

TOWN OF WAYLAND

MASSACHUSETTS



SUBDIVISION

RULES AND REGULATIONS

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APPENDIX

SECTION I. AUTHORITY

A. AUTHORITY

Pursuant to the authority granted by Section 81-Q of Chapter 41 of the General Laws and for the purpose specified in Paragraph B of this Section, the Planning Board of the Town of Wayland has adopted the following rules and regulations governing the subdivision of land in the Town of Wayland.

B. PURPOSE

These subdivision regulations have been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the Town by regulating the laying out and construction of ways in subdivisions, providing access to the several lots therein, but which have not become public ways, and insuring sanitary conditions in subdivisions and in proper cases parks and open areas. The powers of the Planning Board and the Board of Appeals under these regulations shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways; for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for insuring compliance with the applicable zoning bylaws; for securing adequate provision for water distribution, sewerage, drainage, protection of natural water sources, flood control, wetland areas, and other requirements where necessary in a subdivision; for protecting, promoting and enhancing the natural beauty and amenities of the Town; and for coordinating the ways in a subdivision with each other, with the public ways in the Town and with the ways in neighboring subdivisions.

SECTION II. GENERAL

A) DEFINITIONS

For the purposes of these rules and regulations, the following words and terms used herein are hereby defined or the meanings thereof are explained or limited as follows:

AASHTO - American Association of State Highway and Traffic Officials.

Abutter - An owner of land sharing either a common property line or a common property point with land referred to in an application or plan and an owner of land within three hundred (300) feet of the subject premises.

ANR - Approval Not Required plan cited in MGL Ch. 41, s. 81-P (also referred to as 81-P plan).

Applicant - The person or legal entity that applies for the approval of a Plan of a proposed subdivision. The applicant or applicants must be the owner or owners of all land included in the proposed subdivision. An agent, representative or his assigns may act for an owner, provided written evidence of such fact is submitted. Evidence in the form of a list of the officers and designated authority to sign legal documents shall be required for a corporation.

Application, request - All plans, data, narrative, and other material required by these Regulations or the Subdivision Control Law as part of a submittal to the Planning Board.

Aquifer - Any water-bearing formation, or group of formations, that supplies ground water, wells, or springs.

Best Management Practice(s), or BMP - State-of-the-art technology (physical, institutional, or strategic approaches) as applied to a specific problem (particularly with respect to non-point source pollution control).

Basin, detention - A pond, pool, or basin used for the temporary storage of stormwater runoff, usually designed to regulate the rate of flow to predevelopment conditions, and to recharge groundwater.

Basin, retention - A pond, pool, or basin used for the permanent storage of stormwater runoff, providing controlled release and recharging groundwater.

Board - The Planning Board of the Town of Wayland.

Certified or endorsed - As applied to a plan or other instrument required or authorized by the Subdivision Control Law or these Regulations to be recorded, bears a certification or endorsement by a majority of the members of the Planning Board; or by its chairman or clerk or any other person authorized by it to certify or endorse its approval or other action, and named in a written statement to the Register of Deeds and Recorder of the Land Court, which statement must be signed by a majority of the members of the Planning Board.

CMR - Code of Massachusetts Regulations

Dwelling - See Town of Wayland Zoning Bylaw for definition.

Easement - A right acquired by a public authority or other person for use or control of property for utility or any other designated purpose.

Erosion and sediment controls - An integrated system of techniques designed to control erosion and sediment at development and other disturbed sites by: minimizing disturbed areas; stabilizing disturbed areas as soon as possible; maintaining low water runoff velocities; protecting disturbed areas from runoff; retaining sediment within the site; fitting development to the site; and implementing a maintenance and follow-up program.

Horizontal curve - The portion of the right-of-way line along which a change in alignment occurs in the horizontal plane.

Impervious surface - Man-placed material, including buildings that prevent the penetration of surface water into the soil.

Improvement - Any man-made immovable item, facility, or service together with its associated site or right-of-way, that becomes part of, placed upon, or affixed to, real estate or the land.

Lot - An area of land in one ownership, with definite external boundaries, and without any other legal boundaries or lines which are internal to said external boundaries, excepting easements; and which area of land is used or set aside and available for use, as the site of one or more buildings.

Massachusetts General Laws, or MGL - The General Laws of the Commonwealth of Massachusetts, Ter. Ed., with all additions and amendments thereto. In the case of a rearrangement of the General Laws, any citation of particular chapters/sections herein set forth shall be applicable to the corresponding chapters/sections in the new codification.

MHD SSH&B - Massachusetts Highway Department Manual, Standard Specifications for Highways and Bridges, most recent edition.

Middlesex South Registry of Deeds - Registry of Deeds, County of Middlesex, South District, in Massachusetts

Municipal services, or utilities - Publicly provided sewers, water drains, and the like, including, but not limited to, water pipes, gas pipes, electric lines, telephone lines, fire alarm lines, cable television lines, and their appurtenances.

NPDES general permit - National Pollutant Discharge Elimination System general permit for stormwater discharges associated with construction activities (including clearing, grading, and excavation) that disturb five (5) acres or more and discharge storm water via a pipe, ditch, or swale to waters of the United States (river, pond, brook, perennial or intermittent stream, or wetland).

Owner - As applied to real estate, any person holding an interest in the title to a parcel, tract, or lot of land, as shown by the record in the appropriate Land Registration Office, Registry of Deeds, or Registry of Probate.

Permanent benchmark - A permanent reference point with the elevation accurately established by stone bounds and referenced to the United States Coast and Geodetic Survey (USC&GS) datum.

Person - An individual, partnership, or corporation, or two or more individuals, or a group or association of individuals, having common or undivided interests in a tract of land.

Plan, Definitive – A plan of proposed Subdivision of land as duly submitted with appropriate application to the Board for approval in accordance with Section III (B) to be recorded in the Registry of Deeds or filed with the Land Court when approved by the Board, and such plan when approved and recorded; all as distinguished from a Preliminary Plan.

Plan, Preliminary – A plan of a proposed Subdivision of land as duly submitted with appropriate application to the Board for approval prepared in accordance with Section III (A) to facilitate proper preparation of a Definitive Plan.

Record, recorded, or recording - Record, recorded, or recording in the Registry of Deeds of the county or district in which the land in question is situated, except that instruments for registered land refer to those filed with the Recorder of the Land Court.

Register, or Registry of Deeds - The Register or Registry of Deeds of the county or district in which the land in question, or the town in question, is situated, and, when appropriate, shall include the Land Court or Recorder thereof; namely, in the Town of Wayland, Middlesex County.

Regulations - The Subdivision Regulations of the Planning Board of the Town of Wayland, as adopted and amended from time to time by the Planning Board pursuant to the Subdivision Control Law, s. 81-Q.

Representative - Any other person, body or legal entity designated in writing by any person or body to act legally in its stead.

Right-of-way - The full strip of land designated for vehicular, and sometimes pedestrian, traffic consisting of the pavement or traveled way, and any planting strips and sidewalks. A right-of-way so designated shall be available only for such uses as are customary for rights-of-way in the Town, and shall not be available for any private construction such as buildings, fuel tanks, septic systems, fences, walls, or paved parking areas.

Right-of-way and street categories:

- Primary - Any existing or proposed street or right-of-way that is or will be used primarily to carry high volumes of through traffic.
- Secondary - Any existing or proposed streets and/or right-of-way which are primarily used, or will be used to carry traffic between residential streets to the system of primary streets, as existing and proposed.
- Residential and Limited - Any existing or proposed street which are used primarily for access to abutting properties.

Secured open space - Land which is permanently dedicated as open space, which will not be developed. The method of dedication may include a conservation restriction under MGL ch. 184, s. 26-33, Town of Wayland ownership of land devoted to conservation under MGLA ch. 40, s. 8C, Town of Wayland ownership of park land under MGL ch.45, s. 3, or Town of Wayland ownership of land devoted to protection of municipal wells and/or aquifers under MGL ch. 40, s. 39B or Chapter 80 of the Acts of 1878.

Sidewalk, or walkway - A way within a right-of-way, normally parallel to the road, roadway, way, or street, designed primarily for pedestrian use.

Stormwater - Precipitation that flows over or under the surface of the ground.

Stormwater pollution prevention plan - Plan required by the NPDES general permit.

Stormwater run-off - The portion of precipitation that cannot be absorbed by the soil and, instead, flows over the ground surface during and after a storm.

Structure - Combination of materials assembled at a fixed location to give support or shelter, such as a building, framework, retaining wall, tent, reviewing stand, platform, bin, fence over six (6) feet high, sign, flagpole, recreational tramway, mast for communications antenna or device, or the like. The word "structure" shall be construed, where the context requires, as though followed by the words, "or part or parts thereof."

Subdivision Control Law - MGL ch. 41, ss. 81-K through 81-GG, inclusive, and any amendments thereof, additions thereto, or substitutions therefore.

Substantial building - Any structure permanently attached to the ground; and which is, under the Zoning Bylaw, a primary use of the parcel upon which it stands; and which is designed and used primarily as a dwelling, or designed and used primarily for conducting business activity which is primarily administrative in nature. No structure considered being an accessory structure under the Zoning Bylaw shall be considered a "substantial building."

Town - The Town of Wayland.

Utilities - Sewers, water drains, and the like, including, but limited to, water pipes, gas pipes, electric lines, telephone lines, fire alarm lines, cable television lines, and their appurtenances.

Vertical curve - The portion of the right-of-way line along which change in alignment occurs in the vertical plane.

Zoning Bylaw - The Zoning Bylaw of the Town of Wayland, as adopted and amended from time to time pursuant to MGL ch. 40A.

B) PLAN BELIEVED NOT TO REQUIRE APPROVAL

Any person who wishes to cause to be recorded in the Registry of Deeds or to be filed with the Land Court a plan of land and who believes that his plan does not require approval

under the Subdivision Control Law, may submit his plan and application (Form A) at a regularly scheduled meeting of the Planning Board accompanied by the necessary evidence to show that the plan does not require approval and accompanied by a fifty dollar (\$50.00) non-refundable fee to cover administrative costs. Such fee may be paid in cash, or by check made out to the Town of Wayland. If such fee is paid in cash, a receipt of such transaction shall be given to the applicant.

Said person shall submit his plan to the Planning Board at a regularly scheduled meeting and then file a notice with the Town Clerk stating the date of the submission to the Planning Board for such determination and accompanied by a copy of said application.

If the Board determines that the plan does not require approval, it shall, without a public hearing and within twenty-one days of submission, endorse on the plan the words, "Planning Board approval under Subdivision Control Law not required." Said plan shall be returned to the applicant and the Board shall notify the Town Clerk of its action.

