

**REVISED ORDINANCE ESTABLISHING PROCEDURES, STANDARDS,  
SPECIFICATIONS, AND REGULATIONS FOR THE CONSTRUCTION OF ROADS IN  
THE TOWN OF SHERMAN**

- 1.0 **GENERAL:** This ordinance sets forth the policies, rules, procedures, standards, and specifications for the construction of roads in the Town of Sherman, together with related administration and enforcement.
- 2.0 **TITLE:** This ordinance is entitled, “TOWN OF SHERMAN ROAD CONSTRUCTION SPECIFICATIONS AND RECOMMENDED STANDARDS FOR CONSTRUCTION AND ACCEPTANCE OF ROADS” and will hereinafter be cited as the “Road Ordinance.”
- 3.0 **PURPOSE:** The purpose of the Road Ordinance is to ensure that roads constructed within the Town of Sherman have been constructed with quality materials and to satisfactory standards. It is the further purpose of the Road Ordinance to:
- 3.1 Promote public health, safety, and welfare of the residents of the Town of Sherman;
  - 3.2 Ensure that roads constructed within the Town of Sherman are only as large as necessary to handle normal traffic burdens;
  - 3.3 Provide superior access at all times for emergency vehicles;
  - 3.4 Ensure that roads retain, as much as possible, the character of scenic rural lanes rather than modern interurban highways; and
  - 3.5 Minimize the construction of impervious surfaces, thereby protecting the quantity and quality of the Town’s water, wetlands, and other natural resources.
- 4.0 **ROAD DESIGN SPECIFICATIONS AND DETAIL REFERENCE GUIDES:**
- 4.1 The State of Connecticut Department of Transportation’s (ConnDOT) Standard Specifications for Roads, Bridges, and Incidental Construction, hereinafter referenced as “Form 814” or “Standard Details,” dated 2003, as amended, are hereby incorporated into this ordinance. Engineers and contractors responsible for road construction projects in the Town of Sherman shall be expected to have a copy available for reference.
  - 4.2 Where the provisions of this ordinance are in conflict with Form 814, as amended, this ordinance shall govern. Where an approved plan is in conflict with this ordinance, the approved plan shall govern.
  - 4.3 The Town of Sherman Subdivision Regulations and Soil Erosion and Sediment Control Regulations, as amended, and DEP Bulletin 34, “Connecticut Guidelines

for Soil Erosion and Sediment Control, 2002,” also shall be relied upon in designing and constructing roads.

- 4.4 The “Standard Details” referred to throughout this Road Ordinance are incorporated into and hereby made part of this Road Ordinance.
- 4.5 The Town of Sherman encourages the use of new and innovative designs that would be in keeping with the purpose of this Road Ordinance even though they are not specified within this Road Ordinance.

## 5.0 **DEFINITIONS:**

- 5.1 **Access way**: Any area of a lot between twenty feet (20’) and fifty feet (50’) in width which serves to connect the building area of the lot with the road upon which it has frontage and access.
- 5.2 **Applicant**: Owner of the property in which a road or roads will be constructed, or his/her agent as indicated through a properly executed agency letter.
- 5.3 **Base Course Asphalt**: The material placed directly below the wearing (top) course of asphalt pavement.
- 5.4 **Board**: The Board of Selectmen of the Town of Sherman or the First Selectman where the Board has authorized the First Selectman to act on its behalf.
- 5.5 **Driveway**: An access way to a lot.
- 5.6 **Engineer**: The Town Engineer or the Public Works Supervisor of the Town of Sherman.
- 5.7 **Existing Contours**: Those contours reflecting existing physical features of an area of land based on the approximate United States Coast and Geodetic Survey mean sea level datum.
- 5.8 **Form 814**: The State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction (Form 814A) dated 1995, as amended, is hereby made part of the Road Ordinance and hereafter is referred to as “Form 814” or “Standard Details.”
- 5.9 **Monument**: An object set permanently in earth to mark a boundary, specifically, at a minimum, a four inch by four inch by four foot (4” X 4” X 4’) concrete monument, except where not practical to install, in which case the Board may approve a substitute form of marking.
- 5.10 **Bond**: A performance bond (Performance Guaranty) furnished by a sub-divider or contractor conditioned upon the performance of work in accordance with the

provisions of an approved proposal or contract in compliance with directives of the Board of Selectmen.

- 5.11 **Right of Way**: The land included between those street lines dedicated by deed for highway purposes.
- 5.12 **Road**: Any road, street, highway, avenue, land, or way dedicated to the movement of vehicles and pedestrians and which is shown on a subdivision plan approved by the Planning and Zoning Commission, or is on a map filed in the Office of the Town Clerk prior to 1938, or is a State or Town road, but not including private driveways or rights-of-way.
- 5.13 **Selectmen**: The Board of Selectmen of the Town of Sherman.
- 5.14 **Selectmen's Agent**: The Town Engineer or the Public Works Supervisor appointed by the Selectmen.
- 5.15 **Sub-base**: Material placed directly upon the prepared sub-grade and directly below the base course asphalt.
- 5.16 **Sub-grade**: The existing ground surface prepared as specified and brought to grade as indicated in this ordinance to receive a sub-base course.
- 5.17 **Watercourses**: Rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through, or border upon the Town or any portion thereof not regulated pursuant to section 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: evidence of scour, or deposits of recent alluvium or detritus; presence of standing or flowing water for a duration longer than a particular storm incident; presence of, or ability to support, the growth of hydrophytic vegetation.
- 5.18 **Watershed**: The portion of land surrounding a watercourse or paved road that sheds its ground and/or surface water into or onto the watercourse or paved road. The final decision as to the limits of the watershed shall rest with the Selectmen or their duly appointed agent.

