

PLANNING BOARD

TOWN OF NEW BOSTON

SUBDIVISION REGULATIONS

PROPOSED AMENDMENTS JUNE 28, 2011

NOTE: **BOLD ITALICS** INDICATE LANGUAGE PROPOSED TO BE ADDED
~~STRIKETHROUGH~~ INDICATES LANGUAGE PROPOSED TO BE DELETED

Proposed Amendment #1

Amend the last sentence of Section III-S, Definitions, to reference the correct Statute.

SECTION III DEFINITIONS

III-S **SUBDIVISION** means: ...
This definition is as provided in RSA ~~674:14~~ **672:14**, as the same may be from time to time amended.

Proposed Amendment #2

Amend Section IV-E, Preliminary Application - Design Review, to delete the requirement of a conditional approval of a preliminary plan; to add the statutory language regarding the end of the design review process; and, to renumber the remaining sections as needed.

SECTION IV PROCEDURE
Section IV-E PRELIMINARY APPLICATION - DESIGN REVIEW

~~9. Conditional approval of a preliminary plan shall be valid for a period of one (1) year from the date of such conditional approval, at which time it shall become null and void, unless the condition has been performed or met, or unless extended in writing by the Board. Said conditional approval shall be considered to mark the end of the design review process for the application.~~ (Amended 3/23/10.)

~~10. The applicant shall be informed in writing within 10 days of the Board's conditional approval of a preliminary plan.~~ (Added 3/23/10.)

9. The Board may, at a public hearing or work session on the preliminary application, determine that the design review process has ended and shall inform the applicant in writing within 10 days of such determination.

~~10.~~ No construction, building or improvements shall occur on any lands included in the preliminary plan submission until final or conditional approval of a completed application has been granted.

Proposed Amendment #3

Amend Section IV-F, 2, Completed Application, to delete the requirement for driveway permits, State Subdivision Approval, road entry permits, and any and all other approvals and/or permits from local and state agencies, from the list of items required for a completed application, and to renumber the remaining sections; and then move those requirements to Section IV-F, 3, Additional Requirements for Final Plans.

SECTION IV PROCEDURE
Section IV-F Completed Application

2. The following shall be required for, and constitute, a completed application:
 - a. An application for subdivision approval properly filled out and executed by the applicant. In the event that the applicant is not the owner of record, the owner of record must also sign the application form in the space provided. The application shall be filed with the Office of the Planning Board/Planning Department in accordance with Section IV-G.
 - b. An abutters list providing the names and mailing addresses of the applicant; owner (if different from applicant); all abutters as indicated in town records, the Hillsborough County Registry of Deeds, etc., holders of conservation, preservation or agricultural preservation restrictions, the nearest upstream dam owner, the NH Department of Environmental Services Dam Bureau, as necessary, compiled not more than five (5) days before the date of delivery of the application; and, the name and address of every licensed professional whose seal appears on the plan.
 - c. A check payable to the Town of New Boston to cover filing fees, mailing, advertising, recording, and other reasonable costs as provided in Section IV-M.
 - d. Four (4) paper print copies of the final plat prepared in accordance with and accompanied by the information required in Section VII, to be drawn at a scale of no smaller than one hundred feet to the inch (1"=100').
 - e. Eight (8) legible 11" x 17" copies of the final plat as described in d) above. (Section amended October 28, 2008.)
 - f. One copy of the final plat at the scale of the New Boston tax maps, i.e. 1"=400', showing lot lines and road layout only. (Section added June 12, 2007.)
 - ~~g. Driveway Permit(s) issued by the Town or State for all lots in the subdivision. If the proposed subdivision involves construction of a road, driveway permits for lots accessing onto the new development road shall be submitted when the road construction is at sub-grade, in accordance with the Town of New Boston Driveway Regulations. (Amended 3/23/10.)~~
 - ~~h. State Subdivision Approval for all lots under five (5) acres in size.~~

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- ~~ig.~~ Three (3) paper print copies of the road profiles and cross sections at 50' intervals, if applicable, prepared in accordance to the standards for road construction as described in Section IX-B, to be drawn at a vertical scale of ten feet to the inch (1"=10') and a horizontal scale of fifty feet to the inch (1"=50').
- ~~j.~~ ~~Road Entry Permit(s), if applicable, issued by the State or Town.~~
- kh. Three (3) paper print copies of the Stormwater Management and Erosion Control Plan, if applicable, in accordance with the standard specified in Section V-U,C,1. (Amended March 14, 2006 and March 23, 2010.)
- li. Three (3) paper print copies of a soil map for the entire area under consideration for subdivision approval, in accordance with the Site Specific Soils Mapping Standards described in Section V-T.
- ~~m.~~ ~~Any and all other approvals and/or permits from local or state agencies, as required, including, but not limited to, State of New Hampshire Wetland Bureau Dredge & Fill Permit, and, State of New Hampshire Alteration of Terrain (AOT) Permit as governed by RSA 485 A:17, submission of such approval to the Board to include a set of the plans approved by the State under that permitting process.~~
- nj. A statement of intent with regard to fire fighting water supply, if required by the Board under Section V-F. (Amended 3/23/10.)