If the Board determines that the plan does require approval under the Subdivision Control Law, it shall, within twenty-one days of submission of said plan, so inform the applicant and return the plan. The Board shall also notify the Town Clerk of its determination. A person may also file said plan in the South Middlesex County Registry of Deeds or the Land Court under Chapter 380 of the Acts of 1966 with the following statement:

"I hereby certify that the property lines shown on this plan are the lines dividing existing ownership, and the lines of the streets and ways shown are those of public or private streets or ways already established, and that no new lines for division of existing ownership or for new ways are shown."

Signed _____
Registered Land-Surveyor

Date _____

C) BASIC REQUIREMENTS

No person shall make a subdivision within the meaning of the Subdivision Control Law of any land within the Town, or proceed with the improvement or sale of lots in a subdivision, or the construction of ways, or the installation of municipal services therein unless and until a Definitive Plan of such subdivision has been submitted to and approved by the Planning Board as hereinafter provided.

D) ENGINEERING

The Definitive Plan shall be prepared by a Registered Professional Engineer or Registered Land Surveyor.

E) FORMS

The forms required to be submitted at various points in the subdivision procedure as noted in these regulations shall be obtained from the Planning Board Agent.

F) FLOOD HAZARDS

In addition to all requirements of these rules and regulations, the Planning Board will review all proposed subdivisions within a flood hazard area as designated on the FIA Flood Hazard Boundary (or Rate) Maps Nos. H-01 through H-06 (Community Number 250-224), or to some map that may be adopted by the Town at some future date, as part of the zoning bylaw, to determine if such subdivisions provide adequate drainage so as to minimize flood damage within the subdivision by requiring that all public utilities and facilities, such as sewer, gas, electrical, and water systems to be located, elevated and constructed so as to minimize or eliminate flood damage.

G) TITLE CERTIFICATE REQUIREMENT

Whenever the fee or any lesser interest in land is offered to the Town under these rules and regulations, conveyance of the same be by a deed granting good and clear record and marketable title thereto subject only to such exceptions as the Planning Board may approve. Further, at least ten (10) days before such conveyance, the party offering such interest shall, at its expense, deliver to Town Counsel an opinion of counsel certifying that title is of the quality required hereby, which opinion shall be updated and confirmed to the time of conveyance.

SECTION III. PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS

A) PRELIMINARY PLAN

1) General

Prior to the submission of a Preliminary Plan, a developer is encouraged to discuss his intention with the Board. A Preliminary Plan of a subdivision may be submitted to the subdivider for discussion and approval by the Planning Board and the Board of Health. The submission of such a Preliminary Plan will enable the subdivider, the Board, other municipal agencies, and owners of property abutting the subdivision to discuss and clarify the problems of such subdivision before a Definitive Plan is prepared. Therefore, it is strongly recommended that a Preliminary Plan be filed in every case and such Plan be filed to allow the Board forty-five (45) days in which to study and make recommendations toward the preparation of the Definitive Plan.

2) Filing Procedure

Any person submitting a Preliminary Plan shall give written notice to the Town Clerk, by delivery or registered mail; such notices shall identify the tract, the date of submission, and the name and address of the owner. (Use Form B)

The applicant shall file the original drawing(s) with ten (10) contact prints thereof, dark lines on white background and one reduced 11" by 17" set of drawings with the Planning Board and three contact prints with Board of Health. The applicant shall obtain a receipt from the Board of Health. (Use Form K)

The filing fee for a subdivision shall be five hundred dollars (\$500.00) or one dollar (\$1.00) per linear foot of street or portion thereof shown on a Preliminary Plan, whichever sum is greater. The filing fee shall be paid upon submission of the Plan.

All expenses for mailings, for engineering, professional planning review, and plans deemed necessary by the Board for recording and filing of documents, including sampling and testing required by the Planning Board or its Agent, shall be borne solely by the applicant and shall be in addition to the filing fee.

At the time of filing, the applicant shall submit a minimum deposit in an amount equal to \$1.00 per linear foot of proposed roadway as shown on the Plan, or one thousand dollars (\$1,000) whichever is greater, to cover administrative costs. Such deposit shall be submitted in check form only, such check made out to the Town of Wayland (no cash will be accepted). If, prior to Planning Board action on the Plan, the Board finds that the minimum deposit is not sufficient to cover actual costs incurred by the Town during review of the Plan, the applicant shall be required to submit forthwith additional amount as is deemed required by the Board to cover such costs. The Board shall notify the applicant of such additional amount in writing by certified mail. Failure to submit such additional amount as required by the Board within seven days of receipt of said notice shall be deemed reason by the Board to disapprove said plan. If the actual costs incurred by the Town for review of said plan is less than the amount on deposit specified above, the Board shall authorize that such excess amount be refunded to the applicant within 30 days of Planning Board action on said plan.

3) Contents

The Preliminary Plan may be drawn on a paper with pencil, preferably at a horizontal scale of one inch to each forty feet (1"=40'), shall be filed in duplicate, and shall show:

- a) subdivision name, boundaries, north point, date, scale, legend, the title "Preliminary Plan," and the name of the nearest existing way abutting the land in question as part of the deed;
- b) name and address of record owner, subdivider and designer, engineer or surveyor;
- c) name of all abutters, as determined from the most recent local tax list;
- d) existing and proposed lines of streets, ways, easements and public areas within the subdivision in general manner;
- e) proposed systems of sewage disposal, drainage including adjacent existing natural waterways, and water installations, including easements, in a general way;
- f) proposed locations of the fire boxes;
- g) the approximate boundary lines of proposed lots with approximate areas and dimensions; each lot shall be numbered;
- h) location, names and present widths of adjacent streets;
- i) approximate topography of the land with two-foot contour intervals, with the exception that the flood plain elevation of 124 feet above mean sea level shall be shown accurately;
- j) profiles of proposed streets at a vertical scale of one inch to each four feet (1" = 4') (may be submitted on separate sheets);
- k) zoning classification of land to be subdivided; and
- l) soil classifications as shown on the USDA-SCS Soil Survey Map.

4) Approval or Disapproval

Prior to submission of the Preliminary Plan to the Planning Board for approval, the subdivider should discuss this Plan with the Road Commissioners, Water Commissioners, Board of Health and Fire Department to obtain their recommendations. These recommendations should be incorporated in the Preliminary Plan with any changes and additions by the Planning Board. The Preliminary Plan, when submitted, will be studied in order to determine whether it is in compliance with the requirements of design adopted by the Board (see Section IV). Within 60 days after submission, the Board shall approve, disapprove or approve with modification the Preliminary Plan, noting thereon any changes that should be made, and shall notify the Town Clerk of its

actions thereon. One copy of the Plan shall be returned to the subdivider and the others retained by the Board. Approval of the Preliminary Plan does not constitute approval of the subdivision but does facilitate the procedure in securing approval of the Definitive Plan.

B) DEFINITIVE PLAN

1) General

The Definitive Plan shall conform substantially to the Preliminary Plan as approved but may constitute only that portion which is proposed to be recorded and developed at that time. The Planning Board may disapprove a Definitive Plan if it violates sound land use planning principles and design, even though all requirements hereafter enumerated are met.

The subdivision rules and regulations and zoning in effect at the time of the submission of the Preliminary Plan shall govern the Definitive Plan if it is duly submitted within seven months.

2) Filing Procedure

Any person who submits a Definitive Plan of a subdivision to the Planning Board for approval shall file with the Board the following:

- a) The original drawing of the Definitive Plan; ten (10) contact prints thereof, dark lines on white background; one reduced 11" by 17" set of drawings, and one electronic copy. This shall also apply for subsequent revisions submitted during the review process.
- b) Filing fees
 - (i) The filing fee for a subdivision shall be five hundred dollars (\$500.00) or one dollar (\$1.00) per linear foot of street or portion thereof shown on a Preliminary Plan, or a Definitive Plan if submitted, whichever sum is greater.
 - (ii) The filing fee shall be paid upon submission of the respective plan.
 - (iii) For a Definitive Plan resulting from a filed Preliminary Plan, no additional minimum filing fee will be assessed, but all other costs shall be borne by the applicant as required in Section III B. 4 and 5.
 - (iv) All expenses for advertising, publication of notices and mailings; for engineering, professional planning review, and plans deemed necessary by the Board, for inspection of construction, and certification of compliance; for recording and filing of documents and for all other expenses in connection with a subdivision, including sampling and testing required by the Planning Board or its Agent, shall be in addition to the filing fee.
 - (v) At the time of filing the applicant shall submit a minimum deposit in an amount equal to one dollar (\$1.00) per linear foot of proposed roadway as shown on the

Plan, or two thousand dollars (\$2,000.00) whichever is greater, to cover administrative costs incurred by the Town for review of the Definitive Subdivision Plan. Such deposit shall be submitted in check form only (no cash will be accepted), such check to be made out to the Town of Wayland. If prior to Planning Board action of the Plan, the Board finds that the amount on deposit, as prescribed above, is not sufficient to cover the actual costs incurred, the applicant shall be required to submit forthwith the additional amount deemed necessary to cover such costs. The Board shall notify the applicant of such required additional amount in writing by certified mail. Failure to submit such additional amount as required by the Board within seven days of receipt of said notice shall be deemed reason by the Board to disapprove said plan. If the actual costs incurred by the Town for review of said plan is less than the amount on deposit as specified above, the Board shall authorize that such excess amount be refunded to the applicant within 30 days of Planning Board action on said plan.

- c) The Applicant shall simultaneously apply for a Request for Determination or Notice of Intent and receive a Determination or Order of Conditions from the Conservation Commission for any wetland impacts resulting from the Subdivision and present this information as part of the Definitive Plan process.
- d) The following properly executed forms:
 - (i) Application Form (Form C)
 - (ii) Designer's Certificate (Form D)
 - (iii) Approval Agreement (Form I) notarized in duplicate if no performance bond or certified check is to be posted.
- e) A signed certificate must be written or printed on each copy of the Definitive Plan filed with the Board, as follows:

I certify that the actual survey of the boundary lines of this tract of land was made on the ground in accordance with the specifications in the "Ethical Procedural and Technical Standards for the Practice of Land Surveying in the Commonwealth of Massachusetts" as prepared and adopted by the Massachusetts Association of Land Surveyors and Civil Engineers, Inc., Part II, II Technical Standards, A., 2.

Date _____
_____ Engineer or Surveyor

The applicant shall file by delivery or registered mail a notice with the Town Clerk stating the date of submission for such approval and accompanied by a copy of the completed application and shall file two copies of said Plan with the Board of Health within 48 hours of submission.

3) Contents

The Definitive Plan shall be clearly and legibly drawn in black waterproof ink on tracing cloth and of an overall size 36" x 24" with a margin of 15" on left 24" side for binding unless otherwise directed by the Planning Board. If multiple sheets are used, they shall be accompanied by an index sheet showing the entire development. The Definitive Plan shall contain the following information and shall include by reference the profiles required by paragraph 4 following of this subsection.