## **6.0 ADMINISTRATION:**

- 6.1 **Maps**: In any proposed subdivision or re-subdivision, prior to construction work on any proposed road or improvements on any existing road, the owner or owners of the proposed road shall submit to the Board of Selectmen an A-2 survey of the entire property proposed for subdivision or re-subdivision and engineered plans of such proposed road, right-of-way, or improvements prepared in accordance with

the standards and specifications of this Road Ordinance. Such survey and plans shall be prepared by an engineer and surveyor licensed in the State of Connecticut, and shall be certified as to their accuracy and conformity with the existing regulations. All plans submitted shall bear the original seal and signature of a Licensed Professional Engineer and Licensed Land Surveyor.

- 6.2 **Permits:** A Road Construction permit shall be issued, in writing, by the First Selectman subject to:
- 6.2.1 Plans approved by the Board of Selectmen and which also may be required to have the prior approval of the Planning and Zoning Commission along with a report and any recommendations of the Inland Wetlands Commission;
  - 6.2.2 Completion of the required permit applications (e.g., zoning, inland wetlands, Department of Transportation) in their entirety;
  - 6.2.3 Proof of payment of all outstanding taxes (State, Town, etc.) for the property on which the road is to be constructed;
  - 6.2.4 The legal owner (applicant) of the property applies for the Road Construction permit and the signature of the applicant is on the permit application;
  - 6.2.5 A permit fee of One Thousand Dollars (\$1,000.00) for the first mile of road shall be payable to the Town of Sherman by the applicant. Applications for roads longer than one (1) mile shall be subject to additional permit fees. The additional footage shall be prorated at the same rate;
  - 6.2.6 The Road Construction permit shall expire two (2) years from the date the permit is issued, at which time the Town of Sherman may extend the permit or call in the bond. Any extension of the permit may require an increase in the bond and/or additional permit fees.
- 6.3 **Performance Guaranty:** Prior to beginning construction of the proposed road or improvement to an existing road, the applicant shall file a Performance Bond with the Board of Selectmen in the amount of 100% of the cost of the work as proposed on the approved plans.
- 6.3.1 A professional engineer licensed in the State of Connecticut shall estimate the amount of the Performance Bond. The engineer shall provide the quantitative takeoffs and unit cost for each item of work as listed in Appendix A. Additional items of work not listed in Appendix A shall be included in the estimate. The estimated cost shall be submitted by the engineer to the Board of Selectmen for review and approval.
  - 6.3.2 The Performance Guaranty
    - a. The Performance Guaranty shall be in the form of a Certificate of Deposit or Savings Account that is assigned to the Town of Sherman

along with five (5) withdrawal slips. The Town Attorney shall approve the form of the guaranty.

- b. At the discretion of the Board of Selectmen, a cash bond, in a form described in subsection “a” of this section, in an amount of twenty percent (20%) of the road construction cost estimate plus the cost of wetland protections and erosion controls may be filed under the condition that no subdivision lots are developed until road construction has been completed and the bond released.
- c. The bond must remain in effect until the permit is closed or expires.
- d. The Town of Sherman shall permit performance guaranty reductions during the construction of the project. The initial reduction may occur when, at a minimum, all drainage work, erosion and sedimentation control is in place. Additional reductions may be made, at the Board’s sole discretion, upon completion of the processed sub-base, and upon the laying of the first course of asphalt. The applicant shall submit, in writing, a request for guaranty reduction together with an estimated reduction amount. The Town Engineer shall inspect the site to ensure that all work has been completed in accordance with the approved plans. The Board of Selectmen may, at its discretion, approve these reductions. The Board of Selectmen shall, however, retain a performance guaranty in the amount of the projected cost of the uncompleted elements five (5) years from the date of the first reduction, plus a five percent (5%) contingency.

6.4 **Inspection Fee:** The purpose of the inspection fee is to assure that the construction of the proposed road is in accordance with approved standards and specifications.

6.4.1 An inspection fee in an amount of three percent (3%) of the total estimated cost of improvement shall be furnished to the Town of Sherman by the applicant. The purpose of the inspection fee is to cover the costs of inspections of the road improvement work. Additional fees, as recommended by the Town of Sherman’s Engineer, may be required if problems requiring additional inspections are encountered during construction. Such fees shall be established during a conference with the owner, the Town Engineer, and the First Selectman.

6.4.2 Prior to the start of construction, a pre-construction meeting with the applicant and the Town of Sherman shall take place to discuss the project. The application or representative for the applicant who will be responsible for the work shall be in attendance at the pre-construction meeting.

6.4.3 The applicant shall notify the Board of Selectmen at least twenty-four (24) hours before the developer is to undertake a specific stage of construction requiring inspection by the Town Engineer in accordance with subsection 6.4.5, below so that the Town Engineer or other person as designated by

the Board of Selectmen may be present at the time the work is done. Failure to notify the Town twenty-four (24) hours in advance of performing the work may result in the Town disapproving the work.

