

TOWN OF MERRIMAC

TOWN HALL COMPLEX
2-4 SCHOOL STREET
MERRIMAC, MASSACHUSETTS 01860



RULES & REGULATIONS GOVERNING THE SUBDIVISION OF LAND

ADOPTED
JULY 07, 2003

RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND
IN THE TOWN OF
MERRIMAC, MASSACHUSETTS

ATTEST: A TRUE COPY

Patricia True

TOWN CLERK
TOWN OF MERRIMAC

THIS REVISION
WAS ADOPTED BY THE PLANNING BOARD

ON

JULY 07, 2003

IN ACCORDANCE WITH THE PROVISIONS OF "THE SUBDIVISION CONTROL LAW",
MASSACHUSETTS GENERAL LAWS, CHAPTER 41, SECTION 81K THROUGH 81 GG,
INCLUSIVE

**RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND
IN THE TOWN OF
MERRIMAC, MASSACHUSETTS**

TABLE OF CONTENTS

ARTICLE 1

SECTION 1.0 TITLE, POLICY, PURPOSE, AUTHORITY	2
1.1 Title	2
1.2 Policy	2
1.3 Purposes	3
1.4 Authority	4
1.5 Enactment	5
1.6 Interpretation, Conflict, and Separability	5
1.6.1 <i>Interpretation and Application</i>	5
1.6.2 <i>Public Provisions</i>	5
1.6.3 <i>Private Provisions</i>	5
1.6.4 <i>Invalidation</i>	5
1.7 Reservations and Repeals	6
1.8 Amendments	6
1.9 Public Purpose	6
1.10 Waiver of Conditions	6
1.10.1 <i>General</i>	6
1.10.2 <i>Conditions</i>	7
1.10.3 <i>Procedures</i>	7

ARTICLE 2

SECTION 2.0 DEFINITIONS	2
2.1 Usage	2
2.2 Words and Terms Defined	2

ARTICLE 3

SECTION 3.0 PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS

	2
3.1 Plan Believed Not To Require Approval	2
3.1.1 <i>Submission of Plan</i>	2
3.1.2 <i>Contents</i>	3
3.1.3 <i>Endorsement of Plan Not Requiring Approval</i>	4
3.1.4 <i>Determination that Plan Requires Approval</i>	4
3.1.5 <i>Failure of Board to Act</i>	4
3.2 Conceptual Plan	4
3.2.1 <i>Pre-Application Conference</i>	4
3.2.2 <i>Contents</i>	4
3.2.3 <i>Approval of a Conceptual Plan</i>	5
3.3 Preliminary Plan	5
3.3.1 <i>Submission of a Preliminary Plan</i>	5
3.3.2 <i>Contents</i>	6
3.3.3 <i>Approval of a Preliminary Plan</i>	9
3.3.4 <i>Disapproval of a Preliminary Plan</i>	9
3.4 Definitive Plan	9
3.4.1 <i>Submission of a Definitive Plan</i>	9
3.4.2 <i>Contents</i>	10
3.4.3 <i>Staking</i>	15
3.4.4 <i>Site Specific Soil Testing</i>	16
3.4.5 <i>Procedure</i>	18
3.4.6 <i>Performance Guarantee</i>	21
3.4.7 <i>Approval or Disapproval</i>	22
3.4.8 <i>Recording</i>	24
3.4.9 <i>Conveyance of Utilities and Easements to the Town</i>	24
3.4.10 <i>Reduction or Release of Performance Guarantee</i>	24

ARTICLE 4

SECTION 4.0 REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGN

		3
4.1	General Improvements	3
4.1.1	<i>Conformance to Applicable Rules and Regulations</i>	3
4.1.2	<i>Adequate Public Facilities</i>	4
4.1.3	<i>Self-Imposed Restrictions</i>	5
4.1.4	<i>Plans Straddling Municipal Boundaries</i>	5
4.1.5	<i>Monuments</i>	5
4.1.6	<i>Character of the Land</i>	6
4.1.7	<i>Subdivision Name and Street Names</i>	6
4.2	Lot Improvements	6
4.2.1	<i>Lot Arrangement</i>	6
4.2.2	<i>Lot Dimensions</i>	6
4.2.3	<i>Lot Orientation</i>	7
4.2.4	<i>Soil Preservation, Grading, and Seeding</i>	7
4.2.5	<i>Debris and Waste</i>	8
4.2.6	<i>Waterbodies and Watercourses</i>	8
4.2.7	<i>Subdivision Improvement Agreement and Security to Include Lot Improvement</i>	8
4.3	Streets	8
4.3.1	<i>Level of Service</i>	8
4.3.2	<i>Classification</i>	8
4.3.3	<i>Topography and Arrangement</i>	8
4.3.4	<i>Street Regulatory Signs</i>	9
4.3.5	<i>Street Lights</i>	9
4.3.6	<i>Reserve Strips</i>	9
4.3.7	<i>Construction of Streets</i>	9
4.3.8	<i>Design Standards</i>	10
4.3.9	<i>Width</i>	11
4.3.10	<i>Grades</i>	11
4.3.11	<i>Cul-de-sac</i>	13
4.3.12	<i>Widening and Realignment of Existing Roads</i>	13
4.4	Drainage	13
4.4.1	<i>General Requirements</i>	13
4.4.2	<i>Drainage Design Methodology</i>	14

4.4.3	<i>Dedication of Drainage Easements</i>	15
4.5	Sewage System	16
4.5.1	<i>Municipal Sewer Extensions</i>	16
4.5.2	<i>Subsurface Absorption Systems</i>	17
4.6	Water Systems	18
4.6.1	<i>General Requirements</i>	18
4.6.2	<i>Municipal Water</i>	18
4.6.3	<i>Individual Wells</i>	18
4.6.4	<i>Water Holding Tanks</i>	18
4.6.5	<i>Dry Hydrant Requirements</i>	19
4.7	Utilities	20
4.8	Curbing	21
4.9	Sidewalks	21
4.10	Grass Strips	22
4.11	Side Slopes	23
4.12	Street Name Signs	23
4.13	Bicycle Paths	23
4.14	Preservation of Natural Features and Amenities	24
4.14.1	<i>General</i>	24
4.14.2	<i>Landscaping by Developer</i>	24

ARTICLE 5

SECTION 5.0 CONSTRUCTION REQUIREMENTS 3

5.1	General Requirements	3
5.2	Streets	4
5.2.1	<i>General</i>	4
5.2.2	<i>Clearing and Grubbing</i>	4
5.2.3	<i>Excavation</i>	5
5.2.4	<i>Embankment</i>	5

5.2.5	<i>Grading</i>	5
5.2.6	<i>Subbase</i>	5
5.2.7	<i>Pavement</i>	6
5.2.8	<i>Pavement Material</i>	6
5.3	Side Slopes and Shoulders	7
5.3.1	<i>Side Slopes</i>	7
5.3.2	<i>Areas Disturbed by Construction</i>	8
5.4	Erosion Control Plan	8
5.4.1	<i>General</i>	8
5.5	Utilities	9
5.5.1	<i>Material and Installation Methods</i>	9
5.5.2	<i>Sewerage</i>	9
5.5.3	<i>Gas</i>	9
5.5.4	<i>Electric</i>	10
5.5.5	<i>Other Utilities</i>	10
5.6	Drainage (Section 400) Surface and Subsurface Water	10
5.6.1	<i>General</i>	10
5.6.2	<i>Basin, Manholes, and Inlets</i>	10
5.6.3	<i>Culverts, Storm-Drains, and Sewer Pipes</i>	10
5.6.4	<i>Sub-Drains</i>	10
5.7	Sidewalks	10
5.7.1	<i>Requirements for Sidewalks</i>	10
5.7.2	<i>Width</i>	11
5.7.3	<i>Sidewalks Adjacent to Street</i>	11
5.7.4	<i>Reference to Standard Specifications</i>	11
5.8	Bikeways, Walkways, and Trails	11
5.9	Curbs	12
5.9.1	<i>Granite Curbing</i>	12
5.10	Highway Guards, Fences, and Walls	12
5.10.1	<i>General</i>	12
5.10.2	<i>Stonewall Appearance</i>	12
5.11	Stone Retaining Walls	13

5.12	Tree, Shrubs, and Ground Cover	13
5.13	Monuments	13
5.14	Street Signs	14
5.15	Street Lights	14
5.16	Fire Alarm System	14
5.17	Clean Up	15
5.18	Flood Hazard Avoidance	15
5.19	Maintenance of Improvements	15
5.20	Provision for Competent Supervision	16
5.21	Site Contamination	16
ARTICLE 6		
SECTION 6.0 ADMINISTRATION		2
6.1	Variation	2
6.2	Reference	2
6.3	Building Permit	2
6.4	Observations	3
6.5	Validity	4
6.6	Effective Date	4

APPENDIX

Schedule A	
Environmental Assessment	1-3
Form A	
Application for Approval of a Plan believed not to require approval	A.1
Form A-1	
Determination that Subdivision approval is not required	A.1.1
Form A-2	
Determination that Subdivision approval is required	A.2.1
Form B	
Application for approval of a Preliminary Plan	B.1
Form B-1	
Certificate of Approval of a Preliminary Plan	B.1.1
Form B-2	
Certificate of Disapproval of a Preliminary Plan	B.2.1
Form C	
Application for Approval of a Definitive Plan	C.1
Form C	
Application for Approval of a Definitive Plan	C.2
Form C-1	
Certificate of Approval of a Definitive Plan	C.1.1
Form C-2	
Certificate of Disapproval of a Definitive Plan	C.2.1
Form D	
Land Surveyor's Certificate	D.1
Form D-1	
Professional Engineer's Certificate	D.1.1

Form E	
Certified List of Abutters	E.1
Form F	
Covenant	F.1-F.2
Form G	
Release Form	G.1-G.2
Form G - 1	
Performance Bond - Secured by Deposit	G.1.1-G.1.2
Form G - 2	
Agreement	G.2.1-G.2.2
Form H	
Conveyance of Easements and Utilities	H.1-H.2
Figure 1 - Cul-De-Sac	Figure 1
Form 1 Conceptual Plan Application Form	
Application Fee Schedule	
Review Fee Schedule	

SECTION 1.0 TITLE, POLICY, PURPOSE, AUTHORITY	2
1.1 Title.....	2
1.2 Policy	2
1.3 Purposes.....	3
1.4 Authority	4
1.5 Enactment.....	5
1.6 Interpretation, Conflict, and Separability	5
1.6.1 <i>Interpretation and Application</i>	5
1.6.2 <i>Public Provisions</i>	5
1.6.3 <i>Private Provisions</i>	5
1.6.4 <i>Invalidation</i>	5
1.7 Reservations and Repeals.....	6
1.8 Amendments	6
1.9 Public Purpose.....	6
1.10 Waiver of Conditions	6
1.10.1 <i>General</i>.....	6
1.10.2 <i>Conditions</i>	7
1.10.3 <i>Procedures</i>	7

ARTICLE

1

SECTION 1.0 TITLE, POLICY, PURPOSE, AUTHORITY

1.1 Title

- 1.1.1 These regulations shall officially be known, cited, and referred to as the Subdivision Regulations of the Town of Merrimac.

1.2 Policy

- 1.2.1 It is declared to be the policy of the Town of Merrimac to consider the subdivision of land and the subsequent development of the subdivided parcel as subject to the control of the Town of Merrimac pursuant to the official master plan of the Town of Merrimac for the orderly, planned, efficient, and economical development of the Town of Merrimac.
- 1.2.2 Land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood, or other menace, and land shall not be subdivided until adequate public facilities and improvements exist and proper provision has been made for drainage, water, sewerage, and capital improvements such as schools, parks, recreational facilities, transportation facilities, and improvements, if deemed necessary by the Planning Board.
- 1.2.3 The existing and proposed public improvements shall conform to and be properly related to the proposals shown in the Master Plan, Official Map, and the Capital Budget Program of the Town of Merrimac, and it is intended that these regulations shall supplement and facilitate the enforcement of the provisions and standards contained in building and housing codes, zoning ordinances, the Master Plan, Official Map and Land Use Plan, and the Capital Budget Program of the Town of Merrimac.

1.3 Purposes. These regulations are adopted for the following purposes:

- 1.3.1 To protect and provide for the public health, safety, and general welfare of the Town of Merrimac.
- 1.3.2 To guide the future growth and development of the Town of Merrimac in accordance with the Master Plan.
- 1.3.3 To provide for adequate light, air, and privacy; to secure safety from fire, flood, and other danger; and to prevent overcrowding of the land and undue congestion of population.
- 1.3.4 To protect the character and the social and economic stability of all parts of the Town of Merrimac and to encourage the orderly and beneficial development of the community through appropriate growth management techniques assuring the timing and sequencing of development; promotion of infill development in existing neighborhoods and nonresidential areas with adequate public facilities; to assure proper rural form and open space; to protect environmentally critical areas including wildlife, wildlife habitat, and areas premature for development.
- 1.3.5 To protect and conserve the value of land throughout the Town of Merrimac and the value of buildings and improvements upon the land, and to minimize the conflicts among the uses of land and buildings.
- 1.3.6 To guide public and private policy and action in order to provide adequate and efficient transportation, water, drainage, sewerage, parks, playgrounds, recreation, and other public requirements and facilities.
- 1.3.7 To provide the most beneficial relationship between the uses of land and buildings and the circulation of traffic throughout the Town of Merrimac, having particular regard to the avoidance of congestion in the streets and highways and the pedestrian traffic movements appropriate to the various uses of land and buildings, and to provide for the proper location and width of streets and building lines.
- 1.3.8 To establish reasonable standards of design and procedures for subdivisions and resubdivisions in order to further the orderly layout and use of land, and to ensure proper legal descriptions and monumenting of subdivided land.
- 1.3.9 To ensure that public facilities and services are available , concurrent with development, and will have a sufficient capacity to serve the proposed subdivision and that the Town of Merrimac will be required to bear no cost of providing the facilities and services through requiring the developer to pay fees, furnish land, or establish mitigation measures to ensure that the development provides its fair share of capital facilities needs generated by the development.

- 1.3.10 To prevent the pollution of air, streams, and ponds; to assure the adequacy of drainage facilities; to safeguard the water table, and to encourage the wise use and management of natural resources throughout the Town of Merrimac in order to preserve the integrity, stability, and beauty of the community and the value of the land and wildlife.
- 1.3.11 To preserve the natural beauty and topography of the Town of Merrimac and to ensure appropriate development with regard to these natural features.
- 1.3.12 To provide for open spaces through the most efficient design and layout of the land, including providing for minimum width and area of lots, while preserving the density of development as established in the zoning ordinance of the Town of Merrimac.
- 1.3.13 These Subdivision regulations¹ are adopted under the provisions of Chapter 41 of the General Law for the purpose of protecting the safety, convenience, and welfare of the inhabitants of the Town of Merrimac 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 ensuring sanitary conditions in subdivisions and in proper cases parks and open areas. The powers of the Planning Board under the Subdivision Control Law 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 of 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 Zoning Bylaws; for securing adequate provision for water, sewerage, drainage, underground utility services, fire, police and other similar town equipment, and other requirements where necessary in a subdivision; and for coordinating the ways in a subdivision with each other and with the public ways in the Town and with the ways in neighboring subdivisions."

1.4 Authority

- 1.4.1 The Planning Board of the Town of Merrimac under the provisions of Section 81-Q of Chapter 41 of the Massachusetts General Laws is vested with the authority to review, approve, conditionally approve, and disapprove applications for the subdivision of land including, preliminary and final plans. The Planning Board may grant waivers from these regulations pursuant to the provisions of Section 1.10.

¹ Adopted under the Subdivision Control Law, Section 81K to 81GG inclusive, Chapter 41, M.G.L.

1.5 Enactment

- 1.5.1 In order that land may be subdivided in accordance with these purposes and policies, these subdivision regulations are hereby adopted and made effective as of July 07, 2003 (the effective date of these regulations). All applications for subdivision approval, including final plans, pending on the effective date of these regulations shall be reviewed under these regulations except that these regulations will not apply if a preliminary plan was filed with the Planning Board within a seven month period prior to the effective date of these regulations, refer to Mass General Laws Chapter 41 Section 81 S.

1.6 Interpretation, Conflict, and Separability

- 1.6.1. *Interpretation and Application.* In their interpretation and application, the provisions of these regulations shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. These regulations shall be construed broadly to promote the purposes for which they are adopted.
- 1.6.2 *Public Provisions.* These regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law except as provided in these regulations. Where any provision of these regulations imposes restrictions different from those imposed by any other provision of these regulations or any other ordinance, rule or regulation, or other provision of law, the provision which is more restrictive or imposes higher standards shall control.
- 1.6.3 *Private Provisions.* These regulations are not intended to abrogate any easement, covenant or any other private agreement or restriction, provided that where the provisions of these regulations are more restrictive or impose higher standards or regulations than such easement, covenant, or other private agreement or restriction, the requirements of these regulations shall govern. Where the provisions of the easement, covenant, or private agreement or restriction impose duties and obligations more restrictive or standards that are higher than the requirements of these regulations, or the determinations of the Planning Board or the Governing Body in approving a subdivision or in enforcing these regulations, and the private provisions are not inconsistent with these regulations or the determinations made under these regulations, then the private provisions shall be operative and supplemental to these regulations and the determinations made under the regulations.
- 1.6.4 *Invalidation.* If any part or provision of these regulations or the application of these regulations to any person or circumstances is adjudged invalid by any court of competent jurisdiction, the judgment shall be confined in its operation to the part, provision, or application directly involved in the controversy in which the judgment shall be rendered and it shall not affect or impair the validity of the remainder of these regulations or the application of them to

other persons or circumstances. The Planning Board hereby declares that it would have enacted the remainder of these regulations even without any such part, provision, or applicant which is judged to be invalid.

1.7 Reservations and Repeals

- 1.7.1 Upon the adoption of these regulations according to law, the Subdivision Regulations of the Town of Merrimac adopted April 27, 1998, as amended, are hereby repealed, except as to those sections expressly retained in these regulations.

1.8 Amendments

- 1.8.1 For the purpose of protecting the public health, safety, and general welfare, the Planning Board may from time to time propose amendments to these regulations which shall then be approved or disapproved by the Planning Board at a public hearing, following public notice.

1.9 Public Purpose

- 1.9.1 Regulation of the subdivision of land and the attachment of reasonable conditions to land subdivision is an exercise of valid police power delegated by the Commonwealth of Massachusetts. The developer has the duty of compliance with reasonable conditions established by the Planning Board for design, dedication, improvement, and restrictive use of the land to conform to the physical and economic development of the municipality and to the health, safety, and general welfare of the future lot owners in the subdivision and of the community at large.

1.10 Waiver of Conditions

- 1.10.1. **General.** Where the Planning Board finds that extraordinary hardships or practical difficulties may result from strict compliance with these regulations and/or the purposes of these regulations may be served to a greater extent by an alternative proposal, it may approve waiver of conditions to these subdivision regulations so that substantial justice may be done and the public interest secured; provided that the waiver conditions shall not have the effect of nullifying the intent and purpose of these regulations; and further provided the Planning Board shall not approve waiver of conditions unless it shall make findings based upon the evidence presented to it in each specific case that:

- 1.10.1.1 The granting of the waiver of conditions will not be detrimental to the public safety, health, or welfare or injurious to other property;

- 1.10.1.2 The conditions upon which the request is based are unique to the property for which the relief is sought and are not applicable generally to other property;
- 1.10.1.3 Because of the particular physical surroundings, shape, or topographical conditions of the specific property involved, a particular hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations is carried out.
- 1.10.1.4 The relief sought will not in any manner vary the provisions of the Zoning Bylaw, Master Plan, or Official Map, except that those documents may be amended in the manner prescribed by law.
- 1.10.2 **Conditions.** In approving waiver of conditions, the Planning Board may require such conditions as will, in its judgment, secure substantially the purposes described in Section 1.3.
- 1.10.3 **Procedures.** A petition for a waiver of conditions shall be submitted in writing by the subdivider at the time when the preliminary plan is filed for the consideration of the Planning Board. The petition shall state fully the grounds for the application and all of the facts relied upon by the petitioner. If a preliminary plan is not filed the petition shall be filed with the definitive plan.

END - OF- ARTICLE

SECTION 2.0 DEFINITIONS	2
2.1 Usage.....	2
2.2 Words and Terms Defined	2

ARTICLE

2

SECTION 2.0 DEFINITIONS

2.1 Usage

- 2.1.1 For the purpose of these regulations, certain numbers, abbreviations, terms, and words shall be used, interpreted, and defined as set forth in this Article.
- 2.1.2 Unless the context clearly indicates to the contrary, words used in the present tense include the future tense and words used in the plural include the singular.

2.2 Words and Terms Defined

- AASHTO.* American Association of State Highway and Transportation Officials
- Abutter.* Property owner of any property having a common boundary line with the Applicant's property, or any owner of any property located adjacent to the Applicant's property on a public way or private way, or stream, or any property owner located within a distance of three hundred feet (300') of the property.
- ADT.* Average Daily Traffic -- the calculation of average daily traffic volumes in a time period greater than one day and less than one year.
- Adequate Public Facilities.* Facilities determined to be capable of supporting and servicing the physical area and designated intensity of the proposed subdivision, as determined by the Planning Board, based upon specific levels of service.
- Applicant.* The owner of the land proposed to be subdivided or its representative who shall have express written authority to act on behalf of the owner. Consent shall be required from the legal owner of the premises.

<i>Area-related Facility.</i>	A capital improvement which is designated in the capital improvements program as serving new development and which is not a site-related facility. Area-related facility may include land dedication or construction of an oversized capital improvement, whether located offsite, or within or on the perimeter of the development site.
<i>Bench Mark.</i>	A mark made in a durable object of known position and elevation as a reference point.
<i>Best Management Practice (BMP).</i>	State-of-the-art technology as applied to a specific problem. BMPs are often required as part of land development projects. The BMP presents physical, institutional, or strategic approaches to environmental problems, particularly with respect to nonpoint source pollution control.
<i>Bike Path.</i>	A way designed to be used principally or exclusively by a bicycle or similar unpowered vehicle.
<i>Board.</i>	The Planning Board of the Town of Merrimac
<i>Bond.</i>	Any form of a surety bond in an amount and form satisfactory to the Planning Board. All bonds shall be approved by the Planning Board whenever a bond is required by these regulations.
<i>Building.</i>	Any structure built for the support, shelter, or enclosure of persons, animals, chattels, or movable property of any kind.
<i>Building and Zoning Inspector.</i>	The person designated by the Town of Merrimac to enforce the Zoning Bylaws.
<i>Capital Improvement.</i>	A public facility with a life expectancy of three or more years, to be owned and operated by or on behalf of the local government.
<i>Capital Improvements Program.</i>	A plan setting forth, by category of public facilities, those capital improvements and that portion of their costs which are attributable to serving new development within designated service areas for such public facilities over a period of specified years (10-20). Capital improvements program may refer either to the plan for a particular service area or to the aggregation of capital improvements and the associated costs programmed for all service areas for a particular category of public facilities.

<i>Central Sewerage System.</i>	A community sewer system including collection and treatment facilities established by the developer to serve a new subdivision in an outlining area.
<i>Certify.</i>	Whenever these regulations require that an agency or official certify the existence of some fact or circumstance, the Town of Merrimac administrative rule may require that such certification be made in any manner, oral or written, which provides reasonable assurance of the accuracy of the certification.
<i>Common Ownership.</i>	Ownership by the same person, corporation, firm, entity, partnership, or unincorporated association, or ownership by different corporations, firms, partnerships, entities, or unincorporated associations, in which a stockholder, partner, or associate, or a member of his family owns an interest in each corporation, firm partnership, entity, or unincorporated association.
<i>Concurrency.</i>	Requirement that development applications demonstrate that adequate public facilities be available at prescribed levels of service concurrent with the impact or occupancy of development units.
<i>Cul-de-Sac.</i>	A local street with only one outlet that terminates in a vehicular turn around having an appropriate terminal for the safe and convenient reversal of traffic movement. [See Figure 1 Appendix]
<i>Developer.</i>	The owner of land proposed to be subdivided or its representative who is responsible for any undertaking that requires review and/or approval under these regulations. See <i>subdivider</i> .
<i>Easement.</i>	Authorization by a property owner for another to use the owner's property for a specified purpose.
<i>External Buffer.</i>	A naturally vegetated area or vegetated area along the exterior boundaries of an entire development processed in accordance with a multiphase or phased subdivision application which is landscaped and maintained as open space in order to eliminate or minimize conflicts between such development and adjacent land uses.
<i>Grade.</i>	The slope of a road, street, or other public way specified in percentage terms.
<i>Health Board and Health Officer.</i>	The agency and person designated to administer the health regulations of the Town of Merrimac.