- a) Subdivision name including the way or ways on which it is situated, boundaries, north point, date, scale, bench mark and datum. All elevations to refer to U.S.C. & G.S. bench marks.
- b) Name and address of record owner, subdivider and engineer or surveyor.
- c) Names and addresses of all abutters as they appear in the most recent tax list.
- d) Existing and proposed lines of streets, ways, lots, easements, waterways and public or common areas within the subdivision. The proposed street names shall be shown in pencil until they have been approved by the Planning Board.
- e) Sufficient data to determine readily the location, bearing and length of every street and way line, lot line and boundary line and to reproduce same on ground; all bearings to be referred to magnetic meridian. Wherever a boundary line of the subdivision is within 500 feet of a Massachusetts Coordinate Survey Monument, the survey of the subdivision shall be tied to said monument or monuments.
- f) Location of all permanent monuments properly identified as to whether existing or proposed. The distance and bearing to the nearest town, county or state monument on an accepted way and monuments at all points of curvature and changes in direction of street side lines, or where designated by the engineer retained by the Town.
- g) Location, names, elevations and present width of streets, bounding, approaching or within reasonable proximity of the subdivision.
- h) Suitable space to record the action of the Board and the signatures of the members of the Board.
- i) Existing and proposed topography at a one (1) foot contour interval for gentle slopes and at a five (5) foot contour interval for steep slopes.
- j) Length, radii and central angles of all curves in lot lines and street lines.
- k) Zoning classifications of all areas shown on the Plan.
- l) Areas of lots with lot numbers and areas of other adjoining land of applicant not included in the subdivision.
- m) Size and location of existing and proposed storm drainage and water supply facilities.

- n) All information required on the Preliminary Plan shall be shown on the Definitive Plan.
- o) A storm drainage system will be shown on a separate sheet. The Plan shall include invert and rim elevations of all catch basins and manholes together with surface elevations of all waterways within the subdivision at 100 foot intervals and approximate depth of water at these points. Surface elevation and approximate depth of water shall be shown at each point where drainage pipe ends at a waterway. Drainage calculations prepared by the applicant's engineer, including design criteria used, drainage area and other information sufficient for the Board to check the size of any proposed drain, culvert or bridge
- p) Subsurface conditions on the tract, location and results of tests made to ascertain subsurface soil, rock and ground water conditions, depth to ground water, and location and results of soil percolation tests if individual sewage disposal systems are proposed (on a separate sheet). Percolation tests satisfactory to the Board of Health are to be taken on each lot within the subdivision.
- q) Water courses, ponds, marshes, flood plains, rock outcrop, trees of over 10 inch caliper (unless otherwise specified by the Board), and other significant natural features.
- r) Key plan, showing location of the subdivision at a scale of 1 inch equals 1000 feet and an accurate index plan at a scale of 1 inch equals 200 feet or 1 inch equals 100 feet as required for the Town Atlas.
- s) Minimum building set-back lines on all lots and a sketch plan showing proposed house sites.
- t) Location of all the following improvements unless specifically waived in writing by the Board: street paving, sidewalks, street signs, street lighting standards, all utilities above and below ground, curbs, gutters, street trees, storm drainage, all existing and proposed easements, and fire alarm boxes (on a separate sheet).
- u) A legend denoting any signs and symbols used on the plan and not otherwise explained.
- v) A sketch plan, acceptable to the Board, showing a possible or prospective street layout for any adjacent land owned or controlled by the owner or the applicant of the subdivision.
- w) The filing of Form 0, detailing environmental data. A copy of this form is available from the Planning Board.
- x) Within seven (7) days after the time of submittal of the initial Definitive Plan to the Planning Board, the Applicant shall have filed application for all other local, state, and federal permits required for the construction of streets, easements, utilities, and other improvements of the subdivision as provided for in these Rules and Regulations. Evidence of such filing, in the form of a copy of such application, shall be submitted to the Planning Board within the above time period.

- y) Copies of all reports, permits, etc., and all amendments thereto, filed by the applicant with all federal, state and local agencies, and all responses from these agencies.

4) Profiles of Proposed Streets (may be drawn on a separate sheet)

Profiles shall be drawn with:

- a) A horizontal scale of 1 inch to 40 feet.
- b) A vertical scale of 1 inch to 4 feet.
- c) Existing center line in fine black solid line with elevations shown every 50 feet.
- d) Existing right side line in fine black dash line.
- e) Existing left side line in fine black dotted line.
- f) Proposed center line grades and elevations in red, with elevations shown at every fifty (50) foot station, except that in vertical curves elevations shall be shown at every twenty-five (25) foot station and at the PVC and the PVT.
- g) All existing intersection walks and driveways shown on both sides.
- h) All elevations referred to the U.S. Coast and Geodetic Survey bench marks. Bench marks shall be located every 500 feet along proposed road ways and shall be installed prior to fine grading of the gravel course.
- i) Rates of gradient shown in red figures.
- j) Size and location of existing and proposed water mains and their appurtenances and surface drains and their appurtenances.
- k) All center lines, street lines and curb lines (with elevations every 25 feet) of streets for 200 feet either side of each intersection on a connecting street.
- l) Profiles shall show vertical location of water lines, drainage lines and other utilities as well as required new waterways. Sizes of all pipes shall be shown as well as inverts of all pipes at each man-hole or catch basin, together with invert elevation and rum elevation of each proposed main water line and all proposed sewerage system lines as well as all proposed drainage lines whether or not within the subdivision.

5) Additional Submittal Materials

- a) For all subdivisions, the Applicant shall be required to submit a technical memorandum prepared in conformance with the latest version of AASHTO Standards and by a qualified traffic engineer to provide the following existing street information at proposed new street intersections:

- (i) representative daily traffic and peak hour volumes
 - (ii) available horizontal and vertical sight distance
 - (iii) travel speed measurements and calculation of 85th percentile speed.
- b) In addition, for all residential subdivisions over five (5) lots and for commercial subdivisions over two (2) lots, or where otherwise deemed necessary by the Board, the Applicant shall furnish a traffic analysis of the impact of the additional traffic to be generated by the proposed development on the adjacent ways and intersections. The study shall be compiled in accordance with the most recent AASHTO criteria.
- c) The Filing of Form O, detailing environmental data. A copy of this form is available from the Planning Board.
- d) Within seven (7) days after the time of submittal of the initial Definitive Plan to the Planning Board, the Applicant shall have filed applications for or submit a plan for obtaining all other local, state, and federal permits required for the construction of streets, easements, utilities, and other improvements of the subdivision as provided for in these Rules and Regulations. Evidence of such filing, in the form of a copy of such application, shall be submitted to the Planning Board within the above time period.
- e) Copies of all reports, permits, etc., and all amendments thereto, filed by the applicant with all federal, state and local agencies, and all responses from these agencies.
- f) Staking - To facilitate review of the Definitive Plan by the appropriate authorities, at the time of filing the Definitive Plan, the Applicant shall stake the center line, right-of-way, and approximate limits of grading of all proposed streets on fifty foot (50') center line stations. Cut or fill dimensions to finished grade profile shall be marked on the stakes. The Developer shall also stake the center line of all trails at a minimum of every one hundred feet (100').

If the road was staked in connection with a Preliminary Plan submittal, the staking out shall be updated to include any alignment or grade changes made.

6) Performance Guarantee

Before approval of a Definitive Plan of a subdivision the subdivider shall either, (1) file a performance bond secured by surety or deposit money or negotiable securities in an amount determined by the Board to be sufficient to cover, (a) the cost of all or any part of the improvements specified in Section V, (b) the maintenance of such improvements for one year, and, (c) a 10 percent contingency factor or, (2) follow the procedure outlined in "b" below.

- a) Approval with bonds or surety (Forms G or H)

Such bond or security if filed or deposited shall be approved as to form and manner of execution by the Town Counsel and as to sureties by the Town Treasurer and shall be contingent on the completion of such improvements within two years of the

date of the bond. If such specified improvements are not completed within the prescribed time, the Planning Board shall proceed with enforcement thereof as provided in Section 81-Y of the Subdivision Control Law, or revise the amount of the performance guaranty to reflect increases in estimated costs for completion of construction.

If the Board shall decide at any time during the term of the performance bond that:

- (i) Improvements have been installed in a satisfactory manner in sufficient amount to warrant reduction in the face amount of such bond, or
- (ii) The character and extent of the subdivision requires additional improvements, previously waived,

then the Board may modify its requirements for any or all such improvements and the face value of such performance bond shall thereupon be reduced or increased by an appropriate amount.

b) Approval with a covenant (Forms I and J)

Instead of filing a bond or depositing surety, the subdivider may request approval of his Definitive Plan on condition that a covenant running with the land has been duly executed and recorded and inscribed on the Plan, or on a separate document referred to on the Plan, in accordance with Section 81-U of Chapter 41 G.L. Such covenant shall provide in part that no lot may be built upon or sold until all of the improvements as required in these regulations have been completed and approved as provided hereafter.

The undersigned agrees that construction of all approved ways in the subdivision shall be completed within a period of five years (or within such shorter period of time as the Planning Board shall have specified) from the date of endorsement of approval of the Definitive Plan. Failure to so complete the construction shall render approval of the subdivision null and void.

In this case, before approval of a Definitive Plan, there shall be filed by the subdivider a properly executed Approval Agreement (Form I), in accordance with Section III-B-2.

Prior to delivering to the subdivider a Release of Restrictions (Form J) whereby the restrictions relating to the lot or lots listed therein shall be terminated, the Board shall determine to its satisfaction that such improvements specified in Section V-C have been completed so as to adequately serve such lot or lots, in part by requiring that the subdivider submit to the Board the following:

- (i) Written evidence from the Planning Board Agent that the streets and drainage conform to the Planning Board requirements in accordance with the approved Definitive Plan, with the exception of the application of the bituminous concrete road surfacing.

- (ii) Written evidence from a majority of the Water Commissioners or from their Agent that the mains and hydrants conform to their specifications and the Planning Board requirements in accordance with the approved Definitive Plan.
- (iii) Written evidence from the Chief of the Fire Department that the fire alarm system conforms to their specifications and the Planning Board requirements in accordance with the approved Definitive Plan.
- (iv) A certificate from a Registered Engineer, to be obtained at the subdivider's expense, that all permanent bounds and monuments as specified in paragraph B-15 in Section V on all street lines and on the lot or lots to be released are in place and are accurately located in accordance with the approved Definitive Plan.
- (v) A performance bond secured by surety or by a certified check payable to the "Town of Wayland" in an amount determined by the Board to be sufficient to cover the cost of surfacing and any remaining or uncompleted work (if not already completed as allowed in (I) above), and approved as to form and sureties by the Town Treasurer, conditioned on the completion of the remaining improvements within one year of the date of the check or bond. Release of the check or bond shall be subject to the written approval of the Planning Board Agent that the work has been completed in accordance with requirements.
- (vi) A completed Release of Restrictions (Form J) for signature by a majority of the Planning Board, if approved.