- 6.4.4 All site improvements to be constructed in the Town shall be inspected by the Town Engineer at periodic intervals. In no case shall the applicant perform any paving work without the permission of the Board of Selectmen, acting on the advice of the Town Engineer.
- 6.4.5 At a minimum, the road construction inspection shall be made and approval required before the next stage of construction is applied for, as follows:
  - a. After the construction work has been staked;
  - b. Prior to the start of backfilling structures and drainage pipes;
  - c. Preparation of sub-grade;
  - d. Preparation of sub-base;
  - e. Placement of base course asphalt;
  - f. Placement of top course asphalt;
  - g. Prior to any bond reduction or release of insurance;
  - h. The Board reserves the right to inspect at any time without notice.
- 6.4.6 An agent of the Board of Selectmen must be present when the road is being paved.
- 6.4.7 The Board may issue a stop work order and may suspend the road construction permit if, in its judgment, any construction project or any stage of construction is not being constructed in accordance with this Road Ordinance or if unforeseen field circumstances are encountered for which the approved plans are insufficient. The Board shall withdraw such order and reinstate the permit when it determines that the applicant or his or her agent is in compliance with this Road Ordinance.
- 6.5 **Building Permits:** Building permits for lots within the subdivision shall not be issued until the sub-base is placed and all drainage improvements are complete.
- 6.6 **Insurance:** Prior to the start of construction, the applicant shall provide the Town of Sherman with evidence of liability insurance, which shall include no less than the following:
  - 6.6.1 Public liability limits of \$1,000,000/\$1,000,000 aggregate;
  - 6.6.2 Property damage limits of \$500,000/\$500,000 aggregate, including blasting and underground damage resulting from the use of mechanical equipment on work covered by this document;

- 6.6.3 Coverage with respect to all subcontractors doing any part of the work covered by the permit;
  - 6.6.4 The Town of Sherman and its duly appointed representatives shall be named as additional insured;
  - 6.6.5 The coverage shall be maintained throughout the construction project and until such time as the Town of Sherman accepts the road into the Town's road system, or, if the road is not offered for acceptance, until such time as road construction is complete;
  - 6.6.6 If the policy is changed or cancelled during the policy period, the policy shall provide that written notice will be given to the First Selectman of the Town of Sherman at least fifteen (15) days before the effective date of such change or cancellation period;
  - 6.6.7 Such other additional coverage as requested by the Board.
- 6.7 **Road Maintenance Guaranty:** The purpose of the maintenance bond is to protect the Town of Sherman against defective workmanship, materials, or design of the road and/or improvement. The maintenance guaranty shall be:
- 6.7.1 Equal to ten percent (10%) of the total cost of improvement as computed for the Performance Guaranty;
  - 6.7.2 For a period of one (1) year (minimum) following the release of the final Performance Guaranty or until the date of acceptance of the road by the Town of Sherman.
  - 6.7.3 During the maintenance period the applicant shall repair all defects in construction or operation of the required improvements. Upon written notice to the owner to perform the needed repair, the owner's failure to perform the needed repairs within five (5) days may result in the Town of Sherman undertaking the repairs and drawing upon funds in the road maintenance guaranty for the cost of repairs.
  - 6.7.4 During the maintenance period the applicant shall plow the road and take whatever measures are necessary to secure the safe passage of residents and emergency vehicles on the road. The owner's failure to perform those activities necessary to secure safe passage will result in the Town of Sherman undertaking these activities and drawing upon funds in the road maintenance guaranty for the cost of these activities.
  - 6.7.5 The Performance Guaranty shall not be released until such time as said maintenance bond has been accepted by the First Selectman and posted with the Town.

6.7.6 No maintenance guaranty shall be released by the First Selectman until it has been in effect for a minimum of one (1) year's duration. Special conditions may warrant a longer minimum period of time for retention of the maintenance guaranty. The First Selectman shall release said guaranty only upon receipt of a favorable written report from the Town Engineer after inspection of all approved and requested improvements, indicating that all improvements are free of defective workmanship, materials, or design or that any defects have been corrected to his or her satisfaction.

6.8. **Acceptance of Roads by the Town of Sherman:** The purpose of this section is to develop guidelines for the Town of Sherman's acceptance of a road into the Town's road system.

6.8.1 Roads offered for acceptance by the Town of Sherman ~~will not~~ may only be accepted during the months of April through October, provided, however, that one full year must have elapsed since the final layer of blacktop was placed. All sumps must be cleared and the road swept prior to acceptance.

6.8.2 Warranty deed and certificate of title for right-of-ways of the road and drainage structures and of any easements in support thereof must be provided. The applicant must also provide:

- a. A waiver of mechanics' lien or title insurance insuring against mechanics' liens;
- b. Letter from the Tax Collector indicating full payment of taxes due;
- c. Any other certificates and documents required by the Board of Selectmen or Town Counsel.

6.8.3 A fee of five hundred dollars (\$500.00), to cover the cost of final inspection of the proposed road, must accompany any application for acceptance of the road into the Town's road system.

6.8.4 Any proposed road for acceptance must intersect with an existing Town road or state highway.

6.8.5 At least fifty percent (50%) of the houses in a subdivision must be completed and have received certificates of occupancy before the Board of Selectmen will consider an application for acceptance of the road into the Town's road system.

6.8.6 A final inspection of the proposed road, including detention basins, if any, shall be made prior to a Town Meeting date set for acceptance as a Town road. It is the responsibility of the applicant to schedule this inspection with the Public Works Supervisor and the Town Engineer.