Note: Plans or other documents that include a copyright notation shall expressly exempt the Town of New Boston from such copyright restrictions and shall allow copying of said plans or other documents as needed by the Town to perform the functions set forth in these Subdivision Regulations. (Note added October 28, 2008.)

3. ADDITIONAL REQUIREMENTS FOR FINAL PLANS (Added 3/23/10.)

The following items shall be submitted, unless waived, upon request and for cause, before final approval of the application can be granted:

- a. Three (3) paper print copies of the Individual Pre-Engineered Stormwater Management and Erosion Control Plans, if applicable, in accordance with the standards specified in Section V-U,C,2.
- b. Four (4) paper print copies of the proposed fire fighting water supply system design plan, if required by the Board under Section V-F, and if the applicant chooses to install a cistern. Should the applicant decided to install sprinkler systems, as noted in Section V-F, a Declaration of Covenants and Restrictions and deed language noting this stipulation shall be submitted as part of the completed application. These documents shall be reviewed by the legal counsel of the Town to

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ensure their acceptability and accuracy, the cost of which review shall be borne by the applicant.

- c. Warranty Deed for the transfer to the Town of any areas for dedication, conveyance, grants of easement, etc., such as for new roads and utilities, shall be submitted to reflect the areas as plotted on the final plat. Documentation shall also be submitted that will assure the Town that all encumbrances, liens, etc., have been released regarding the area to be transferred. Deeds and related documentation shall be reviewed by the legal counsel of the Town to ensure its acceptability and accuracy, the cost of which review shall be borne by the applicant.
- d. Bond and security proposal(s) for any improvements as provided for in Section VIII.
- e. Approval from the Board of Selectmen and Fire Wards of any proposed new street names.
- f. Nine (9) copies of the traffic, fiscal and/or environmental studies.
- g. ***Driveway Permit(s) issued by the Town or State for all lots in the subdivision. If the proposed subdivision involves construction of a road, driveway permits for lots accessing onto the new development road shall be submitted when the road construction is at sub-grade, in accordance with the Town of New Boston Driveway Regulations. (Amended 3/23/10.)***
- h. ***State Subdivision Approval for all lots under five (5) acres in size.***
- i. ***Road Entry Permit(s), if applicable, issued by the State or Town.***
- j. ***Any and all other approvals and/or permits from local or state agencies, as required, including, but not limited to, State of New Hampshire Wetland Bureau Dredge & Fill Permit, and, State of New Hampshire Alteration of Terrain (AoT) Permit as governed by RSA 485-A:17, submission of such approval to the Board to include a set of the plans approved by the State under that permitting process.***

Proposed Amendment #4

Amend Section IV-G, Filing and Submission of Completed Application, to add a new section 4, to include language that specifies that the Planning Board cannot consider an application to be incomplete due to the fact that it requires permits or approvals from other governmental bodies; and, to renumber remaining sections.

SECTION IV PROCEDURE
Section IV-G Filing and Submission of Completed Application

4. *An application shall not be considered incomplete solely because it is dependent upon the issuance of permits or approvals from other governmental bodies; however, the Planning Board may condition approval upon the receipt of such permits or approvals in accordance with Section IV-I,2, below.*
45. Applications may be disapproved by the Board without a public hearing on grounds of failure of the applicant to supply any information, pay fees, or meet any reasonable deadlines required by these regulations or the Board. A Notice of Denial as addressed in Part 3 of this Section shall be provided indicating the reason(s) for disapproval.

Proposed Amendment #5

Amend Section IV-I,2, Public Hearings, to include language that specifies that the Planning Board may condition an approval upon receipt of State or federal permits relating to a project but may not refuse to process an application in the absence of these other permits.