Upon completion of such required improvements the subdivider shall so notify the Planning Board and the Town Clerk, by delivery or registered mail, requesting release from such covenant. The Board shall act on such request within forty-five days.

7) Suitability of the Land

- a) All lots in a subdivision shall be laid out with the minimum areas required by the Zoning Bylaws to be exclusive of the areas of any pond within such lots.
- b) The Board will transmit copies of the Definitive Plan to Town Departments as follows:
 - 1. Health Department
 - 2. Conservation Department
 - 3. Highway Department
 - 4. Water Department
 - 5. Fire Department
 - 6. Police Department
 - 7. Building Department
 - 8. Assessors Department
 - 9. Town Surveyor

Before a Definitive Plan is approved, the Board will request written statements from the above officials with regard to the proposed improvements in the following respect:

- (i) When a Definitive Plan of subdivision is submitted to the Planning Board, a copy thereof shall also be filed with the Board of Health (Form K.). The Board of Health shall, within forty-five (45) days after the Plan is so filed, report to the Planning Board in writing its approval or disapproval of said Plan, and in the event of disapproval, shall make specific findings as to which, if any, of the lots shown on such Plan cannot be used for building sites without injury to the public health, and include such specific findings and the reasons therefore in such report, and, where possible, shall make recommendations for the adjustment thereof. Failure so to report shall be deemed approval by such Board.
 - (ii) Conservation Commission as to potential involvement with Chapter 131, Section 40, G.L. and the effects of the Subdivision on streams, wildlife and similar considerations within the scope of the Conservation Commission.
 - (iii) Highway Department as to the design of the street system, location of easements, drainage system, and relationship to roadway and drainage systems.
 - (iv) The Water Department as to the location of easements, the design and capacity of proposed water system and any appurtenances thereto, the provision of fire coverage, water conservation measures and the relationship to the town water system.
 - (v) The Fire Department as to location of hydrants or water sources for fire fighting purposes, installation of the Municipal alarm system and access for firefighting purposes including emergency access and approach to the development for safe access.
 - (vi) The Police Department as to street safety, both vehicular and pedestrian, and access for emergency vehicles.
 - (vii) The Building Commissioner for compliance with the Wayland Zoning Bylaw.
 - (viii) The Assessors for information or any possible lot line conflicts and for proper recording of known easements and/or encumbrances on the land.
 - (ix) The Town Surveyor as to the survey of the site, location of monuments, and closure of metes and bounds.
- c) Water courses, ponds, flood plains, marshes, swamps, and seasonal wet areas may be included as part of a lot, but may not be altered, filled, drained, relocated, used as a building site, used for waste-disposal, or used for ways except as allowed under applicable laws and regulations administered by the Board of Health, Conservation Commission, and Board of Zoning Appeals.
 - d) All lots in a subdivision shall be laid out with the minimum areas required by the Zoning By-laws to be exclusive of the areas of any pond within such lots.

8) Public Hearing

Before approval, modification and approval, or disapproval of the Definitive Plan is given, the Planning Board shall hold a public hearing. Notice of such hearing shall be given by the Board in each of two successive weeks by advertisement in a newspaper of general circulation in the Town of Wayland, at the expense of the applicant, the first notice being not less than fourteen days before such hearing or in accordance with Section 81-T of Chapter 41 G.L., as amended.

The action of the Board with respect to such Plan shall be by vote, copies of which shall be certified by and filed with the Town Clerk and sent by delivery or certified or registered mail to the applicant. If the Board modifies or disapproves such Plan, it shall state in its vote the reasons for its actions. Approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by the signature of a majority of the Board but not until the statutory twenty-day appeal period has elapsed following the filing of the certificate of the action of the Board with the Town Clerk and said Clerk has notified the Board that no appeal has been filed. Approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of streets within a subdivision. If approval of the Definitive Plan is granted, the inspection fee as required by Section VI-D shall be paid prior to endorsement of the Plan.

9) Recording of Plan and Notification of Planning Board

- a) Within ten (10) days after the Definitive Plan and covenant, as approved and endorsed, have been recorded at the South Middlesex Registry of Deeds and in the case of registered land, with the recorder of the Land Court, the applicant shall notify the Board in writing of the date of such recording and show evidence of the recording.
- b) Upon receipt of notification of recording, the Board shall file one print of the Definitive Plan with the Building Inspector. In accordance with the statute, where approval with covenant is noted thereon, the Building Inspector shall not issue any permit for the construction of a building on any lot within the subdivision without receipt from the Board of a copy of the Certificate of Performance (Form J).

SECTION IV. DESIGN STANDARDS

A) GENERAL

1) Basic Requirements

The subdivider shall observe all design standards for land subdivision as hereinafter provided. These standards shall be considered minimum standards and shall be varied free or waived, only as provided in Section VI.

2) Conformance with Master Plan

Any proposed subdivision shall conform to the proposals and intentions of the Wayland Master Plan which includes the Conservation Plan of the Conservation Commission and the Recreation Plan as adopted in whole or in part by the Planning Board, unless substitute proposals may be shown to the satisfaction of the Board to serve better the general area of the subdivision and the Town.

3) Lot Size and Frontage

All lots shall be of such size and dimensions to meet the minimum requirements of the Zoning Bylaws.

4) One Dwelling per Lot

Only one residential dwelling may occupy each lot. Customary accessory structures are permitted.

5) Protection of Natural Features

All natural features, such as large trees, water courses, wetlands, scenic points, historic spots, and similar community assets, which will add attractiveness and value to the property shall be preserved.

6) Access through Another Municipality

In case access to a subdivision crosses land in another municipality, the Board may require certification, from appropriate authorities, that such access is in accordance with the Master Plan and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic.

7) Vehicular Access and Lot Arrangement

Vehicular access to each lot in a subdivision shall be such as to provide actual or potential vehicular entry onto each lot from the street from which each lot calculates its frontage for zoning purposes. Lots shall be arranged so that there will be no foreseeable difficulties for reasons of topography, soils, bedrock, improper drainage, or other conditions in securing building permits to build on all lots in compliance with the Zoning

Bylaws of the Town of Wayland, or in providing practical, feasible driveway access to the building on such lots.

B) STREETS

1) Location and Alignment

- a) Streets shall be continuous, of uniform width, and in alignment with existing streets, as far as practicable.
- b) Provision shall be made for the proper projection of streets, if adjoining property is not subdivided.
- c) All curved streets must be designed to permit safe vehicular travel. A minimum 200-foot length tangent shall be provided between the point of tangency (PT, the end) of one curve and the point of curvature (PC, the beginning) of any following curve.
- d) Dead-end streets shall be permitted on Residential and Limited Residential Streets only. Any dead-end street shall be provided with a circular turn-around at its dead-end terminus having a curb radius of forty five (45) feet, and a right-of-way radius of sixty (60) feet. A dead-end street is any street or way or combination of streets or ways having only one terminus at a through street. A through street is a street that has two completed and usable ways of access. No dead-end street shall be more than six hundred ninety (690) feet in length, as measured along its center line from its intersection with the sideline of the right-of-way of the through street to the center point of the circular turn-around (making the overall length no more than seven hundred fifty (750) feet). The minimum length of dead-end streets shall be two(2) times the minimum lot frontage in the zoning district in which the street and the lots abutting the street are located. In the event that the street and the abutting lots are located in more than one zoning district, the most restrictive minimum lot frontage shall apply. This minimum length shall be measured along the center line of street from its intersection with the sideline of the right-of-way of the through street to the center point of the circular turn-around. A minimum separation of fifty (50) feet from the subdivision boundary to the right-of-way shall be required.
- e) Street lines at intersections shall be cut back so as to provide for curb radii of not less than twenty-five feet (25').

2) Right-of-Way Width and Street Design Standards

On all classifications of streets, the following characteristics shall be the minimum acceptable:

<u>Street Classification</u>	<u>Right-of-Way Width (ft.)</u>	<u>Pavement Width (ft.)</u>	<u>Radius of Curves+ (ft.)</u>	<u>Gradient %</u>	
				<u>Max</u>	<u>Min.</u>
Primary	70	46	1150	4	1
Secondary	(60	30	800	6	1
	60	24	570	6	1
Residential	50	24	380	8	1
Limited					

Residential	40	22	290	8	1
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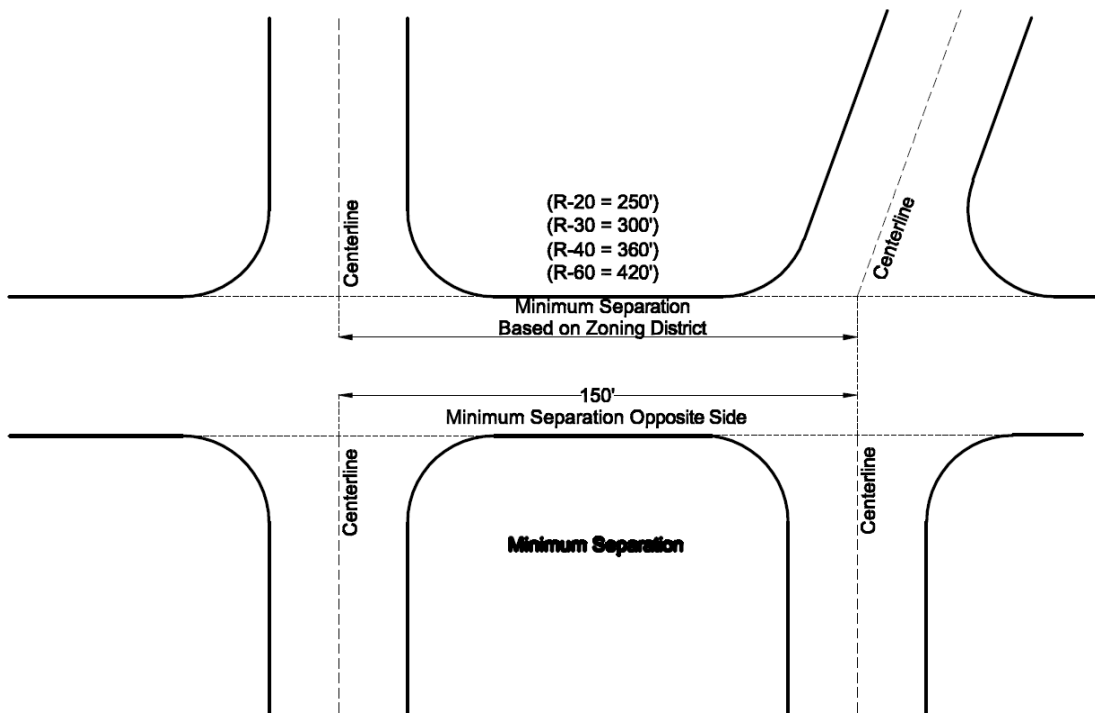
No more than a 6% grade on a northerly facing slope shall be permitted. There shall be no more than 1% grade for 50 feet from the intersection.