- 6.8.7 The Town Engineer shall certify that all improvements have been completed in accordance with the approved plans.
- 6.8.8 Two sets of as-built plans (refer to Section 9) shall be provided to the Town of Sherman's Board of Selectmen. The as-built survey shall be completed in full accordance with Section 9 and approved by the Town Engineer. The as-built plans shall bear the seal and signature of both a licensed surveyor and a professional engineer.
- 6.8.9 Metes and bound descriptions of all rights-of-way and easements (prepared by a licensed surveyor) must be submitted to the Selectmen's Office and the Public Works Supervisor.
- 6.8.10 The applicant of the proposed road shall convey to the Town of Sherman the perpetual right to discharge storm water runoff from said road and from the surrounding area onto the premises for the purpose of making installations and maintaining the same as may be necessary to adequately drain said road and the surrounding area.
- 6.8.11 The Board of Selectmen retains the right to refuse any road technically meeting the standards but in the estimation of the Board of Selectmen is in unsatisfactory condition or otherwise disadvantageous for the Town. Furthermore, no road shall be accepted except by a duly warned Town Meeting.

## 7.0 STANDARDS AND SPECIFICATIONS STANDARDS:

The following standards shall apply to the construction of roads in the Town of Sherman:

- 7.1 **Right-of-way:** All roads shall have a minimum diameter of one hundred feet (100') for the right-of-way at the closed end of all dead-end roads. The pavement within the right-of-way shall have a diameter of eighty feet (80').
- 7.2 **Road width:** The required width of a road proposed for acceptance into the Town's road system shall be determined twenty feet (20') in width. Road width shall be measured from the outer edge of one gutter or shoulder to the outer edge of the opposite gutter or shoulder. Wherever feasible, the road base shall be constructed to twenty-four feet (24') in width, over which shall be placed a sufficient depth of top soil to create a sloping shoulder on either side of the road. Said shoulder shall be suitably seeded, planted, and mulched to prevent erosion.
- 7.3 **Intersections:** Intersecting roads entering upon any road, shoulder, or gutter which are or may become part of the Town's road system shall not exceed the level of the existing gutter or shoulder line. Water from adjoining driveways or intersecting roads shall be so diverted as not to enter upon the traveled portion of

the road. Where the contour of the adjoining land is such that, in the opinion of the Board of Selectmen or the Town Engineer, it may create a drainage problem, the Board of Selectmen may order the installation of the necessary catch basins, culverts, and retaining walls.

- 7.4 **Gradient of Roads:** The minimum grade for all roads shall be one percent (1%). The maximum grade for any road shall not exceed ten percent (10%). However, grades steeper than ten percent (10%) may be approved by the Board when approved by the Town of Sherman's Planning and Zoning Commission and when the topography warrants such approval in order to prevent steep cuts or fills, providing the Board finds that the road will provide safe and convenient circulation and has been designed in a manner capable of public use and maintenance by the Town of Sherman.
- 7.5 **Vertical Curvature:** Appropriate vertical curves for transition, including super-elevated curves meeting acceptable engineering standards, shall be established on all roads and road intersections to ensure adequate sight distance in accordance with the classification of the road. Except at intersections, vertical curves shall provide a minimum sight distance of two hundred feet (200') along the edge of pavement. Where any road approaches an intersection at a grade of four percent (4%) or more, a transition area having a maximum grade of two percent (2%) shall be provided for a minimum of fifty feet (50') measured from the right-of-way line of the road intersection.
- 7.6 **Horizontal Alignment:** Connecting curves between tangents shall be provided for all deflection angles in excess of five degrees (5°). Suitable tangents shall be provided between curves, and the minimum radius of curvature at the centerline of roads shall be two hundred feet (200').
- 7.7 **Intersections:**
- 7.7.1 New road intersections shall be designed so that either the centerline of all roads entering an intersection shall pass through a single point with no more than two intersecting roads meeting the main road at any one point or the applicant demonstrates, to the satisfaction of the Board, that conditions are present which justify an alternate intersection. Traffic studies and sight distance analysis may be required.
- a. The sight distance shall be measured with the stopped driver located twenty feet (20') behind the intersecting road edge of pavement to the center of the proposed travel-way for traffic approaching from the left and right. The sight distance shall be based on a height of eye of three-and-one-half feet (3.5'). No obstructions shall be located within this sight zone.
  - b. Roads shall intersect at ninety degree (90°) angles. Where unusual topographic conditions warrant, the Board of Selectmen may, through

written approval, allow modification of this standard, but no intersection shall be at an angle of less than 60 degrees (60°).

7.7.2 At road intersections, the radii at the face of the curb shall be twenty-five feet (25').

7.8 **Cross-Sections**: All roads shall be designed with a cross-section acceptable to the Town Engineer.

7.8.1. **Survey and Field Layout**: Instrument surveys shall be made, maintained, and recorded as follows:

- a. A centerline survey of the road shall be run in the field with suitable construction ties established to all control points. Stations shall be established to all control points. Stations shall be established at fifty (50) foot intervals and at all points of curvature and points of tangency. The beginning of this line shall be designated as Station 0+00 and shall be the intersection point of the proposed centerline with the centerline of the connecting road. Offset hubs shall be provided as part of the centerline survey;
- b. A construction stake shall be placed perpendicular to the tangent, or radial in the case of curves, at each station on both sides of the roads and clear of all construction. The construction stake shall be marked with the station offset to centerline and cut and fill to profile grade as measured from the top of the stake.