<i>Health, Safety, or General Welfare.</i>	The purpose for which municipalities may adopt and enforce land use regulations for the prevention of harm or promotion of public benefit to the community.
<i>Individual Sewage Disposal System.</i>	A septic tank, subsurface absorption system, or any other approved sewage treatment device.
<i>Landscaping.</i>	Acting with the purpose of meeting specific criteria regarding uses of outside space, including ground cover, buffers and shade trees.
<i>Lot.</i>	A tract, plot, or portion of a subdivision or other parcel of land intended as a unit for the purpose, whether immediate or future, of transfer of ownership, or possession, or for building development.
<i>Lot, Corner.</i>	A lot situated at the intersection of two (2) streets, the interior angle of such intersection not exceeding one hundred five (105) degrees.
<i>Master Plan.</i>	A comprehensive plan for development of the Town of Merrimac prepared and adopted by the Planning Board and the Town of Merrimac pursuant to state law, and including any part of such plan separately adopted and any amendment to such plan or parts thereof.
<i>Nonresidential Subdivision.</i>	A subdivision whose intended use is other than residential, such as commercial or industrial.
<i>Notice of Noncompliance.</i>	A notice issued by the Planning Board informing the applicant for approval of a subdivision that the submittal is not in compliance with these regulations and that the applicant may not apply for plan approval until the submittal is in compliance.
<i>Notice to Proceed.</i>	A notice issued by the Planning Board informing the applicant for approval of a subdivision that the submittal is in compliance with these regulations and that the applicant may proceed to apply for Preliminary or Definitive Plan approval.
<i>Off-Site.</i>	Any premises not located within the area of the property to be subdivided, whether or not in the common ownership of the applicant for subdivision approval.
<i>Official Map.</i>	The map established by the Town of Merrimac pursuant to law showing the streets, highways, and parks, adopted, and established by law, and any amendments or additions thereto adopted by the

Town of Merrimac resulting from the approval of subdivision plans by the Planning Board and the subsequent filing of approved plans.

Owner.

The record owners of the fee or a vendee in possession, including any person, group of persons, firm or firms, corporation or corporations, or any other legal entity having legal title to or sufficient proprietary interest in the land sought to be subdivided.

Person.

Any individual or group of individuals, or any corporation, general or limited partnership, joint venture, unincorporated association, or governmental or quasi-governmental entity.

Plan, Conceptual.

A sketch preparatory to the preliminary plan to enable the subdivider to save time and expense in reaching general agreement with the Planning Board as to the form of the Plan and the objectives of these regulations.

Plan, Definitive.

The maps or drawings accompanying a subdivision plan showing the specific location and design of improvements to be installed in the subdivision in accordance with the requirements of the Planning Board as a condition of the approval of the plan. The map(s) of a subdivision to be recorded after approval by the Planning Board and any accompanying material as described in these regulations.

Plan, Preliminary.

The preliminary drawing or drawings, described in these regulations, indicating the proposed manner or layout of the subdivision to be submitted to the Planning board for approval, to facilitate proper preparation of a definitive plan.

Property Owners Association.

An association or organization, whether or not incorporated, which operates under and pursuant to recorded covenants or deed restrictions, through which each owner of a portion of a subdivision-be it a lot, parcel ,site, unit, plot, condominium, or any other interest-is automatically a member as a condition of ownership and each such member is subject to a charge or assessment for a pro-rated share of expense of the association which may become a lien against the lot, parcel, unit, condominium, or other interest of the member.

Right-of-Way.

A strip of land occupied or intended to be occupied by a street, crosswalk, road, electric transmission line, gas pipeline, water main, sanitary or storm sewer main, shade trees, or for any other special use. The usage of the term "right-of-way" for land planning purposes shall mean that every right -of-way hereafter established and shown on a final plan is to be separate and distinct from the lots or parcels adjoining such right-of-way and not

included within the dimensions or areas of such lots or parcels. Rights-of-way intended for streets, crosswalks, water mains, sanitary sewers, storm drains, shade trees, or any other use involving maintenance by a public agency shall be dedicated to public use by the maker of the plan on which such right-of-way is established.

Road, Dead-End.

A road or a portion of a road with only one (1) vehicular-traffic outlet that does not terminate in a vehicular turnaround. ***Dead-end roads shall not be permitted.***

Road Right-of-Way Width.

The distance between property lines measured at right angles to the center line of the street.

Screening.

Either (a) a strip at least ten (10) feet wide of densely planted (or having equivalent natural growth) shrubs or trees at least four (4) feet high at the time of planting, of a type that will form a year-round dense screen at least six (6) feet high or (b) an opaque wall or barrier or uniformly painted fence at least six (6) feet high.

Security.

The covenant, bond, tripartite agreement, or cash escrow provided by the applicant to secure its promises in the subdivision improvement agreement.

Shade Tree.

A tree in a public place, street, special easement, or right-of-way adjoining a street as provided in these regulations.

Standard Specifications.

"The Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges," 1988 edition as amended.

Street, Major.

A street which satisfies one or more of the following criteria: (a) serves as direct access for 50 or more house lots; (b) has an average weekday ADT of 400 vehicles per day (vpd) or more.

Street, Minor.

A street which, in the opinion of the Board, is being used, or will be used primarily, to provide access to abutting lots and has an average weekday ADT of 400 vpd or less

Subdivide.

The act or process of creating a subdivision.

Subdivider.

Any person who (1) having an interest in land, causes it, directly or indirectly, to be divided into a subdivision or who (2) directly or indirectly, sells, leases, or develops, or offers to sell, lease, or develop, or advertises to sell lease or develop, any interest, lot, parcel site, unit, or plot in a subdivision, or who (3) engages directly or through an agent in the business of selling, leasing,

developing, or offering for sale, lease, or development a subdivision or any interest, lot, parcel site, unit, or plot in a subdivision, and who (4) is directly or indirectly controlled by, or under direct or indirect common control with any of the foregoing.

Subdivision.

The division of a tract of land into two (2) or more lots and shall include resubdivision, and when appropriate to the context, shall relate to the process of subdivision of the land subdivided; provided, however, that the division of a tract of land into two (2) or more lots shall not be deemed to constitute a Subdivision within the meaning of the Subdivision Control Law, if at the time when it is made, every lot within the tract so divided has frontage on (a) a public way, or a way which the Town Clerk of the Town of Merrimac certifies is maintained and used as a public way, or (b) a way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law, or (c) a way in existence when the Subdivision Control Law became effective in the Town having in the opinion of the Board, sufficient width, suitable grade and adequate construction to provide for the needs of vehicular traffic in relation to the proposed use of the land abutting thereon or served thereby, and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon. Such frontage shall be of at least such distance as is then required by the Zoning Bylaws. Conveyances or other instruments adding to, taking away from, or changing the size and shape of lots in such a manner as to not leave any lot so affected without the frontage above set forth, or the division of a tract of land on which two (2) or more buildings were standing when the subdivision control law went into effect in the Town into separate lots on each of which one (1) of such building remains standing, shall not constitute a Subdivision (Section 81-L of Chapter 41 G.L.)

Subdivision Agent.

Any person who represents, or acts for or on behalf of, a subdivider or developer, in selling, leasing, or developing, or offering to sell, lease, or develop any interest, lot, parcel, unit, site, or plot in a subdivision, except an attorney-at-law whose representation of another person consists solely of rendering legal services.

Subdivision Control.

The power of regulating the Subdivision of land granted by the Subdivision Control Law, Chapter 41, Sections 81-K through GG inclusive.

***Subdivision
Improvement
Agreement.***

A contract entered into by the applicant and the Planning Board on behalf of the Town of Merrimac by which the applicant promises to complete the required public improvements within the

subdivision within a specified time period following final subdivision plan approval.

Town. Town of Merrimac, Massachusetts.

Walkway. A walkway designed for use by pedestrians, not necessarily parallel to a street.

Way. A way is synonymous with the terms road, street, or highway and shall denote any such line or route for passage whether public or private; and the width of the strip of land laid out, designated, acquired and/or dedicated for the use of such way. Such width includes the spaces for vehicular travel, sidewalks, curbing, and planting spaces where required.

END - OF - ARTICLE

SECTION 3.0 PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS	2
3.1 Plan Believed Not To Require Approval.....	2
3.1.1 <i>Submission of Plan</i>	2
3.1.2 <i>Contents</i>	3
3.1.3 <i>Endorsement of Plan Not Requiring Approval</i>	4
3.1.4 <i>Determination that Plan Requires Approval</i>	4
3.1.5 <i>Failure of Board to Act</i>	4
3.2 Conceptual Plan.....	4
3.2.1 <i>Pre-Application Conference.....</i>	4
3.2.2 <i>Contents</i>	4
3.2.3 <i>Approval of a Conceptual Plan</i>	5
3.3 Preliminary Plan.....	5
3.3.1 <i>Submission of a Preliminary Plan</i>	5
3.3.2 <i>Contents</i>	6
3.3.3 <i>Approval of a Preliminary Plan</i>	9
3.3.4 <i>Disapproval of a Preliminary Plan</i>	9
3.4 Definitive Plan.....	9
3.4.1 <i>Submission of a Definitive Plan.....</i>	9
3.4.2 <i>Contents</i>	10
3.4.3 <i>Staking</i>	15
3.4.4 <i>Site Specific Soil Testing</i>	16
3.4.5 <i>Procedure.....</i>	18
3.4.6 <i>Performance Guarantee</i>	21
3.4.7 <i>Approval or Disapproval</i>	22
3.4.8 <i>Recording.....</i>	24
3.4.9 <i>Conveyance of Utilities and Easements to the Town.....</i>	24
3.4.10 <i>Reduction or Release of Performance Guarantee.....</i>	24

ARTICLE

3

SECTION 3.0 PROCEDURE FOR THE SUBMISSION AND APPROVAL OF
PLANS

3.1 Plan Believed Not To Require Approval

3.1.1 *Submission of Plan.* 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 the plan does not require approval under the Subdivision Control Law (G.L. Chapter 41) may submit the plan and six (6) contact prints of the plan each folded to 8½" x 11" maximum, with title side out thereof, along with the original mylar or linen, and two (2) copies of a properly executed Form A **to the Board at a designated regularly scheduled meeting of the Board**, accompanied by the necessary evidence to show that the plan does not require approval. Said person shall file, by delivery or registered mail, a notice with the Town Clerk stating the date of submission to the Board for such determination accompanied by a copy of said application receipted by the Board and describing the land to which the Plan relates sufficiently for identification. If the notice is given by delivery, the Town Clerk shall, if requested, give a written receipt therefor.

3.1.1.1 Each submittal must be accompanied by a filing fee per lot created, in accordance with the most recent fee schedule. Make checks payable to the Town of Merrimac.

3.1.1.2 The classification and precision of surveys shall conform to the Standards Defined under 250 C.M.R., Section 6.00, latest edition.

3.1.1.3 In the event that the requirements of Section 3.1.2 below are not fully complied with by the Applicant, the submittal shall be considered incomplete and returned for a future submittal.

3.1.1.4 The applicant shall file the original mylar in the Registry of Deeds and deliver to the Planning Board six (6) certified copies of the plan bearing the registry filing and certification as filed in the registry.

- 3.1.2 *Contents.* Said plan shall be legibly drawn in accordance with the rules and regulations of the Registry of Deeds Chapter 36 Section 13A, latest amendment, pertaining to plan size, material, lettering, and related requirements and shall contain all required seals and signatures required by the Registry of Deeds prior to the recording of said plan. The plan shall bear the seal and signature of the Professional Land Surveyor immediately responsible per G.L. Chapter 112, Section 81D-81T. The plan scale shall preferably be forty feet (40') to the inch or such other scale as the Board may accept and the plan documentation shall contain the following:
- 3.1.2.1 Identification of the plan by name of Owner of record and location of the land in question including the assessors' tax map number and lot number, the scale, north arrow, and date.
 - 3.1.2.2 A locus map at a scale of one thousand feet (1000') to the inch. Locus must show all existing town roads located within two thousand feet (2000') feet of the site, both within Merrimac and within adjacent towns with town boundaries shown.
 - 3.1.2.3 The statement, "Approval Under Subdivision Control Law Not Required" and sufficient space for the date and the signatures of all members of the Board.
 - 3.1.2.4 Zoning Classification and location of any zoning district boundaries that may lie within the locus of the plan.
 - 3.1.2.5 In the case of the creation of a new lot, all the remaining abutting land area and frontage of the land in the ownership of the Applicant shall be shown.
 - 3.1.2.6 Notice of any decisions by the Zoning Board of Appeals including but not limited to variances and exceptions regarding the land or any buildings thereon.
 - 3.1.2.7 Names of abutters from the most recent local tax list unless the Applicant has knowledge of any changes subsequent to the latest available Assessor's records.
 - 3.1.2.8 Names and status (private or public) of streets and ways shown on the plan.
 - 3.1.2.9 Bearings and distances of all lines of the lot or lots shown on the plan and the bearings and distances to the nearest permanent monument. Frontage of each individual lot and total frontage shall be shown.
 - 3.1.2.10 Indicate the minimum requirements of zoning for frontage, lot area, lot width and yard setbacks.

- 3.1.2.11 All parcels of land must show total acreage, and limits of wetland resource areas on site.
- 3.1.2.12 Accurate location of all existing structures including all wells, septic systems, surface and subsurface drainage, stump pits, and building setback, side yard, and rear yard distances.
- 3.1.2.13 Location of all bounds, brooks, fences, trails, walls, easements, and/or encumbrances. All predominant natural features (i.e. bodies of water, etc.) must be shown with appropriate areas if applicable.
- 3.1.3 ***Endorsement of Plan Not Requiring Approval.*** If the Board determines that the plan does not require approval, it shall without a public hearing and within twenty-one (21) days of the submission endorse the plan. The Board may add appropriate comments on areas of the plan to draw the attention of the Building Inspector, i.e. identifying lots not complying with the minimum Bylaw requirement.
- 3.1.4 ***Determination that Plan Requires Approval.*** If the Board determines that the plan does require approval under the Subdivision Control Law, it shall, within twenty-one (21) days of the submission of the plan, so inform the Applicant in writing and return the plan. The Board shall also notify the Town Clerk in writing of its action.
- 3.1.5 ***Failure of Board to Act.*** If the Board fails to act upon a plan submitted under this section or fails to notify the Town Clerk and the person submitting the plan of its action within twenty-one (21) days after its submission, unless an extension has been requested by the Applicant and approved by the Board, it shall be deemed to have determined that approval under the Subdivision Control Law is not required, and it shall forthwith make such endorsement on said plan, and on its failure to do so forthwith, the Town Clerk shall issue a certificate to the same effect.

3.2 Conceptual Plan

- 3.2.1 ***Pre-Application Conference.*** Prior to submission of an application it is strongly recommended that the applicant confer with the Planning Board to determine the procedure for approval of a subdivision and the requirements to general layout of streets, reservations of open space, street improvements, drainage, sewerage, water supply, fire protection and similar matters, as well as the availability of existing services.
- 3.2.2 ***Contents.*** The conceptual plan shall be drawn at a scale of one hundred feet (100') to the inch or such other scale as the Board may accept. The plan shall be designated as a "conceptual plan" and shall contain the following:
 - 3.2.2.1 The approximate boundaries of the total property, approximate location of roadways, lots (including frontage and area).

- 3.2.2.2 The approximate topography of the land with a five foot (5) contour interval.
- 3.2.2.3 The conceptual layout of drains, sewers, utilities, etc. including stormwater mitigation areas.
- 3.2.2.4 Submit two copies of the Conceptual Plan Application and seven (7) copies of the Conceptual Plan.

3.2.3 *Approval of a Conceptual Plan.* The Board will hold an informal meeting with the applicant, *at its' next available scheduled meeting*, to discuss the conceptual plan. The Board may give such conceptual plan disapproval or approval with or without modification and suggestions, after the Boards review. Such approval does not constitute approval of the subdivision, in any way, but facilitates the preparation of the preliminary and/or definitive plan. The conceptual plan is merely an effort of the Planning Board to inform the applicant early in the process and is intended only to present its requirements for subdivision of property to the applicant.

3.3 Preliminary Plan

3.3.1 *Submission of a Preliminary Plan.* Any person who submits a Preliminary Plan of a subdivision to the Planning Board for approval shall file with the Planning Board all items required in subsections 3.3.1 and 3.3.2 of this Section and the applicable filing fee and review fee in accordance with the latest fee schedule for a Preliminary Plan to be duly submitted in accordance with these Rules and Regulations and the General Laws of Massachusetts. *Such submission shall be made to the Planning Board at a designated regularly scheduled meeting of the Planning Board.* The filing fee and consultant review fee (separate check) shall be made payable to the Town of Merrimac.

3.3.1.1 Twelve (12) contact prints of the Preliminary Plan, dark line on white background, shall be filed with the Planning Board.

3.3.1.2 Three (3) copies of a properly executed Form B (Application for Approval of a Preliminary Plan); Form D-1 (Professional Engineer's Certificate) and Form D (Land Surveyor's Certificate); and Form E (Certified List of Abutters) shall be filed with the Planning Board. The Applicant shall be responsible for obtaining a Certified List of Abutters from the Town Assessors Office and for notification of all certified abutters regarding the proposed Preliminary Plan, as may be required. Proof of Notification shall be provided to the Planning Board on or before the date of the Public Hearing.

3.3.1.3 The Developer shall also file by delivery or registered mail a notice with the Town Clerk stating the date of submission to the Planning Board, for such approval, accompanied by two (2)

copies of the completed Form B (Application for Approval of a Preliminary Plan) receipted by the Planning Board.

3.3.1.4 The Developer shall also file a letter with the Planning Board, at the time of submission, granting permission to the Planning Board and its agents to enter the property for necessary on site walks and visits.

3.3.1.5 The Preliminary Plan shall be prepared by a professional engineer and a professional land surveyor registered in Massachusetts. Pages shall be clearly and legibly drawn. In addition, it shall contain the following:

3.3.1.5.1 The plan shall be at a scale of one inch (1") equals forty feet (40') or such other scale as the Planning Board may accept to show details clearly and adequately.

3.3.1.5.2 Sheet sizes shall be twenty-four by thirty-six inches (24x36") including a three-quarter inch (3/4") border.

3.3.2 **Contents.** The Preliminary Plan shall be drawn on mylar at a scale of forty feet (40') to the inch or such other scale as the Planning Board may accept. The plan shall be designated as a "Preliminary Plan" and to form a clear basis for discussion of the details of the Subdivision and for preparation of the Definitive Plan, the plan shall contain the following:

3.3.2.1 The Subdivision name, if any, boundaries, north arrow, date, scale, legend, title "Preliminary Plan," and an index of all pages and what information is to be found on each page of the plan.

3.3.2.2 Each page must contain a title running along the entire right hand edge of each sheet showing the name of the Subdivision, if any; the date; scale; the names, seals and signatures and addresses of the engineer and surveyor who made the plan; the page number and provisions for recording revision dates, including a written description of each revision.

3.3.2.3 The names and addresses of all abutters within three hundred feet (300') of the parcel boundaries, as determined from the most recent local tax list, unless the Developer shall have more recent knowledge of such abutters. The abutters list shall be certified by the Board of Assessors.

3.3.2.4 The locus of the land shown on the plan with sufficient information to accurately locate the plan (i.e., at least one intersection of at least two existing town roads, including assessors tax map numbers and lot numbers). The scale shall be one thousand feet (1000') to the inch. The locus must show all existing town roads located within two thousand (2000) feet of

the site, both within Merrimac and within adjacent towns, with town boundaries shown.

- 3.3.2.5 The existing and proposed lines of streets, ways, easements and any public or common areas within the Subdivision, in a general manner.
- 3.3.2.6 Major features of the land such as existing wells, septic systems, walls, fences, monuments, buildings, wood roads, paths, trails, wooded areas, outcroppings, ditches, wetland resource areas, swamps, water bodies, wildlife habitat areas, and natural waterways. Where applicable, aerial photographs may be required.
- 3.3.2.7 A plan of the type of systems for sewage disposal; water supply; and surface drainage, in a general manner, including adjacent existing natural waterways intended to receive stormwater. In addition, the description of best management practices (BMP'S) intended to be used for stormwater controls to meet the requirements of these regulations and the Massachusetts Stormwater Policy Act.
- 3.3.2.8 The approximate boundary lines of proposed lots, with lot numbers, approximate area dimensions, total frontage, one-hundred foot (100') diameter circle at the building site indicated, and the contiguous buildable area.
- 3.3.2.9 The names, approximate location, and widths of adjacent streets, and of streets approaching or within reasonable proximity of the Subdivision.
- 3.3.2.10 The topography of the land with a two foot (2') contour interval based on the North America Vertical Datum of 1983 (N.A.V.D), latest edition. Water bodies and their elevations shall be shown with the date of measurement, starting and reference benchmarks shall be shown along with set benchmarks.
- 3.3.2.11 Soil types and locations based on the Merrimac Report-of-United-States Department of Agriculture, Soil Conservation Service "Soils and Their Interpretations for Various Land Uses."
- 3.3.2.12 Letter designation of the proposed street in lieu of names, plus a list of proposed street names.
- 3.3.2.13 Existing profiles of the exterior grade at the edge of the shoulder and center line, assuming a pavement centered on the dedication, drawn in fine black line: dot dash for left, dot dot dash for right side, and dash for center line; and proposed profile on the finished center line drawn in fine black solid line at a horizontal

scale of one inch (1") equals forty feet (40') and vertical scale of one inch (1") equals four feet (4'), or such other scales acceptable to the Planning Board, together with a cross section of the proposed road section.

- 3.3.2.14 Area of contiguous land and water of the owner not presently being subdivided, with a conceptual plan showing a future street and lot layout for such contiguous land, if any.
- 3.3.2.15 The zoning classification of land shown on the plan and the location of any zoning district boundaries that may lie within the locus of the plan.
- 3.3.2.16 Easements and rights-of-way applicable to the area shown on the plan.
- 3.3.2.17 A document shall be filed containing information to provide a basis for general conclusions about the effect on the environment and on the community of the proposed plan compared to alternatives permitted under the Zoning Bylaw (See Schedule A.)
- 3.3.2.18 Notice of any decisions by the Zoning Board of Appeals including but not limited to variances and special permits regarding the land or any buildings thereon.
- 3.3.2.19 For subdivisions greater than ten (10) lots, a phasing plan shall be submitted identifying the limits, sequencing, and scheduling of roadway construction in conformance with these regulations.
- 3.3.2.20 For all subdivisions, the Developer shall be required to submit a technical memorandum prepared by a qualified traffic engineer to provide the following existing street information at proposed new street intersections:
 - 3.3.2.20.1 representative daily traffic and peak hour volumes
 - 3.3.2.20.2 available horizontal and vertical sight distance
 - 3.3.2.20.3 travel speed measurements and calculation of 85th percentile speed.
- 3.3.2.21 For all subdivisions over twenty-five (25) lots, or where otherwise deemed necessary by the Planning Board, the Developer 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

criteria of the American Association of State Highway and Transportation Officials. (AASHTO)

3.3.2.22 The Developer shall simultaneously apply for a Request for Determination from the Conservation Commission for concurrence of the location of wetland resource boundaries and identification of any wetland impacts resulting from the Subdivision and present this information as part of the Preliminary Plan process.

3.3.2.23 To facilitate review of the Preliminary Plan, by the appropriate authorities, at the time of filing of the Preliminary Plan, the applicant shall stake the center line and approximate limits of grading on both sides of all proposed streets on one hundred (100') foot centerline stations. Cut or fill dimensions to road centerline profile grade shall be marked on the centerline stakes.

3.3.3. *Approval of a Preliminary Plan.* The Planning Board may, at the Planning Board's option, hold an informal hearing of which abutters are given notice in order to solicit comment during the Preliminary Plan stage. The Planning Board may give such Preliminary Plan approval, with or without modification or suggestion, after the Planning Board's review, and at the Planning Board's option, review with the Board of Health, the Conservation Commission, the Public Works Director, the Police Department, Fire Department, and other Town agencies. Such approval does not constitute approval of the Subdivision, but facilitates the preparation of the Definitive Plan and securing approval thereof. Approval shall be effective for seven (7) months or until a Definitive Plan evolving from the Preliminary Plan is filed, whichever comes first.

3.3.4 *Disapproval of a Preliminary Plan.* In the event of disapproval of a Preliminary Plan, the Planning Board shall state the reasons for its disapproval in accordance with Section 81-U of Chapter 41, G.L.

3.4 Definitive Plan

3.4.1 *Submission of a Definitive Plan.* Any person who submits a Definitive Plan of a subdivision to the Planning Board for approval shall file with the Planning Board all items required in subsections 3.4.1 and 3.4.2 of this Section and the applicable filing fee and review fee in accordance with the latest fee schedule for a Definitive Plan to be duly submitted in accordance with these Rules and Regulations and the General Laws of Massachusetts. **Such submission shall be made to the Planning Board at a designated regularly scheduled meeting of the Planning Board.** The filing fee and consultant review fee (separate check) shall be made payable to the Town of Merrimac.

3.4.1.1 Twelve (12) contact prints of the Definitive Plan, dark line on white background, shall be filed with the Planning Board.

3.4.1.2 Three (3) copies of a properly executed Form C (Application for Approval of a Definitive Plan); Form D-1 (Professional Engineer's Certificate) and Form D (Land Surveyor's Certificate); and Form E (Certified List of Abutters) shall be filed with the Planning Board. The Applicant shall be responsible for obtaining a Certified List of Abutters from the Town Assessors Office and for notification of all certified abutters regarding the proposed Definitive Plan. Proof of Notification shall be provided to the Planning Board on or before the date of Public Hearing.

