mm) with a uniformity coefficient (as determined by a sieve analysis) greater than four (4). In addition to the above, any fill must also meet the requirements of Env-Ws 1014-01 (b-e).

VII. Hydrogeologic Study

- A. A hydrologic study shall, at a minimum, provide the following:
 1. A hydrologic mapping of local groundwater flow, aquifer characteristics, including but not limited to, elevation, transmissivity, and boundaries.
 2. Existing background water quality.
 3. The location of abutter water supply wells and septic systems.
 4. The location and capacity of the proposed septic system(s).
 5. Estimates of the transport of contaminants from any septic system(s) and of constituent concentrations (i.e. nitrates) at the property boundary and at the abutter's water supplies.
 6. The hydrologic studies shall be performed by qualified hydrologists, hydrogeologists, or other qualified professionals. All water testing is to be performed at EPA approved laboratories.

SCHEDULE OF FEES

1. Fees shall be in accordance with the Town of Newton Planning Board Policies and Procedures Manual, as amended. (Rev. 2008)

APPENDIX B - ROAD DESIGN STANDARDS AND CRITERIA

1. Road Design and Construction Requirements

- 1.1 The arrangement, character, extent, width, grade and location of all streets and roads in the Town of Newton shall be in harmony and conformance with existing and proposed streets as determined by the Planning Board. Public safety, convenience, topographical features, environmental, and town planning considerations will guide the Planning Board in its determinations.
- 1.2 The arrangement of streets in a subdivision shall:
 1. Provide for the continuation or appropriate projection of existing or planned streets in surrounding areas; or
 2. Conform to a plan for the area approved and adopted by the Planning Board to meet a particular situation where, because of topographical or other localized conditions, continuance of or conformance to existing or planned streets may be impracticable.
- 1.3 Streets which join or are in alignment with streets of abutting or neighboring properties shall bear the same name. Names of new streets shall not duplicate nor bear phonetic resemblance to the names of existing streets within the Town of Newton.
- 1.4 Reserve strips of land which, in the opinion of the Board, show an intent on the part of the subdivider to control access to land dedicated or to be dedicated to public use shall not be permitted.
- 1.5 Where a proposed street abuts an existing street with an inadequate alignment or right-of-way, the subdivision plat shall include in the street dedication all land needed to meet the standards established by these regulations, and as approved by the Planning Board.
- 1.6 The plan of any proposed subdivision shall show all work required to connect and complete the improvements and utilities between the proposed street pattern and any connecting street in an existing subdivision.
- 1.7 Except where it is impracticable, because of the character of the land, streets shall intersect so that within 75 feet of the intersection the street lines are at right angles, and the grade with 100 feet of the intersection does not exceed 1%. No structure or planting shall impair corner viability.
- 1.8 All streets shall be constructed and paved, and all bridges, culverts, drainage structures, storm sewers, gutters, drainage ditches and other improvements required shall be installed in conformance with the standards and specifications adopted by these regulations and any other standards adopted by the Town of Newton. Standard Specifications for Road and Bridge Construction (most recent edition), State of New Hampshire, Department of Public Works and Highways, is adopted as part of these Regulations.
- 1.9 There shall be adequate width and area on every lot after erection of a residence to permit the parking within the lot of at least two cars for each family dwelling unit.
- 1.10 All streets in a subdivision shall be identified by street names at the intersection of all streets. The street names shall be attached to an approved sign pole. All dead end streets shall be identified by a sign stating "DEAD END". This sign shall be installed on the right hand side of the street at the street intersection on an approved sign pole.

2. Design Standards

- 2.1 The subdivision plat shall conform to the design standards set forth herein, the purpose of

which is to encourage good development patterns within the Town of Newton.

- 2.2 The widths of blocks shall be between 200 feet and 600 feet. The lengths shall be between 600 feet and 1,200 feet.