7.8.2 **Clearing and Grubbing**: The entire area of the right-of-way required to be graded in accordance with the approved cross-section shall be cleared of trees, stumps, brush, roots, large rocks, ledge, and other unsuitable materials, except that trees suitable for road trees shall be left standing as directed by the Board or shown on the approved construction plans. All large rocks and boulders and other objectionable materials shall be removed from the road right-of-way and shall be deposited and suitably covered at those locations on the property shown on the approved construction plans or approved off-site location. All felled trees, stumps, and brush shall be removed from the road right-of-way and shall be taken to an approved off-site location. All topsoil shall be temporarily stored at those locations shown on the approved construction plans.

7.8.3 **Preparation of Sub-grade**: The sub-grade will be prepared as follows:

- a. All trees and roots shall be stripped to below the sub-base course of the pavement and for the full width of pavement. All soft spots, peat, loam, organic material, spongy soil, boulders, ledge, and other unsuitable material shall be removed and replaced by material conforming to State of Connecticut Department of Transportation Standard Specifications Form 814, Section M.02.07. Where ledge rock is encountered, it shall be removed to a depth of eighteen inches

(18") below sub-grade, and the area back-filled with gravel and compacted.

- b. Embankments shall be constructed of suitable fill material deposited in successive layers not exceeding twelve inches (12") in depth after compaction; embankments to an elevation of three feet (3') above free water surface at the time of filling shall be constructed of rock and/or free draining material conforming to Form 814, Section M.02.07. No stone over five inches (5") in its greatest dimension shall be placed within eighteen inches (18") of the elevation of the sub-grade.
- c. The sub-grade shall be compacted to ninety-five percent (95%) standard density by the use of power rollers of at least sixteen (16) tons, or by other suitable equipment approved by the Board or its agent. The sub-grade shall be brought to a uniform surface to conform to the shape of the required cross-section. The Town Engineer may require testing to ensure that the density is obtained.
- d. Where rock fill is used, construction methods shall be in accordance with the provisions of sub-article 2.02.03-5 of Form 814.
- e. The finished surface shall be smooth and even and shall not vary more than one-half inch (1/2") from the approved cross-section of established grade. Any deviation from this cross-section or established grade shall be corrected by cutting or filling followed by repeated rollings until a well-compacted surface is obtained.
- f. The contractor shall protect the sub-grade from damage. At all times, the sub-grade surface shall be kept in such condition that it will drain readily and correctly. The sub-grade shall be checked for compliance with specifications before any remaining road construction material is placed upon it.

**7.8.4 Processed Sub-base:** The processed base shall be constructed as follows:

- a. The base material shall conform to the requirements of sub-articles M.05.01-1, M.05.01-2, and M.05.01-3, Form 814;
- b. Construction methods shall be in accordance with Section 3.04 of Form 814. The aggregate shall be spread uniformly upon the prepared sub-base directly from approved spreaders or stone boxes to a depth of not less than twelve inches (12") of coarse aggregate and an additional six inches (6") of processed gravel comprising one-and-one-quarter inch (1 1/4") stone mix after final compaction. After the aggregate is spread, it shall then be thoroughly compacted; during the compacting, water shall be applied from an approved watering device by a vertical spray delivering a flushing stream. The compacting and wetting shall be continued until the voids in the aggregates have been reduced to a minimum obtainable. The compacting shall be continued until the course is thoroughly compacted to a firm and uniform surface satisfactory to the Board. Should any irregularities of surface develop during or after the compacting of the course, it shall be remedied by loosening the material already in place and removing or adding coarse

aggregate as required, after which the entire area, including the surrounding surface, shall be compacted, broomed, and wetted and the compacting continued until it is compacted satisfactorily to a uniform surface;

- c. All compacting shall be done with a power roller weighing not less than ten (10) tons or an equivalent vibratory roller or compactor. The compacting shall begin at the sides, overlapping the shoulders for a distance of not less than five inches (5") and progress toward the center, parallel with the centerline of the pavement, uniformly lapping each preceding tract and covering thoroughly the entire surface;
- d. The final surface shall not vary more than one-half inch (1/2") from the established grade and approved cross-section;
- e. The processed base shall be checked for general compliance with the specifications before any remaining road construction material is placed upon it;
- f. Sub-base shall not be constructed during freezing weather or on frozen sub-grade.

7.8.5. **Pavement:** On the prepared and approved processed base there shall be constructed two courses of bituminous concrete (not less than two inches (2") each) as follows:

- a. The base (see definition) course shall conform to the requirements of Class 1, Section M.04 of Form 814; and the wearing (top) course shall conform to the requirements of Class 2, Section M.04 of Form 814;
- b. No bituminous surfacing work shall be performed between November 15<sup>th</sup> and April 15<sup>th</sup>, except with the written consent of the Board;
- c. All roadway pavements shall be laid using an approved, self-propelled paving machine. Pavement shall be compacted using a steel-wheeled roller weighing not less than ten (10) tons;
- d. Permanent paving shall be placed only when the underlying surface is dry, when the atmospheric temperature in the shade is above forty degrees (40°). No material shall be laid upon a frozen base course or when wind conditions are such that rapid cooling will prevent satisfactory compaction;
- e. Before placing the permanent surfacing, the exposed edges of the existing pavement shall be completely cleaned of all surface dirt and debris;
- f. The contractor shall check all manholes, catch basins, or other appurtenant structures for proper alignment and elevation before placing any pavement;
- g. The contact surfaces of manholes, catch basins, or other appurtenant structures in the pavement and the exposed edges of the existing pavement shall be painted thoroughly with a thin uniform coat of bituminous material immediately before any bituminous concrete is placed against them;

h. Any part of the pavement damaged by traffic or other causes occurring prior to its final acceptance shall be repaired or replaced in a manner satisfactory to the Board.