SECTION IV PROCEDURE
Section IV-I Public Hearings

2. If the Board places a condition precedent on the approval (one to be fulfilled before construction can commence, such as obtaining an easement, posting a bond, etc.) such approval shall become final without further public hearing being required, upon evidence submitted by the applicant of the satisfactory compliance with the conditions imposed. This may occur only when the conditions precedent are:
- a) Minor plan changes whether or not imposed by the Board as a result of public hearing, compliance with which is administrative and which does not involve discretionary judgment; or,
 - b) Conditions which are in themselves administrative and which involve no discretionary judgment on the part of the Board; or,
 - c) Conditions with regard to the applicant's possession of permits and approvals granted by other boards or agencies, ***including State and federal permits.***

Such conditions may include a statement notifying the applicant that an approval is conditional upon the receipt of State or federal permits relating to a project, however, the Planning Board may not refuse to process an application solely for lack of said permits.

All ~~other~~ conditions ***not specified in this section as minor, administrative, or relating to issuance of other approvals*** shall require a noticed public hearing at which affected parties will

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have an opportunity to review and comment on the developer's compliance with the condition(s) precedent. Notice shall be provided as in Section IV-J.

Proposed Amendment #6

Amend Section IV-M,1, Fees, to include language that specifies that relevant fees can be found in the Planning Board's Rules of Procedure; and, amend Section IV-M,3, Fees, to specify that the Planning Board may require an applicant to pay for special studies and reviews but not if those studies and reviews replicate something that was already done for the ZBA.

SECTION IV PROCEDURE
Section IV-M Fees

1. A preliminary application for design review or a completed application shall be accompanied by the appropriate filing fee(s) as listed ~~on the Preliminary Layout Checklist and/or the Final Plat Checklist of the Application of Subdivision~~ **in the New Boston Planning Board's Rules of Procedure.**
3. The Board may require special investigative studies, environmental assessments, a legal review of documents, administrative expenses, and other matters necessary to make an informed decision, **provided that the review and consultation does not substantially replicate a review and consultation obtained by the Zoning Board of Adjustment.** The cost of such studies and investigations shall be paid by the applicant prior to the service or study being provided.

Proposed Amendment #7

Amend the last sentence of Section V-E, to include language specifying that special studies to determine whether or not a proposal includes the threats listed shall be submitted before final approval of the application can be granted.

SECTION V GENERAL REQUIREMENTS FOR THE SUBDIVISION OF LAND
Section V-E Fees

Any special studies required to determine whether or not a proposal includes these potential threats shall be ~~provided as part of a completed application~~ **submitted**, as noted in Section IV-F, **before final approval of the application can be granted**, unless waived, upon request and for cause.

Proposed Amendment #8

Amend Section V-U,D,2, to refer to the correct sub-section in the last sentence.

SECTION V GENERAL REQUIREMENTS FOR THE SUBDIVISION OF LAND

Section V-U Stormwater Management and Erosion and Sediment Control Regulations

D. MINIMUM REQUIREMENTS

2. All requests for waivers and action thereon shall be made in writing by the applicant, and shall be accompanied by supporting technical documentation to demonstrate minimal environmental impact. Such documentation shall include the designation of a suitable building envelope as defined in ~~B.12~~ **15** of this section.

Proposed Amendment #9

Amend Section V-U,E,1, by adding a new section: q, to include details regarding access roads to drainage structures.

SECTION V GENERAL REQUIREMENTS FOR THE SUBDIVISION OF LAND

Section V-U Stormwater Management and Erosion and Sediment Control Regulations

E. DESIGN STANDARDS

1. The following standards shall be applied in planning for stormwater management and erosion and sediment control:
 - q. *Access roads shall be provided to drainage structures that will require Town maintenance. Access roads shall be 10' wide, with a 12" crushed gravel base (NHDOT 304.3), shall not exceed 10%, and shall have all appropriate easements for Town use and maintenance.*

Proposed Amendment #10

Amend Section VI, Preliminary Plan Layout, by amending Section VI-G to refer to the correct sub-section in the last sentence; and, by deleting Section VI-M; and, by renumbering the remaining sections.

SECTION VI PRELIMINARY PLAN LAYOUT

VI-G Where the topography is such as to make difficult the inclusion of any facilities mentioned above within the public area as laid out, the preliminary layout shall show the boundaries of proposed permanent easements over or under private property. Such easements shall conform to the requirements as set forth in Section ~~V-P~~ **V-O** and shall be dimensioned so as to allow delineation on the ground.