3.4.1.3 The Developer shall also file by delivery or registered mail a notice with the Town Clerk stating the date of submission to the Planning Board for such approval accompanied by two (2) copies of the completed Form C (Application for Approval of a Definitive Plan) receipted by the Planning Board.

3.4.1.4 The Owner shall also file a letter with the Planning Board, at the time of submission, granting permission to the Planning Board and its agents to enter the property for necessary on site walks and visits.

3.4.1.5 The Definitive Plan shall be prepared by a professional engineer and a professional land surveyor registered in Massachusetts. All pages shall be recordable and shall be clearly and legibly drawn in accordance with the rules and regulations of the Registry of Deeds, as amended, pertaining to plan size, material, lettering, and related requirements. In addition, it shall contain the following:

3.4.1.5.1 The classification and precision of surveys shall conform to the Standards Defined under 250 C.M.R., Section 6.00, last edition.

3.4.1.5.2 The plan shall be at a scale of one inch (1") equals forty feet (40') or such other scale as the Planning Board may accept to show details clearly and adequately.

3.4.1.5.3 Sheet sizes shall be twenty-four by thirty-six inches (24"x36") including a three-quarter inch (3/4") border.

3.4.2 **Contents** The Definitive Plan shall be drawn on mylar at scale of forty feet (40') to the inch or such other scale as the Planning Board may accept. The plan shall be designated as a "Definitive Plan" and to form a clear basis for discussion of the details of the subdivision the plan shall contain the following:

3.4.2.1 A Title Sheet containing the Subdivision name, north arrow, legend, title "Definitive Plan"; an index or key of all pages and what information is to be found on each page of the plan; a locus map at a scale of one inch (1") equals one thousand feet (1000'), showing all existing town roads located within two thousand (2000) feet of the site, both within Merrimac and within adjacent towns with town boundaries shown; and a location plan at a scale of one inch (1") to four hundred feet (400'). The location plan shall show the entire subdivision layout, adjacent streets, if any, or streets within a reasonable distance, sufficient to identify the location and access to the land.

3.4.2.2 A title, appearing along the entire right hand edge of each sheet showing the name of the Subdivision, if any, the date; scale; the names, seals, signatures, and addresses of the engineer and surveyor who made the plan; the name of the owner of record and the subdivider; the page number; provisions for recording revision dates, including a written description of each revision; and suitable space to record the action of the Planning Board and the signature of all members of the Planning Board, including the following:

• **Endorsement Statements Required on All Subdivision Plans!**

Approved _____, _____ subject to terms and conditions stated in a MEMORANDUM OF DECISION" dated _____, _____ between The Merrimac Planning Board, on behalf of the Town of Merrimac, and _____.

A copy of which decision is recorded herewith and subject also to recording of this plan and said decision in the South Essex Registry of Deeds on or before _____, _____.

"Approved _____, _____ Subject to terms and conditions of a covenant dated _____, _____.

_____, _____ Merrimac Planning Board

at the same location on all pages.

3.4.2.3 North arrow and the boundaries of the Subdivision indicated by shading. All boundaries of the lots and perimeter of the subdivided parcel shall be on the NAD 1983, latest revision coordinate system. All benchmarks set within the Subdivision shall be shown, and the reference (starting) benchmark shall be included. All benchmarks shall be on the North American Vertical Datum (N.A.V.D), 1983, latest edition.

- 3.4.2.4 Location and ownership of abutting property as it appears on Form E (Certified List of Abutters) unless the Developer shall have more recent knowledge of such abutters, so indicated, including all abutting land of the owner not presently being subdivided, and all other land within three hundred feet (300') of the boundaries of the land shown in the Subdivision.
- 3.4.2.5 Major features of the land, such as existing wetland resource areas, wildlife habitat areas, waterways, swamps and water bodies, natural drainage courses, walls, fences, trails, buildings, septic systems, wells, wooded areas, outcroppings, and ditches which exist on or near the site at the time of the survey. Where applicable, aerial photographs may be required.
- 3.4.2.6 Lines of existing and proposed streets, ways, lots, lot numbers of each lot, the location on the frontage of the driveway accessing each lot sufficient to accommodate assignment of house numbers, easements, and public areas within the Subdivision. Letter designation of proposed streets shall be shown in pencil in lieu of street names, a list of proposed street names together with a listing with the street letter designation shall be provided to the Planning Board for review and/or tentative approval.
- 3.4.2.7 Sufficient data to determine the location, direction and length of every street and way line, lot line and boundary line, and to establish these lines on the ground. This shall include the lengths and bearings of plan and boundary lines of all Subdivision lot lines including lot frontage on the streets, of the radii, tangents, and central angles of all curves in lot lines and street lines, All roadways shall have centerline baselines complete with bearings, distances, curve data, and stations shown on both lot layout and construction plans. Points of curvature and tangency shall also be shown. All angle points, or intersections of tangents along the street lines, shall be shown, areas of lots with lot numbers and the area, and total frontage on public ways as set forth in Chapter 41 M.G.L. of adjoining land of the owner not included in the Subdivision shall be shown. The professional land surveyor shall present all mathematical computations to the Planning Board for a matter of record. It is recommended that traverse computations be placed on a separate or subsequent sheets. The classification and precision of surveys shall conform to the standards defined under 250 CMR., Section 6.00, as amended.
- 3.4.2.8 Location of all permanent monuments properly identified as to whether existing or proposed.
- 3.4.2.9 Location, names, and present widths of streets or private ways bounding, approaching or within reasonable proximity of the

Subdivision, showing both pavement widths and right-of-way widths.

- 3.4.2.10 The zoning classification of land shown on the plan and the location of any zoning district boundaries that lie within the locus of the plan. All lots must show total acreage, a street number, anticipated location of driveway curb cuts, and boundary of wetland resource areas.
- 3.4.2.11 All lots shown shall comply with the applicable zoning district requirements for the proposed land utilization and any parcel which is not buildable under the current zoning bylaw shall state, "Not a buildable lot." Parcels which do not meet the requirements of a buildable lot under the zoning bylaw shall not be created where they could otherwise be combined with a buildable lot of the same Owner.
- 3.4.2.12 Indication of all existing and proposed easements and rights-of-way applying to the land and their purposes, whether or not within the Subdivision, and any decision on appeal or any variances or special permits made by the Board of Appeals applicable to the Subdivision of the land or any buildings thereon.
- 3.4.2.13 If the property that comprised the Subdivision or any part or boundary thereof has been examined, approved, and confirmed by the Massachusetts Land Court, such information shall be noted on the plan with case numbers and other pertinent references to Land Court Procedure, and the same requirement shall apply to any adjoining parcels of land of the owner.
- 3.4.2.14 Existing profiles of the exterior grade at the edge of the right-of-way and center line, assuming a pavement centered on the dedication, drawn in fine black line: dot dash for left, dot dot dash for right side, and dash for center line; and proposed profile on the finished center line drawn in fine black solid line at a horizontal scale of one inch equals forty feet (40') and vertical scale of one inch (1") equals four (4"), or such other scales acceptable to the Planning Board. At least two (2) benchmarks are to be shown on each profile sheet along with grade elevations at every fifty foot (50') station except in vertical curves which shall be at every twenty-five foot (25') station. Benchmarks shall be fifty feet (50') to one hundred feet (100') from the right of way, and shall be set approximately every five hundred feet (500'). The starting or reference benchmark shall also be shown. All existing and proposed intersections, sidewalks, bikeways, and walkways shall be shown with all proposed grade elevations calculated. Elevations shall be referred to the North American Vertical Datum (N.A.V.D.), 1983, latest edition.. Gradients shall be shown by figures expressed in percent (%).

- 3.4.2.15 Whenever possible, for the purpose of clarity, the utility plan should be on a separate page. Size and location of existing and proposed water supply mains and their appurtenances, hydrants or water supply sources for fire fighting purposes; sewer pipes and their appurtenances, and/or sewage disposal systems, including data on percolation test and soil test pits; storm drains and their appurtenances, and easements pertinent thereto; curbs and curb dimensions, and the method of carrying water to the nearest watercourse or easements for drainage as needed, whether or not within the Subdivision.
- 3.4.2.16 If surface water drains will discharge onto an adjacent existing street right-of-way or onto adjacent properties not owned by the Developer, the Developer shall clearly indicate what course the discharge will take, and shall present to the Planning Board, and to the owner of adjacent property, evidence from an Engineer that such discharge is satisfactory and permitted onto public or private ownership of an adjacent street or property.
- 3.4.2.17 Drainage calculations shall be submitted in a suitable form along with amplifying plans outlining drainage areas within and affecting the Subdivision. A comparison of pre and post development storm water runoff shall be contained in the calculations for peak rates of runoff. A plan shall also be submitted showing the route followed by all drainage discharging from the Subdivision to the primary receiving water course or other large body of water. Drainage design shall be based on the standards defined in these regulations and shall be in compliance with the Requirements of the Massachusetts Stormwater Policy Act.
- 3.4.2.18 Location and species of all proposed street trees and location of all existing trees with trunks over twelve inches (12") in diameter measured four feet (4') above the finished ground level within the subdivision.
- 3.4.2.19 Typical cross-sections of each street, roadway, drainage best management practice (BMP's), and sidewalk to be constructed.
- 3.4.2.20 An Environmental Impact Assessment shall be submitted in accordance with Schedule A. The document shall be filed with sufficient information to provide a basis for general conclusions about the effect on the environment and the community of the proposed plan, compared to any other alternatives permitted under the zoning bylaw. In addition, it shall include a statement in writing concerning the effect of the proposed project in relationship to the removal, fill or, dredge of any bank, flat marsh, meadow or swamp bordering on any inland water

(Wetlands Protection Act; Mass. G.L. Chapter 131, Section 40), and its effect on wildlife and wildlife habitat areas.

3.4.2.21 The location of all open spaces.

3.4.2.22 For all subdivisions, the Developer shall be required to submit a technical memorandum prepared by a qualified traffic engineer to provide the following existing street information at new street intersections:

a. representative daily traffic and peak hour volumes

b. available horizontal and vertical sight distance

c. travel speed measurements and calculation of 85th percentile speed.

In addition, for all subdivisions over twenty-five (25) lots, or where otherwise deemed necessary by the Planning Board, the Developer 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 criteria of the American Association of State Highway and Transportation Officials. (AASHTO)

3.4.2.23 The Developer shall simultaneously apply for a Request for Determination and/or Notice of Intent and receive a Determination and/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.

3.4.2.24 Stump, demolition waste, construction waste, building waste, burial pits are prohibited within a subdivision.

3.4.2.25 The full extent of cuts and fills necessary to construct the roadway, its shoulders and ditches, and drainage structures, shall be shown on the plan as dashed lines.

3.4.2.26 A list of requested waivers from the requirements of the rules and regulations, if any, shall be submitted with explanation, by the Developer, with the Definitive Plan, for the Planning Board review and consideration. (*Refer to Section 1.10*)

3.4.3 **Staking.** To facilitate review of the Definitive Plan by the appropriate authorities, at the time of filing of the Definitive Plan, the Developer shall stake the center line 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').

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

3.4.4 ***Site Specific Soil Testing.*** The Developer shall provide soils and seasonal groundwater elevation information from test pits or borings for all lots and roadways. The Developer shall establish the suitability of the soil including seasonal estimated groundwater elevations for the proposed storm drainage system and proposed street construction.

3.4.4.1 The Developer shall provide soils information from test pits and/or borings at proposed fire protection water tank locations and determine soil strength and ground water depth. The Developer shall prepare calculations and details to show the proposed tank will be adequately supported and protected from settling when full and from floating when empty.

3.4.4.2 Depending on conditions, the Planning Board or its agent may require test pits, borings or soundings to be taken along the center line of each street shown on the plan at intervals of at least every two-hundred feet (200') and at other locations and areas of questionable foundation material where the subsurface conditions may, in the opinion of the Planning Board or its Agent, affect the quality and service life of the street or the stability of the graded shoulder. Test pits must be observed by the Planning Board or its Agent and a Registered Professional Engineer. Where borings are used, samples shall be taken at five foot (5') vertical depth intervals and at each change in strata. Soundings shall be taken in areas of unsuitable material for the purpose of determining the hard bottom contours. Test pits and borings, where required, shall extend to a minimum depth of five feet (5') below the street profile grade or to bedrock, whichever is less. The Developer shall indicate the layout of the subsurface exploration program on the plan complete with location, spacing, and type of exploration proposed.

3.4.4.3 Street soil surveys and permeability tests, when required by the Planning Board or its Agent, shall include a test excavation not less than seven feet (7') below finished grade at a minimum frequency of one (1) per lot, location of which must be shown on the contour plan, and a report thereon. Permeability tests shall be conducted in the same manner as percolation tests outlined in Title 5 of the Commonwealth of Massachusetts State Environmental Code.

3.4.4.4 All information concerning the test pits, borings or soundings (location by station number, depth, soil strata, depth of water

table) shall be submitted to the Board in a written report to be made, evaluated, stamped and signed by a Registered Professional Engineer.

3.4.4.5 If municipal sewer is not available every proposed lot in a Subdivision shall be tested in accordance with the provisions of Title 5- Massachusetts State Environmental Code, and the local Board of Health regulations, in the presence of a representative of the Board of Health, prior to the time of filing of a Definitive Plan. The Applicant shall indicate on the Definitive Plan, the location of test holes, soil logs, ground water elevations, the results of percolation tests performed, and location of proposed borrow pit areas. Every lot proposed within the Subdivision shall include at least two (2) test holes and two (2) percolation tests, as prescribed above, which will indicate a site meeting the requirements of Title 5 Massachusetts State Environmental Code and the local Board of Health Regulations for construction of a subsurface sewage disposal system. The Board of Health shall, within forty-five (45) days after filing of the plan, report to the Planning Board in writing its approval or disapproval of said plan, and it 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 therefor in such report, and where possible, shall make recommendations for the adjustment thereof. The Board of Health shall send a copy of such report, if any, to the person who submitted said plan.

3.4.4.6 A Site Specific Soil Map (SSSM), prepared to the standards of the Society of Soil Scientists of Northern New England Special Publication No. 3¹, shall be submitted to the Planning Board as part of the subdivision application. The SSSM shall be prepared by a qualified soil scientist; a person who, by reason of their special knowledge of the principles of soil science acquired by professional education and practical experience, is qualified to prepare soil maps. The SSSM shall be prepared on a base plan with:

1. Map Scale of 1" = 100' or larger.
2. A current survey by a Professional Land Surveyor
3. Topography with 2 foot contour intervals or less
4. Ground control at sufficient density that soil boundaries can be placed on the map with a reasonable degree of

¹ "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT, JUNE 1997", published by Society of Soil Scientists of Northern New England., latest edition.

accuracy. Ground control points shall be shown on the map.

- 3.4.4.7 Soil map units identified on the SSSM will be identified with the soil series designation in accordance with the Massachusetts state-wide soil legend and will conform with the range in characteristics described for that soil series by the Natural Resource Conservation Service- National Cooperative Soil Survey Official Series Description.

3.4.5 **Procedure.** The Board will transmit copies of the Definitive Plan to Town Officials as follows:

- | | |
|----------------------------|-----------------------|
| 1. Conservation Commission | 6. Board of Assessors |
| 2. Public Works Director | 7. Board of Health |
| 3. Fire Department | 8. Selectmen |
| 4. Police Department | 9. Light Department |
| 5. Building Inspector | 10. Water Department |
| | 11. Sewer Department |

3.4.5.1 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:

3.4.5.1.1 Conservation Commission as to potential involvement with Chapter 131, Section 40, M.G.L. and the effects of the Subdivision on wetlands, wildlife habitat, and similar considerations within the scope of the Conservation Commission.

3.4.5.1.2 The Public Works Director as to the design of the street system, location of easements, monuments, drainage system, water system, and if applicable, sewer system and their appurtenances; and relationship of the improvements to existing water, street, sewer and drainage systems.

3.4.5.1.3 The Fire Department as to location of hydrants, or water sources for fire fighting purposes, installation of the alarm system (if applicable) and emergency access.

3.4.5.1.4 Police Department as to street safety, both vehicular and pedestrian, and access for emergency vehicles.

3.4.5.1.5 Building Inspector for compliance with the Merrimac Zoning Bylaw.

- 3.4.5.1.6 Assessors for information on any possible lot line conflicts, and for proper recording of known easements and/or encumbrances on the land.
 - 3.4.5.1.7 Board of Health as to the adequacy of soils for subsurface absorption systems, and to the adequacy of water supply to meet the quality and quantity criteria of the local regulations.
 - 3.4.5.1.8 Selectmen as to a general overview of the Town's capabilities to support additional growth in accordance with any applicable general bylaws.
 - 3.4.5.1.9 The Municipal Light Department as to the availability of electric service, distribution, and layout of improvements such as: transformers, conduit, light poles, etc.
 - 3.4.5.1.10 The Water & Sewer departments to the availability of municipal water and sewer and any off site improvements required to be constructed by the developer; as well as the location of water mains, curb stops, gate valves, etc., and the location of sewer mains, sewer manholes, sewer services, etc., within or near the subdivision.
- 3.4.5.2 Before taking any action to approve, modify and approve, or disapprove a Definitive Plan, the Planning Board shall hold a public hearing at which parties of interest shall have an opportunity to be heard, in person or by agent or attorney. Notice of the time and place of such hearing and of the subject matter, sufficient for identification shall be published in a newspaper of general circulation in the Town of Merrimac once in each of two (2) successive weeks, the first publication to be not less than fourteen (14) days before the date of the hearing and the second to be not less than seven (7) days before the date of the hearing and by mailing a copy of such advertisement to the Developer. The Developer shall mail, by certified mail, copies of such advertisement to all owners of land abutting the proposed Subdivision, and all owners of land within three-hundred (300') of the property line of the proposed Subdivision shown on the plan as shown on the most recent tax list, and submit proof of such mailing to the Board prior to the hearing. Mailing shall be posted no less than ten (10) days prior to the scheduled hearing. Failure to provide proof shall constitute cause to cancel the hearing.
- 3.4.5.3 The procedure that the Planning Board will follow with regard to approval, conditional approval, disapproval, or modification of the Definitive Plan submitted by the Developer will be that as set forth in Chapter 41, Section 81-U, M.G.L., as amended. - In summary, the Planning Board, after receiving the plan and profiles, will review the

same to determine whether they are in compliance with its adopted Rules and Regulations.

- 3.4.5.4 The Planning Board, in studying a proposed Subdivision plan, will take into consideration the requirements of the Town and the best use of the land being subdivided. Particular attention will be given to width, safety, arrangement and location of streets, sanitation, drainage, lot sizes, and arrangement of lots, open spaces, trails, parks and other scenic and recreational resources. Adequate street connections will be required to ensure free and safe access to adjoining Subdivisions and lands. Easements for future construction of roadways must be provided and shall be conveyed to the Town of Merrimac prior to the endorsement of the subdivision plans. Where the street system within a Subdivision does not connect with or have, in the opinion of the Planning Board, adequate access from a Town, County or State (public) way, the Planning Board may require, as a condition of approval of a plan, that such adequate access be provided by the Developer, and/or that the Developer make physical improvements to and within such a way of access from the boundary of the subdivision to a Town, County or State way which does provide such adequate access. Where the physical condition, contours, topography or width of a public way from which a subdivision has its access is considered by the Planning Board to be inadequate to carry the traffic expected to be generated by such subdivision, the Planning Board may require the subdivider to acquire and/or dedicate a strip of land for the purpose of widening the abutting or connecting public ways to a width at least commensurate with that required within the subdivision, and to make physical improvements to and within such public way to the same standards required within the Subdivision. Any such dedication of land for the purpose of creating an adequate width of way and any such work performed within such public way shall be made only with permission of the governmental body having jurisdiction over such way, and all costs of any such acquisition, widening, or construction shall be borne by the Developer.
- 3.4.5.5 If in the opinion of the Planning Board additional information or modification of the plan is required, such information or modification shall be submitted to the Planning Board or its Agent at least two weeks in advance of the next regularly scheduled meeting.
- 3.4.5.6 Before approval of the Definitive Plan, the Planning Board will submit the Plan to an independent engineering service for review at the Developer's expense. After this review, the Planning Board shall establish that the street pattern is safe and convenient, that proper provision is made for street extension, and that all other purposes of the subdivision control laws are met. The Planning Board may, as a condition of approval, impose reasonable requirements designed to promote the health, convenience, safety and general welfare of the community and to benefit the Town. In such event, the Planning Board shall endorse such conditions on the plan to which they relate,

or set forth a separate instrument attached thereto, to which reference is made on such plan and which shall for the purpose of the Subdivision Control Law be deemed to be part of the Plan.

3.4.6 ***Performance Guarantee.*** Before endorsement of the Planning Board's approval of any Definitive Subdivision Plan, the Applicant shall agree to (1) complete the required improvements for the subdivision, within three (3) years of the date of such approval, or (2) to complete the required improvements for any portion of the subdivision, for which a surety company performance bond, tripartite agreement, or a performance bond secured by a deposit of money or negotiable securities shall have been filed pursuant to 3.4.6.1, within two (2) years of the date of the performance bond or within three (3) years of the date of the Planning Board's approval of the Definitive Plan, whichever date shall occur the earlier, and (3) that no structure will be occupied until at least the base course of the bituminous concrete has been applied to the streets which serve those structures. Such construction and installation shall be secured by one, or in part by one and in part by the other, of the following methods which may from time to time be varied by the Developer with the written consent of the Planning Board.

3.4.6.1 Before endorsement of the Planning Board's approval of any Definitive Subdivision Plan, the Developer shall create a bonding schedule to be reviewed and approved by the Public Works Director, and the Planning Board agent; and submitted to the Planning Board for approval. The Developer shall file Forms G-1 and G-2 along with either a duly executed surety company performance bond, a duly executed performance bond secured by a deposit of money or negotiable securities or, a tripartite agreement, in such form as the Planning Board requires, in an amount determined by the Planning Board to be sufficient to cover the cost not covered by a Covenant under 3.4.6.4 hereof. Such surety company performance bond, performance bond secured by a deposit of money or negotiable securities, or tripartite agreement, shall be approved as to form, manner of execution and, in the case of a surety company performance bond as to the surety by Town Counsel, and in the case of a performance bond secured by negotiable securities, as to the negotiable securities by the Town Treasurer; and shall be conditioned on the completion of such improvements within two (2) years of the date of the performance bond.

3.4.6.2 Twenty percent (20%) of the amount of said surety company performance bond, performance bond secured by a deposit of money or negotiable securities, or tripartite agreement shall be retained for one year following completion of the Subdivision or until the Town accepts the Road, whichever occurs later. Guidelines for subdivision road bond releases are on file at the Planning Board office.

3.4.6.3 The Developer shall utilize the current Commonwealth of Massachusetts' "Weighted Average Bid Prices Statewide and by Districts from Highway and Bridge Projects" for bond preparation or as otherwise directed by the Planning Board.

3.4.6.4 The Developer shall file a duly executed covenant on Form F or on such other form of covenant as the Planning Board requires, which provides that no lot may be built upon or sold until the ways and municipal services necessary to serve adequately such lot have been constructed and installed. Such covenant shall be approved as to form and manner of execution by Town Counsel and shall be recorded in the Registry of Deeds by the Owner of record and shall run with the land.

3.4.7 ***Approval or Disapproval.*** The action of the Planning Board with respect to such plan shall be by vote, copies of which shall be filed with the Town Clerk and sent to the Developer. If the Planning Board modifies or disapproves such a plan, it shall state in its vote the reasons for its action and shall rescind such disapproval when the plan has been amended to conform to the Rules and Regulations of the Planning Board, and to the recommendations of the Board of Health. Final approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by the signatures of a majority of the Planning Board but not until the statutory twenty (20) day appeal period has elapsed following the filing of the Planning Board's certificate of approval or disapproval, as the case may be (see Forms C-I and C-2), with the Town Clerk and said Clerk has notified the Planning Board that no appeal has been filed. If appeal has been made, said endorsement shall be made after the entry of a final decree of the court sustaining the approval of such plan. Final approval shall be subject to the construction specifications contained herein, receipt of the estimated fees for construction inspection services described in the Fees Schedule, and to the rules and regulations of all Town Boards. After the Definitive Plan has been approved and endorsed, the Planning Board shall return the original to the Developer. The Planning Board may extend the period permitted by statute between submission of a Definitive Plan and action thereon upon written request of the owner.

3.4.7.1 Approval of the Definitive Plan does not constitute the acceptance by the Town of streets shown on the Plan.

3.4.7.2 If the ways in any Subdivision are not completed and the utilities aforesaid are not installed within the time so agreed to by the Developer, or so required by the Planning Board, any such surety may be enforced and any such deposit may be applied by the Planning Board for the benefit of the Town. Ways or portions thereof not completed, within the time required, shall thereafter be completed in accordance with the design and construction standards of the Planning Board in effect upon the expiration of such time, unless an extension of time is granted.