7.8.6. **Curbs:** Bituminous concrete curbs shall be constructed on the outer edge of the completed pavement (on the binder course), except as specified hereinafter. Curbs shall be machine-formed, having a cross-section approved by the Board, a height of six inches (6"), and a base width of twelve inches (12"). The curb material shall conform to Section M.04, Class 3 of Form 814, and construction shall conform to Section 8.15 of Form 814. Where driveways exist or are planned, depressed curbing must be installed. The surface of the pavement where the curbing is to be constructed shall be cleared of all loose and foreign material, shall be dry and shall be coated with an R.C.-2 or other bitumen before placing the material. The material shall be properly compacted to the required cross-section by use of a suitable machine specifically designed for the purpose. After completion of the curbing, traffic shall be kept at a safe distance for a period of not less than 24 hours or until the curbing has set sufficiently to prevent injury to the work. If curbing is damaged, it must be replaced. In no case shall a road be accepted into the Town's road system if curbing is damaged. At all intersections, stone curbing shall be installed conforming to Section 8.13 of Form 814 from the point of curvature to the point of tangency. Material for stone curbing shall conform to Article M.12.06 of Form 814. The Board may waive any of these curb requirements in situations where recommended by the Planning and Zoning Commission or where it seems appropriate to permit sheet flow. Curbing shall comply with Connecticut General Statutes §7-118a, where applicable. No curb is to be installed on the final wearing course.

7.8.7 **Slope Limits:** Cut or filled slopes beyond the shoulder area or road line shall not exceed one foot (1') of rise or fall for each three feet (3') of horizontal distance; but the Board may require a variation in the degree of slope to whatever extent is necessary to maintain the stability of the bank under the particular conditions. All areas that fail to show a uniform stand of grass, for any reason whatsoever, shall be re-seeded and such areas shall be seeded repeatedly until all areas are covered with a satisfactory growth of grass. All earth surfaces of slopes and areas that have been disturbed in any way due to grading and construction of the roads shall be covered with a minimum of ~~four inches (4")~~ six inches (6") of topsoil and suitably seeded or planted and mulched to prevent soil erosion. The Board may require the removal or lowering of embankments adjacent to road intersections in order to assure adequate sight distance at the intersection. No cut or fill sections beyond the right-of-way shall extend into property outside the subdivision or property not owned by the applicant, unless appropriate slope rights are obtained for the Town; in the absence of such

slope rights, appropriate retaining walls shall be constructed within the subdivision to prevent encroachment upon adjoining property.

7.9 **Storm Drainage Design**: Storm drainage for roads shall be planned and designed in accordance with the following standards:

- 7.9.1. **General**: Sufficient pipe shall be installed to carry existing water courses in the road right-of-way and to drain both the proposed road or roads and extensions thereof or other roads which, based on topography, will be served by the same drainage system. No open ditches or channels shall be provided in the road right-of-way unless (a) sufficient additional right-of-way, in excess of the minimum standard width, is provided so as to maintain the approved cross-section and (b) proper provision is made for protective guideposts or rails. Road drainage systems shall take into account the effects upon downstream systems, shall be coordinated with general drainage requirements for the use and development of the abutting lands, and shall provide for the following:
- a. Use, protection, and improvement, if needed, of the natural drainage system;
  - b. Interception of channel drainage coming from any adjoining property or road;
  - c. Protection of locations in use or proposed, necessary for on-site sewage disposal and water supply facilities; and
  - d. Prevention of flooding and soil erosion.
- 7.9.2. **Runoff Calculations**: The method to be used in determining runoff for drainage areas is the Soil Conservation Service (S.C.S.) TR#55 and/or TR#20. Other methods, acceptable to the Town Engineer, may be used to calculate runoff. All computations shall include the TR-55 Curve Number Computations, Tc and Tt through Subarea Computations, Tabular Discharge Method for each drainage and subdrainage area, and the Storm Volume for Stormwater Basins when applicable. All storm drainage facilities shall be in compliance with the Environmental Agency's Phase 2 Stormwater Regulations and designed based on the following storm return frequency criteria:
- a. Drainage System: All drainage systems within the subdivision which are not part of an established drainage course shall be designed for a storm return frequency of twenty-five (25) years;
  - b. Cross Culverts: All culverts not part of an established drainage course crossing any road shall be designed for a storm return frequency of fifty (50) years;
  - c. Minor Streams (more than 640-acre watershed—less than one (1) square mile): All minor streams shall be designed for a storm return frequency of fifty (50) years;

- d. Major Streams (more than 640-acre watershed—more than one (1) square mile): All major streams shall be designed for a storm return frequency of one hundred (100) years;
- e. Stormwater Basins: Two, five, ten, twenty-five, and one hundred year storms shall be analyzed. Attenuation must be provided for the five, ten, and twenty-five year storms and safely pass the one hundred year storm. The applicant's engineering consultant shall provide the Board and the Planning and Zoning Commission with drainage computations and drainage map to determine the adequacy of storm water systems, including the spacing of catch basins.