The lengths, widths and shapes of blocks shall be determined with due regard for:

1. The provision of adequate building sites suitable to the special needs of the type of use planned.
2. The zoning requirements of the Town of Newton.
3. The needs for such factors as convenience of access-egress, traffic circulation, control and public safety.
4. All lots shall have a minimum of 30,000 contiguous square feet of dry land.

- 2.3 Pedestrian walkways may be required by the Planning Board where deemed essential to provide for public safety and adequate access to community schools, playgrounds, shopping areas, large employers or other community facilities.

The following design standards shall apply to all pedestrian walkways:

The sub-base for a sidewalk shall be at least twelve (12) inches of bank run gravel, thoroughly compacted. All stones larger than three (3) inches in diameter shall be removed.

The finish may be either bituminous concrete laid in two (2) courses, a base course one and one-half (1½) inches thick after rolling, or a top course one (1) inch thick after rolling.

- 2.4 The following design standards shall apply to all proposed streets in the Town of Newton:

Class	Min Row	Min Paved	Min Shoulder	Max Gradient	Minimum Centerline Curve Radius
A. Major Collector	100'	28'	8'	6%	700'
B. Minor Collector	60'	24'	6'	7%	400'
C. Local Service	50'	24'	4'	8%	150'

Major collectors are those streets which carry traffic from minor streets to arterial streets (state roads). Minor collectors are those streets which carry traffic from local service roads to major collectors. Local service roads are those which are used primarily for access (frontage) to abutting properties.

Minimum gradient shall be one half of one percent (0.5%). The Planning Board may modify the maximum and minimum gradient for short lengths of streets where, in its judgement, existing topographic conditions or the preservation of natural features indicate that such modification will result in the best subdivision of land.

The Planning Board may require greater right-of-way width where, in its judgment, the demands of present or future traffic make it desirable, or where topographic conditions create a need for greater width for grading purposes and/or snow storage purposes.

- 2.5 Street jogs with centerline offsets of less than 150 feet shall be avoided, and will not be allowed by the Planning Board unless unusual topographic conditions require a reduction of this standard.

- 2.6 Streets shall be laid out so as to intersect as nearly as possible at right angles. No street shall intersect any other street at less than 75 degrees.
- 2.7 Intersecting roadway pavements shall have a minimum paved transitional area of 20 feet at all corners in order to safely accommodate turning movements. For all intersections in commercial and industrial areas, this paved area shall have a minimum radius of 50 feet. However, where traffic conditions necessitate additional paved transitional area at intersections, these minimum radii may be increased at the Planning Board's discretion.
- 2.8 No dead end street shall be no more than more than 1000 feet in length including the turn-around.

The turn-around of a dead end street shall have a minimum radius of 75' to the outside edge of the right-of-way and a minimum radius of 62' to the outside edge of the pavement. The turn-around shall be designed as a reverse "p" or as a centered bubble and shall be designed to prevent runoff from crossing the paved area. The center of the turn-around shall be a vegetated area.

If the Planning Board deems there to be a reasonable likelihood of a near-future connection, a hammerhead or "T" turn-around design will be permitted. The dimensions of the above turn-around designs are appended to these regulations.

All dead end roads shall have provisions for future extension to a through road. This requirement may be waived where the developer can demonstrate that this extension is not feasible.

At the discretion and recommendation by the Planning Board, the construction of dead end (no outlet) roads in the Town of Newton are allowed to be built without length restriction, as long as said road serves no more than ten (10) homes, has adequate fire protection on the road, and each individual lot has its own fire protection on it, as is deemed necessary by the Planning Board. This amendment is created to give an alternative to the dead end road length restriction in this section. (Amended 2004, 2007).

- 2.9 All subdivision streets shall be designed to provide safe vehicular travel while promoting maximum residential livability and attractiveness. Adequate provision shall be made for potential street extension to adjoining properties; however, local service streets shall be laid out so as to minimize their use by through traffic.
- 2.10 The design of drainage facilities must be properly sized. Unless otherwise specified by the Board, the facility type and design storm frequency are as follows:

1.	Major streams, rivers, bridges, culverts	for the 50-year storm
2.	Minor brook culvert	for the 25-year storm
3.	Water detention facilities	for the 50-year storm
4.	Storm drain/catch basin	for the 25-year storm

Major streams are defined as those which appear on USGS 7.5" (scale 1:24000) quadrangle maps for the Town of Newton.