3.4.7.3 The endorsement of the plan approval by the Planning Board shall be valid for a period of three (3) years from the date of filing by the Planning Board of the approval with the Town Clerk. Prior to the expiration of the three (3) year approval period, the Developer and/or Owner shall request in writing to the Planning Board an extension of time, if necessary. Failure to request an extension of time prior to the expiration of the three (3) year approval period shall result in the Planning Board's notifying the Building Inspector that no additional building permits shall be issued in said development. The request for an extension shall state the reasons for the requested extension and also the length of time requested. The first extension shall not exceed two (2) years. Additional extensions, after the first, may be applied for only under extraordinary circumstances but shall not exceed one (1) year.

3.4.7.4 (1) Prior to final approval by the Planning Board, the applicant shall submit two (2) copies of the approved version of the Definitive Plan in digital files on electronic media to the Planning Board for review and approval. The version of the plan on digital files shall be identical, full size, and shall contain all information included on the printed plan. Each feature depicted in the subdivision plan shall have its own distinct data layer with the digital file (i.e., lines representing each side of a property parcel). Where property-parcels are depicted, the property parcel data layer shall be a distinct data layer within the system. Polygons representing property parcels MUST be closed and no other data layer shall be used to close the polygon.

Each digital file sheet shall have a minimum of 4 survey quality control points depicted on both the hard copy maps and the digital file. These control points shall be survey quality and accurate to plus or minus one centimeter. Layer names shall conform to Planning Board standards. Digital files shall be accompanied by information (or a text field) that defines and describes each layer contained with the submittal file(s). Digital files shall be provided in an IBM - PC (or compatible) format file system approved by the Planning Board at the time of submission. The list of approved versions of data files, which the Board may revise from time to time, will be available at the Office of the Planning Board. Applicants must request the list of approved versions of data files prior to application.

(2) A letter from the Planning Board verifying receipt of the digital files and compliance with Planning Board standards shall be submitted to the applicant within ten (10) days. Failure to submit such digital files to the Planning Board, and to obtain a compliance letter may be cause for the

Planning Board to rescind approval or not to endorse said plan.

- (3) All digital files shall be high quality, free from any and all defects and viruses, and labeled as to their contents. Digital files shall be prepared with a back up and be sequentially numbered. The applicant shall provide to the Planning Board a descriptive list of all files submitted, which documents file contents and intended use.

3.4.8. **Recording.** The Developer shall file all pages of the approved Definitive Plan, Profile, Topography and Covenant, if any, at the Registry of Deeds, and shall notify the Planning Board in writing presenting evidence of the recording of the Plan and the Covenant and Easements, if any, as required by the Planning Board's approval, within forty-five (45) days of the endorsement of the Plan. The Developer shall deliver to the Planning Board three (3) copies of the approved and recorded Definitive Plan, and a copy of an affidavit filed by the Owner stating that the title to the premises shown on said plan and appurtenances thereto are in the name of the owner and are free of all encumbrances or with encumbrances as set forth, before any building permits in the Subdivision may be issued.

3.4.9 **Conveyance of Utilities and Easements to the Town.** Prior to the release by the Planning Board of any form of performance guarantee, or in the case of a covenant, the issuance of a Release Form, the Applicant shall execute an instrument, on a Form approved by the Planning Board, (see Form H) transferring to the Town, without cost, valid unencumbered title to all storm drains, water mains, sewer mains, and appurtenances thereto, constructed and installed in the Subdivision or portion thereof to be approved, and conveying to the Town without cost and free of all liens and encumbrances, perpetual rights to construct, inspect, repair, renew, replace, operate and forever maintain the aforesaid.

3.4.10 **Reduction or Release of Performance Guarantee.** The penal sum of any such Bond or the amount of any deposit held under clause paragraph 3.4.6.1 may from time to time be reduced by the Planning Board and the obligations of the parties thereto released by said Planning Board in whole or in part. If release is by reason of covenant, a new plan of the portion to be subject to the covenant may be required by the Planning Board.

3.4.10.1 The fire tank shall be installed prior to release of any deposit/reduction in bond associated with sub-base work. The release of any deposit/reduction in bond associated with the fire tank will not be made until the fire tank has been tested and approved by the Planning Board, or its agent, and the Merrimac Fire Department.

3.4.10.2 Upon completion of improvements required under these regulations, security for the performance of which was given by bond, tripartite agreement, deposit or covenant, or upon the

performance of any covenant with respect to any lot, the Developer or Owner, at his expense, will cause to be published in a newspaper of general circulation in the Town of Merrimac at least seven (7) days prior to the releasing of the performance bond or surety, an announcement that such release is contemplated. He shall also send by registered mail to the Town Clerk and the Planning Board a written statement that the said construction or installation in connection with which such performance guarantee has been secured, has been completed in accordance with the requirements contained under the Subdivision Control Law; such statement to contain:

- 3.4.10.2.1 Name and address of the Applicant.
- 3.4.10.2.2 A compliance certificate signed under oath by the Developer and his Engineer that the development has been completed according to the Rules and Regulations of the Planning Board and the Town of Merrimac's Zoning Bylaw.
- 3.4.10.2.3 Copies of or reference to the requisite number of Inspection Forms and Reports.
- 3.4.10.2.4 Written evidence from the Public Works Director as to construction of all ways and sidewalks, installation of monuments, street signs, pavement, lighting, gutters and curbs, required grading and drainage, adequate lot drainage, planting and seeding, all in accordance with the Definitive Plan.
- 3.4.10.2.5 Written Evidence from the Light Department as to installation of all electric power, poles, underground wiring, street lighting and appurtenances, all in accordance with the Definitive Plan.
- 3.4.10.2.6 Written Evidence from the Fire Department as to the installation of the fire alarm system, or required water sources for fire fighting purposes, all in accordance with the Definitive Plan.
- 3.4.10.2.7 Written evidence from the Water Department that all water mains, gate valves, curb stops and service lines, have been constructed in accordance with the Definitive Plan.
- 3.4.10.2.8 Written evidence from the Sewer Department that all sewer mains, manholes and service connections have been constructed in accordance with the Definitive Plan.

3.4.10.2.9 Written evidence from the Conservation Commission that the order of conditions (OOC) for all roadway improvements, including drainage, etc, have been completed. A certified copy of the certificate of compliance (COC) shall be submitted to the Planning Board.

3.4.10.2.10 The Applicant shall submit as-built plans and street acceptance plans in accordance with the Definitive Plan and recordable in the Registry of Deeds, which shall include the following:

- Actual bound locations, as set.
- Profile of centerline.
- Benchmarks used.
- Actual location of all utilities including inverts of sewer, drains, and culverts; services to dwellings including valves, curb stops, etc., including at least three physical ties to each.
- The revised road pavement centerline alignment shall be calculated, staked out and shown on the As-Built Plans
- Any other changes authorized by the Planning Board
- Certification of accuracy to the standards of 250 CMR, Section 6.00, latest edition.
- Roadway Right-of-Way lines, and easements including a written deed description
- A warrant article for town meeting acceptance.
- Electronic Media files of As built and R.O.W. plans (per the requirements of 3.4.7.4)

3.4.10.3 If the Planning Board determines that the construction, installation, or filing of "as-built" plans and "right-of-way" plans has not been completed, it shall specify to the Town clerk and to the Developer, in writing, by registered mail, the details wherein said construction and installation shall have failed to comply with requirements contained under these regulations..

3.4.10.4 Upon failure of the Planning Board to act on such application, within forty-five (45) days after the receipt of the application by

the Town Clerk and the Planning Board, all obligations under the bond shall cease and terminate by operation of law, and any deposit shall be returned and any such covenant shall become void.

- 3.4.10.5 In the event that said forty-five (45) day period expires without such specification, or without the release and return of the deposit or release of the covenant as aforesaid, the Town Clerk shall issue a certificate to such effect, duly acknowledged, which may be recorded.
- 3.4.10.6 If the Planning Board determines that said construction, installation, or filing of "as-built" and "street acceptance" plans has been completed, it shall within forty-five (45) days release the interest of the Town in such performance guarantee and return the same to the person or persons who furnished same, or, in the case of covenant it shall issue a written release of the covenant on a properly executed release form.

END OF ARTICLE

SECTION 4.0 REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGN	3
4.1 General Improvements	3
4.1.1 <i>Conformance to Applicable Rules and Regulations</i>	3
4.1.2 <i>Adequate Public Facilities</i>	4
4.1.3 <i>Self-Imposed Restrictions</i>	5
4.1.4 <i>Plans Straddling Municipal Boundaries</i>	5
4.1.5 <i>Monuments</i>	5
4.1.6 <i>Character of the Land</i>	6
4.1.7 <i>Subdivision Name and Street Names</i>	6
4.2 Lot Improvements	6
4.2.1 <i>Lot Arrangement</i>	6
4.2.2 <i>Lot Dimensions</i>	6
4.2.3 <i>Lot Orientation</i>	7
4.2.4 <i>Soil Preservation, Grading, and Seeding</i>	7
4.2.5 <i>Debris and Waste</i>	8
4.2.6 <i>Waterbodies and Watercourses</i>	8
4.2.7 <i>Subdivision Improvement Agreement and Security to Include Lot Improvement</i>	8
4.3 Streets	8
4.3.1 <i>Level of Service</i>	8
4.3.2 <i>Classification</i>	8
4.3.3 <i>Topography and Arrangement</i>	8
4.3.4 <i>Street Regulatory Signs</i>	9
4.3.5 <i>Street Lights</i>	9
4.3.6 <i>Reserve Strips</i>	9
4.3.7 <i>Construction of Streets</i>	9
4.3.8 <i>Design Standards</i>	10
4.3.9 <i>Width</i>	11
4.3.10 <i>Grades</i>	11
4.3.11 <i>Cul-de-sac</i>	13
4.3.12 <i>Widening and Realignment of Existing Roads</i>	13

4.4 Drainage	13
4.4.1 <i>General Requirements</i>	13
4.4.2 <i>Drainage Design Methodology</i>	14
4.4.3 <i>Dedication of Drainage Easements</i>	15
4.5 Sewage System.....	16
4.5.1 <i>Municipal Sewer Extensions.....</i>	16
4.5.2 <i>Subsurface Absorption Systems.....</i>	17
4.6 Water Systems.....	18
4.6.1 <i>General Requirements</i>	18
4.6.2 <i>Municipal Water</i>	18
4.6.3 <i>Individual Wells</i>	18
4.6.4 <i>Water Holding Tanks</i>	18
4.6.5 <i>Dry Hydrant Requirements</i>	19
4.7 Utilities	20
4.8 Curbing.....	21
4.9 Sidewalks	21
4.10 Grass Strips	22
4.11 Side Slopes	23
4.12 Street Name Signs	23
4.13 Bicycle Paths	23
4.14 Preservation of Natural Features and Amenities.	24
4.14.1 <i>General.....</i>	24
4.14.2 <i>Landscaping By Developer.....</i>	24

ARTICLE

4

SECTION 4.0 REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS,
AND DESIGN

4.1 General Improvements

4.1.1 *Conformance to Applicable Rules and Regulations.* In addition to the requirements established in these regulations, all subdivision plans shall comply with the following laws, rules, and regulations:

- 4.1.1.1 All applicable statutory provisions.
- 4.1.1.2 The Merrimac Zoning Bylaw, Massachusetts Building and Housing Codes, and all other applicable laws of the appropriate jurisdictions.
- 4.1.1.3 The Official Master Plan, Official Map, Public Utilities Plan, and Capital Improvements Program of the Town of Merrimac, including all streets, drainage systems, and parks shown on the Official Map or Master Plan as adopted.
- 4.1.1.4 The special requirements of these regulations and any rules of the Board of Health/or appropriate state agencies.
- 4.1.1.5 The rules of the Mass Highway Department, if the subdivision or any lot contained therein abuts a state highway or connecting street, and the rules and requirements of the Merrimac Public Works Director.
- 4.1.1.6 The standards, regulations, or Bylaws adopted by the Town of Merrimac and all boards, commissions, agencies, and officials of the Town of Merrimac.
- 4.1.1.7 The Rules, Regulations and Standards of the Merrimac Light and Water Department.

4.1.1.8 Plan approval may be denied if a subdivision is not in conformity with the above laws, regulations, guidelines, and policies as well as the purposes of these regulations.

4.1.2 ***Adequate Public Facilities.*** No plans shall be approved unless the Planning Board determines that public facilities will be adequate to support and service the area of the proposed subdivision. The Developer shall, at the request of the Planning Board, submit sufficient information and data on the proposed subdivision to demonstrate the expected impact on and use of public facilities by possible uses of said subdivision. Public facilities and services to be examined for adequacy will include roads, drainage facilities, sewerage, and water service, refer to Schedule A attached.

4.1.2.1 Periodically the Town of Merrimac will establish by resolution, after public hearing, guidelines for the determination of the adequacy of public facilities and services. To provide the basis for the guidelines, the Planning Board must prepare an analysis of current growth and the amount of additional growth that can be accommodated by future public facilities and services. The Planning Board must also recommend any changes in preliminary/definitive plan approval criteria it finds appropriate in the light of its experience in administering these regulations.

4.1.2.2 The applicant for a preliminary/definitive plan must, at the request of the Planning Board, submit sufficient information and data on the proposed subdivision to demonstrate the expected impact on and use of public facilities and services by possible uses of said subdivision.

4.1.2.3 Proposed public improvements shall conform to and be properly related to the Merrimac Master Plan and all applicable capital improvement plans.

4.1.2.4 All habitable buildings and buildable lots will be connected to a public water system capable of providing water for health and emergency purposes, including adequate fire protection. However, if municipal water connection is not possible individual on-site wells, as approved by the local Board of Health, and fire storage facilities as approved by the local fire department may be constructed.

4.1.2.5 All habitable buildings and buildable lots will be served by an approved means of wastewater collection and treatment, either by extension of the municipal system as approved by the Merrimac Sewer Department and the Massachusetts Department of Environmental Protection (DEP/WPC), or a subsurface absorption system (SAS) approved by the Merrimac Board of Health.

4.1.2.6 Drainage improvements shall accommodate potential runoff from the entire upstream drainage area and shall be designed to prevent increases in downstream flooding. The Planning Board shall require

the use of control methods such as retention or detention, and/or the construction of offsite drainage improvements to mitigate the impacts of the proposed development in accordance with the Massachusetts Stormwater Policy Act, Best Management Practices (BMP's).

- 4.1.2.7 Proposed roads shall provide a safe, convenient, and functional system for vehicular, pedestrian, and bicycle circulation; shall be properly related to the Master Plan; and shall be appropriate for the particular traffic characteristics of each proposed development.
- 4.1.2.8 All public improvements and required easements shall be extended through the parcel on which new development is proposed. Streets, water lines, wastewater systems, drainage facilities, electric lines, and telecommunications lines shall be constructed through the new development to promote the logical extension of public infrastructure. The Planning Board may require the Developer of a subdivision to extend offsite improvements to reach the subdivision and/or oversize required public facilities to serve anticipated future development as a condition of plan approval.
- 4.1.3 ***Self-Imposed Restrictions.*** If the Developer places restrictions on any of the land contained in the subdivision greater than those required by the Zoning Ordinance or these regulations, such restrictions or reference to those restrictions shall be required to be indicated on the subdivision plans. The Planning Board shall require that restrictive covenants be recorded with the Essex County Registry of Deeds in a form to be approved by the Town of Merrimac. When allowed by law, the subdivider shall grant to the Town of Merrimac the right to enforce the restrictive covenants.
- 4.1.4 ***Plans Straddling Municipal Boundaries.*** Whenever access to the subdivision is required across land in another Town or City, the Planning Board may request assurance from Town Counsel that access is legally established, and from the Public Works Director that the access road is adequately improved, or that a guarantee has been duly executed and is sufficient in an amount to assure the construction of the access road. In general, lot lines should be laid out so as not to cross municipal boundary lines.
- 4.1.5 ***Monuments.*** The applicant shall place permanent reference monuments in the subdivision as required in these regulations and as certified in place by a Professional Land Surveyor.
 - 4.1.5.1 Monuments shall be located on street right-of-way lines, at street intersections, angle points of curves, and front lot corners. They shall be spaced so as to be within sight of each other, the sight lines being contained wholly within the street limits.
 - 4.1.5.2 The subdivision shall be monumented in the field by monuments of granite, not less than thirty six (36) inches in length, not less than

four (4) inches square, and marked on top with a brass plug securely imbedded in lead.

4.1.5.3 All internal boundaries and those corners and points not referred to in the preceding paragraph shall be monumented in the field by iron rods at least thirty (30) inches long and 5/8" in diameter.

4.1.5.4 All monuments required by these regulations shall be set flush with the ground and set in such a manner that they will not be removed by frost.

4.1.5.5 All monuments shall be properly set in the ground and certified by a Professional Land Surveyor prior to the time the Planning Board recommends acceptance of the roads and release of surety.

4.1.6 ***Character of the Land.*** Land that the Planning Board finds to be unsuitable for subdivision or development due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations, topography, utility easements, or other features that will reasonably be harmful to the safety, health, and general welfare of the present or future inhabitants of the subdivision and/or its surrounding areas, shall not be subdivided or developed unless adequate methods are formulated by the developer and approved by the Planning Board, upon recommendation of the Planning Board's consulting engineer, to solve the problems created by the unsuitable land conditions. Such land shall be set aside for uses as shall not involve any danger to public health, safety, and welfare.

4.1.7 ***Subdivision Name and Street Names.*** The proposed name of the subdivision and street names shall not duplicate, or too closely approximate phonetically, the name of any other subdivision or street in the area covered by these regulations. The Planning Board shall have final authority to designate the name of the subdivision and streets, which shall be determined at Definitive Plan Approval.

4.2 Lot Improvements

4.2.1 ***Lot Arrangement.*** The lot arrangement shall be such that there will be no foreseeable difficulties, for reasons of topography or other conditions, in securing building permits to build on all lots in compliance with the Zoning Bylaws and Health Regulations and in providing driveway access to buildings on the lots from an approved street.

4.2.2 ***Lot Dimensions.*** Lot dimensions shall comply with the minimum standards of the Zoning Bylaw. Where lots are more than double the minimum required dimensions for the zoning district, the Planning Board may require that those lots be arranged so as to allow further subdivision and the opening of future streets where they would be necessary to serve potential lots, all in compliance with the Zoning Bylaw and these regulations. In general, side lot lines shall be at right angles to street lines (or radial to curving street lines) unless a variation from this rule will give a better street or lot plan. Dimensions of corner lots

shall be large enough to allow for erection of buildings, observing the minimum front-yard setback from both streets. Depth and width of properties reserved or laid out for business, commercial, or industrial purposes shall be adequate to provide for the off-street parking and loading facilities required for the type of use and development contemplated, as established in the Zoning Bylaws.

- 4.2.3 **Lot Orientation.** The lot line common to the street right-of-way shall be the front line. All lots shall face the front line and a similar line across the street. Wherever feasible, lots shall be arranged so that the rear line does not abut the side line of an adjacent lot.
- 4.2.4. **Soil Preservation, Grading, and Seeding.** No certificate of occupancy shall be issued until final grading has been completed in accordance with the approved final subdivision plan and the lot precovered with topsoil with an average depth of at least six (6) inches which shall contain no particles more than two (2) inches in diameter over the entire area of the lot, except that portion covered by buildings or included in streets, or where the grade has not been changed or natural vegetation seriously damaged. Topsoil shall not be removed from residential lots or used as spoil, but shall be redistributed so as to provide at least six (6) inches of cover on the lots and between the sidewalks and curbs, and shall be stabilized by seeding or planting.
- 4.2.4.1 Lots shall be laid out so as to provide positive drainage away from all buildings, and individual lot drainage shall be coordinated with the general storm drainage pattern for the area. Drainage shall be designed so as to avoid concentration of storm drainage water from each lot to adjacent lots.
- 4.2.4.2 Lawn-grass seed shall be sown at not less than four (4) pounds to each one-thousand (1,000) square feet of land area. In the spring, the seed shall be sown between March 14 and May 14; and in the fall, the seed shall be sown between August 14 and September 30. The seed shall consist of a maximum of ten percent (10%) rye grass by weight and minimum of ninety percent (90%) of permanent bluegrass and/or fescue grass by weight. All seed shall have been tested for germination within one (1) year of the date of seeding, and the date of testing shall be on the label containing the seed analysis. All disturbed areas of the lot not dedicated to building footprint; access walks and drives; ornamental shrub, flower, or vegetable gardens will be planted with grass. No certificate of occupancy shall be issued until respreading of soil and seeding of lawn has been completed; except that between October 1 and March 15, and between May 15 and August 15, the applicant shall submit an agreement in writing to the Planning Board signed by the developer and the property owner, with a copy to the Building Inspector, that respreading of soil and seeding of the lawn will be done during the immediate following planting season as set forth in this section, and leave a cash escrow for performance in an amount determined by the

Planning Board or its agent. Sod may be used to comply with any requirement of seeding set forth herein.

- 4.2.5 ***Debris and Waste.*** No cut trees, timber, debris, earth, rocks, stones, soil, junk, rubbish, or other waste materials of any kind shall be buried in any land, or left or deposited on any lot or street at the time of the issuance of a certificate of occupancy, and removal of those items and materials shall be required prior to issuance of any certificate of occupancy on a subdivision. No items and materials as described in the preceding sentence shall be left or deposited in any area of the subdivision at the time of expiration of any subdivision improvement agreement or dedication of public improvements, whichever is sooner.
- 4.2.6 ***Waterbodies and Watercourses.*** If a tract being subdivided contains a water body, or portion thereof, lot lines shall be so drawn as to distribute the entire ownership of the water body among the interior lots adjacent to the water body. The Planning Board may approve an alternative plan whereby the ownership of and responsibility for safe maintenance of the water body is so placed that it will not become a municipal responsibility. Where a watercourse separates the buildable area of a lot from the street by which it has access, provisions shall be made for installation of a culvert or other structure, of design approved by the Conservation Commission and Planning Board.
- 4.2.7 ***Subdivision Improvement Agreement and Security to Include Lot Improvement.*** The Developer shall enter into a separate subdivision improvement agreement secured by a cash escrow to guarantee completion of all lot improvement requirements including, but not limited to soil preservation, final grading, lot drainage, lawn-grass seeding, removal of debris and waste, fencing, and all other lot improvements required by the Planning Board. Whether or not a certificate of occupancy has been issued, the Planning Board may enforce the provisions of the subdivision improvement agreement where the provisions of this section or any other applicable law, ordinance, or regulation have not been met.

4.3 Streets

- 4.3.1 ***Level of Service.*** No development shall be approved if such development, at full occupancy, will result in or increase traffic on a street so that the street does not function at a level of service of C or better. The applicant may propose and construct approved traffic mitigation measures to provide adequate roadway capacity for the proposed development.
- 4.3.2 ***Classification.*** All roads shall be classified as either major or minor streets. In classifying streets, the Planning Board shall consider projected traffic demands at full build out of abutting undeveloped properties.
- 4.3.3 ***Topography and Arrangement.*** Streets shall be related appropriately to the topography. Streets shall be curved wherever possible to avoid conformity of lot appearance. All streets shall be arranged so as to obtain as many building sites as possible at, or above, the grades of the streets. Grades of streets shall

conform as closely as possible to the original topography. A combination of steep grades and curves shall be avoided. Specific standards are contained in the design standards of these regulations.

- 4.3.3.1 All streets shall be properly integrated with the existing and proposed system of dedicated rights-of-way as established on the Official Map and/or Master Plan.
- 4.3.3.2 Minor streets shall be laid out to conform as much as possible to the topography to discourage use by through traffic, to permit efficient drainage and utility systems, and to require the minimum number of streets necessary to provide convenient and safe access to property.
- 4.3.3.3 Proposed streets shall be extended to the boundary lines of the parcel to be subdivided, unless prevented by topography or other physical conditions, or unless in the opinion of the Planning Board such extension is not necessary or desirable for the coordination of the layout of the subdivision with the existing layout or the most advantageous future development of adjacent parcels.
- 4.3.3.4 In business and industrial developments, the streets and other accessways shall be planned in connection with the grouping of buildings, and the provision of access roads, truck loading and maneuvering areas, walks, and parking areas so as to minimize conflict of movement between the various types of traffic, including pedestrian.
- 4.3.4 ***Street Regulatory Signs.*** Street name signs are to be placed at all intersections within or abutting the subdivision, the type and location of which to be approved by the Public Works Director.
- 4.3.5 ***Street Lights.*** Installation of street lights shall be required in accordance with design and specification standards approved by the Planning Board and Merrimac Light Department.
- 4.3.6 ***Reserve Strips.*** The creation of reserve strips shall not be permitted adjacent to a proposed street in such a manner as to deny access from adjacent property to the street.
- 4.3.7. ***Construction of Streets.*** The arrangement of streets shall provide for the continuation of major streets between adjacent properties when the continuation is necessary for convenient movement of traffic, effective fire protection, and for efficient provision of utilities. If the adjacent property is undeveloped and the street must temporarily be a cul-de-sac, the right-of-way shall be extended to the property line. A temporary cul-de-sac shall be provided, with the notation on the subdivision plan that land outside the normal street right-of-way shall revert to abutters whenever the street is continued. The Planning Board may limit the length of temporary culs-de-sac in accordance with the design standards of these regulations.