3) Sight Distance

Applicants must demonstrate that, for vehicles entering from a proposed street onto an existing street, adequate site distance exists in accordance with AASHTO standards. Applicants also must demonstrate that adequate site distance exists along the proposed road in accordance with AASHTO standards.

4) Street Offsets

Streets entering opposite sides of another street shall be laid out either directly opposite each other or with a minimum off-set of 150 feet between their rights-of-way. In each zoning district, streets entering from the same side as another street that is existing, proposed or approved shall be laid out with the following minimum offsets between their rights-of-way: in the R20 district - 250 feet, the R30 district – 300 feet, the R40 district – 360 feet, the R60 district – 420 feet, and in all other districts the minimum offset shall be 300 feet and shall meet appropriate AASHTO sight distance standards. For the purpose of this section, a proposed extension of an existing street shall be considered a proposed street. If a zoning district divided a property along its frontage then the greater offset shall apply. Offsets shall be measured from the center line of the first street at its intersection with the sideline of the right-of-way of the through street to the center line of the second street at its intersection with the sideline of the right-of-way of the through street. (see diagram below)



5) Intersection

Rights-of-way shall be laid out so as to intersect as nearly as possible at right angles. No right-of-way shall intersect any other right-of-way at less than 60 degrees. Where any intersecting street approaches the intersection at a grade greater than 3%, there shall be a grade of 1% for 100 feet from the center of the intersection along the center line of such street.

Property lines at right-of-way intersections shall be cut back to provide for a curb radius on the roadway of not less than twenty-five feet, except where the angle of intersection varies more than ten degrees from a right angle, in which case the radii of the curve connecting the acute angle may be less and the opposite radius must be correspondingly greater.

All objects within these areas shall be no higher than 2.5 feet.

C) EASEMENTS AND RESTRICTIONS

1) Layout of Easements

Wherever possible, easements shall be continuous from lot to lot and street to street and their layout shall create as few irregularities as possible.

2) Conservation Restrictions

a) Streams or water courses shall be located within easements (Form M), substantially paralleling the existing lines of their courses, whose width shall not be less than twenty-five (25) feet and whose boundaries shall not be closer than 10 feet horizontally from the annual high water line. Adjacent streets or walkways and/or appropriate access may be required in connection therewith. Streams or water courses shall remain open except at street crossings.

b) The Planning Board may require that other areas be included within a conservation restriction.

c) In any subdivision the developer may grant to the Town a conservation restriction over any portion of the subdivision providing the area subject to the restriction is part of the conservation or recreation plan of the Town.

3) Utilities and Drains

Utility and drain easements (Form N) shall not be less than 25 feet in width. When located within the roadway, the utilities and drains shall conform to the typical cross-section set forth in the Appendix.

D) PEDESTRIAN WAYS

Pedestrian ways or foot paths will normally be required to provide convenient circulation or access to schools, playgrounds, shopping, churches, transportation, parks, conservation areas and/or other facilities. Such ways shall consist of an easement of at least 20 feet.

E) OPEN SPACE, PARKS AND PLAYGROUNDS

Areas for open space, parks and/or playgrounds will normally be required to be set aside in accordance with the proposals and intents of the Master Plan and Chapter 41, Section 81-U of the General Laws, as amended. Such areas shall be of reasonable size, but generally not less than five percent of the area of the subdivision, depending upon the location and quality of the land being set aside. The minimum area acceptable, for later public acquisition, shall be one acre. No building may be erected or placed on such an area for a period of three years without the approval of the Board.

Before approval of a plan the Board may require it to show parks, playground, recreation areas, or other open spaces to serve the future residents of the subdivision and by appropriate endorsement require that no building may be erected on such site for three years -without the approval of the Planning Board.

Any open space park or playground shall provide at least fifty feet of continuous frontage on a street, and pedestrian ways will normally be required to provide access from each of the surrounding streets, if any, to which the open space, park or playground has no frontage. Further, such parks and/or playgrounds may be required to have maintenance provided for by covenants and agreements acceptable to the Board, until public acquisition is accomplished by the community.

F) DRIVEWAYS

Driveway connections to streets shall slope from the street right-of-way line down to the edge of the pavement at a grade of inch per foot.

SECTION V. REQUIRED IMPROVEMENTS

A) BASIC REQUIREMENTS

The subdivider shall install all of the improvements itemized herein unless waived in writing by the Board. All work done under this section shall be done under the direction of the Planning Board. No aforementioned bond or covenant shall be released until full approval in writing of all work done under this section is received by the Planning Board from the Planning Board Agent.

B) IMPROVEMENT SPECIFICATIONS

1) General

The following minimum specifications shall govern the installation of all roadways, utilities and other improvements in all subdivisions as designated on the Definitive Plan and as otherwise determined by the Planning Board.

2) Roadway

a) General

Each street or portion thereof necessary to serve each lot in a subdivision shall be constructed and brought to finish grade as indicated on the approved Definitive Plan and in accordance with the requirements of this section.

The subdivider or his contractor shall furnish and maintain all stakes and such temporary structures as may be necessary or required by the Planning Board Agent for marking and maintaining points and lines for the installation of the roadway and related utilities throughout the period of construction of the subdivision.

b) Clearing and Grubbing of Right-of-Way

The right-of-way shall be cleared according to the requirements of the standard road cross-section, prior to any other work except that trees of aesthetic value and over 4 inch caliper may be allowed to remain provided that they are located at least 5 feet from the proposed side line of the finished roadway and approved by the Planning Board Agent after consulting with the Town Tree Warden.

c) Excavation and Subgrade Preparation

The roadway shall be excavated to a depth of 15 inches below the established finish grade in accordance with the approved Definitive Plan. If the condition of the bottom of the excavation is wet or spongy or otherwise unsatisfactory to the Planning Board Agent, he may require that the bottom be excavated deeper and the space filled with clean gravel or other satisfactory material. Ledge and large boulders occurring anywhere in the full cross-section of the roadway must be cleared to a minimum of 14 inches below the finish surface.

d) Gravel Base

Bank gravel shall consist of hard durable stone and coarse sand practically free from loam and clay, uniformly graded and containing no stone having a dimension greater than 6 inches. The grading shall conform to the following requirements:

<u>Sieve</u>	<u>Percent Passing</u>
½ inch	50-85
3/8 inch	45-80
No. 4	40-75
No. 10	30-60
No. 40	10-35
No. 200	0-10

Before the gravel is spread, the roadbed shall be shaped to a true surface conforming to the proposed cross-section of the road. Bank gravel for the base shall be spread in two layers and rolled true to lines and grades with a roller weighing not less than 10 tons so as to yield a 10 inch depth after rolling. All layers shall be compacted to not less than 95 percent of the maximum dry density of the material as determined by the Standard A.A.S.H.O. Test Designation T99 compaction test Method C. at optimum moisture content as determined by the Planning Board Agent. Any depression that appears during or after the rolling shall be filled with bank gravel and be re-rolled until the surface is true and even. When required by the Board or the Planning Board Agent, samples of the gravel to be used shall be tested for gradation by a sieve analysis and the compacted gravel shall be tested for compaction. All tests are at the expense of the developer.

e) Pavement

The pavement on the roadway of each street in a subdivision shall consist of Class I Bituminous Concrete Type I-1 and shall be laid in two courses, a 2 inch binder course and a 1 inch finish course and in accordance with the construction specifications enumerated herein.

No pavement shall be installed between Nov. 15 and April 1.

Upon completion of the final course of bituminous concrete, the subdivider shall order an independent contractor approved by the Planning Board Agent to take core borings, 2 feet in depth, within the roadway, every 2 hundred feet in alternate lanes or at such locations as recommended by the Planning Board Agent. The report of said contractor to be sent to the Planning Board.

Pavement Thickness Testing Procedure

PAVEMENT THICKNESS – QUALITY CONTROL

	Number of Samples taken	Number of Cores With thickness less than 3". Pass if equal or less than.	Fail if Equal or Greater than
1 st Sampling	5-6	0	2
2 nd Sampling	10-12	1	2
1 st Sampling	7-9	0	3
2 nd Sampling	14-18	2	3
1 st Sampling	10-14	1	4
2 nd Sampling	20-28	3	4
1 st Sampling	15-24	1	5
2 nd Sampling	30-48	4	5
1 st Sampling	25-34	3	7
2 nd Sampling	50-68	6	7

Core samples to be taken one every 200' of roadway plus two core samples, one each side of center line at turn-around and at widened apron where roadway intersects existing road .

With number of core samples taken for first sample, use above table. Compare number of samples less than 3" thick:

If less than or equal to first number, the roadway passes.

If greater than or equal to second number, the roadway fails.

If in between first and second number, a second sample may be taken to pass the roadway. The number in the second sample is double the number in the first sample. With number of core samples in second sampling less than 3" thick, compare values (in row one below those used in first sampling).

If less than or equal to first number, the road passes. If greater than or equal to second number, the road fails.

3) Curbs and Berms

Curbs and berms shall be installed in accordance with the following minimum requirements and the construction specifications enumerated herein.

Curbing shall be installed in accordance with the construction standards put forth in "Standard Specifications for Highways and Bridges" — as amended. Bituminous concrete berms shall be installed on top of the binder course of the pavement. The profile of the berm is subject to Planning Board approval. The construction methods and material specifications shall conform to "Standard Specifications for Highways and Bridges" -- as amended. The "Cape-Cod Type" berm shall be used where granite or bituminous berms are not required.

Primary Streets

Type VA-4 granite curbs as specified in "Standard Specifications for Highways and Bridges" -- as amended shall be required on both sides of all roadways.

Secondary Streets

Type VA-4 granite curbs as specified in "Standard Specifications for Highways and Bridges" -- as amended shall be required under the following conditions:

- a) all finished grades over 4%;
- b) all curb inlets for catch basins;
- c) all street intersections on the curve and extending 6 feet beyond the tangent points;
and
- d) on all inside curves wherever the interior angle is less than 110 degrees.

Residential and Limited Residential Streets

Bituminous concrete berms shall be required on all finished grades over 5%. Type VA-4 granite curbs as specified for secondary streets above shall be required on:

- a) all curb inlets for catch basins;
- b) on all street intersections on the curve and extending 6 feet beyond tangent points;
and
- c) on all inside curves wherever the interior angle is less than 110 degrees.

4) Walkways

Five foot width walkways shall be installed wherever required. The walkway shall be constructed of bituminous concrete, concrete, brick or acceptable substitute. The walkways shall slope toward the curb 3/8 inch to the foot. The foundation shall be a minimum of 8 inches of approved gravel and well compacted with a 1 ton roller. A binder course of Class I bituminous concrete rolled to a 2 inch thickness shall be laid and topped with a finished course of Class I bituminous concrete (dense mix) rolled to a 1 inch thickness. No pavement shall be installed between November 15 and April 1.