~~**VI-M** Approval, as prescribed by law, from any other municipal, state or federal agency which may have jurisdiction. See Section IV-E.~~

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VI-~~NM~~ Soil information as described and defined in the Wetlands Conservation and Stream Corridor District of the Town's Zoning Ordinance and submitted in the number of copies as specified in Section IV-E. In the event that a wetland will be crossed by a new development road and/or driveway, application for a Conditional Use Permit from the Planning Board shall be submitted for preliminary review under the terms as specified in the Wetlands Conservation District. (Section amended June 12, 2007.)

VI-~~ON~~ Source of soils information shall be:

1. The subdivision plan shall provide soil maps and information in accordance with Site Specific Soil Mapping Standards for New Hampshire and Vermont, Version 2.0, Society of Soil Scientists of Northern New England, Publication No. 3, January 1999, as amended.
2. Maps prepared by field examination shall be prepared and stamped by a Certified Soil Scientist.
3. All costs of preparing soil data shall be borne by the applicant.

Proposed Amendment #11

Amend Section VII-A, Final Plat, to delete the requirement that the final plat be consistent with the approved preliminary layout.

VII-A The final plat shall be prepared by a surveyor licensed in the State of New Hampshire in permanent black ink, on a permanent reproducible linen or polyester film. It shall be submitted in one (1) original and a minimum of three (3) blue (black) line prints on paper. If State Subdivision Approval from the New Hampshire Department of Environmental Services is required, an additional blue/blackline copy of the final plat shall be submitted for distribution to that agency. If Individual Pre-Engineered Stormwater Management Plans were required for the subdivision, an additional blue/blackline copy of the final plat shall be submitted for distribution to the Building Inspector/Code Enforcement Officer. The overall sheet size shall be in accordance with requirements of the Register of Deeds. A margin of at least one (1) inch shall be provided outside the ruled border lines on three sides and at least two (2) inches along the left side for binding. ~~The subdivision plat shall be consistent with the approved preliminary layout.~~ Adequate space shall be available on the plat for the necessary endorsement by the Board which wording shall read "Approved by the New Boston Planning Board on _____. Certified by, _____, Chairman, and by _____, Secretary." (Amended 3/23/10.)

Proposed Amendment #11a

Amend Section VII-J, Final Plat, to refer to the correct sub-section in the last sentence.

SECTION VII FINAL PLAT

VII-J Where the topography is such as to make difficult the inclusion of any facilities mentioned above within the public area as laid out, the final plat shall show the dimensions of the boundaries of proposed permanent easements over or under private property. Such easements shall conform to the requirements as set forth in Section ~~IV-P~~ **V-O**.

Proposed Amendment #12

Amend Section IX-B,2,p,i, to specify from where a cul-de-sac should be measured; and to add a new Section IX-B,2,ac, regarding Minimum Centerline Offset for Underground Utility Trenches.

SECTION IX IMPROVEMENT CONSTRUCTION REQUIREMENTS
Section IX-B Table of Geometric and Other Standards

Table of Geometric and Other Standards (Amended generally October 28, 2008.)			
	Primary Roads ADT>1,000	Secondary Roads ≥400ADT≤1,000	Tertiary Roads ADT≤400
p. Dead-end or cul-de-sac streets, if permitted	See typical detail	See typical detail	See typical detail
i. length, not more than	1,000'	1,000'	1,000'
<p>*length to be measured from intersection of centerlines of cul-de-sac with and existing road to throat of turnaround. Any dead end street or cul-de-sac street constructed in accordance herewith shall not be thereafter considered an "existing road" for purposes of this regulation so that under normal circumstances such dead end roads shall not be capable of being extended. (Section amended 8/10/04.)</p>			
ac. Minimum Centerline Offset for Underground Utility (UGU) Trench, if UGU approved	28 ½'	23 ½'	23 ½'

Proposed Amendment #13

Amend Section IX-B,5, to include language regarding driveways in cuts and fills.

SECTION IX IMPROVEMENT CONSTRUCTION REQUIREMENTS

~~5. Driveways are to be installed after the road base is in place, at a 3% negative grade, twenty five feet (25') from the centerline of the road, from which only clean water shall be permitted to drain into the town's ditchline.~~

5. **Driveways are to be installed after the road base is in place. For driveways in a cut section, a 3% negative grade shall be maintained from the edge of the traveled way to the center of the ditchline and no more than a 3% positive grade from the center of the ditchline to the right-of-way. For driveways in a fill section, a 3% negative grade shall be maintained from the edge of the traveled way to the right-of-way. Only clean water shall be permitted to drain into the town's ditchline.**

Proposed Amendment #14

Amend Section IX-I, Fire Protection Systems, by changing the words "agreed to" to "accepted" in the last sentence of the opening paragraph; capitalizing Consulting Engineer throughout; deleting the last sentence of Section IX-I,a),1; changing the amount of the deposit for the initial review of cistern design plans from \$500 to \$1000; specifying how those funds should be deposited; indicating that funds additional to the initial \$1,000 will be based on a written estimate from the Town's Consulting Engineer; specifying when approval of the design plans should be received; amending #4 to specify that the location of the fire protection system will be recommended by the Fire Wards and approved by the Planning Board prior to subdivision approval; detailing that the Town's Consulting Engineer shall provide an estimate for construction monitoring; and, changing the words "will" or "must" to "shall."