4.3.7.1 Where a street does not extend beyond the boundary of the subdivision and its continuation is not required by the Planning Board for access to adjoining property, it's length shall not be greater than one thousand two hundred fifty feet (1250'). However, the Planning Board may require the reservation of an appropriate easement to accommodate drainage facilities, pedestrian traffic, or utilities. A cul-de-sac turn-around shall be provided at the end of the street in accordance with these construction standards and specifications. For greater convenience to traffic and more effective police and fire protection, permanent cul-de-sac streets shall, in general, be limited in length to one thousand two hundred fifty feet (1250').

4.3.8 ***Design Standards.*** In order to provide for streets of suitable location, width, and improvement to accommodate prospective traffic and afford satisfactory access to police, firefighting, snow removal, sanitation, and road-maintenance equipment, and to coordinate roads so as to compose a convenient system and avoid undue hardships to adjoining properties, the following design standards for streets are hereby required.

4.3.8.1 Street jogs with centerline offsets of less than one hundred and fifty feet (150') shall not be permitted.

4.3.8.2 The minimum centerline radii of curved streets shall be as follows:

Major street -- Five Hundred Feet (500')

Minor street -- Two Hundred Feet (200')

4.3.8.3 A tangent at least one hundred and fifty feet (150') in length shall separate all reverse curves on major and minor streets except where at least one (1) radius is one thousand feet (1000') or more or where the radius of both the curves is in excess of two (2) times the minimum specified in Section 4.3.8.2

4.3.8.4 Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two (2) streets at an angle of less than seventy-five (75) degrees shall not be acceptable. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100') feet therefrom. Not more than two (2) streets shall intersect at any one point unless specifically approved by the Planning Board.

4.3.8.5 Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersections on the opposite side of such street. Where streets intersect major streets, their alignment shall be continuous. Intersections of major streets shall be at least eight hundred (800') feet apart, and minor streets shall be at least four hundred (400') feet apart.

- 4.3.8.6 Minimum curb radius at the intersection of two streets shall be at least thirty (30') feet; and minimum curb radius at an intersection involving a major street shall be at least forty (40') feet.
- 4.3.8.7 Intersections shall be designed with a flat grade wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a two percent (2%) rate at a distance of seventy five (75') feet, measured from the nearest right-of-way line of the intersecting street.
- 4.3.8.8 Where any street intersection will involve earth banks or existing vegetation inside any lot corner that would create a traffic hazard by limiting visibility, the developer shall cut such ground and /or vegetation (including trees) in connection with the grading of the public right-of-way to the extent deemed necessary to provide an adequate sight distance.
- 4.3.8.9 Property lines at street intersections shall be rounded or cut back to provide for a radius of twenty-five (25') feet minimum in a residential subdivision and fifty (50') feet minimum in a non-residential subdivision.
- 4.3.8.10 Streets shall be laid out so as to intersect with adjacent streets or adjacent unsubdivided land at intervals as determined suitable by the Planning Board.
- 4.3.9 **Width.** The minimum width of right-of-way shall be as follows:
- Major Streets-- Sixty Feet (60')
- Minor Streets-- Fifty Feet (50')
- 4.3.9.1 When a minor street will provide the only access for lots fronting on a length in excess of one thousand feet (1,000') or where traffic volumes on a secondary street warrant, the Planning Board may require a greater right-of-way than that specified above.
- 4.3.9.2 Under certain circumstances the Board may require an increase in the right-of-way widths by up to ten feet (10') to accommodate walkway construction and preserve natural features.
- 4.3.9.3 Pavement widths shall be as follows:
- Major Streets -- Thirty Feet (30')
- Minor Streets-- Twenty Four Feet (24')
- 4.3.10 **Grades.** The minimum centerline grade for any street shall not be less than one percent.

4.3.10.1 The maximum centerline grade for streets shall be as follows:

	<u>Low Density Area*</u>	<u>High Density and Non-Residential Area*</u>
Minor Streets	Ten percent (10%)	Eight percent (8%)
Major Streets	Eight percent (8%)	Five percent (5%)

* As determined by the Planning Board

4.3.10.2 Where changes in grade exceed eight-tenths of one percent (0.8%), a vertical curve shall be provided. The minimum length of vertical curves shall be designed in accordance with the following:

$$L = K (G_1\% - G_2\%)$$

G = Grade
L = Length

The values for K are listed below:

	<u>Crests</u>	<u>Sags</u>
Minor Streets (30 miles per hour)	30	36
Major Streets and Streets in A High Density and Non-Residential Area, as determined by the Planning Board (40 miles per hour)	80	70

Roadways shall have a centerline to side of road slope of three eighths feet per foot (.375 ft./ft.), minimum.

4.3.10.3 Where horizontal and vertical curves combine to create potentially dangerous driving conditions, the Board may require a suitable amount of superelevation of the curves or other projections.

4.3.10.4 At approaches to intersections, the maximum allowable centerline profile grade shall be two percent (2%) for seventy-five feet (75').

4.3.10.5 The grade of any street, except in special instances, shall be so designed that the surface runoff of water shall be from the center line of the street to the edge of the street.

4.3.10.6 No cut or fill in excess of ten feet (10') feet of the natural topography shall be allowed within the limits of the roadway right-of-way, unless a slope stabilization and revegetation plan designed by a landscape architect is approved by the Planning Board.

4.3.11 **Cul-de-sac.** For the purposes of this section, a cul-de-sac street is a street, extension of a street, or system of streets connected to a through way at a single point. Any proposed street which intersects only with a cul-de-sac street shall be deemed to be an extension of the cul-de-sac street.

4.3.11.1 Cul-de-sac streets and their extensions, if any, shall not be longer than one thousand two hundred fifty feet (1250') from their origin to the furthest point.

4.3.11.2 Cul-de-sac streets shall be provided with a turnaround at the closed end. The minimum paved roadway diameter of turnarounds shall be one hundred ten feet (110') with an outside diameter roadway dedication of one hundred thirty feet (130'). The Planning Board may require, at its option, because of topographic or other considerations, a larger turnaround with a larger traffic island.

4.3.11.3 The Board may require a roadway easement from the end of the cul-de-sac street to adjacent property. If a cul-de-sac street is subsequently extended beyond the required turn-around, any easement other than land required for the extension of the roadway may be relinquished to the adjacent properties.

4.3.11.4 If a cul-de-sac street is later extended, the turn-around pavement may be required to be removed and a uniform pavement width provided to match the extension pavement width.

4.3.11.5 The cul-de-sac shall be constructed in accordance with the requirements of Figure 1 (see appendix).

4.3.12. **Widening and Realignment of Existing Roads.** Where a subdivision borders an existing narrow road or when the Master Plan, Official Map, or zoning setback regulations indicate plans for realignment or widening a road that would require use of some of the land in the subdivision, the applicant shall be required to improve and dedicate at its expense those areas for widening or realignment of those roads. The roadway shall be improved and dedicated by the applicant at its own expense to the full width as required by these subdivision regulations when the applicant's development activities contribute to the need of the road expansion. Land reserved for any road purposes may not be counted in satisfying yard or area requirements of the Zoning Bylaw whether the land is to be dedicated to the municipality, if fee simple, or an easement is granted to the Town of Merrimac.

4.4 Drainage

4.4.1 **General Requirements.** The Planning Board shall not approve any subdivision that does not make adequate provision for the control of storm and flood water runoff quantity and quality.

4.4.1.1 The Planning Board requires that the drainage systems for all subdivisions meet all requirements of the Massachusetts Stormwater

Policy Act. Therefore, the following technical publications, latest edition, are adopted as part of these regulations:

- Stormwater Management Volume One: Stormwater Policy Handbook, March 1997, latest edition
- Stormwater Management Volume Two: Stormwater Technical Handbook, March 1997, latest edition.

4.4.1.2 Hydraulic and hydrologic calculations shall be based on the United States Department of Agriculture (USDA) Soil Conservation Service Release TR-20.

4.4.2 ***Drainage Design Methodology.*** The design storm for the drainage stormwater system shall be based upon the SCS Type III - 24 hour storm.

Design Storm	Rainfall Depth
2 Year	3.1 inches
10 Year	4.8 inches
25 Year	5.3 inches
100 Year	7.0 inches

4.4.2.1 Total peak runoff figures for pre-and post development conditions, at each discharge point, shall be obtained by combining hydrographs, not by direct addition of peak flows.

4.4.2.2 Time of concentration values shall be determined by calculating overland flow travel time for each subcatchment area. A minimum time of ten (10) minutes shall be used for developed conditions.

4.4.2.3 The following design storms shall be used to provide "free flow" conditions:

Closed Drainage System	25 year storm
Culverts	50 year storm
Bridges	100 year storm

4.4.2.4 A copy of the design computations shall be submitted along with the subdivision plans. Inlet capacity analysis shall be computed for each catch basin and gutter flow analysis shall be computed for each gutter line reach between catch basins. When calculations indicate that gutter or inlet capacities are exceeded at a point, no further allowance shall be made for flow beyond that point; and additional catch basins shall be designed to intercept flow at that point.

4.4.2.5 Surface water drainage patterns shall be shown for each lot and drainage subcatchment area.

- 4.4.2.6 *Accommodation of Upstream Drainage Areas.* A culvert or other drainage system shall, in each case, be large enough to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the subdivision.. The Drainage computations shall determine the necessary size of the system, based on the provisions of these regulations, assuming conditions of maximum potential watershed development permitted by the Zoning Bylaw.
- 4.4.2.7 *Effect on Downstream Drainage Areas.* The Drainage Design Report shall also study the effect of each subdivision on existing downstream drainage systems outside the area of the subdivision. Where it is anticipated that the additional runoff incident to the development of the subdivision will overload an existing downstream drainage system, the Planning Board shall withhold approval of the subdivision until provision has been made for the expansion of the existing downstream drainage facility, at the Developer's expense . No subdivision shall be approved unless adequate drainage will be provided to an adequate watercourse or system.
- 4.4.2.8 *Areas of Poor Drainage.* Whenever a plan is submitted for an area that is subject to flooding, the Planning Board may approve such subdivision provided that the applicant constructs the subdivision to an elevation sufficient to place the elevation of streets and lots at a minimum of twelve (12) inches above the elevation of the one hundred (100) year floodplain, as determined by watershed analysis. The plan of the subdivision shall provide for an overflow zone along the bank of any stream or watercourse, in a width that shall be sufficient in times of high water to contain or move the water, and no fill shall be placed in the overflow zone nor shall any structure be erected or placed in the overflow zone. The boundaries of the overflow zone shall be subject to approval by the Planning Board and Conservation Commission. The Planning Board may deny subdivision approval for areas of extremely poor drainage.
- 4.4.2.9 *Floodplain Areas.* The Planning Board may, when it deems it necessary for the health, safety, or welfare of the present and future population of the area and necessary to the conservation of water and drainage, prohibit the subdivision of any portion of the property that lies within the floodplain of any stream or drainage course. These floodplain areas shall be preserved from any and all destruction or damage resulting from clearing, grading, or dumping of earth, waste material, or stumps, except at the discretion of the Planning Board and Conservation Commission.
- 4.4.3 *Dedication of Drainage Easements.* When a subdivision is traversed by a watercourse, drainage way, channel, or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse, and of such width and construction as will be adequate

for the purpose . Wherever possible, it is desirable that the drainage be maintained by an open channel with landscaped banks and adequate width for maximum potential volume flow.

- 4.4.3.1 Where topography or other conditions are such as to make impractical the inclusion of drainage facilities within road rights of way, perpetual and unobstructed easements at least thirty (30) feet in width for drainage facilities shall be provided across property outside the road lines and with satisfactory access to the road. Easements shall be indicated on the plan. Drainage easements shall extend from the road to a natural watercourse or to other drainage facilities.
- 4.4.3.2 When a proposed drainage system will carry water across private land outside the subdivision, appropriate drainage rights must be secured and indicated on the plan.
- 4.4.3.3 The applicant shall dedicate, either in fee or by a drainage or conservation easement, land on both sides of existing watercourses to a distance to be determined by the Planning Board.
- 4.4.3.4 Low-lying lands along watercourses subject to flooding or overflowing during storm periods, whether or not included in areas for dedication, shall be preserved and retained in their natural state as drainage ways.

4.5 Sewage System

- 4.5.1 ***Municipal Sewer Extensions.*** The Developer shall install sanitary sewer facilities in a manner prescribed by the Planning Board, Merrimac Sewer Commission, and The Massachusetts Department of Environmental Protection (DEP) – Water Pollution Control Division (WPC) regulations for municipal sewers. Sewer extensions are required when the municipal sewer is within five hundred (500') feet of the property to be subdivided.
 - 4.5.1.1 All plans shall be designed and approved in accordance with the subdivision rules and regulations, the requirements of the Sewer Commission, and the Mass. DEP/WPC requirements for sewer extensions.
 - 4.5.1.2 Before construction of the sewer system can begin the developer shall provide a copy of the approved sewer system extension permit from DEP to the Planning Board and Sewer Commission.
 - 4.5.1.3 The plans and construction shall meet all requirements of the Merrimac Sewer Commission Rules and Regulations.
 - 4.5.1.4 Plans shall be prepared by a Registered Professional Engineer familiar with state sewer design and construction requirements.

4.5.1.5 Plans shall be submitted for review and approval by the Merrimac Sewer Commission and the Planning Board prior to the approval of the definitive plan.

4.5.1.6 The calculations used in designing the sewerage system including the method of estimating average flows (including infiltration allowances,), the peaking factor used, the hydraulic design of the system including quantity and velocity of flow under both average and peak flow conditions shall be submitted with the definitive plans. Design sketches showing the hydraulic gradient and the energy gradient for each run of pipe shall be included. Calculations of flows shall be based upon 314 CMR 7.15.

4.5.2 ***Subsurface Absorption Systems.*** In locations where extension of the municipal sewer system is not possible individual subsurface absorption systems (SAS) shall be installed to serve each lot, individually.

4.5.2.1 SAS systems shall be designed in accordance with the requirements of Title 5 of the Massachusetts Environmental Code and the requirements of the Merrimac Board of Health.

4.5.2.2 Soil and percolation tests for each lot shall be successfully completed before submission of the Definitive Plan.

4.5.2.3 A report of test results, including unsatisfactory tests, shall be submitted to the Planning Board and shall include the following:

- Lot number
- Soil tests numbered sequentially using the following system

PT	or	SO	-	98	-	01	-	02
Perc	or	Soil		year		Lot #		Consecutive test on each lot
- Mass. DEP standard test sheets
- Location map of all soil and percolation tests at a Scale of 1" – 40'
- Seasonal high groundwater elevation.
- Special design requirements for every lot.

4.5.2.4 The definitive site plans (40scale) shall show the location and grading of each SAS System as follows:

- Building footprint, property line offsets
- Driveway
- SAS system including reserve area.
- Utility services
- Water service or well location
- Existing two(2) foot contours

- Proposed two (2) foot contours
- Areas of retained vegetation

4.5.2.5 Upon approval of an SAS construction permit from the Board of Health a copy of each individual lot permit and SAS design plan shall be submitted to the Planning Board.

4.6 Water Systems

4.6.1 **General Requirements.** When the municipal water main is within five hundred (500') feet of the land to be developed the developer shall extend the municipal water system subject to the requirements and specifications of the Planning Board and the Merrimac Water Commission.

4.6.2 **Municipal Water.** Water mains shall meet all requirements of the Merrimac Water Commission Rules and Regulations.

4.6.2.1 Hydrants shall be installed at locations approved by the Merrimac Fire Department and shall be a maximum of five hundred (500') feet apart.

4.6.2.2 Gate valves shall be installed along the distribution system at an interval not to exceed one thousand (1000') feet apart and all intersections shall be properly valved so that system isolation can be achieved.

4.6.2.3 Water mains shall be buried with a minimum cover of five (5') feet.

4.6.3 **Individual Wells.** In areas where the municipal water system is not available individual on site wells shall be installed to serve each lot.

4.6.3.1 The construction of individual lot wells shall be in strict conformance to the regulations and requirements of the Merrimac Board of Health.

4.6.3.2 The Planning Board shall not release any lot, in a subdivision, for a building permit until the developer provides the Planning Board with a copy of the approval of test results for an individual lot well from the Board of Health.

4.6.4 **Water Holding Tanks.** If approved by the Fire Department and the Planning Board, a 25,000 gallon minimum water holding tank may be installed as a supplemental fire fighting water source for a subdivision.

4.6.4.1 The developer shall provide the Fire Department with proper documentation to illustrate that the proposed tank is approved and proven by past installations, for this type of application by the manufacturer.

- 4.6.4.2 The developer shall also provide a written eighteen (18) month guarantee that the tank shall retain its designated water capacity.
- 4.6.4.3 The tank shall be reinforced for standard H-20 loading to meet weight requirements of the Town of Merrimac.
- 4.6.4.4 The tank shall have one (1) six inch (6") dry hydrant installed per the Dry Hydrant Requirements.
- 4.6.4.5 The tank shall have one (1) two and one half inch (2 ½) fill pipe with a NST (National Standard Thread) male thread. This fill pipe shall be located next to but not obstructing the dry hydrant. The discharge of this fill pipe shall be designed as to create as little tank disturbance as possible.
- 4.6.4.6 Each tank shall have a least one manhole with grade access. This manhole access shall be located on the tank which has the dry hydrant installed. The manhole cover shall be rendered tamper proof and have a six by inch (6"x6") hinged and lockable inspection cover. A master padlock will be provided by the Fire Department, at the developer's expense.
- 4.6.4.7 All vents from the tank(s) shall be at least six inch (6") in diameter and shall have tamper proof screening.
- 4.6.4.8 The hydrant placement for these tanks shall be not more than 75' from the intersection of the new and existing roadways.
- 4.6.4.9 Tanks shall be filled with clean water after installation by the developer. Upon successful completion of the Fire Department acceptance test the developer shall refill the tank(s), at the developers' expense.
- 4.6.4.10 Each tank must have shop drawings identifying all the specifics of the tank. These drawings and the installation location must be approved by the Fire Department before the actual installation can begin.

4.6.5 ***Dry Hydrant Requirements.*** All piping associated with a dry hydrant installation shall be composed of accepted material and be at least six inches (6") in diameter. All piping and fittings above grade shall not be PVC.

- 4.6.5.1 Not more than two (2) 90 degree elbows will be permitted, without approval by the Fire Department.
- 4.6.5.2 All pipe connections and fittings shall be made water and air tight.
- 4.6.5.3 All dry hydrant supply piping shall be installed to a minimum depth of forty eight inches (48").

- 4.6.5.4 The depth of the hydrant piping shall be installed to the depth of the water source in order to provide quick and easy priming.
- 4.6.5.5 The inlet fitting of a dry hydrant shall be a minimum of two feet (2') from the bottom of the water source and a minimum of two feet (2') from the surface of the water source at its minimum water level.
- 4.6.5.6 The inlet fitting of a dry hydrant shall be of an approved strainer design, made of stainless steel. The total area of strainer holes must exceed four (4) times the area of the diameter of the pipe.
- 4.6.5.7 The maximum head (lift) from the surface of the water resource to the top of the hydrant shall be thirteen feet (13').
- 4.6.5.8 The dry hydrant fittings shall be four and one half inch (4½ ") NST (National Standard Thread) male thread and the cap shall have a chain attached to prevent its loss upon removal.
- 4.6.5.9 The dry hydrant shall be thirty six inches (36") from the middle of the cap to grade.
- 4.6.5.10 All dry hydrants shall be installed six feet (6') from the edge of the paved roadway, free from all obstructions and hazards, protected by two (2) concrete-filled steel structural columns that are at least six inches (6") in diameter and four feet (4') in height. These protective columns shall be secured in concrete and spaced four feet (4') apart and two feet (2') in front of the dry hydrant.
- 4.6.5.11 All exposed piping, fittings, and protective columns shall be painted red in color with two (2) coats of rust proof type paint.
- 4.6.5.12 The Merrimac Fire Department shall provide a "Water Source" sign to be installed as specified with each dry hydrant, at the developer's expense.

4.7 Utilities

- 4.7.1 All public utilities, including but not limited to gas, electric power, telephone and CATV Cable, shall be located underground throughout the subdivision.
- 4.7.2 Utility lines shall be installed in accordance with the requirements of each utility. However, all utilities and the services to each lot shall be installed prior to the road gravel base being installed.
- 4.7.3 Street lights shall be installed to the requirements of the Merrimac Light Department at locations approved by the Planning Board and the Merrimac Light Department.
- 4.7.4 As built drawings shall indicate all underground utility lines and surface components such as valves, shutoffs, transformers, poles, distribution and

junction boxes as constructed. All valves and shutoffs shall be shown with a minimum of three (3) ties to physical permanent objects.

4.8 Curbing

- 4.8.1 Vertical and slope granite curbing shall be installed along both edges of all roadways in the subdivision.
- 4.8.2 Vertical granite curb shall be installed at all intersections and in locations where the road grade exceeds five (5%) percent.
- 4.8.3 Slope granite curb shall be installed at all other locations.
- 4.8.4 Granite curbing shall be of the following types as specified in the Mass Highway Specifications. M.904.1:
 - 4.8.4.1 Vertical Granite Curb - Type VA3
 - 4.8.4.2 Sloped Granite Curb - Type SA

4.9 Sidewalks

- 4.9.1 Sidewalk design shall be varied in horizontal layout and location to enhance aesthetic value. When located within the street right of way, sidewalks shall be located no closer than within six (6") inches of the outside of the layout, when possible, with a maximum of Pedestrian-Vehicular separation. Where sidewalks are located outside of the right of way, the developer shall reserve suitable easement therefor. Sidewalks shall be a minimum of five (5') feet in width. There shall be a minimum of 5' between sidewalk and roadway. The area between the sidewalk and the roadway shall be appropriately landscaped, as approved by the Planning Board.
- 4.9.2 Bituminous concrete sidewalks shall conform to the material and construction methods as specified in Section 701 of the Mass Highway Standard Specifications.
- 4.9.3 Sidewalks shall be constructed on both sides of the roadway. The Board may waive the sidewalk requirement, entirely, or require that they be constructed on only one side of the roadway. When sidewalks are deleted, grass strips shall be extended in their place.
- 4.9.4 Bituminous concrete sidewalks shall:
 - 4.9.4.1 Be laid in 2 courses of 1½ inches each to a depth after rolling of 3 inches, compacted thickness.
 - 4.9.4.2 Conform to the material requirements of M3.11.00 of the Standard Specifications for Class I, Bituminous Concrete Pavement.

- 4.9.4.3 Be placed on an 8-inch gravel base, except at driveways where it shall be 12 inches, compacted to 95 percent (ASTM Designation 1557-70, Method D) conforming to M1.03.0 Type C of the Standard Specifications.
- 4.9.5 Cement concrete sidewalks may be required in Business and Industrial Use Subdivisions. The Planning Board may require that the sidewalks be constructed for the total width from the curb line to the R.O.W. line if, in the opinion of the Planning Board, it is warranted by the character of the area and pedestrian traffic.
- 4.9.6 Cement concrete sidewalks shall:
- 4.9.6.1 Have a finished thickness of 4 inches except at driveways where it shall be 6 inches.
 - 4.9.6.2 Be an air-entrained Portland cement mix producing from 6 to 8 percent air and developing a minimum 28-day compressive strength of 2,500 psi;
 - 4.9.6.3 Be placed on an 8-inch gravel base compacted to 95 percent (ASTM designation 1557-70, Method D) conforming to M1.03.0 Type C of the Mass Highway Standard Specifications;
 - 4.9.6.4 Be placed in alternate slabs of 30 feet in length which shall be separated by a transverse expansion joint;
 - 4.9.6.5 Be uniformly scored into block units of not more than 35 square feet in area to a depth of at least 1 inch.
 - 4.9.6.6 Shall be reinforced with 6/6 x 10/10 welded steel wire fabric conforming to ASTM Designation A185-70. However, microfibers may be substituted for wire mesh reinforcing in concrete sidewalk paving. Fibers shall be 3/4" (20 mm) multifilament polypropylene fibers as supplied by Grace Construction Products, 62 Whittemore Avenue, Cambridge, MA 02140. One pound (450 grams) of fibers shall contain no less than 50 million individual fibers. Required dosage rate shall be a minimum of one (1) pound of fibers per cubic yard of concrete. Grace MicroFiber shall be used in strict accordance with the supplier's recommendations and within time as specified in ASTM C94. The fiber shall comply with ASTM Designation C 1116-91 Type III 4.1.3. Standard ACI 302 procedures for placing, finishing and curing shall be followed when using Grace Microfiber.

4.10 Grass Strips

- 4.10.1 Grass strips shall be provided between the curb and the sidewalks, where sidewalks are required.