7.9.3. **Pipe Design:** The minimum pipe size shall be fifteen inches (15"). The minimum cover over pipe shall be four feet (4') from the invert, but in no case shall be less than two feet (2') over the top of pipe.

7.9.4 **Point of Discharge:** There shall be no discharge onto or over private property within or adjoining the subdivision unless the applicant has secured (a) proper easements and discharge rights, (b) easements and rights are transferable to the Town, and (c) there will be adequate safeguards against soil erosion and flood damage. Road runoff shall not discharge directly into any watercourse, but should be directed into adjacent wetlands.

7.9.5 **Drainage Structures:** Catch basins, manholes, and other drainage structures shall be provided at all changes in horizontal and vertical alignment. The lengths of pipes shall not exceed three hundred feet (300') between structures; catch basins shall be provided in order that surface water will travel without interception not more than three hundred feet (300'). The Board may require oil/water separators where there is risk of pollution from road runoff.

7.10 **Drainage Construction:** Storm drainage shall be constructed in accordance with the following standards:

7.10.1 **Pipe:** Pipe shall be generally laid in straight lines between structures. All storm drainage pipe shall be reinforced concrete Class IV in accordance with the requirements of Article M.08.01-6 of Form 814 or Board-approved equivalent. In general, under drains shall be installed on the uphill side of the road.

7.10.2 **Methods:** Storm drainage pipe shall be laid in accordance with the following procedures:

- a. Prior to laying pipe, the trench shall be excavated to the required depth, the bottom of which shall be graded to afford a uniformly firm bearing for the pipe throughout its length. Where rock is encountered, it shall be excavated to not less than six inches (6") below the bottom

of the trench; this depth shall be refilled with crushed (3/4") stone and thoroughly tamped and shaped. Where the nature of the foundation material is poor, it shall be removed and back-filled with gravel or crushed stone approved by the Board or its agent. A minimum of a six inch (6") thick layer of compacted crushed stone, not larger than three inches (3"), shall be provided under the storm drainage pipe and up the side of the pipe to a depth of twelve inches (12") in the trench before additional backfill is added.

- b. Line and grade stakes shall be set by a Connecticut licensed land surveyor or professional engineer and shall be maintained in good order until the work has been inspected and approved by the Board.
- c. The backfill around the pipe and to a depth of at least eight inches (8") on top of pipe shall consist of crushed stone where the drainage pipe is necessary to served as an under-drain for the street or to control the water table; the remainder of the trench may be back-filled with bank-run gravel upon approval of the Board. Trenching, backfill, and compaction shall conform to Section 2.05 of Form 814.
- d. "Riprap" conforming to the requirements of Form 814, Section 7.03 and M.12.02, shall be placed at inlets, outlets, in channel bends, or curves as required to prevent scouring, erosion, and/or siltation of streams and culverts. Computations shall be submitted for sizing riprap.
- e. Catch basin, manholes, drop inlets, endwalls, and other related drainage structures shall be constructed in accordance with Form 814, Section 5.07.

7.10.3 **Tributary Drainage to State System:** Where drainage is tributary to a portion of a Connecticut Department of Transportation drainage system, the holder of the road permit shall obtain the approval of the Connecticut Department of Transportation for such drainage and shall submit the approval to the Board, and where improvements are part of Planning and Zoning Commission approvals, with the other documents required for approvals by such Commission.

7.10.4 **Easements:** Permanent easements, of a nature acceptable to the Town Counsel, shall be deeded to the Town in all cases where drainage pipes or ditches cross or abut lands other than a road right-of-way. A minimum width of twenty feet (20') shall be required, and said easements shall be clearly defined on the final subdivision plan placed on file in the land records.

7.10.5 **Right to Drain Required:** Where drainage waters are discharged directly or indirectly onto adjacent landowners, the holder of the road permit shall secure and deed to the Town from said landowner a right to drain, which deed shall be acceptable to the Town Counsel.

- 7.10.6 **House and Foundation Drains:** House and foundation drains in no case shall be permitted to discharge onto the highway. Stormwater shall be treated in accordance with the Environmental Protection Agency's Phase II requirements, and then such drains may be connected to catch basins or beyond the limits of the right-of-way prior to construction of the bituminous concrete.
- 7.11 **Erosion Control:** Soil erosion and sediment control measures shall be installed and maintained in accordance with any approved plans or permit and with the following standards:
- 7.11.1 All new roads shall submit to the Board a construction sequence and erosion control plan to coordinate with the construction activity.
- 7.11.2 All runoff from disturbed areas is to be controlled and filtered. Hay bales or broken stone filters are to be installed at discharge locations shown on the drawings. Additional hay bales and/or mulch may be required during construction as site conditions dictate or as ordered. The Board may order alternate methods of erosion control if the applicant cannot control erosion.
- 7.11.3 Erosion controls are to be installed and operational as soon as possible in a given section of roadway before proceeding on to another. Erosion controls are to be sequenced in such a way as to stabilize work areas prior to proceeding to another. A minimum amount of area is to be exposed at any given time.
- 7.11.4 **Dust Control:** Dust control shall be maintained on-site at all times in accordance with Connecticut Guidelines for Soil Erosion and Sedimentation Control.
- 7.11.5 In the event that the contractor shall schedule construction such that storm sewers are installed prior to constructing the downstream facilities they are tributary to, the contractor shall do so in accordance with the manufacturer's instructions. Under dry conditions, the road surface shall first be moistened. The contractor shall remove all excess materials from the site at the end of each working day.
- 7.12 **Clean up:** General clean up, grading, sweeping, picking up of surplus materials, and the like shall not be delayed until the end of the project. The contractor shall schedule his work in such a manner as to allow sufficient time in each workday to accomplish this work. Roadway surfaces are to be swept by hand or by machine to alleviate dust problems. The use of power sweepers or drag brooms shall be carefully controlled. Where heavy concentrations of material exist on the road surfaces, the contractor shall clean by hand or by machine such material in