IX-I FIRE PROTECTION SYSTEMS (Section amended generally 8/10/04.)

All proposed fire fighting water supply systems (e.g. cisterns, sprinkler systems, etc.) shall be constructed and/or completely installed, in accordance with designs approved by the New Boston Board of Fire Wards, the Planning Board and the town's Consulting Engineer, prior to the issuance of any Certificate(s) of Occupancy. The type of system to be used shall be chosen by the applicant and ~~agreed to~~ **accepted** by the Planning Board following recommendation from the Fire Wards.

a) The following procedures shall apply, for cistern design approval:

1. Four sets of stamped and signed final design plans for the fire protection system shall be submitted for review and approval by the Town's Consulting Engineer. ~~See Section IX-J,C,1.02 for FRP tank specifications.~~
2. The cost of the review shall be borne by the applicant, ~~and, an estimated charge of \$500 for the said review~~ **the funds for which** shall be submitted to **deposited with** the Office of the Planning Board/Planning Department with the **submission of the** design plans. ~~Said \$500 is the estimated cost of review of a conventional 30,000 gallon cistern. Larger cisterns and unconventional designs may cause review~~

~~costs to be higher.~~ **An initial deposit of \$1,000 shall be provided to initiate the Consulting Engineer's review.** Any additional costs above the ~~\$500~~ **\$1,000** estimate will be paid by the applicant **upon receipt of a written estimate for the additional charges to be submitted by the Town's Consulting Engineer.**

3. Written approval of the design plans ~~must~~ **shall** be submitted by the Town's Consulting Engineer to the Planning Board prior to ~~the final hearing~~ **issuing subdivision approval.**
4. Location of the fire protection system, if applicable, shall be ~~approved~~ **recommended** by the Board of Fire Wards and ~~written approval submitted to~~ **approved by** the Planning Board prior to ~~the final hearing~~ **issuing subdivision approval.**
5. Upon approval of the design plans and location, if applicable, construction of the fire protection system shall be a condition to subdivision approval, and shall require that:
 - a. the applicant shall be responsible for payment of all inspection fees incurred. Inspections shall be performed by the Town's Consulting Engineering firm.
 - b. inspections of the system's construction are mandatory and must be performed in accordance with the "Construction/Installation Inspection Sheets" included in the Fire Protection Cistern Specifications of Section IX-J of these regulations. Other water supply sources for fire protection shall be inspected in accordance with approved inspection schedules.

~~The 2003 hourly rate for the town's consulting engineer or inspector shall be \$75.00 per hour for the time on the project and travel time to and from the installation site. Travel time shall not exceed 1.0 hour per site visit. The \$75 rate shall increase 5% annually. Expenses shall include auto mileage to and from the project. The mileage rate charged shall be \$0.40 per mile.~~

~~Administration charges incurred by the Town's Consulting Engineer shall include project manager charges, clerical time, cellular phone charges and miscellaneous expenses.~~

The Town's Consulting Engineer shall provide a construction monitoring estimate for the inspection of the cistern installation based on the complexity of the design and site conditions. Expenses will include mileage, postage and other incidentals. The mileage reimbursement shall be at the current contracted rate.
 - c. prior to construction, the applicant shall submit the sum of ~~Thirty Five Hundred Dollars (\$3,500.00)~~ **established by the Town's Consulting Engineer** to the Office of the Planning Board/Planning Department to cover the cost of the above-noted inspections. An

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escrow account ~~will~~ **shall** be established in the name of the applicant for the express purpose of the fire protection system construction inspections, except that if the cistern is part of a subdivision that also includes road construction or reconstruction, the cistern inspection money may be combined in the monitoring escrow account for the road. (Section amended June 12, 2007.)