- 4.10.2 The finished grade of such grass strips shall be a slope of $\frac{1}{2}$ "/ft. toward the roadway. Where unusual physical land characteristics or topographic conditions exist the Planning Board may approve the construction of a grass strip of a greater slope with the finished slope not projecting above a plane sloped four horizontal to one vertical upward from the back of the curb or below a plane sloped four horizontal to one vertical downward from the back of the curb.
- 4.10.3 Immediately following the completion of construction of the sidewalks, shade trees of a species to be approved by the Planning Board shall be planted along the sidelines of the streets, at the location and intervals to be determined by the Planning Board. Trees shall be protected by suitable boxes, fenders, or wells as appropriate. The Developer shall be responsible for the health and erectness of these trees until the ways have been accepted by the Town. In the event of a waiver of the sidewalk requirement, shade trees shall be planted immediately upon the completion of laying the binder course.
- 4.10.4 The top six (6") inches of grass strips shall consist of good quality loam extending to the right-of-way, screened, raked, and rolled with at least a 100-pound roller to grade. The loam shall be seeded with lawn grass seed applied in sufficient quantity to assure 100% coverage, rolled when the loam is moist. Loaming and seeding shall be in accordance with Section 751 and 765 of the Mass. Highway Standard Specifications.

4.11 Side Slopes

- 4.11.1 The area in back of the required grass strips, where no sidewalk is constructed, or in back of the sidewalk where sidewalks are constructed shall be graded to a point where it coincides with the finished grade of abutting lots in such a manner that no portion thereof will project above a plane sloped four (4) horizontal to one vertical.
- 4.11.2 If approved by the Planning Board, this area may be graded in such manner that no portion shall project above a plane sloped three(3) horizontal to one vertical; however, whenever the depth of cut in the area exceeds eight(8') feet, or when, in the opinion of the Planning Board, soil conditions warrant special considerations, slope flattening methods such as benching shall be employed and terraced areas provided to intercept runoff. Drainage shall be toward the roadway where possible.

4.12 Street Name Signs

- 4.12.1 Street name signs shall be the standard Merrimac street name signs provided at the Developer's expense. Signs showing names of both intersecting streets shall be erected by the Developer at each Street intersection near the inside curb edge. The type and location of street name signs shall be subject to the approval of the Public Works Director.

4.13 Bicycle Paths

- 4.13.1 Public bicycle paths may be required by the Planning Board to provide circulation or access to schools, recreational areas, retail facilities, transportation, and community facilities, or where in the opinion of the Planning Board, bicycle travel in the streets would be dangerous. These paths may or may not be part of the normal sidewalk provisions.
- 4.13.2 Bicycle paths shall be designed with a minimum ten foot right of way, 4-6 feet paved width, and a maximum gradient of 5% except for segments of less than 200 feet, where a maximum gradient of 10% will be allowed, and a minimum centerline radius of 25 feet.

4.14 Preservation of Natural Features and Amenities.

- 4.14.1 **General.** Existing features that would add value to residential development or to the Town of Merrimac as a whole, such as trees, as herein defined, watercourses and falls, beaches, historic spots, and similar irreplaceable assets, shall be preserved in the design of the subdivision. No tree shall be removed from any subdivision nor any change of grade of the land effected until approval of the definitive plan has been granted. All trees on the land, required to be retained, shall be preserved; and all trees, where required, shall be welled and protected against change of grade. The definitive plan shall show the number and location of existing trees as required by these regulations and shall further indicate all those marked for retention and the location of all proposed shade trees required along the street side of each lot as required by these regulations.
- 4.14.2 **Landscaping By Developer.** As a requirement of subdivision approval the Developer shall plant shade trees on the property of the subdivision. Such trees are to be planted within five(5) feet of the right-of-way of the streets or streets within and abutting the subdivision or, at the discretion of the Planning Board, within the right-of-way of such streets.
 - 4.14.2.1 One (1) tree shall be planted for every fifty (50) feet of frontage along each road unless the Planning Board shall grant a waiver. The waiver shall be granted only if there are trees growing along the right-of-way or on the abutting property which, in the opinion of the Planning Board, comply with these regulations.
 - 4.14.2.2 New trees to be provided pursuant to these regulations shall be approved by the Planning Board and Tree Warden. They shall be planted in accordance with the Definitive Plan as prepared by a registered landscape architect. The trees shall have a minimum trunk diameter (measured four feet (4) above ground level) of not less than three (3) inches. Only Oak, Honey Locust, Hard Maples, Ginkgo, or other long-lived shade trees acceptable to the Tree Warden and to the Planning Board shall be planted.
 - 4.14.2.3 The developer will be responsible for all trees so planted as to their erectness and good health after planting and until the release of all

guarantees. Trees shall be properly planted, wrapped, and guyed to insure their survival.

- 4.14.2.4 Except as otherwise provided, all cut bankings shall be planted with a low growing shrub or vine and wood chips or bark mulch, to a minimum depth of six inches (6") or seeded with a deep rooted perennial grass to prevent erosion, or other accepted low-maintenance slope stabilization methods.
- 4.14.2.5 Other landscaping along ways may be required by the Planning Board.
- 4.14.2.6 The landscape plan shall be prepared and stamped by a Registered Landscape Architect and the landscape plan shall be submitted as part of the definitive plans.

END - OF - ARTICLE

SECTION 5.0 CONSTRUCTION REQUIREMENTS	3
5.1 General Requirements	3
5.2 Streets	4
5.2.1 <i>General</i>	4
5.2.2 <i>Clearing and Grubbing</i>	4
5.2.3 <i>Excavation</i>	5
5.2.4 <i>Embankment</i>	5
5.2.5 <i>Grading</i>	5
5.2.6 <i>Subbase</i>	5
5.2.7 <i>Pavement</i>	6
5.2.8 <i>Pavement Material</i>	6
5.3 Side Slopes, And Shoulders	7
5.3.1 <i>Side Slopes</i>	7
5.3.2 <i>Areas Disturbed by Construction</i>	8
5.4 Erosion Control Plan	8
5.4.1 <i>General</i>	8
5.5 Utilities	9
5.5.1 <i>Materials and Installation Methods</i>	9
5.5.2 <i>Sewerage</i>	9
5.5.3 <i>Gas</i>	9
5.5.4 <i>Electric</i>	10
5.5.5 <i>Other Utilities</i>	10
5.6 Drainage (Section 400) Surface and Subsurface Water	10
5.6.1 <i>General</i>	10
5.6.2 <i>Basins, Manholes, and Inlets</i>	10
5.6.3 <i>Culverts, Storm-Drains, and Sewer Pipes</i>	10
5.6.4 <i>Sub-Drains</i>	10

5.7 Sidewalks	10
5.7.1 <i>Requirements for Sidewalks</i>	10
5.7.2 <i>Width</i>	11
5.7.3 <i>Sidewalks Adjacent to Street</i>	11
5.7.4 <i>Reference to Standard Specifications</i>	11
5.8 Bikeways, Walkways, And Trails	11
5.9 Curbs	12
5.9.1 <i>Granite Curbing</i>	12
5.10 Highway Guards, Fences, And Walls	12
5.10.1 <i>General</i>	12
5.10.2 <i>Stonewall appearance</i>	12
5.11 Stone Retaining Walls	13
5.12 Tree, Shrubs, And Ground Cover	13
5.13 Monuments	13
5.14 Street Signs	14
5.15 Street Lights	14
5.16 Fire Alarm System	14
5.17 Clean Up	15
5.18 Flood Hazard Avoidance	15
5.19 Maintenance Of Improvements	15
5.20 Provision For Competent Supervision	16
5.21 Site Contamination	16

ARTICLE

5

SECTION 5.0 CONSTRUCTION REQUIREMENTS

5.1 General Requirements

- 5.1.1 It is the intent that no street through private property shall be accepted by the Town unless the street has been previously constructed and completed in accordance with the approved Definitive Subdivision Plan and the following specifications.
- 5.1.2 To ensure high quality and uniformity of construction and unless otherwise specified, all the work and the materials used in the work to be done shall conform to the requirements of the "Commonwealth of Massachusetts, Department of Highways, Standard Specifications for Highways and Bridges, 1988 Edition," as amended; hereinafter referred to as the "Standard Specifications" and the special provisions included hereinafter. Appropriate illustrations are found in "Commonwealth of Massachusetts, Department of Highways, 1977 Construction Standards as amended.
- 5.1.3 Supplementing the aforesaid Standard Specifications, certain specifications or special provisions shall apply particularly to the work to be done hereunder. These specifications and special provisions shall take precedence and shall govern when they are stricter.
 - 5.1.3.1 All references in the Standard Specifications, amendments or addenda to Commission, Department of Public Works, Engineer, Party of the First Part, etc., shall be construed to mean the Planning Board of the Town of Merrimac or its duly authorized representative.
- 5.1.4 To facilitate reference where appropriate, each paragraph in this specification is noted with the paragraph number of the particular section as contained in the Standard Specifications.
- 5.1.5 The extent of work required shall be completed as shown upon the approved Definitive Subdivision plans.

- 5.1.6 Offset stakes shall be set under the direction of a Professional Land Surveyor at fifty foot (50') intervals and at each drainage structure, sewer structure, and at each hydrant to indicate the location and the exact amount of cut, fill, or grade.
- 5.1.7 Improvements to minimize adverse environmental impact, if required, shall be installed in accordance with all details as shown on the approved Definitive Plan, and all possible measures shall be taken during construction to minimize erosion and tree removal.
- 5.1.8 No earth shall be removed from the area shown on a Definitive Plan except in accordance with the approved plan, and the Soil Removal Bylaw of The Town of Merrimac.
- 5.1.9 Immediately prior to any clearing for street construction, the location of the pavement within the street dedication and the extent of clearing shall be approved by the Planning Board during a site visit. Under no circumstances shall the clearing for street construction exceed what is necessary to construct the street surface, shoulders, drainage ditches (if required), and cut and fill slopes. If the Planning Board authorizes the movement of the street's centerline off the centerline of the street dedication to save specific trees, the trees to be saved shall be prominently banded so that they may be observed during street construction.
- 5.1.10 At the time of placing the binder course, a driveway stub built to street specifications not less than twenty feet (20') in length shall be installed on each lot.
- 5.1.11 One month prior to beginning construction the developer shall submit a detailed construction project schedule to the Planning Board and its agent. Monthly updates of the project schedule shall be provided to the Planning Board and it's agent indicating project progress and anticipated activities for the following month.
- 5.1.12 Prior to commencing construction the Planning Board or it's agent will conduct an on site preconstruction conference. Notification of the meeting time and place to interested parties, public utility companies and Town Departments, Commissions and Boards will be the responsibility of the developer.

5.2 Streets

- 5.2.1 **General.** This work shall consist of clearing, grubbing, cutting, removal and disposal of all vegetation and debris from areas either within or outside the right - of - way as shown on the Definitive Plans or as designated by the Planning Board or its agent. The work shall also include the preservation from injury or defacement of all vegetation and objects designated by the Planning Board, or its agent, to remain.
- 5.2.2 **Clearing and Grubbing.** (Section 101 of the Standard Specifications)

The paved area and shoulders of each street shall be cleared and grubbed to remove all trees not intended for preservation, stumps, brush, roots, rocks, or boulders and other unsuitable material which may exist upon the surface.

- 5.2.3 **Excavation.** (Section 120 of the Standard Specifications). The entire area of the street shall be excavated to remove all materials encountered within the paved area and shoulders down to the true surface of the subgrade, or to suitable material in the areas where unsuitable materials exist, in preparation for foundations of streets, sidewalks, driveways, and curbing. Materials obtained from the excavation may be used in roadway fills, as needed, if they are sampled and tested by an independent testing laboratory acceptable to the Planning Board or its Agent and, in the opinion of the Planning Board or its Agent, the material satisfies the requirements of Section 150 of the Standard Specifications. Necessary laboratory testing to determine the suitability of the excavated soil, shall be arranged for and paid for by the developer.
- 5.2.4 **Embankment.** (Section 150 of the Standard Specifications). When in the opinion of the Planning Board or its Agent, suitable material is not available within the limits of the street location to form the subgrade or sub-base, the Developer shall obtain suitable additional material from other sources in accordance with this section, and as may be approved by the Planning Board or its Agent. A certificate of compliance along with information on the source of the material being used shall be submitted to the Planning Board or its agent for approval prior to use.
- 5.2.5 **Grading.** (Section 170 of the Standard Specifications). The sub-grade surface, twenty and one inches (21") below the finished surface grade in minor streets, and twenty two and one half inches (22 ½) below the finished surface grade in major streets, shall be prepared true to the lines, grades, and cross sections given and compacted with a vibratory roller to achieve 95% compaction. The prepared subgrade shall then be proof rolled with a combined weight of 70,000 pounds to determine that the subgrade does not contain weak or unsuitable soil. All soft or spongy material below the subgrade surface shall be removed to a depth determined by the Planning Board or its Agent, and the space thus made shall be filled with suitable material conforming to Section M 1.02.0. of the Standard Specifications. Material used shall contain no stones over six inches (6") in their largest diameter, or any other material detrimental to the sub-grade.
- 5.2.6 **Subbase.** (Sections 401 and 402 of the Standard Specifications) Final compacted thickness for sub-base materials shall be as follows:
Sub-base shall be twelve inches 12" of Gravel Borrow, Type b (M 1.03.0) overlaid by four (4) inches of processed gravel (M1.03.1). Gravel borrow material shall be placed in two (2) six inch (6") courses on the prepared subgrade and each lift compacted to 95 percent of maximum dry density as determined by Standard AASHTO Test Designation T99 compaction test Method C at optimum moisture content. Depressions that appear during compaction rolling shall be filled with gravel borrow and re-rolled. The surface of the gravel borrow shall be graded to the street lines and grades in preparation for the placement of the processed gravel material.

5.2.6.1 Processed gravel shall be placed in one (1) four inch (4") compacted courses. Final grading, rolling and finishing including the shaping, trimming, rolling, and finishing of the surface of the sub-base prior to placement of the bituminous concrete pavement shall be in accordance with the Standard Specifications and as directed by the Planning Board or its Agent.

5.2.7 **Pavement.** Street pavement shall be constructed for the full length of all streets within the Subdivision. The centerline of all streets shall coincide with the centerline of the street right-of-way unless a deviation is approved by the Planning Board. The widths of the street and pavement shall be in accordance with the approved plan.

5.2.8 **Pavement Material.** Pavement material for all streets in a Subdivision shall be Class I, bituminous concrete pavement type I-1 (Section 460). The material and construction methods for laying pavement shall conform in every way to the Standard Specifications and no such construction shall be undertaken before March 30th of any year nor after November 1st of any year without written permission of the Planning Board, and shall be applied only in dry weather.

5.2.8.1 Final compacted pavement thickness for major and minor streets shall conform to the following:

Minor Street

Base Course: Three inches (3") of Class I Bituminous Concrete. Type 1-1 Binder Course Material in one lift, as approved by the Public Works Director.

Surface Course: Two inches (2") of Class I Bituminous Concrete Type 1-1 Top Course Material, as approved by the Public Works Director.

Major Road

Base Course: Four and one half inches (4.5") of Class I Bituminous Concrete Type I-1 in two lifts: Two inches (2") Dense Binder Course Material over two and one-half inches (2.5") Binder Course Material, as approved by the Public Works Director.

Surface Course: Two inches (2") of Class I Bituminous Concrete Type I-1 Top Course material, as approved by the Public Works Director.

- 5.2.8.2 Once the street base course has been placed, the Developer shall maintain this surface until the street surface course is placed and accepted. If the surface course is not placed within twelve (12) months from the date of placing the base course the Developer shall be responsible for applying a single course surface treatment consisting of an Emulsified Asphalt Product covered with three-eighths inch (3/8") crushed stone, prior to top course placement. Application rates shall be as follows:

Emulsion: 0.4 gallons per square yard

Cover stone: 22 to 26 pounds per square yard. Use pre-treated stone at the rate of 1.5 to 2 gallons of MC 70 per ton. Also use anti-strip latex additive. The Developer shall be responsible for ensuring that the roadway is swept between 5 and 10 days after the application of the emulsion layer.

- 5.2.8.3 The Developer shall be responsible for maintaining this process until the surface course of bituminous concrete is placed.
- 5.2.8.4 Under no circumstances will the base course be permitted to winter more than one season without the application of a single surface course treatment.
- 5.2.8.5 Surface courses damaged by the Developer or the Contractor, following its acceptance by the Planning Board or its Agent, shall be restored or resurfaced by the Developer at his expense.
- 5.2.8.6 The Contractor shall place a tack coat consisting of bitumen applied at a rate of 0.05 gallons per square yard, directly to the base course or emulsified asphalt treatment.

5.3 Side Slopes, And Shoulders

- 5.3.1 **Side Slopes.** Embankment slopes within or adjoining the right-of-way shall be evenly graded and pitched at a slope of not greater than four (4) horizontal to one (1) vertical (4:1). Where steeper slopes are required, the slope may be increased to a maximum of 3:1 with the approval of the Planning Board.
- 5.3.1.1 Cut slopes in earth shall be graded at a maximum slope of 3:1. Where cuts are made in ledge, other slopes may be determined with the approval of the Board.
- 5.3.1.2 Where terrain necessitates greater embankment or cut slopes retaining walls, terracing, fencing, or rip-rap may be used either

alone or in combination to provide safety and freedom from maintenance, but must be done in accordance with plans filed and approved by the Planning Board. Guard rails shall be furnished wherever the slope is or greater than, three (3) horizontal to one (1) vertical downhill with a vertical drop in grade of four feet (4') or greater. Wherever embankments are built in such a way as to require approval by the Board, the Developer must furnish to the Town of Merrimac duly recorded access easements free of encumbrances for maintenance of the slopes, terraces, or retaining walls. All slopes shall be graded, covered with six (6") inches of screened loam and seeded using materials in accordance with roadside development materials (Section M6) of the Standard Specifications and the requirements of these Rules and Regulations.

- 5.3.2 *Areas Disturbed by Construction.* Loam and suitable vegetative cover approved by the Board shall be placed on all side slopes and other areas disturbed by construction, unless other types of vegetative or inorganic cover are approved for use or are determined by the Planning Board to be necessary for erosion control.

5.4 Erosion Control Plan

- 5.4.1. *General.* Before approval of a Subdivision, the Developer shall prepare and submit for approval of the Planning Board or its Agent an Erosion Control Plan covering all phases of construction for the area in which work is to be performed. The area shall be specified and may include the portion of work within the right-of-way or may include all or part of the lots depending on the extent of work and location of wetlands. The following factors shall be considered in such a program:
- 5.4.1.1 Construction activities shall be phased so that construction can be completed rapidly and large areas are not left bare and exposed for long periods.
 - 5.4.1.2 Grading shall be kept at a minimum. Where possible, existing trees and vegetation shall be protected and retained. Only undesirable trees shall be removed.
 - 5.4.1.3 Drainage shall be maintained by the Contractor during construction. Runoff shall be controlled and conveyed into storm sewers or other outlets so it will not erode the land or cause off-site damage.
 - 5.4.1.4 Critical areas, including embankments and slopes, exposed for periods in excess of one month, shall be protected during construction with mulch or temporary crop covers and with mechanical measures such as diversions and prepared outlets.
 - 5.4.1.5 Sediment basins, temporary and permanent, shall be constructed where necessary to detain runoff and to trap sediment during construction.

- 5.4.1.6 Safe off-site disposal of runoff shall be provided, including the increased runoff resulting from construction.
- 5.4.1.7 Permanent vegetation and erosion control structures where necessary shall be installed as soon as possible. In all cases where rip-rap is utilized, rip-rap shall be of a size specified by the Planning Board or its Agent and placed, rather than dumped.

5.5 Utilities

5.5.1 *Materials and Installation Methods.* Utilities shall be installed in accordance with the approved plan. No utility mains shall be installed under the pavement except at intersections and stubs crossing the street shall be installed prior to paving. Utility main installation after placement of pavement shall be approved by the Planning Board. Unless otherwise specified, all materials and installation methods shall conform to the Standards of the Town of Merrimac and the utility companies.

5.5.1.1 All underground utilities and other structures located within the right-of-way shall be installed in the right-of-way before completion of the street subgrade and before placing of the sub-base, pavement and sidewalk. If the pavement is broken for underground installation of structures or utilities, pavement repair will be in accordance with the requirements of the Public Works Director and the Planning Board.

5.5.1.2 *Excavation for Structures* (Section 140 of the Standard Specifications) Excavation for structures, including foundations for drains, sewers, gas, and water pipes, walls and other structures shall be made to the depth indicated on the Definitive Plan or established by the Planning Board or its Agent as appropriate. Rocks encountered in trench excavation determined to be Class B Rock, shall be removed as directed by the Planning Board or its Agent.

5.5.2 *Sewerage.* On site sewerage disposal facilities shall be installed and constructed in conformity with the rules and regulations of the Board of Health and Title 5, Massachusetts State Environmental Code. Due consideration should be given to surface and subsurface soil conditions, drainage, and topography in the location of such on-site facilities.

5.5.2.1 Municipal sewer mains and appurtenances shall be installed in accordance with the requirements of the Merrimac Sewer Board and the Massachusetts DEP-WPC standards and requirements.

5.5.3 *Gas.* If gas is to be installed within a proposed subdivision, the Gas Company shall be notified by the Developer upon approval of the Definitive Plan so that installation of gas mains may be completed without undue delay and prior to placement of pavement. If excavation is made after the pavement is completed and inspected, the gas mains shall be put in a sawcut trench, backfilled with

approved material, and patched in accordance and to the lines, grades and dimensions approved by the Public Works Director.

- 5.5.4 *Electric.* Electric lines shall be installed underground in accordance with the regulations of the Merrimac Municipal Light Department. The Planning Board may permit transformers, switches, and other such equipment to be placed on the ground in approved locations, screened from view with evergreen shrubbery. Service shall be supplied to each lot and each street light, if any, before the subgrade is prepared.
- 5.5.5 *Other Utilities.* Other utilities shall be installed in underground conduits in accordance with the method required by the utility company or department. Fire alarm, telephone, and, if any, cable television, shall be installed underground and may be in the same trench with vertical and or horizontal separation as approved by the Planning Board. Service shall be provided to each lot before the subgrade is prepared.

5.6 Drainage (Section 400) Surface and Subsurface Water

- 5.6.1 *General.* Adequate disposal of surface and sub-surface water shall be provided. Where pipes, manholes, and catchbasins are required they shall be shown on the Definitive Plan.
- 5.6.2 *Basins, Manholes, and Inlets.* (Section 201 of the Standard Specifications). All basins, manholes, and inlet structures shall be constructed in conformance with the latest Massachusetts Department of Public Works Construction Standards. The standard depth of catch basins shall be four (4') feet below the invert of the lowest drain. Manholes shall be constructed to the required depth at each junction point and shall be as shown on the plan. Basin and inlet grates shall be of a type approved by the Public Works Director and the Planning Board. Frames and grates shall be temporarily set at base course grade and subsequently raised to finished grade prior to finished paving. Berms shall be installed, as necessary, to direct the runoff toward the basin.
- 5.6.3 *Culverts, Storm-Drains, and Sewer Pipes.* All pipes except sub-drains shall be reinforced concrete pipe Type IV, minimum, and shall be selected in conformity with the requirements of the Standard Specifications. All pipe shall be installed in accordance with the size and location on the approved Definitive Plan. No backfilling of pipes shall be done until the installation has been inspected by the Planning Board or its Agent. All drainage trenches shall be filled with clean Gravel Borrow, Type b, in accordance with Section 150.
- 5.6.4 *Sub-Drains.* Where sub-drains are required by the Planning Board or the Public Works Director they shall be designed and constructed in conformance with Section 260 of the Standard Specifications.

5.7 Sidewalks

- 5.7.1 *Requirements for Sidewalks.* Where Sidewalks are required, they shall be constructed within the Subdivision as shown on the approved Definitive Plan.

- 5.7.2 *Width.* All Sidewalks shall be a minimum width of five feet (5'). Sidewalks shall be provided with handicapped ramps where required by the Planning Board and meet the current Massachusetts Architectural Access Board Standards.
- 5.7.3 *Sidewalks Adjacent to Street.* Within a subdivision sidewalks shall be separated from the road pavement by a seeded grass plot a minimum of five feet (5') in width and may be made of either cement concrete or bituminous concrete.
- 5.7.4 *Reference to Standard Specifications.* All sidewalk construction shall be in accordance with the requirements of Sidewalks and Bituminous Concrete Driveways (Section 701 of the Standard Specifications), except the cross slope shall be three- sixteenths of an inch (3/16") per foot of width to conform to Massachusetts Architectural Access Board requirements.

5.8 Bikeways, Walkways, And Trails

- 5.8.1 Where bikeways and walkways are required they shall be constructed in accordance with the specifications for sidewalks above, except for the design standard requirement of Section 4.13. Where bikeways and walkways intersect with sidewalks, leveling areas shall be provided. These leveling areas shall be shown in detail on the Definitive Plan for the subdivision. All bikeways shall conform to current Federal Highway Administration standards. Where trails have been relocated or otherwise disturbed, the Developer shall ensure that they are readily passable on foot or horseback. They shall have solid footing, be level from side to side, neither ascend nor descend at an excessive slope and be clear of obstructions and other hazards.

5.9 Curbs

5.9.1 **Granite Curbing.** The Planning Board may specify that “battered” granite curbs with a five inch (5”) face set in concrete with the dimensions given for Granite Curb (Section M9.04. I) Type VB4 in the Standard Specifications be provided in the following locations, and be installed in accordance with the construction methods outlined under Curb, Curb Inlets, Curb Corners, and Edging (Section 501).