advance of sweeping. The contractor must keep the paved road free of direct and debris. Dust control shall be maintained on-site at all times.

## **8. DEPARTURE FROM APPROVED PLANS**

- 8.1 Engineering and construction in the field shall be in accordance with the plans that have been approved by the Planning & Zoning Commission, Inland Wetlands Commission, and the Board of Selectmen, except that minor field changes may be authorized by the First Selectman in consultation with the Town Engineer.
- 8.2 Any variations to the approved plans must be prepared and submitted by a registered professional engineer and found by the First Selectman and the Town Engineer to be equal to or better than the approved designs. The First Selectman and the Town Engineer shall submit a written report to the Planning & Zoning Commission and the Inland Wetlands Commission indicating whether or not all approved and required improvements have been properly installed in accordance with the subdivision approval and this ordinance.
- 8.3 The Planning & Zoning Commission and the First Selectman are under no obligation to approve any variations to the approved application or construction plans, and may refuse such variations and require that all improvements failing to conform to the construction plans and this ordinance be reconstructed or installed to the original specifications as approved by the Planning & Zoning Commission and the Board of Selectmen prior to the release of any cash bond, further issuance of any building or zoning permits, or issuance of any certificate of occupancy.

## **9. AS-BUILT PLANS:**

Upon completion of any road, drainage, or other improvement, the applicant shall file with the Board of Selectmen the following:

- 9.1 The applicant's land surveyor, licensed to practice in the State of Connecticut, shall certify the installation and precise location of monuments to a Class A-2 accuracy by noting such monuments and their location on the polyester film construction plans and by signing (original signature) and sealing (embossed seal) the plans.
- 9.2 The applicant's land surveyor and engineer, licensed to practice in the State of Connecticut, shall certify on the polyester film construction plans and profiles to show "as-built."
- 9.3 A certification, signed and sealed by an engineer licensed to practice in the State of Connecticut, that such engineer has inspected all construction work and all improvements have been completed in accordance with the plans and profiles approved by the Board and the standards and specifications of this Road Ordinance.

- 9.4 The mylar shall contain all bearings and distances, referencing installed monuments (control data) that are necessary to reproduce any and all road easement lines on the ground bench mark locations and elevations
- 9.5 Show on plans and profiles all road improvements including, but not limited to, road right-of-way, road edges, road centerline, catch basins with rim and invert elevations, right-of-way monuments, curb cuts, utility poles, underground utilities, stormwater basins, with as-built grading, water distribution, and sewer collection systems or any additional information that may be requested by the Town Engineer.
- 9.6 Upon approval of the as-built by the Town Engineer, the applicant shall submit one (1) polyester film and four (4) prints of the as-built drawings.

**10.0 ACTION BY TOWN MEETING:**

After the completed road, or portions thereof, have passed all inspections as provided for in this ordinance, and after approval by the Board of Selectmen, the Board shall schedule a Town Meeting within sixty (60) days to consider acceptance of the road into the Town's road system, provided, however, that no recommendation for final acceptance of a road by the Town shall be given by the Board of Selectmen until the maintenance bond as required in Section 6.7 of this ordinance has been released. In addition, the owner or owners of the road shall fully maintain the road, including the provision for snow removal service, until the road has been accepted by the Town.

**11.0 PREVIOUSLY APPROVED CONSTRUCTION**

- 11.1 Any road which, in the opinion of the Board of Selectmen, has been substantially completed prior to the effective date of this ordinance, and in accordance with the requirements of that ordinance of the Town of Sherman adopted on February 9, 1973 entitled "An Ordinance Establishing Procedures, Standards, Specifications and Regulations for the Construction of Roads in the Town of Sherman" shall be accepted in conformity with the provisions of that said ordinance.
- 11.2 In those instances where construction has not commenced on a proposed road that has been approved by the Board of Selectmen in accordance with the requirements of that ordinance of the Town of Sherman adopted on February 9, 1973 entitled "An Ordinance Establishing Procedures, Standards, Specifications and Regulations for the Construction of Roads in the Town of Sherman," the developer shall have the option to resubmit the application for approval under this ordinance, and the permit fee shall be waived.

**12.0 EFFECT**

12.1 All ordinances, resolutions, or parts thereof in conflict with the provisions of this ordinance are hereby repealed. This ordinance shall take effect and be enforced from and after the earliest period allowed by law.

12.2 The invalidity of any section or provision of this ordinance shall not invalidate any other section or provision thereof, and, absent said invalid section or provisions, the remainder of said ordinance shall remain in full force and effect.

Effective 15 days from publication. Effective date: \_\_\_\_\_