- d. prior to the start of construction, a Performance Bond shall be provided in the amount of:

$$\frac{\$65,000 \times \text{Present Date ENR Cost Index}}{\$6,462 \text{ (Feb. 2002 ENR Cost Index)}} = \text{Bond Amount}$$

This security for the installation of the fire protection system shall be provided in accordance with Section VIII **of these regulations**;

- e. a building permit for the fire protection system ~~must~~ **shall** be issued by the Town's Building Inspector;
- f. construction of the fire protection system in accordance with the approved design plans; approval of same by the Board of Fire Wards; and, acceptance of same by the Planning Board, shall be required prior to the issuance of any Certificate(s) of Occupancy.
6. Any unexpended funds, plus interest accrued, if any, in the escrow account after the construction inspections have been completed ~~will~~ **shall** be returned to the subdivider/ applicant upon final inspection and acceptance of the cistern, and receipt of the final inspection costs invoice for same.
7. In the event that the inspection costs exceed the initial deposit, an additional amount to be determined by the Planning Board ~~will~~ **shall** be required. Construction of the fire protection system ~~will~~ **shall** not be permitted to continue until the amount determined is submitted and final acceptance of the cistern shall be withheld until all outstanding bills are paid.
8. Prior to acceptance of the completed fire cistern, cistern site and vehicle pad by the Town, an acceptable two-year maintenance bond shall be submitted by the applicant for the fire cistern in the amount of 10% of the performance bond value.
9. At the time of acceptance, the applicant shall provide an approved form of conveyance to the Town that has been reviewed by the Planning Board and Town Counsel. Such document, as determined by the Planning Board, shall convey unencumbered fee title of said cistern and necessary appurtenant land or, if agreeable to the Board, perpetual easement rights to the same.

Proposed Amendment #15

Amend Section IX-J, Fire Protection Cistern Specifications, by uncapitalizing the words Town and Owner and adding modular pre-cast concrete cisterns to the types of allowed cisterns in the opening paragraph; adding a section of general requirements applicable to all types of cisterns; adding Section IX-J,A,7, to include an Owner and Contractor Certification on cistern plans; renumbering the following sections; changing instances of "must", "is to be", "are to be" and "will" to "shall" throughout for consistency; adding a statement that all construction shall be carried out safely; amending Section IX-J,A,11, to change the depth loam is to be kept from the rim of the manhole from 4" to 12 - 18" and to refer to the correct erosion control manual; deleting the table of gradation from Section IX-J,A,12, and referring to NHDOT requirements instead, and changing the width and depth of pavement for the vehicle pad to match current Town requirements; deleting Section IX-J,A,12; moving Sections IX-J,A,14,16,17,18,20,21, from Section IX-J,B; adding Section IX-J,A,15, requiring all pipe and hardware within the cistern to be galvanized steel; adding Section IX-J,A,23, requiring a No Parking sign including the specifications therefor; amending Section IX-J,A,24, by adding the requirement for the contractor to refill the cistern after flow testing; amending Section IX-J,A,25, to require that cistern padlocks be purchased from the New Boston Fire Department; deleting old Sections IX-J,A,21 and 22 as they are obsolete; amending Section IX-J,B,1,a, to refer to the correct building code; re-ordering some of the sections for better continuity; adding material certifications to Section IX-J,B,5; deleting the first sentence of Section IX-J,B,10; amending Section IX-J,B,14, with regard to the size of boulders used to protect the tank area; amending Section IX-J,B,15,b, to specify the thickness of vermin-resistant foam insulation required; amending Section IX-J,B,15,c, to change the depth loam is to be kept below the rim of the manhole from 4" to 12 - 18"; amending Section IX-B,18, to include the language for testing as modified from the pre-cast cistern section; including in Section IX-J,C,1,A,(2), i & ii, reference to the American Water Works Association; amending Section IX-J,C,1,B, to require submission of plans to the Planning Board and the Fire Wards, to require a design plan, and to require shop drawings two weeks prior to construction; deleting Section IX-J,C,2,D,B, as this language has been added to the general cistern requirements section; amending Section IX-J,C,3,A, by adding (2), requiring preparation of a Tank Installation Checklist by the contractor; amending Section IX-J,C,3,B,(4), to require compaction with hand-operated equipment and adding v, requiring fabric between gravel and crushed/pea stone; amending Section IX-J,C,4, to require a 50 year warranty instead of 30 years, to require the warranty to be provided to the Planning Board and Fire Wards prior to installation, and to require certain paperwork to be submitted to the Town's Consulting Engineer for review prior to acceptance of the cistern; amending Section IX-J,C,5, to require repairs to be made to the satisfaction of the Fire Wards instead of the Planning Board; amending Section IX-J,C,6, to allow the Fire Wards to direct any work or specification not included in this section;

adding Section IX-J,D, to include requirements regarding modular pre-cast concrete units; changing the various inspection checklists to include the requirement for refilling the cistern after the flow test and adding an inspection sheet for modular pre-cast concrete cisterns; and, deleting the Receipt of Specifications and Agreement to Conform, as it is obsolete.