5.9.1.1 *Vertical Granite.* Granite curbing shall be provided at intersections along the paving edge the distance of arcs of the curves plus a straight section at each end of six feet (6’), in accordance with the approved plan, type VB4.

5.9.1.2 Granite curbing shall be provided at raised traffic islands and medians, type VA3.

5.9.1.3 Sloped granite curbing shall be provided at all other edges of the street at grades less than five (5%) percent, type SA.

5.9.1.4 Vertical granite curbing shall be provided at edges of the street at grades of five (5%) or greater., type VA3.

5.10 Highway Guards, Fences, And Walls

5.10.1 **General.** Guard fences, rails, and walls shall be installed wherever determined necessary by the Planning Board or its Agent to provide needed protection to the public and when slopes are three to one (3:1) or greater or have a vertical drop in excess of four feet (4’). When provided, they shall be constructed in accordance with the approved plans and the current standards of the American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide. Construction details of all fences, rails, and walls shall be shown on the Definitive Plan for the subdivision. Whenever possible, such fences, rails, and walls shall be of a rustic nature to blend with the character of the Town.

5.10.2 **Stonewall appearance.** Stonewalls in New England and in Merrimac are a proud hallmark of our heritage and are a fundamental quality of the charm and special nature of this rural community.

5.10.2.1 They shall be simple and modest; usually three feet in height; and give the viewer the impression that they are almost naturally part of the landscape. They are not to be constructed in such a manner so that they look as if they are “finished works” with uniform dimensions and surfaces and smooth lines.

5.10.2.2 Stonewalls shall be constructed (or at least appear so) by carefully piling the stones without visible mortar. Here again the element of simplicity is present, in fact properly “piling” the stone requires

careful planning, especially if the wall is to have the necessary amount of structural integrity to withstand the pressure of plowed snow. Merrimac stonewalls shall not have bronze or metallic plaques embedded in the surface.

- 5.10.2.3 The ends of a stonewall should be as simple and natural as the wall itself. Importantly, at openings for driveways or roads, the stonewall should not be perfectly curved to parallel the road flair, which would be characteristic of a suburban development.

5.11 Stone Retaining Walls

- 5.11.1 Retaining walls when required shall be constructed of field stone and mortar and shall be finished with a concrete cap to prevent deterioration.

5.12 Tree, Shrubs, And Ground Cover

- 5.12.1 Street trees of nursery stock conforming to current standards of the American Association of Nurserymen of the species approved by the Merrimac Tree Warden and the Planning Board, shall be planted on each side of each street in a Subdivision, except where the Definitive Plan shows trees which are healthy and adequate, which shall be retained. Street trees shall be located outside of the right-of-way or at the discretion of the Planning Board within the unpaved portion of the right-of-way approximately at fifty foot (50') intervals; shall be at least twelve feet (12') in height; three inches (3") in caliper measured four feet (4') above the approved grade, unless otherwise required by the Merrimac Tree Warden and the Planning Board; and be not closer than five feet (5') nor more than twenty feet (20') from said right-of-way line unless otherwise approved by the Planning Board.
- 5.12.2 All retained street trees shall be clear of any branches protruding into the shoulder and road area from the approved grade level to a point seven feet (7') above ground level.
- 5.12.3 Except as otherwise provided, all side slopes shall be planted with a low growing shrub or vine, and wood chipped to a minimum depth of six inches (6") or, at the Planning Board's option, seeded with a deep rooted perennial grass to prevent erosion.
- 5.12.4 Planting methods, including wrapping, staking, and guying shall be in accordance with planting trees, shrubs and ground cover (Section 771 of the Standard Specifications).
- 5.12.5 All reasonable care shall be exercised to preserve the trees in the subdivision.
- 5.12.6 The Developer will be liable for all trees so planted as to their erectness and good health after planting and until the release of all guarantees.

5.13 Monuments

- 5.13.1 Monuments shall be a standard permanent granite conforming to granite bounds (M9.04.9) and of not less than three feet (3') in length and not less than four inches (4") in width and breadth and shall have a hole one-half inch (0.5") in diameter and one and one half inches (1.5") deep, drilled in the center of the top surface. The final location is to be certified by a Professional Land Surveyor and each drill hole shall be filled with lead marked by a brass pin.
- 5.13.2 Monuments shall be installed in accordance with bounds (Section 710) of the Standard Specifications at the time of final surface grading with the top flush with the final grade surface.
- 5.13.3 The placement and accurate location of these Monuments and markers shall be certified by a professional land surveyor and properly located on the As-Built and street right-of-way acceptance plans.

5.14 Street Signs

- 5.14.1 From the time of rough grading until such time as each street is accepted by the Town as a public way, the sign posts at the intersection of such street with any other street shall have affixed thereto a sign designating such street as a private way.
- 5.14.2 Street signs for each intersecting street shall be installed at each intersection to conform to the requirements of the Public Works Director.
- 5.14.3 No street sign, temporary or permanent, shall be installed showing a name other than the one approved by the Planning Board.
- 5.14.4 Subdivision signs may be temporarily posted for a period not to exceed two (2) years from the sale of the first lot within that subdivision. After that period, the sign must be removed.

5.15 Street Lights

- 5.15.1 Where required by the Planning Board, street and pedestrian lighting shall be installed to conform to the type and style in general use in the Town of Merrimac, unless otherwise specified by the Planning Board; and no lighting shall be installed except as approved by the Planning Board. It shall be located on a suitable post, which may be of concrete or aluminum, having a height of twenty-five feet (25') or more as approved by the Planning Board.
- 5.15.2 Street and pedestrian light stanchions shall be located in the grass plot at such intervals as required by the Planning Board, and shall be installed in accord with the procedures required by the Merrimac Municipal Light Department.
- 5.15.3 All luminaries shall be of the indirect, shielded type.

5.16 Fire Alarm System

- 5.16.1 Where required by the Planning Board, a fire alarm system shall be installed within the Subdivision to conform with the specifications of the Fire Department and shall be located as specified on the Definitive Plan unless otherwise specified by the Planning Board.

5.17 Clean Up

- 5.17.1 No lot shall be considered complete until all stumps, brush, roots, and like material and all trees, rocks, and boulders not intended for preservation by the Developer shall have been removed and disposed of in a manner and place satisfactory to the Planning Board. Any fire hazard shall be removed promptly to the satisfaction of the Fire Chief. This paragraph does not authorize the removal including severing and stripping of soil, loam, sand, or gravel, on such lot.

5.18 Flood Hazard Avoidance

- 5.18.1 Any Subdivision located in any part within an area subject to flooding shall comply with the following:
- 5.18.1.1 Subdivision design shall be consistent with the need to minimize flood damage within the flood-prone area, through use of open space reservation, street profile design, and drainage.
 - 5.18.1.2 All public utilities and facilities, such as sewer, gas, electrical, and water systems shall be located and constructed to minimize or eliminate flood damage.
 - 5.18.1.3 No increase in off-site discharge shall be permitted.

5.19 Maintenance Of Improvements

- 5.19.1 For the purpose of protecting the safety, convenience, and welfare of the Town's inhabitants, for the provision of adequate access to all of the lots in a subdivision by means that will be safe and convenient for travel, for reducing the danger to life and limb in the operation of motor vehicles, for securing safety in the case of fire, flood, panic and other emergencies; under the authority of Chapter 41, Section 81-M as amended, the Developer or his successor shall provide for the proper maintenance including snow removal, sand and salting, etc, and repair of improvements during the period of construction and until the Town votes to accept such improvements.

5.20 Provision For Competent Supervision

- 5.20.1 The Developer shall provide competent supervision during the development of the Subdivision. If at any time it becomes apparent to the Public Works Director or the Planning Board that the supervision is not satisfactory, the Planning Board may order the discontinuance of the development until competent supervision is provided.

5.21 Site Contamination

- 5.21.1 If the proposed development contains hazardous materials or underground storage-tank(s), the location and extent shall be shown on the Subdivision Plans. All remedial work required shall be performed in compliance with all local, state, and federal laws.

END - OF - ARTICLE

SECTION 6.0 ADMINISTRATION	2
6.1 Variation	2
6.2 Reference	2
6.3 Building Permit	2
6.4 Observations.....	3
6.5 Validity.....	4
6.6 Effective Date.....	4

ARTICLE

6

SECTION 6.0 ADMINISTRATION

6.1 Variation

- 6.1.1 Strict compliance with the requirements of these Rules and Regulations may be waived when in the judgment of the Planning Board such action is in the public interest and not inconsistent with the Subdivision Control Law. Any such waiver must be made in writing by the Planning Board as a part of its approval or amendment thereof, otherwise all requirements contained herein are deemed applicable.

6.2 Reference

- 6.2.1 For matters not covered by these Rules and Regulations reference is made to Section 81-K to 81-GG, inclusive, of Chapter 41 of the General Laws as amended.

6.3 Building Permit

- 6.3.1 No building shall be erected on any lot within a Subdivision without written permission for each lot from the Planning Board by Form G-Release Form. This permission is in addition to any other permits required for building, such as a permit from the Building Inspector or as required by other Town Bylaws.
- 6.3.2 The Building Inspector shall not issue any permit for the erection of a building until he is first satisfied that the lot on which the building is to be erected is not within a Subdivision or that a way furnishing the access to such lot as required by the Subdivision Control Law is shown on a plan recorded or entitled to be recorded under Chapter 41, Section 81-X, as amended, and that any condition endorsed thereon limiting the right to erect or maintain buildings on such lot have been satisfied or waived by the Planning Board, and in the event that more than one (1) building for dwelling purposes be erected or placed or converted to use as such on any lot, that the Building Inspector is satisfied that consent has been obtained from the Planning Board in accord with these Rules and Regulations, Chapter 41, Section 81-Y, and amendments thereto.

- 6.3.3 No structure shall be occupied until at least the base course of bituminous concrete has been applied to streets which serve the structure.

6.4 Observations

- 6.4.1 Observations shall be arranged by the Developer with the Planning Board or its Agent at specified stages of the construction of streets and installation of utilities.
- 6.4.2 The Developer shall be responsible for notifying the Planning Board or its Agent at least seventy two (72) hours in advance of each stage of work.
- 6.4.3 The Planning Board will establish the order of the required observations and will require satisfactory completion of each individual step before the Developer proceeds to the next. In order to verify conformance with specifications the Planning Board or its Agent may require tests to be done by an independent testing lab at the Developer's expense, as a condition for approval. **One month prior to beginning construction the developer shall prepare a detailed construction schedule and review the schedule with the Planning Board.** At that time the Planning Board shall prepare an estimated fee for construction observation services and shall hire an independent observer, at the Developers' expense, for observation of predetermined phases of roadway construction, materials testing, paving, and final observations as deemed appropriate by the Planning Board. This itemized budget estimate will be established and paid in advance by the Developer to a Planning Board escrow account. Failure to establish this escrow account will constitute grounds for rescission of the Approved Plan. At a minimum, observations will take place after or during, as applicable, each of the following:

Observation #1	Initial Centerline Staking & Grading
Observation #2	Clearing and Grubbing Operations, Erosion Controls
Observation #3	Earthwork Operations, Fire Tank Excavation and Installations, and Detention Ponds
Observation #4	Storm Drainage Systems, Public Sewer Systems, and Public Utilities
Observation #5	Retaining Wall Construction
Observation #6	Roadway Subgrade Operations
Observation #7	Sub Base Courses
Observation #8	Base Course
Observation #9	Stone Seal (as may be required)
Observation #10	Surface Course
Observation #11	Landscaping, Trees, and Shrubs
Observation #12	As-Builts, Bounds, Final Grading

The developer shall be responsible for providing the Planning Board and its' agent with monthly updates of the project construction schedule.

- 6.4.4 At the time of laying the base or top course of bituminous concrete, the Developer shall, with at least seventy-two (72) hours advance notice to the

Planning Board, arrange for continuous observation of the pavement laying by an observer acceptable to the Planning Board and shall be responsible for all expenses of such observation.

6.4.5 It shall be the responsibility of the Developer to see that all the forms and certifications are properly filled out and signed, and returned to the Planning Board subsequent to each observation.

6.4.6 Failure by the Developer or his Contractors to comply with the observation procedure may necessitate removal of improvements at the expense of the Applicant or rescission of the approval of the plan in accord with Chapter 41, Section 81 -W, of the General Laws of Massachusetts.

6.5 **Validity**

6.5.1 If, in any respect, any provision of these Rules and Regulations, in whole or in part, shall prove to be invalid for any reason, such invalidity shall only affect the part of such provision which shall be invalid and in all other respects these Rules and Regulations shall stand as if such invalid provision had not been made, and they shall fail to the extent, and only to the extent, of such invalid provision, and no other provision of these Rules and Regulations shall be invalidated, impaired or affected thereby.

6.6 **Effective Date**

6.6.1 These regulations become effective as approved by the Planning Board, at a meeting held on July 07, 2003

End of Article

APPENDIX

SCHEDULE A

ENVIRONMENTAL ASSESSMENT

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

The applicant shall submit an Assessment of environmental impact., the purpose of which is to enable the officials of the Town to determine what methods are used by the applicant to promote the environmental health of the community and to minimize adverse effects on the natural resources of the Town.

In reviewing the Assessment, Town Boards will consider the degree to which water is recycled back into the ground, the maintenance and improvement of the flow and quality of surface waters; the preservation or promotion of wildlife refuges, historic sites, unique geological, botanical, and archaeological features, existing or potential trails and accesses to open space areas; and the health and safety of the inhabitants of the area.

The Planning Board, may waive any section, or sections, of the Assessment which it seems inapplicable to the proposed project. The Developer should discuss the requirements with the Board prior to preparation of the Assessment, preferably prior to the submission of a definitive plan. *If a preliminary plan is not submitted prior to the submission of a definitive plan, all elements of the environmental assessment shall be submitted with the definitive plan, no waiver of any section shall be allowed.*

The Assessment shall include the following:

A. *Physical Environment*

- Describe the general physical conditions of the site, including amounts and varieties of vegetation; general topography; unusual geologic , scenic, and historical features; trails, and open space links; and indigenous wildlife.
- Describe how the project will affect these features.
- Provide a complete physical description of the project and relationship to surrounding area.

B. *Surface Water and Soils*

- Describe location, extent, and type of existing water and wetland, including existing surface drainage characteristics, both within and adjacent to the project.
- Describe the methods to be used during construction to control erosion and sedimentation i.e.. use of sediment -basins and type of mulching, matting, or temporary vegetation.

SCHEDULE A

ENVIRONMENTAL ASSESSMENT

- Describe approximate size and location of land to be cleared at any given time and length of time and exposure; covering of soil; stockpiles; and other control methods used. Evaluate effectiveness of proposed methods on the site and on the surrounding areas.
- Describe the permanent methods to be used to control erosion and sedimentation. Include description of:
 - (1) Any areas subject to flooding or ponding.
 - (2) Proposed surface drainage system.
 - (3) Proposed land grading and permanent vegetative cover.
 - (4) Methods to be used to protect existing vegetation.
 - (5) The relationship of the development to the topography.
 - (6) Any proposed alterations of shore lines, marshes or seasonal wet areas.
 - (7) Any existing or proposed flood control or wetland easements.
 - (8) Estimated increase of peak runoff caused by altered surface conditions, and methods to be used to return water to the soils and best management practices (BMP's) to be used to meet the requirements of the Massachusetts Stormwater Policy Act.
- Completely describe sewage disposal methods. Evaluate impact of disposal methods on surface water, soils, and vegetation.

C. *Subsurface Conditions*

- Describe any limitations on the proposed project caused by sub-surface soil and water conditions, and methods to be used to overcome them.
- Describe procedures and findings of percolation tests conducted on the site.
- Evaluate impact of sewage disposal methods on quality of subsurface water.

D. *Town Services*

- Describe estimated traffic flow at peak periods and proposed circulation pattern.
- Describe locations and number of vehicles accommodated in off street parking areas.
- Describe effect of project on police and fire protection services.
- Describe effect of project on educational services.

SCHEDULE A

ENVIRONMENTAL ASSESSMENT

- Describe effect of project on public works department services.
- Describe the effect of the project on the Town water supply and distribution system.
- Describe the effect of the project on the Town sewer system, if the area is to be sewered.

E. *Human Environment*

- Provide a tabulation of proposed buildings by type, size (number of bedrooms, floor area), ground coverage, and a summary showing the percentage of the tract to be occupied by buildings, parking and other paved vehicular areas, and usable open space.
- Describe type of construction, building materials used, location of common areas, location and types of service facilities (laundry, trash, garbage disposal).
- State proximity to transportation, shopping, and educational facilities, including active and passive types; and age groups participating, and state whether recreational facilities and open space are available to all residents.

F. *General Impact*

- Summarize briefly the environmental impact on the entire Town with supporting reasons.

FORM A

APPLICATION FOR APPROVAL OF
A PLAN BELIEVED NOT TO REQUIRE APPROVAL

PLANNING BOARD- TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

To the Planning Board of the Town of Merrimac

The undersigned wishes to record the accompanying plan and requests a determination by said Board that approval by it under the Subdivision Control Law is NOT required. The undersigned believes that such approval is not required for the following reasons:

1. The division of land shown on the accompanying plan is not a subdivision because every lot shown thereon has the amount of frontage and area required by the Merrimac Zoning Bylaw and is on a public way, namely,

2. Assessor Maps dated _____ sheet (s) # _____ lots(s) # _____
The division of land shown on the accompanying plan is not a subdivision for the following reason(s)

The owner's title to the land is derived under deed from _____
dated _____, and recorded in the South Essex Registry of Deeds. Certificate of Title No. _____ (if registered land), or Book _____, Page (s) _____.

Form A must be submitted in compliance with the Rules and Regulations Governing Subdivision of Land in Merrimac, Massachusetts.

Received by Town Clerk

Applicant's Signature _____

Date _____

Applicant's Address _____

Time _____

Signature _____

Owner's Signature
(If not applicant) _____

Owner's Address _____

Received by Planning Board

Reasons for Denial: _____

Date _____

Signature _____

Endorsed Yes or No

A.1

FORM A-1

DETERMINATION THAT SUBDIVISION
APPROVAL IS NOT REQUIRED

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

To The Town Clerk
Town of Merrimac, Massachusetts

RE: Application for endorsement of plan believed not to require subdivision approval.

Applicant _____

Applicant's address _____

Assessors Maps dated _____ Sheet(s)# _____ Lot(s) _____

You are hereby notified that the plan _____ submitted by the
above applicant on _____, accompanied by a Form A application for a determination
by the Planning Board, dated _____ has been endorsed by the Planning Board as follows:
"Merrimac Planning Board Approval under Subdivision Control Law Not Required."

Stipulations (if any) _____

Merrimac Planning Board

By _____

Chairman

Member

Member

Member

Member

Duplicate copy sent to applicant:

A.1.1

FORM A-2

DETERMINATION THAT SUBDIVISION
APPROVAL IS REQUIRED

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

To The Town Clerk
Town of Merrimac, Massachusetts

RE: Application for endorsement of plan believed not to require subdivision approval.

Applicant _____

Applicant's address _____

Assessors Maps dated _____ Sheet(s)# _____ Lot(s) _____

You are hereby notified that the plan _____ submitted by the
above applicant on _____, accompanied by a Form A application for a determination
by the Planning Board, dated _____ has not been endorsed by the Planning Board as
follows: "Merrimac Planning Board Approval under Subdivision Control Law Not Required."

Stipulations (if any) _____

Merrimac Planning Board

By _____

Chairman

Member

Member

Member

Member

Duplicate copy sent to applicant:

A.2.1

FORM B

APPLICATION FOR APPROVAL OF
A PRELIMINARY PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

To the Planning Board of the Town of Merrimac

The undersigned, being the Applicant as defined under Chapter 41, Section 81-L, for approval of
a proposed subdivision shown on a plan entitled _____

Assessor Maps dated _____ Plan (s) # _____ lots(s) # _____

Hereby submits said plan as a Preliminary Subdivision Plan in accordance with the Rules and
Regulations of the Merrimac Planning Board and makes application to the Board for approval of
said plan.

The undersigned's title to said land is derived from _____
by deed dated _____, and recorded in the Essex South County Registry of Deeds.
Book _____, Page (s) _____, registered in the _____ Registry District
Of the Land Court, Certificate of Title No. _____.

Received by Town Clerk

Applicant's Signature _____

Date _____

Applicant's Address _____

Time _____

Signature

Owner's Signature
(If not the applicant) _____

Owner's Address _____

Received by Planning Board

Date _____

Signature _____

B.1

FORM B-1

CERTIFICATE OF APPROVAL
OF A PRELIMINARY PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

It is hereby certified by the Planning Board of the Town of Merrimac, MA, that at a duly called and properly posted meeting of said Planning Board, held on _____, it was voted to **approve** a preliminary plan entitled: _____ submitted by: _____ originally filed with the Planning Board on _____ concerning the property located _____ as follows: Assessor's Tax Map (s) # _____, Lot(s) _____ and with the following conditions, as approved by the Planning Board and signed by the Clerk.

Conditions of Approval: _____

A copy of this certificate of approval is to be filed with the Merrimac Town Clerk and copy sent to the applicant.

Date

Chairman

Member

Member

Member

Member

A true copy, attest:

Merrimac Planning Board Members

Clerk, Merrimac Planning Board

B.1.1

FORM B-2

CERTIFICATE OF DISAPPROVAL
OF A PRELIMINARY PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

It is hereby certified by the Planning Board of the Town of Merrimac, MA, that at a duly called and properly posted meeting of said Planning Board, held on _____, it was voted to **disapprove** a preliminary plan entitled: _____

submitted by: _____ originally filed with the Planning Board on _____ concerning the property located

_____ as follows: Assessor's Tax Map (s) # _____,

Lot(s) _____ for the following reasons: _____

A copy of this certificate of **disapproval** is to be filed with the Merrimac Town Clerk and copy sent to the applicant.

Date _____

Chairman

Member

Member

Member

Member

A true copy, attest:

Merrimac Planning Board Members

Clerk, Merrimac Planning Board

B.2.1.

Form B-2

Town of Merrimac
Subdivision Rules & Regulations

Planning Board

FORM C

APPLICATION FOR APPROVAL OF
A DEFINITIVE PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

To the Planning Board of the Town of Merrimac

The undersigned, being the Applicant as defined under Chapter 41, Section 81-L, for approval of a proposed subdivision shown on a plan entitled _____
by _____ dated _____ being bounded
by land as follows :

Assessor Maps dated _____ Plan (s) # _____ lots(s) # _____

Hereby submits said plan as a Definitive Subdivision Plan in accordance with the Rules and Regulations of the Merrimac Planning Board and makes application to the Board for approval of said plan.

The undersigned's title to said land is derived from _____
by deed dated _____, and recorded in the Essex South County Registry of Deeds.
Book _____, Page (s) _____, registered in the _____ Registry District
Of the Land Court, Certificate of Title No. _____ and is free of encumbrances except for the
following:

Said plan has () has not () evolved from a preliminary plan submitted to the Board on _____
And approved (with modifications) () disapproved () on (date) _____

The undersigned hereby applies for the approval of said Definitive Plan by the Board, and in furtherance thereof hereby agrees to abide by the Board's Rules and Regulations. The undersigned hereby further covenants and agrees with the Town of Merrimac, upon the approval of said Definitive Plan by the Board:

1. to install utilities in accordance with the Rules and Regulations of the Planning Board, Highway Department, the Board of Health, Water Department, Sewer Department, Municipal Light Department, all general bylaws, and all Zoning Bylaws of the Town of Merrimac, as are applicable to the subdivision of land and installation of utilities within the limits of ways and streets:
2. to complete and construct the streets or ways shown thereon in accordance with the Rules and Regulations of the Planning Board and the approved Definitive plan, profiles, and cross sections of the same. Said plan, profiles, cross sections, and construction specifications are specifically, by reference, incorporated herein and made a part of the application. This application and the covenants and agreements herein shall be binding

C.1

FORM C

APPLICATION FOR APPROVAL OF A DEFINITIVE PLAN

upon all heirs, executors, administrators, successors, grantees of the whole or part of said land, and assigns of the undersigned; and

3.

- (a) to complete, except in the case of any portion of the subdivision for which a surety company performance bond, or a performance bond secured by a deposit of money or negotiable securities, or a tripartite agreement shall have been filed pursuant to these regulations, the required improvements for the subdivisions within three (3) years of the date of such approval, or
- (b) to complete the required improvement for any portion of the subdivision, for which a surety company performance bond, or a performance bond secured by a deposit of money or negotiable securities, or a tripartite agreement shall have been filed, within two (2) years of the date of the performance surety or within three (3) years of the date of the Board's approval of the Definitive Plan, whichever date shall occur the earlier, and
- (c) that no structure will be occupied until at least the base course of the bituminous concrete has been applied to the streets which serve those structures.

Received by Town Clerk

Applicant's Signature _____

Date _____

Applicant's Address _____

Time _____

Signature _____

Owner's Signature
(If not the applicant) _____

Owner's Address _____

Received by Planning Board

Date _____

Signature _____

C.2.