5) Storm and Surface Drainage

a) General

Adequate disposal of surface water shall be provided for in a manner satisfactory to the Planning Board with respect to each street or portion thereof. Such system may include a system of storm drains, culverts, ditches, under-drains and related installations, including catch basins, gutters and manholes, shall be designed and installed to provide adequate disposal of surface water, including control of erosion, flooding and standing water from or in the subdivision and adjacent lands. A catch basin to manhole system of drainage is required.

When, in the opinion of the Planning Board, development of an area will increase runoff substantially to down stream properties, it shall require that a retention area be constructed. Such retention area will be designed to handle the 100 year storm and such size shall be determined by the flood routing procedure as described in the U.S.D.A., Soil Conservation Service National Engineering Handbook, HYDROLOGY, Section 4. Sideslopes shall be no greater than three (3) to one (1) and shall be loomed, seeded, and rolled in accordance with the specifications of the Highway Department. Fencing of all or part of such retention areas shall be required as directed by the Planning Board

b) Size and Slope of Drains

Drainpipe slopes shall be designed to afford the following minimum velocities for the pipes flowing full:

PIPE DIAMETER (inches)	MINIMUM DESIGN VELOCITY (feet per second)
12-42	3
48-54	4
60-66	5
72 and larger	6

The quantity of storm water to be carried by the drainage system shall be based on the following criteria:

(i) Design Storm Frequency or Return Period (years)

<u>LAND USE AND ZONING</u>	<u>RETURN PERIOD (YEARS)</u>
Residence Zones:	
20, 000 sq. ft.	25
30, 000 sq. ft.	25
40,000 sq. ft.	15
60,000 sq. ft.	15
Cluster Development or Multi-residence Developments	25
Business, Light Manufacturing, Limited Commercial	25

Recreation, Conservation, Open Spaces, Agriculture	5
Principal Drainage Courses, Streams, Ditches and Retention in all Districts	100

(ii) Method of Estimation of Runoff shall be by one of the following methods: (as specified by the Planning Board)

(a) United States Department of Agriculture, Soil Conservation Service, National Engineering Field Manual, Chapter 2, Revised 1971, based on 24-hour rainfalls as follows:

<u>RETURN PERIOD</u> (Years)	<u>24-INCH HOUR RAINFALL</u> (Inches)
5	4.0
10	4.5
25	5.5
50	6.5
100	7.0

(b) The "Rational Method" based on the following:

Percent Roofs and Pavements

<u>LAND USE AND ZONING</u>	<u>PERCENT ROOFS AND PAVEMENT</u>
Business, Light Manufacturing, Limited Commercial	90
Residence Zones 40,000 sq. ft.: 30,000 sq. ft.	30
Residence Zones: 40,000 sq. ft. 60,000 sq. ft.	20
Recreation, Conservation, Open Spaces, Agriculture	5
Cluster Development or Multi- residence Developments	90

Inlet time and time of concentration shall be determined in accordance with current engineering practice, as outlined in the "American Society of Civil Engineers Manual of Practice No. 37," or similar accepted method.

Rate of runoff shall be determined for the appropriate conditions as specified in the previous paragraphs from the intensity and Ci curves in the Appendix.

c) Catch Basins and Manholes

(i) Location

Catch basins located in pavements shall be located so that the greatest distance which water will have to flow over the surface shall not be over 300 feet.

(ii) Materials Specifications

(a) Cement brick masonry or concrete block masonry, machine-made solid segments not less than 8 inches in width and precast concrete structures.

(b) Manhole frames — 26 inches in diameter, and covers (marked "D" for drains and "E" for electric) - 200 lbs. minimum weight.

(c) "D" catch basin frames — 26 1/2 inches diameter; and grates — 200 pounds minimum weight.

(d) Square catch basin frames -- 24 inches square; and grates -- 200 pounds minimum weight.

Catch basin flanges in "c" and "d" above shall have three flanges only at curb inlets

(e) Catch basin covers shall be bicycle safe.

(iii) Construction Specifications

Catch basins and manholes shall not be less than 4 feet in inside diameter at a point 29 feet below the bottom of the frame. Catch basins shall not be less than 3 feet in depth measuring from the invert of the outlet pipe. Masonry inverts shall be constructed for all manholes. The base of these structures shall consist of pre-cast concrete pies. A 12 inch weep hole shall be left in the base of the catch basins. The walls of these structures shall not be less than 8 inches in thickness, shall consist of cement brick concrete block masonry or pre-cast concrete units and shall be laid in mortar composed of 1 part Portland Cement and 2 parts sand and sufficient water to form a workable mixture. Backfill shall not be applied until after inspection. Outside walls shall be thoroughly plastered with inch thick Portland Cement mortar. Steps or metal rungs shall be provided in manholes over 5 feet in depth.

(iv) Installation of Castings

Castings shall be set at the pavement binder course grade. Manhole castings shall be set to finish grade. Frame castings for catch basins and manholes shall be set in full mortar beds.

d) Responsibility

There shall be no connection to the Town drainage system unless an engineering study demonstrates that the existing system can adequately handle the additional drainage. The responsibility for adequate drainage shall rest with the owner. This shall include connection with existing drainage facilities provided by the Town. When private drains are connected to Town drainage, the Town cannot be held responsible for any damage.

Where property adjacent to the subdivision, but within the same watershed, is not subdivided, provision shall be made for proper projection of the drainage systems by continuing appropriate drains and easements to the exterior boundaries of the subdivision at such size and grade as will allow for such projection. Drainage rights which are appropriate, sufficient and necessary to handle drainage from the subdivision and adjacent areas shall be secured for the Town.

6) Water

Water pipes and related equipment such as hydrants and main shut-off valves shall be constructed to serve each lot in each street or portion thereof in conformity with the specifications of the Water Commissioners as promulgated and amended from time to time.

7) Utilities

All gas, telephone, electricity and fire alarm lines and water pipes shall be installed underground. Other portions of the utility system which are constructed above ground shall be screened with natural evergreen shrubs.

8) Retaining Walls

Retaining walls shall be installed where deemed necessary by the Board.

9) Fire Alarm System

A fire alarm system shall be installed underground in accordance with the specifications and requirements of the Wayland Fire Department as promulgated and amended from time to time

10) Trees

Trees shall be planted in accordance with the specifications of the Planning Board in consultation with the Town Tree Warden.

11) Grass Strips

All cleared areas as described in Section V-B-2b including all disturbed area over all culverts in drainage easements, shall be loomed with not less than 4 inches compacted depth of good quality loam. Seeded with lawn grass seed and rolled, or with a suitable ground cover. Seeding shall be done at appropriate times of the year and in a manner to insure growth of grass.

12) Street Signs

Street name signs shall be furnished, set in concrete and erected at all street intersections prior to the occupancy of any house on the street. Signs shall be obtained from the Wayland Highway Department.

13) Street Lights

Street lights shall be installed as recommended by the Planning Board and approved by the Board of Selectmen. Lighting design shall maximize safety and security and disturb residents as little as possible.

14) Guard Rails

Guard rails shall be installed as required by the Planning Board.

15) Boundary Marks and Monuments

Markers or monuments shall be set on both sides of each proposed street at all angle points, at the beginning and end of all curves thereof, and at all intersections of streets and ways with each other or with Plan boundary lines. The markers or monuments shall be of stone or reinforced concrete, shall be not less than four feet in length and not less than six inches in width and breadth and shall have a drill hole in the center. All bounds shall be set flush with the surface of the adjoining ground. Wrought iron rods may be used where the points fall on exposed ledge. The placement and accurate location of these markers shall be certified by a registered land surveyer and shall be submitted with the Definitive Plan. Entrances to subdivisions shall not be marked by elaborate monuments.

16) Survey of Improvements as Installed

After all street construction is completed, two copies of the Definitive Plan showing centerline contours at 50 foot intervals of roads as built, all inverts of drainage system as installed, all utilities as installed; and monuments as installed shall be furnished to the Planning Board prior to the release of bonds and securities.

17) Final Cleaning Up:

Upon completion of all construction and landscaping, the subdivider shall remove from the highway and adjoining property all temporary structures, surplus material and rubbish which may have accumulated during the prosecution of the work and shall

leave the subdivision area in a neat and orderly condition. Final release of bonds and covenants shall be contingent upon the final clean-up being satisfactory to the Planning Board.

18) Maintenance

If released from restrictions with regard to sale of lots or buildings on lots by the posting of a performance bond, the subdivider shall maintain the roads for vehicular travel in a manner satisfactory to the Board. Further, the subdivider shall maintain the roads in a subdivision in a condition which meets all the above requirements to the satisfaction of the Board either until acceptance of such roads by vote of the Town, or for a period of one year from the date of release of check, bond or all restrictions pertaining to the subdivision.

No bond or other security shall be released until all roads intended to be town roads shall be accepted as town roads.

C) INSTALLATION OF IMPROVEMENTS (INSPECTIONS)

1) General

Inspections during the work shall be arranged with the Planning Board Agent prior to starting the road construction. who will provide the subdivider with a check list covering these inspections. The Planning Board Agent will sign this check list after satisfactory completion of each step by the contractor. Inspections shall be requested at least 24 hours in advance of each inspection by written notice to the Planning Board Agent with a copy to the clerk of the Planning Board. Inspections shall be made after each step indicated above. All weight slips for bituminous material shall be furnished to the Planning Board Agent.

2) Excavation and Subgrade Preparation

The right-of-way shall be cleared as specified.
Inspection #1 - Clearing of Right-of-way.

3) Subgrade of Roadway

The Subgrade shall be prepared as specified.
Inspection #2 - Subgrade Preparation.

4) Installation of Utilities

Storm and surface drains shall be installed as specified and in conformity with the Definitive Plan.
Inspection #3 - Drainage (Below-Grade) Installation
Inspection #9 - Drainage (At Surface) Installation
Water mains and related equipment including fire hydrants shall be installed as specified and in conformity with the Definitive Plan.
Inspection #4 - Water Installation

A fire alarm system shall be installed as specified and in conformity with the Definitive Plan.

Inspection #5 - Fire Alarm Installation

5) Gravel Base

The gravel base shall be-laid as specified.

Inspection #6 - Gravel Base

6) Curb and Berm Installation

All curb and berms shall be installed as specified and as required by the Definitive Plan.

Inspection #7 - Curb Installation

Inspection #10 - Berm Installation

7) Pavement Construction

All pavement shall be installed as specified and as required by the Definitive Plan.

Inspection #8 - Binder Course

Inspection #11 - Finish Course

8) Sidewalk Construction

Sidewalks shall be installed as specified.

Inspection #12 - Sidewalk Construction

9) Trees and Planting

Street trees shall be installed as specified.

Inspection #13 - Street Trees and Planting

10) Grass Strips

Grass strips shall be installed as specified.

Inspection #14 - Grass Strips

11) Street Signs and Monuments

Street signs and monuments shall be installed as specified.