IX-J FIRE PROTECTION CISTERN SPECIFICATIONS (Section amended 6/25/02 and 8/10/04.)

The ~~TOWN~~ **Town** of New Boston is the ultimate ~~OWNER~~ **owner** (subject to Section IX-I,a)9 above) and the New Boston Fire Department is the only user of any cistern constructed for subdivisions. As a result, the ~~TOWN~~ **Town** and the Fire Department have a clear interest in assuring that work is satisfactory. To that end, inspections will be performed by the ~~TOWN'S~~ **Town's** Consulting Engineer in accordance with the relevant Construction/ Installation Inspection Sheet" and as necessary. Cistern tanks shall be constructed of cast-in-place concrete, ~~or~~ fiberglass reinforced plastic, **or modular pre-cast concrete units**. See relevant specifications for each below.

A. GENERAL

1. Cisterns ~~are to~~ **shall** be located no more than 2,200 feet truck travel distance from the nearest lot line of the furthest lot. The final location of any cistern must be recommended by the Board of Fire Wards and approved by the Planning Board.
2. The Town of New Boston expects the design of a cistern to be reasonable, practical, trouble-free and last a lifetime (50 years). All design and construction information ~~must~~ **shall** be shown on plans.
3. The cistern ~~must~~ **shall** have a minimum usable capacity of 30,000 gallons available through the suction piping system.
4. The suction piping system ~~is to~~ **shall** be capable of delivering 1,000 gallons per minute for three-quarters of the cistern capacity.
5. The design of the cistern ~~is to~~ **shall** be submitted to the Planning Board, for approval by the Town's Consulting Engineer prior to construction, per Section IX-I,a),1 and ~~IX-J,C,1.02~~. All plans must be stamped and signed by a professional engineer licensed by the State of New Hampshire.
6. Each fire cistern ~~must~~ **shall** be sited to the particular location by the same registered professional engineer as noted in Item #5.
7. **All cistern plans shall be furnished with an Owner and Site Contractor Certification which states that "Cistern construction will be performed in accordance with the approved design plans. In all cases the current Town of New Boston Fire Protection Cistern**

Specifications shall be considered a part of the approved plans. The owner and contractor understand that in the event of a discrepancy between the two documents the Fire Wards and/or the Town's Consulting Engineer will direct the contractor how to proceed." This certification shall be signed prior to subdivision approval being granted.

- 78. The entire fire cistern ~~is to~~ **shall** be structurally rated for HS-20 loading, unless specifically exempted in writing by the Fire Wards.
- 89. All drawings herein are for general diagrammatic purposes only. Alternative designs and materials can be proposed, as previously noted; all designs must be submitted to the Planning Board for review and approval by the appropriate agent/agency.
- 10. **It is required that all work be performed in accordance with all applicable safety laws and regulations. Neither the Town nor its agents assume any responsibility relative to construction safety; that is the sole responsibility of the applicants and his agents.**
- 911. All areas disturbed as a result of construction of the fire cistern ~~must~~ **shall** be graded, loamed, seeded, fertilized and mulched. The loam ~~must~~ **shall** be screened and the minimum thickness placed is to be 4 inches. It shall be kept ~~4~~ **12 to 18** inches below the top of the manhole ring. Seed mixtures and mulch shall be applied in accordance ~~to~~ **with** the standards as found in the ~~Erosion & Sediment Control Design Handbook for Developing Areas of N.H. NH Stormwater Management Manual - Volume 3 Construction Phase Erosion & Sediment Controls~~, as amended.
- 102. The roadway shoulder and vehicle pad at the fire cistern, from edge of the roadway pavement to the pumper suction connection, ~~must~~ **shall** have a pitch of 3/8" per foot downgrade. There ~~must~~ **shall** be a defined swale (ditchline) where both grades meet, to take runoff away from the site. The vehicle pad at the fire cistern ~~must~~ **shall** be ~~sized to accommodate a pump truck (a minimum width of 22'—24'~~ **of 28' deep** from edge of existing pavement) **by 50' wide (SEE DETAIL)** and ~~must~~ **shall** have a minimum of 12 inches of crushed gravel ~~meeting the following gradation:~~

Sieve Designation	Percent Passing
3"	100
2"	95-100
1"	55-85
Sieve Designation	Percent Passing
No. 4	27-52
No. 200	0-12

which meets NHDOT 304.3.