3. Required Street Improvements

- 3.1 The subdivision development shall conform to the construction requirements set forth herein, the purpose of which is to encourage good street construction standards within the Town of Newton.
- 3.2 All topsoil, stumps, brush, roots, boulders and like materials shall be stripped or removed from the proposed subgrade area. The subgrade shall be shaped and compacted evenly to a depth of at least 26 inches below the finished surface of streets as shown on the profile. All soft or spongy places shall be excavated to such depth as shall be necessary to stabilize the

foundation of the road and shall be refilled solidly with sub-base material as required.

- 3.3 The base shall not be laid until the subgrade has been inspected and approved by the Board Engineer.

A 22 inch base layer shall be required, such base to be constructed of an 16 inch base layer of run gravel and six (6) inches of crushed gravel, or its equivalent, laid in three (3) to six (6) inch courses. The completed base shall conform to the line and grades as indicated on the profiles and cross-sections.

- 3.4 Embankments shall be formed of suitable material placed in successive courses of not more than 12 inches each for the full width of the roadway cross-section, and shall be compacted sufficiently and uniformly so as to avoid settlement. Stumps, trees, rubbish and other unsuitable materials shall not be placed in the fill. The fill shall be allowed to thoroughly settle before applying gravel base material.

- 3.5 Under-drains shall be installed where the character and composition of soils and slopes in the right-of-way render such installations necessary. Under-drains shall consist of perforated metal or fiber pipe and shall be laid in the bottom of a trench at such depth and width as may be necessary. The trench shall be filled with clean bank run gravel, or its equivalent.

- 3.6 Storm drains, culverts and related installations shall be installed so as to permit unimpeded flow of all natural and any created watercourses. Drainage facilities shall be installed so as to insure adequate drainage of all low points along streets at intervals reasonably related to the extent and grade of the area to be drained.

- 3.7 All drainage installations shall be sized to adequately accommodate the runoff from 25 year storm events for roadway cross drains and 10 year storm events for other drainage facilities. Runoff calculations may be computed utilizing any method acceptable to the Rockingham County Soil Conservation Service.

- 3.8 Paving or stone shall be provided in drainage ditches where soil or slope conditions warrant such erosion protection.

- 3.9 The cost of upgrading any Town road giving access to a subdivision and any other improvements required by the Planning Board shall be borne by the Subdivider.

4. Procedure for Road Inspections

Each of the following operations shall be completed, inspected by the Board Engineer and approved before the next is begun, as listed below:

- 4.1 After the clearing, stumping, muck removal, and all work prior to subgrade construction.
- 4.2 After the subgrade has been constructed.
- 4.3 After the utilities and drainage have been constructed. (Note: Nothing will be covered until it has been inspected by the Board Engineer).
- 4.4 After the application of gravel, just prior to paving and loaming.
- 4.5 Final inspection (after loaming and seeding).
- 4.6 A road inspection application must be submitted for each phase of road construction (reference Appendix B) a road inspection report prepared by the Board Engineer shall be submitted to the Planning Board and the applicant regarding all inspection results.
- 4.7 Fees-in accordance with RSA 676:4, I(g), reasonable fees in addition to fees for notice under 676:4, I(d), may be imposed by the Board to cover administrative expenses and costs of

special investigative studies, review of documents and other matters which may be required by particular applications. The Planning Board shall require the applicant to deposit in escrow with the town an amount sufficient to cover the costs of any professional review or preparation. Upon completion or review or study process any unused funds in excess of \$50.00 shall be returned to the applicant. Failure of the applicant to deposit such funds with the town within fifteen (15) days of the date of the written notification shall be sufficient basis for the Planning Board's denial of the application.