Inspection #16 - Street Signs and Monuments

12) Street Lights

Street lights shall be installed as required by the Planning Board.

Inspection #15 - Street Lights

13) Final Clean-Up

Final clean-up shall be accomplished.
Inspection #17 - Final Clean-up

14) Maintenance

Streets and appurtenances shall be maintained as specified.
Inspection #18 - Maintenance

SECTION VI. ADMINISTRATION

A) AUTHORITY

The Planning Board shall be the administrative agency of these regulations and shall have all the powers assigned them by Section 8IA to GG of Chapter 41 of the General Laws.

The Planning Board may assign as their agents appropriate town agencies or officials and may from time to time hire professional assistance to review plans and inspect improvements at the cost of the subdivider.

The Board on its own motion or on the petition of any interested person shall have the power to modify, amend or rescind its approval of a plan of a subdivision, or to require a change in a plan as a condition of its retaining the status of an approved plan.

B) WAIVER OF COMPLIANCE

Strict compliance with the requirements of these rules and regulations may be waived only when, in the judgment of the Board, such action is in the public interest and not inconsistent with the Subdivision Control Law. In waiving strict compliance, the Board may require such alternative conditions as will serve substantially the same objective as the standards or regulations waived.

C) NOTICE PRIOR TO CONSTRUCTION

Mandatory Notice Prior to Commencement of Construction Work in any Subdivision within Wayland.

A written notice shall be sent by certified mail to the Planning Board advising the board that construction within an approved subdivision shall commence not sooner than seven (7) days from the date that such notice is mailed to the Board. Such notice shall be signed by the applicant, subdivider, developer or other authorized representative of the record owner of the subdivision. In addition, a deposit such as is required in Section VI-D shall be submitted together with such notice as required herein. Failure to comply with the requirements as set forth herein shall be deemed reason by the Board to rescind its approval of said subdivision plan.

D) INSPECTION

Inspection shall be carried out at appropriate times during the improvement of the subdivision as spelled out in Section V of these regulations and in the attached Inspection Check List (Form L). The subdivider shall notify the responsible agencies and the Planning Board three days before carrying out each operation to be inspected.

The responsible agency shall appoint a competent person or shall make arrangements with a professional person or firm to carry out such inspection.

The cost of inspection shall be borne by the subdivider. The inspection fee shall include 'portal to portal' and 'off-site' (analysis of plans) costs.

Inspection Fee Deposit: A minimum deposit in an amount equal to \$1.00 per linear foot of proposed roadway as shown on the plan, or two thousand dollars (\$2,000.00) whichever is greater shall be submitted to the Planning Board. Such deposit shall be submitted in check form only (no cash will be accepted), such check to be made out to the Town of Wayland. Such deposit shall be used by the Board to cover expenses incurred by the Town relating to the inspection of construction work, and other related activities within an approved subdivision. If during the course of construction of such subdivision, the Board finds that the deposit as prescribed above will not be adequate to cover expenses, the Board shall reserve the right to require such additional amount as the Board may deem necessary to cover such expenses. The Board shall notify the developer, or other authorized representative in writing that such additional amount is required. Said notice shall be sent by certified mail. Failure to submit the additional amount as required within seven (7) days of receipt of said notice shall constitute reason for the Board to deny all further inspection requests until such additional amount has been deposited with the Board. At such time when the Board deems that such subdivision has been completed in accordance with Town of Wayland, Subdivision Regulations, the Board shall authorize that any excess monies in said deposit account be refunded to the developer, or his authorized representative.

E) SEPARABILITY

If any section, paragraph, sentence, clause, or provision of these regulations shall be adjudged not valid, the adjudication shall apply only to the material so adjudged and the remainder of these regulations shall be deemed valid and effective.

F) AMENDMENTS

These regulations or any portion thereof may be amended, supplemented or repealed from time to time by the Board after a public hearing on its own motion or by petition.

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A P P E N D I X
SUBDIVISION REGULATIONS

PLANNING BOARD

WAYLAND, MASSACHUSETTS

Water Improvements Specifications -
Water Commissioners, Wayland, Massachusetts

Fire Alarm System Specifications and Requirements -
Fire Department, Wayland, Massachusetts

Tree Planting Specifications -
Tree Warden, Wayland, Massachusetts

Forms A through P inclusive

Road Cross-Sections and Construction Details -(in envelope attached)

WATER IMPROVEMENTS SPECIFICATIONS

WATER COMMISSIONERS, WAYLAD, MASSACHUSETTS

Water pipes and related equipment such as hydrants and main shut-off valves shall be constructed to serve each lot in each street or portion thereof in conformity with the following specifications of the Water Board:

SPECIFICATIONS

Size of pipe shall be designated by the Water Department after consideration of present and future requirements of the area. In no case will the use of pipe sizes smaller than six (6) inches be approved for hydrant connections.

All pipe shall be cast iron, Class 150, or ductile iron Class 2; cement lined and tar coated. Fittings shall be cast iron, cement lined and tar coated, mechanical or tyton joint, A.W.W.A. specifications.

Gate valves shall be mechanical joint, A.W.W.A. specifications. Valve boxes shall be cast iron with telescoping top section.

Fire hydrants shall be of a make approved by the Water Commissioners, with 6 inch mechanical joint connections, 5 inch valve opening, 5 foot bury, open left.

No work shall start until the Water Department has a copy of final plans as approved by the Planning Board. Roads shall be at least sub-graded before pipe is laid.

LOCATION AND GRADE

Pipe shall be laid with 5 feet of cover, 7 feet off the center line of the traveled way, on the side of the road designated by the Water Department.

The order of sequence of the pipe laying, the length of trench to be opened at one time, and the general conduct of the work shall be subject to the approval of the Water Commissioners, or such person as they may designate to act for them.

All work shall conform during its progress and on its completion truly to lines, grades and elevations as given on the plan of the road as approved by the Water Department, and shall be done in a thoroughly substantial and workmanlike manner, subject to such modifications and additions as may be deemed necessary by the Water Department.

Work done without lines, grades or instructions from the Water Department, or done without permission in the absence of their representative, may be ordered removed and replaced.

Special care shall be taken in all rock excavation. Where blasting is necessary, all regulations of the State and all Town Bylaws shall be observed. Blasting shall be done under the supervision of the Fire Department.

Drainage pipes shall be at least four (4) feet from water mains except when crossing over or under the mains when there shall be at least a 6 inch pad of sand between them.

DEPTH OF TRENCH

Depth of trench shall be such as to give a distance of 5 feet from the top of the pipe to the finished grade of the road. In rock excavation, the trench shall be excavated to a depth of 6 inches below the bottom of the pipe and backfilled with suitable material.

WIDTH OF TRENCH

Width of trench shall be such as will give suitable room for earth excavation, rock excavation where encountered, laying and jointing the pipe, setting and jointing the gate valves and hydrants, and other operations. It shall be of sufficient width to give at least six (6) inches outside the barrel of the pipe at the elevation of its center line.

LAYING THE PIPE

Each pipe, fitting, valve and hydrant shall be cleaned of all sticks, stones, dirt and other accumulations and inspected for cracks and other defects before being lowered into the trench. The bottom of the trench shall be leveled and graded so that the pipe will lay evenly on firm ground its entire length. Only on soft or mucky ground will the use of blocks be allowed.

Before inserting the spigot end of the pipe to be laid into the bell end of the pipe already in place, both the bell and the spigot shall be wiped carefully. The pipe shall then be shoved completely home into the bell.

The open end of all piping shall be protected with tight-fitting wooden plugs until the connection is completed to prevent the entrance of any sand, stones, or other foreign matter.

JOINTING

Tyton or mechanical joints shall be used on all pipes. The joint shall be made in accordance with the manufacturer's instructions and to the satisfaction of the Board's representative. Joint lubricant shall be non-toxic, non-injurious to the gasket and shall impart no taste, odor or other injurious qualities to the water. When pipe is cut in the field, the outside edge of the cut end for a distance of about 1/8 inch shall be conditioned for use by filing or grinding a small taper at an angle of about 30 degrees with the horizontal.

SETTING VALVES BOXES AND HYDRANTS

Gate valves shall be set with the stems vertically above the center of the pipe. Gate boxes shall be set vertically in line with the valve stem, with the 2 inch operating nut at the center of the lower section and easily engaged by a gate wrench. The lower section shall rest on the gate bonnet and the upper section shall be so adjusted that the cover is at the surface of the ground or street. Hydrants shall be set at elevations and locations

established by the Water Department, but in no case farther apart than 1000 feet as measured on the traveled way of the road. The barrel shall be vertical and the nozzles normal with the street line, except as otherwise ordered. The bottom of the hydrant shall rest on a large flat stone and the drip shall discharge into about 5 cubic feet of stone or crushed rock to allow the hydrant drain readily.

LEAKAGE TESTS

A leakage test may be required when the pipe line is completed or by sections if it seems practical. The pipe shall be filled with water, all air removed, and the test shall extend for one (1) hour at 100 P.S.I.

Leakage shall not exceed 100 gallons per inch of diameter per mile of pipe per 24 hours. Example: 1500 feet of 8" main tested for 1 hour the maximum leakage would be 9.4 gallons.

BACKFILLING

As soon as practicable after the pipe has been laid, the backfilling shall begin and be completed expeditiously. Special care shall be taken in filling beneath and along the sides of the pipe up to their center lines, by selecting the best of the excavated material and thoroughly tamping to provide a firm and continuous contact along the entire length of the pipe to avoid settlement or lateral displacement. The best of the remaining excavation shall be used for back-filling the trench to a depth of 2 feet above the pipe, and shall be placed in suitable layers, properly compacted by tamping or otherwise as allowed, to avoid any subsequent damage to the pipes. No stones larger than 6 inches in diameter and no frozen lumps of earth will be allowed in this part of the backfill. The remainder of the backfill shall be placed in approximately horizontal layers and compacted by puddling with water or tamping to prevent undue settlement.

No blasted rock or boulders larger than a man can lift will be allowed in the backfill. Large stones will be allowed only near the top of the trench and surrounded by at least 12 inches of earth. Earth backfill shall be provided to replace rock excavation not suitable for backfill. Backfill shall be of non-organic material.

FIRE ALARM SYSTEM SPECIFICATIONS AND REQUIREMENTS

FIRE DEPARTMENT WAYLAND, MASSACHUSETTS

A fire alarm system shall be installed underground in accordance with the following specifications of the Wayland Fire Department. These requirements apply to all subdivisions in the Town of Wayland.