FORM C-1

CERTIFICATE OF APPROVAL
OF A DEFINITIVE PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

It is hereby certified by the Planning Board of the Town of Merrimac, MA, that at a duly called and properly posted meeting of said Planning Board, held on _____, it was voted to approve a definitive plan entitled: _____ submitted by: _____ originally filed with the Planning Board on _____ concerning the property located _____ as follows: Assessor's Tax Map (s) # _____, Lot(s) _____ and recorded in the South Essex Registry Deeds with the following conditions, as approved by the Planning Board and signed by the Clerk.

Conditions of Approval: _____

A copy of this certificate of approval is to be filed with the Merrimac Town Clerk and copy sent to the applicant.

Date

Chairman

Member

Member

Member

Member

A true copy, attest:

Merrimac Planning Board Members

Clerk, Merrimac Planning Board

C.1.1.

FORM C-2

CERTIFICATE OF DISAPPROVAL
OF A DEFINITIVE PLAN

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

It is hereby certified by the Planning Board of the Town of Merrimac, MA, that at a duly called and properly posted meeting of said Planning Board, held on _____, it was voted to **disapprove** a definitive plan entitled: _____ submitted by: _____ originally filed with the Planning Board on _____ concerning the property located _____ as follows: Assessor's Tax Map (s) # _____ Lot(s) _____ and recorded in the South Essex Registry Deeds for the following reasons:

A copy of this certificate of **disapproval** is to be filed with the Merrimac Town Clerk and copy sent to the applicant.

Date _____

Chairman

Member

Member

Member

Member

A true copy, attest:

Merrimac Planning Board Members

Clerk, Merrimac Planning Board

C.2.1.

FORM D

LAND SURVEYOR'S CERTIFICATE

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

To the Planning Board of the Town of Merrimac

In preparing the plan entitled _____, I hereby certify that the above named plan and accompanying data are true and correct to the accuracy required by the current Rules and Regulations Governing the Subdivision of Land in Merrimac, Massachusetts, and my source of information about the location of boundaries shown on said plan was one or more of the following:

1. Deed from _____ to _____
dated _____ and recorded in the Essex South Registry in Book _____
Page(s) _____

2. Other plans, as follows:

3. Oral information furnished by:

4. Actual measurements on the ground from a starting point established by:

5. Other sources:

Seal of Professional Land Surveyor

Signed _____
(Professional Land Surveyor)

Address _____

D.1.

FORM D-1

PROFESSIONAL ENGINEER'S CERTIFICATE

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

To the Planning Board of the Town of Merrimac

In preparing the plan entitled _____, I hereby certify that the above named plan and accompanying data are true and correct to the accuracy required by the current Rules and Regulations Governing the Subdivision of Land in Merrimac, Massachusetts, and that the designs contained herein are in accordance with commonly accepted engineering practice and in compliance with applicable laws and regulations of the Commonwealth of Massachusetts and Bylaws of the Town.

1. Sources of data are listed as follows:

2. Oral information furnished by:

3. Actual basis of designs, source of soil and groundwater determinations, and other field determinations made:

4. Other sources

Seal of Professional Engineer

Signed _____
(Registered Professional Engineer)

Address _____

D.1.1. _____

FORM E

CERTIFIED LIST OF ABUTTERS

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

To the Planning Board of the Town of Merrimac:

The undersigned, being an applicant for approval of Preliminary/Definitive Plan of a proposed subdivision entitled

_____ submits the following sketch of the land in the subdivision listing the names of the adjoining owners and the abutters to the adjoining owners in their relative positions and indicating the address of each abutter on the sketch and in a separate list, including owners of land separated from the subdivision only by a street. **The owners of all parcels within three hundred feet (300') of the applicants property shall be included on the certified list.**

Signature of Applicant

Address

To the Planning Board of the Town of Merrimac

This is to certify that at the time of the last assessment for taxation made by the Town of Merrimac the names and addresses of the parties assessed as adjoining owners to the parcel of land including all owners within three hundred feet (300'), shown above are as indicated on the attach list.

Date

Assessor

E.1.

FORM F
COVENANT

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

Know all men by these present that whereas the undersigned has submitted an application dated _____ to the Merrimac Planning Board for approval of a Definitive Plan of a certain subdivision entitled _____ and dated _____ and has requested the Board to approve such plan without requiring a performance bond.

NOW THEREFORE, THIS AGREEMENT WITNESSETH that in consideration of the Merrimac Planning Board approving said plan without requiring a performance bond, and in consideration of one (1) dollar in hand paid, receipt whereof is hereby acknowledged, the undersigned covenants and agrees with the Town of Merrimac as follows:

1. The undersigned will not sell any lot in the subdivision or erect or place any permanent building on any such lot until the construction of ways and municipal services necessary to serve adequately such lot has been completed in the manner specified in the aforesaid application, and in accordance with covenants, conditions, agreements, terms and provisions.
2. This agreement shall be binding upon the executors, administrators, devisees, heirs, successors and assigns of the undersigned.
3. It is the intention of the undersigned and it is hereby understood and agreed that this contract shall constitute a covenant running with the land included in the aforesaid subdivision and shall operate as restrictions upon said land.
4. It is understood and agreed that lots within the subdivision shall, respectively, be released from the foregoing conditions upon the recording of a certificate of performance executed by a majority of said Planning Board and enumerating the specific lots to be so released.
5. The undersigned represents and covenants that undersigned is the owner(s)* in fee simple of all the land included in the aforesaid subdivision and that there are no mortgages of record or otherwise on any of said land, except such as are described below and subordinated to this contract, and the present holder of said mortgage(s) have assented to this contract prior to its execution by the undersigned.

*If there is more than one owner all must sign.

F.1.

Town of Merrimac
Subdivision Rules & Regulations

Form F

Planning Board

FORM F

IN WITNESS WHEREOF the undersigned, applicant as aforesaid, does hereunto set his hand
and seal this _____ day of (date) _____.

Applicant (s) _____

Owner(s) _____

(If not applicant (s))

Description of Mortgage(s):

(Give complete names and Registry of Deeds reference)

Assents of Mortgagee(s):

+++++
COMMONWEALTH OF MASSACHUSETTS

_____ ss Date _____

Then personally appeared the above named _____
And acknowledged the foregoing instrument to be his free act and deed, before me.

Notary Public
My Commission expires:

F.2.

FORM G

RELEASE FORM

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

(Use Section a. or b.)

The undersigned, being a majority of the Planning Board of the Town of Merrimac hereby certify that:

a.

The requirements for the construction of ways and municipal services called for by the Performance Bond or Surety and dated _____ (and/or) by the Covenant dated _____, and recorded in the Essex Registry of Deeds, Book _____, Page _____, or registered in _____ Land Court Registry District as Document No. _____ in Registration Book _____, Page _____, has been completed/partially completed, to the satisfaction of the Planning Board and replaced in a part by a Cash Passbook, Performance Bond or Surety in the amount of \$ _____ to adequately serve the enumerated

Lots shown on Plan entitled _____ recorded by the Essex Registry of Deeds, Plan Book _____, Plan _____ (or registered in said Land Registry District Plan Book _____) and said lots are hereby released from the restrictions as to sale and building specified thereon.

Lots designated on said Plan are as follows: _____

b.

The Town of Merrimac, a municipal corporation situated in the County of Essex, Commonwealth of Massachusetts, acting by its duly organized Planning Board, holder of a Cash Passbook, Performance Bond or Surety dated in the amount of \$ _____, (and/or) a Covenant dated _____ from _____ of the (City/Town) _____ County, Massachusetts recorded with the _____ District Deeds, Book _____, Page _____, (or registered in Land Registry District as Document No. _____ and noted on Certificate of Title No. _____ in Registration Book _____, Page _____,) acknowledged satisfaction of the terms thereof and hereby releases its right, title and interest in the lots designated on said plan as follows:

G.1.

FORM G
RELEASE FORM

Merrimac Planning Board

Merrimac Planning Board

+++++

Executed as a sealed instrument this _____ day of (date) _____

ESSEX,SS
COMMONWEALTH OF MASSACHUSETTS
(DATE) _____

Then personally appeared the name _____
And acknowledged the foregoing instrument to be his free act and deed, before me.

Notary Public

My Commission expires:

G.2.

FORM G - 1

PERFORMANCE BOND - SECURED BY DEPOSIT

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

Known by all men by these present that _____
hereby binds and obligates himself/itself/his/its executors, administrators, devisees, heirs,
successors and assigns to the Town of Merrimac, a Massachusetts municipal
corporation, in the sum of _____ dollars,
(\$ _____) and has secured this obligation by the deposit with the Treasurer of said Town of
Merrimac of said sum of money or negotiable securities with prior stock powers.

The condition of this obligation is that if the undersigned or his/its executors, administrators,
devisees, heirs, successors and assign shall fully and satisfactorily observe and perform in the
manner and in the time herein specified, all the covenants, conditions, agreements, terms and
provisions contained in the application signed by the Principal and dated _____, or attached
hereto, has been or is hereafter granted by the Merrimac Planning Board, acting under the
authority granted by Chapter 41, Section 8 1U of the General Laws, then this obligation shall be
void, less twenty percent (20%) for period, not greater than _____ from the
agreed upon completion of the improvements, otherwise it shall remain in full force and effect
and the aforesaid security for said sum shall become and be the sole property of Town of
Merrimac as liquidated damages.

IN WITNESS WHEREOF the undersigned, applicant as aforesaid, does hereunto set his hand
and seal this _____ day of (date) _____.

BY _____

TITLE: _____

Then personally appeared the above named _____
And acknowledged the foregoing instrument to be his free act and deed, before me.

Notary Public

My Commission expires: _____

G.1.1.

FORM G - 1

PERFORMANCE BOND- SECURED BY DEPOSIT

IN WITNESS WHEREOF, the undersigned hereunto set their hands and seals this

_____ day of (date) _____

MERRIMAC PLANNING BOARD

+++++

COMMONWEALTH OF MASSACHUSETTS

Essex, SS

Date: _____

Then personally appeared the above named _____,

_____, _____,

_____, and _____, and

And acknowledged the foregoing to be their free act and deed, on behalf of the Planning Board of the Town of Merrimac, Massachusetts, before me.

Notary Public

My Commission expires: _____

*For release of covenant and/or lots, Form G - 2 should be attached. For listing of items of work, attach Form G - 3.

G.1.2.

FORM G - 2

AGREEMENT

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS
DATE _____

SUBDIVISION NAME _____ PLAN # _____

In consideration of the approval of _____ Subdivision as shown

On plan entitled _____

dated _____, recorded at _____ District Deeds,

Book _____, Page _____, (or registered in the _____ Land Court

Registry as Documents No. _____ in Registration Book _____,

Page _____, and the release of covenant executed on this date by the Planning Board of

The Town of Merrimac (hereinafter call Board) as to lots _____

to _____ (Developer) hereby covenant with the Board as follows:

1. Performance: Within _____ months hereafter Developer shall complete and install the items listed on the attached schedule Form G - 3. Such work shall be completed to the satisfaction of the Merrimac Highway Department/Public Works Director and the Planning Board.

2. Security: As security for the full and faithful performance of the these covenants, Developer delivers to the Town of Merrimac, a _____
in the sum of _____ dollars (\$ _____).

Should Developer breach these covenants and fail to correct such breach within sixty (60) days after a written notice outlining the nature of the breach and corrective action required is delivered by the Town to the Developer, the Town may call the security and withdraw and utilize such security in accordance with the attached schedule to properly complete such items. Should Developer breach these covenants and the Town expend escrow funds for the completion of the scheduled items, any sums remaining after such expenditures shall be released to the Developer.

3. Release of Security: As the Developer completes the various items on Form G - 3 to the reasonable satisfaction of the Planning Board, eighty (80%) percent of the estimated dollar amount next to each item shall be released to the Developer forthwith by the Board. The remaining twenty (20%) percent in each category shall be held by the Town until the entire subdivision is completed or until such time as the roadway is accepted by the Town, whichever occurs last, to secure any necessary repairs to the work completed as may be required during such periods.

G.2.1.

FORM G - 2

AGREEMENT

4. Other Conditions: _____

BY _____
TITLE: _____

Then personally appeared the above named _____
And to be their free act and deed on behalf of said before me.

Notary Public My Commission expires: _____

IN WITNESS WHEREOF, the undersigned hereunto set their hands and seals this

_____ day of (date) _____

MERRIMAC PLANNING BOARD

+++++

COMMONWEALTH OF MASSACHUSETTS

Essex, SS

Date: _____

Then personally appeared the above named _____,

_____, _____,

_____, and _____, and
acknowledged the foregoing to be their free act and deed, on behalf of the Planning Board of the
Town of Merrimac, Massachusetts, before me.

Notary Public
My Commission expires: _____

G.2.2.

FORM H

CONVEYANCE OF EASEMENTS AND UTILITIES

PLANNING BOARD - TOWN OF MERRIMAC, MASSACHUSETTS

DATE _____

SUBDIVISION NAME _____ PLAN # _____

_____ of _____
(Name of Owner) (Address of owner)
_____, County, Massachusetts, for the consideration of _____

(state consideration)

hereby grants, transfers and delivers unto the Town of Merrimac, a municipal corporation in Essex County, Massachusetts, the following:

A. The perpetual rights and easements to construct, inspect, repair, remove, replace, operate and forever maintain (1) drainage systems with any manholes, pipes, conduits, easements and other appurtenances thereto, and to do all acts incidental thereto; (2) pipes, conduits and their appurtenances for conveyance of water, and (3) sewer systems with any manholes, pipes, conduits, easements and other appurtenances, and to do all other acts incidental to the foregoing, including the right to pass along and over the land for the aforesaid purposes, in plan entitled _____, dated _____, said plan is made and is incorporated herein for a complete and detailed description of said roads.

B. The perpetual rights and easements to use for _____
(describe use or purpose)

_____ following parcel of land situated on _____
(street)

in said Merrimac, MA and bounded and described as follows:

The grantor warrants that the aforesaid easements are free and clear of all liens or encumbrances, that he (it) has good title to transfer the same, and that he (it) will defend the same against claims of all persons.

For grantor's title see deed from

dated _____ and recorded in _____ District
Registry of Deeds, Book _____, Page _____ or under Certificate of
Title No. _____, registered in _____ District of the Land Court, Book _____,
Page _____.

H.1.

FORM H

CONVEYANCE OF EASEMENTS AND UTILITIES

And (to be completed if a mortgage exists)

Name and Address of Mortgage Holder

The present holder of a mortgage on the above described land, which mortgage is dated _____, and recorded in said Deeds, Book _____, page _____, for consideration paid, hereby releases unto the Town forever from the operation of said mortgage, the rights and easements hereinabove granted and assents thereto.

Authorized Signature of Mortgagor

Signature of Owner

IN WITNESS WHEREOF we have hereunto set our hands and seals this _____
day of Date _____.

Then personally appeared the above named _____
And acknowledged the foregoing instrument to be _____ free act and deed, before me

Notary Public

My Commission expires: _____

H.2

CONCEPTUAL PLAN APPLICATION

Planning Board

◆ Applicants Name: _____

(Printed)

◆ Applicants Address: _____

◆ Applicants Signature: _____

Date: _____

Received by Planning Board (at a regular scheduled meeting)

Date: _____

Signature of Planning Board Chair: _____

Conceptual Meeting Scheduled for: _____

Date and Time

Conceptual Plan Review by Consulting Engineering to be completed by: _____
Date

MERRIMAC
PLANNING BOARD
APPLICATION FEE SCHEDULE

Table 1

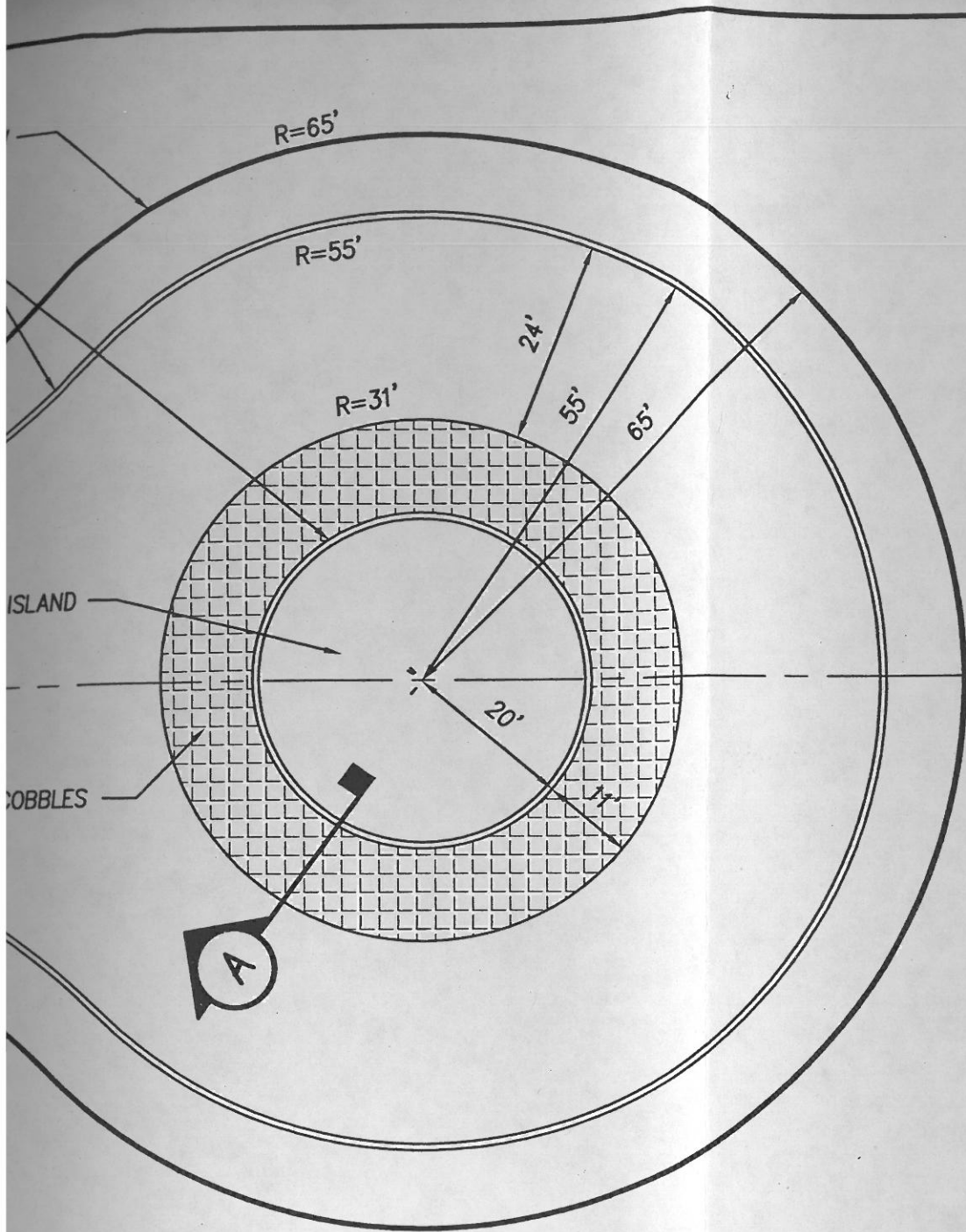
ITEM	APPLICATION FEE
Approval Not Required ANR	\$100 for Lot Line Change; \$100 plus \$100 per lot
Conceptual Plan	\$250
Preliminary Plan	\$2,000 + \$400 per lot or \$5,000, whichever is greater
Definitive Plan	\$2,000 + \$400 per lot or \$5,000, whichever is greater if a preliminary plan was submitted
	\$2,000 + \$1,000 per lot or \$12,000, whichever is greater if a preliminary plan was <u>not</u> submitted.
Definitive Plan Modification	\$500 + \$250 per affected Lot (s) and/or new Lot (s)

MERRIMAC
PLANNING BOARD
REVIEW FEE SCHEDULE

TABLE 2

ITEM	REVIEW FEE
Consultant Peer Review * (Preliminary or Definitive) (*Initial Review only)	Conceptual \$100 per lot Preliminary \$250 per lot Definitive \$500 per lot
Consultant Inspection Fees -Definitive Plan-	Minimum fee deposit (paid prior to endorsement) \$10,000; minimum balance to be maintained \$5,000; Minimum inspection fee \$10 (ten) per linear feet of road, including offsite infra-structure improvements

Title: M:\Winword\2002\02116\subdivisionrulesandregulations\02116reviewfeeschedule



Typical Cul-De-Sac

Scale: 1"=20'

FILE: 02116\round-a-bout.dwg

DWN.BY: D. Hamel

DES.BY: W. Cammett

CHK.BY: W. Cammett

DATE: 5-19-03

JOB NO.: 02116

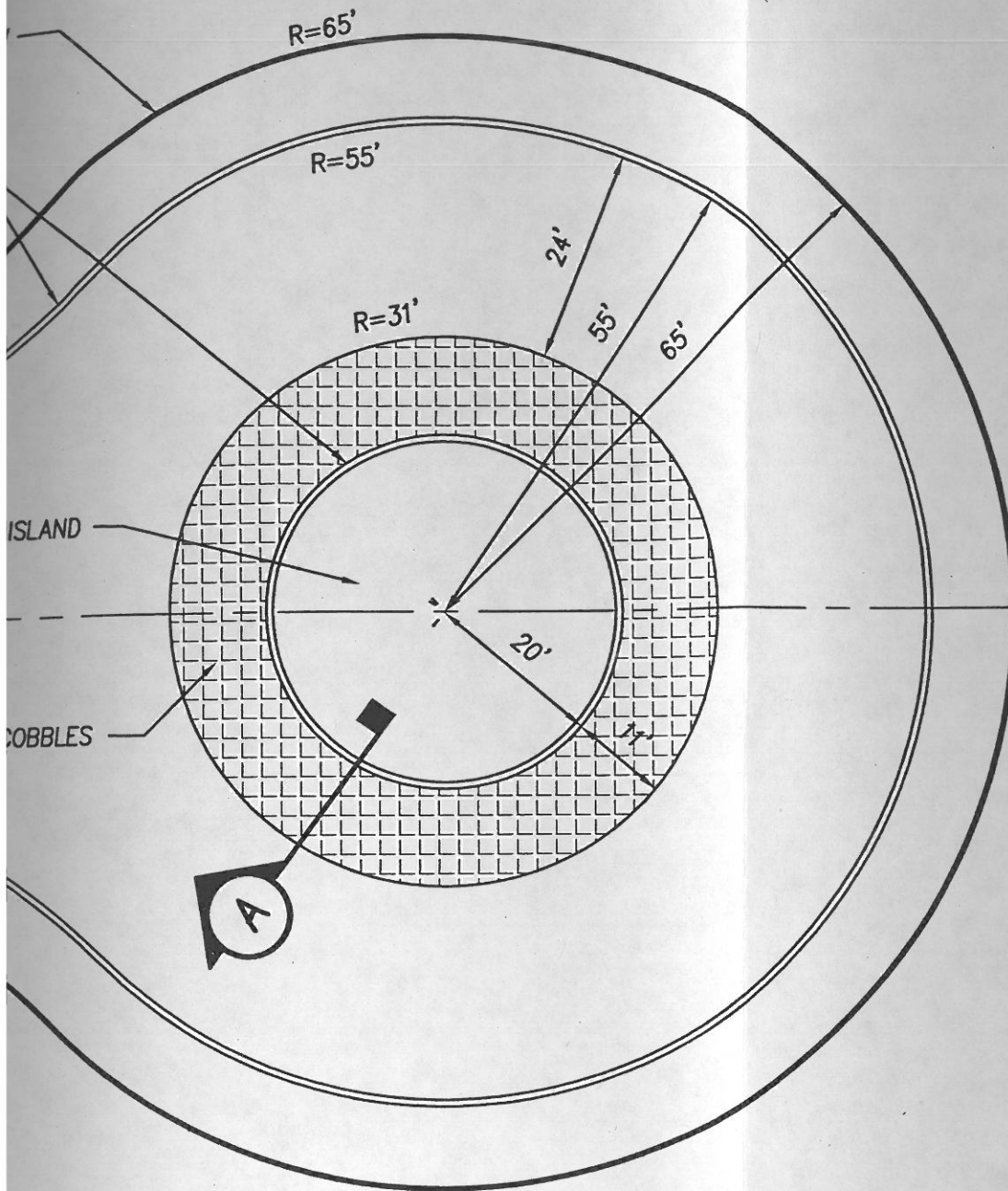
SHEET 1 OF 1

Typical Cul-De-Sac Detail - Figure 1

Merrimac Planning Board

Prepared By: W.C. Cammett Engineering Inc.
297 Elm Street Amesbury, Ma.





Typical Cul-De-Sac

Scale: 1"=20'

FILE: 02116\round-a-bout.dwg

DWN.BY: D. Hamel
DES.BY: W. Cammett
CHK.BY: W. Cammett
DATE: 5-19-03
JOB NO.: 02116
SHEET 1 OF 1

Typical Cul-De-Sac Detail - Figure 1

Merrimac Planning Board

Prepared By: W.C. Cammett Engineering Inc.
297 Elm Street Amesbury, Ma.