GENERAL

- A. It is the intent of this specification that all material furnished and all work done shall provide the Town of Wayland with a complete operating fire alarm extension when connection is made to the municipal fire alarm circuit.
- B. Proof of experience in the field of fire alarm installation and a complete set of plans of the proposed fire alarm installation must be submitted for approval to the Wayland Fire Department before any work may be commenced which is to be tied into a municipal fire alarm circuit.
- C. All material and equipment furnished shall be new, unused, and of current manufacture.
- D. Equipment furnished and the work to be performed shall be done in such a manner that both comply with the applicable sections of the latest revisions of the National Electrical Safety Code and Pamphlet #73 of the National Fire Protection Association and shall be subject to field inspection and final approval by the Wayland Fire Department.
- E. The developer shall be financially responsible for all phases of installing the fire alarm system except the final connection to the municipal fire alarm system.
- F. When the installation is complete, a concise set of "AS BUILT" plans shall be submitted to the Wayland Fire Department showing the exact locations of the duct lines, fire alarm boxes, and fire alarm manholes. After checking the plans for correctness, the Wayland Fire Department shall make the final connections to the municipal fire alarm system. After the new system has been tested and inspected to the satisfaction of the Wayland Fire Department, a statement of approval will be provided to the developer and the Town of Wayland Planning Board.
- G. Any questions as to the intent or interpretation of these specifications shall be decided by the Chief of the Wayland Fire Department, and his decision shall be final.

NUMBER OF FIRE ALARM BOXES

- A. One fire alarm box shall be provided for each 1000' of way within the subdivision, or fraction thereof, subject to the approval of the Chief of the Wayland Fire Department or his authorized representative.
- B. The exact location and the code numbers of the fire alarm boxes shall be specified by the Wayland Fire Department, and so indicated on the record plot.

FIRE ALARM BOXES

- A. Fire alarm boxes shall be Gamewell Company, Catalog #7000, or an approved equal.
- B. Fire alarm boxes shall be secured to the pedestals they are to be mounted on so that the pull lever of the box shall be 5' from the final grade of the street or sidewalk plot.
- C. Each fire alarm box shall be grounded with a piece of #14 TW solid copper wire, one end of which shall be secured to the ground terminal of the fire alarm box, and the other end attached to a ground fitting which in turn is fastened to a copperweld ground rod V minimum in diameter and 8' or more long driven into the earth directly under the pedestal sub-base. In addition, the grounding strap supplied with each fire alarm box shall be attached so that the shell of the box is electrically grounded to the ground terminal of the fire alarm box.
- D. Fire alarm boxes shall be timed for 1/2 second timing.

FIRE ALARM BOX LEADS

- A. Leads to bring fire alarm current up from a pedestal terminal strip to the fire alarm box terminal strip shall be three conductors of #14 TW solid copper wire, with a minimum of 12" of slack left in a neat and orderly fashion at both ends.
- B. Splices in the fire alarm box leads shall not be permitted under any circumstances.

BOX IDENTIFICATION

- A. Each fire alarm box installed shall be marked on its two sides with a Gamewell Company, Catalog #7513 FIRE sign or an approved equal, one sign for each side of the box.

MISCELLANEOUS

- A. During the period of installation all fire alarm boxes which are not in service shall be covered with burlap or other suitable material.

REQUIREMENTS FOR UNDERGROUND FIRE ALARM CONSTRUCTION

DUCTS

- A. All fire alarm circuits which are to be placed underground shall be installed in an approved "TRANSITE" or "ORANGEBURG" non-metallic conduit, or galvanized steel conduit with a minimum inside diameter of 3".
- B. When any part of a duct line crosses a street or a heavily traveled way, galvanized steel conduit shall be used, and shall precede and follow such crossings by a minimum of 10'.
- C. All joints shall be waterproofed properly. Galvanized steel conduit joints shall be of the threaded type.

- D. All duct lines shall be encased on all four sides by a minimum of 6" of stone-free sand.
- E. The fire alarm duct lines may occupy the same trench with the Edison and Telephone cables or ducts, however, a minimum of 12" clearance shall be maintained at all times between the fire alarm duct and any Edison cables or ducts. Where it is impossible to maintain this clearance, permission may be requested to install the fire alarm duct line closer provided the fire alarm duct line shall then be encased on all four sides by a minimum of 5" of poured concrete.
- F. The duct lines shall be installed a minimum of 24" below the final grade of the sidewalk plot and 30" under traveled streets and ways.
- G. Duct lines shall be so installed so as to omit all unnecessary low points and permit adequate drainage.
- H. There shall be no 90 degree bends permitted in fire alarm duct lines from manhole to manhole. A maximum of one 90 degree bend will be allowed between manhole and fire alarm box pedestal sub-base, and likewise one 90 degree bend will be permitted between manhole and the utility riser pole.

MANHOLES

- A. Manholes shall be constructed of concrete, concrete block or transite, and be supplied with a cast-iron removable cover that has a minimum diameter of 24". Where poured concrete is used, the walls shall have a minimum thickness of 6".
- B. Manholes shall be constructed with a minimum depth of 48" from the final grade of the street or sidewalk plot to the bottom of the manhole, and a minimum distance of 18" shall be allowed between the bottom of the conduit and the bottom of the manhole.
- C. A minimum of 6" of stone-free sand shall line the bottom of the manhole and at least two inundated galvanized steel bars shall be so placed that the cables in the manhole shall not be lying on the bottom of the manhole.
- D. Manholes may be of the circular or rectangular type construction. If rectangular, the minimum inside dimensions shall be 24" x 36". If circular, the minimum inside diameter shall be 36".
- E. Edison cables or ducts shall not enter a fire alarm manhole under any circumstances.
- F. The Telephone Company cables or ducts may enter the fire alarm manhole.
- G. Manholes shall be so spaced that the distances between manhole and manhole does not exceed 300'; between manhole and utility riser pole 100'; and between manhole and pedestal sub-base 50'.

PEDESTAL SUB-BASE

- A. Pedestal sub-base shall be of the type manufactured by the Alloy Casting Co. of East Bridgewater, Massachusetts or an approved equal.

PEDESTALS

- A. Pedestals shall be Alloy Casting Company #AC-0 complete with #AC-1 Bracket or an approved equal, and be so installed that the pull handle lever of the fire alarm box shall be 5' from the final grade of the street or sidewalk plot.
- B. Pedestals shall be installed with a terminal strip mounted in the section of the pedestal provided for this purpose. This terminal strip shall have a minimum of eight individual terminals.

RISER POLE CONSTRUCTION

- A. All underground fire alarm duct lines shall be brought onto a riser utility pole at the point where the tie-in to the overhead construction of the municipal fire alarm circuit is to be made. If the new installation is to be an extension of an existing underground installation, the new system shall be fed either from an existing pedestal terminal strip or a utility riser pole, the determination of what method to be used shall be determined by the Wayland Fire Department.
- B. The riser duct line shall precede the riser pole in galvanized steel conduit by a minimum of 10' and sweep up the face of the riser pole parallel to and flush against it, to a point 6" above the final grade at the base of the pole. At this point of termination the conduit shall be fitted with a slip joint of the same type as used by the Boston Edison Company.
- C. From the slip joint the riser line shall be run flush and parallel up the riser pole to the point of attachment to the municipal fire alarm circuit. The conduit line shall be securely clipped with two-hole clips and 10 penny nails every 4' and terminated with a weatherhead. The riser pole conduit shall be galvanized steel conduit with a minimum inside diameter of 2".
- D. A rare gas lightning arrestor Brach #284C shall be installed and properly arranged according to Pamphlet #73 of the National Fire Protection Association, Article 220. A GB 100 terminal box or an approved equal shall be provided by the developer so that the tie-in to the municipal fire alarm circuit may be made within this box.

BACKFILLING

- A. No backfilling of any fire alarm duct line may be done until permission of the Wayland Fire Department has been granted.
- B. After permission has been granted then backfilling may proceed. Special care shall be taken in filling beneath, along the sides and over the top of the duct line (Minimum of 6" of stone-free sand) by tamping to provide a firm and continuous contact along the entire length of the fire alarm duct line to avoid settlement or lateral displacement. The rest of the remaining excavation may be used for the remaining backfill with stones larger than 4" and frozen lumps of earth not allowed.

CABLE

- A. No cable may be installed in the fire alarm duct lines until after proper backfilling has been completed and allowed to settle for a time to be specified by the Wayland Fire Department.
- B. When possible, cable installation shall be supervised by the Wayland Fire Department. A minimum of 72 hours notice shall be given prior to cable installation.
- C. All cable installed in the fire alarm duct lines shall be of the I.M.S.A. #19-1-1962 specifications with sufficient conductors supplied so there will be 50% of the used conductors available as spares. In any case, no cable shall be smaller than the 5 conductor. Conductor size shall be #12 AWG solid copper wire. Two copies of certified test reports shall be submitted to the Wayland Fire Department.
- D. The WHITE wire of the cable shall be connected as the ground wire in each and every terminal strip.
- E. Under no circumstances will any splices be allowed in the duct lines or manholes. All splices and terminations shall be made on the terminal strip that is mounted in the pedestal.
- F. There shall be a minimum of 3' of slack cable in each and every manhole.

TREE PLANTING SPECIFICATIONS

TREE WARDEN, WAYLAND, MASSACHUSETTS

The Planning Board will require that suitable hardwood shade trees, such as Sugar Maple, Norway Maple, Red Maple, Ash or Oak are to be planted along roads, streets or ways where trees do not exist. All trees to measure 1 1/2" to 2" caliper measured one (1) foot above ground level and 10' to 12' in height.

- 1) If the planting of trees on one side of the roadway is required, the distance apart should not exceed 50 feet.
- 2) If the planting of trees is required on both sides of the roadway, the distance apart should not exceed 80 feet on each side of the roadway and the trees planted should be set diagonally from the trees planted on the opposite side of roadway.
- 3) The developer will be liable for all trees so planted as to their erectness and good health for two years after planting.
- 4) No evergreen trees such as pine, fir, spruce or haddock are to be planted on an easterly or southerly side of the road, street or way.
- 5) No trees or shrubs are to be planted at any corner or intersection where they could become a traffic hazard by obstructing vision or preventing highway safety.
- 6) All cut bankings that tend to wash or erode must be planted with a low growing evergreen shrub such as laurel, mugho pine or juniper, and seeded with a deep rooted perennial grass to prevent erosion.
- 7) All trees are to be planted on private property approximately 10 feet, but not more than 20 feet, from the street line.

FORMS A THROUGH R INCLUSIVE

- A. Application for Endorsement of Plan Believed Not to Require Approval
- B. Application for Approval of Preliminary Plan
- C. Application for Approval of Definitive Plan
- D. Designer's Certificate
- E. Notice of Public Hearing
- F. Certified List of Abutters
- G. Performance Bond - Surety Company
- H. Performance Bond - Secured by Deposit
- I. Approval with Covenant Contract
- J. Certificate of Performance
- K. Receipt of Subdivision Plan
- L. Subdivision Inspection Checklist
- M. Conservation Restriction
- N. Conveyance of Easements and Utilities
- O. Environmental Data Form
- P. Release of Restrictions
- Q. Rainfall Curves
- R. Typical Cross-Sections