The vehicle pad gravel material ~~must~~ **shall** be compacted to 95% of the modified proctor of the crushed gravel. The shoulder and pad shall be constructed, and paved with ~~2-1/2"~~ **4 1/2"** of bituminous pavement, in accordance with Section ~~VIII-B~~ **IX-B,2,m**.

~~112. Shoulder and vehicle pad must **shall** be of sufficient length to permit convenient access to suction connection when pumper is set at 45 degrees to the road.~~

~~123. Bottom of suction pipe to pumper connection must **shall** not exceed 14 feet vertical distance.~~

14. All suction and vent piping above the cistern roof slab shall be ASTM Schedule 40 Steel. All above-grade Schedule 40 Steel piping and supports shall be painted in accordance with the following paint system: SHERWIN-WILLIAMS OR EQUAL: Safety Red:

EXTERIOR PIPING: Including vent fill and suction piping

1st Coat: High solids catalyzed epoxy - 6 mil DFT*

2nd Coat: High solids Aliphatic - 4 mil DFT

***Dry Film Thickness**

Surface preparation and application of the paint shall be in accordance with the manufacturer's requirements.

Below grade Schedule 40 Steel pipe shall be coated with CIM1000 or Elastoshield coating. Suction piping within the cistern tank is to be Schedule 10 Type 304 Stainless Steel.

15. All pipe and hardware within the cistern shall be galvanized steel to prevent corrosion. No subsequent welding or fabrication which compromises the coating of the pipe shall be permitted.

16. The 8 x 5 inch eccentric reducer is available from Boston Pipe and Fittings of Cambridge, MA, or equal.

17. The final suction connection shall be a 4-1/2 inch National Hose Male Thread. A cap shall be provided and both the cap and the adaptor shall be brass.

18. The filler pipe fitting shall be a 4" storz connection installed at a 45 degree angle, directing water downward into cistern. The filler shall be located a minimum of 36 inches, and a maximum of 48 inches, above final grade level.

19. All horizontal suction piping must **shall slope slightly uphill towards pumper connection.**

~~1320.~~ All construction, backfill, and grading material ~~is to~~ **shall** be in accordance with proper construction practices.

21. During the construction of the fire cistern, the excavation shall be kept stable and dry. The excavated area shall be dewatered to 2 feet below bottom of footing grade for the entire construction and testing period.

22. Prior to placement of the bedding material, a layer of geotextile separation fabric shall be placed on subgrade that is stable and dry. The fabric is to be MIRAFI 140.N or equal.

~~1422.~~ All horizontal suction piping ~~must~~ **shall** slope slightly uphill towards pumper connection.

23. All cisterns shall be furnished with an MUTCD R7-1, 12" x 18" 'No Parking Any Time' sign with double arrows attached to a #5 steel bar welded above the suction pipe. The steel bar shall be painted in accordance with the above grade piping specifications.

~~1524.~~ Installer is responsible for completely filling cistern with potable water until **the cistern is** accepted by the Planning Board. **Contractor shall promptly refill any water drawn down by the Fire Department as a result of flow testing.**

~~1625.~~ ACCEPTABLE PADLOCK

~~American Padlock 7000 Series keyed to Nbfd #2, or equivalent round key lock with only brass or stainless internal parts, to be approved by the Fire Wards. A rubber boot should be provided to protect the lock and key access. [NOTE: Locks are available from Bragdon Lockshop, Milford, NH, or any other American Padlock source.]~~

In order to ensure that all cistern padlocks meet the specifications of the New Boston Fire Department, the contractor shall purchase all locks from the department. Each manway hatch shall be furnished with a lock from the Nbfd. Locks will cost \$50/each.

~~1726.~~ Inspections ~~are to~~ **shall** be carried out as noted in Section IX-I, a), 5.

~~1827.~~ The Developer ~~must~~ **shall** schedule all inspections 48 hours in advance with the Town's Consulting Engineering firm.

~~1928.~~ Prior to the start of construction of the cistern, a preconstruction meeting ~~will~~ **shall** be held at the New Boston Town Hall. The New Boston Planning Department will organize the meeting. The following parties ~~must~~ **should** attend the meeting:

- * New Boston Planning Dept. representative
- * New Boston Fire Dept. representative
- * Town's Consulting Engineer representative

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- * Developer
- * Contractor (if applicable)

~~2029.~~ Two copies of the attached "Construction/Installation Inspection Sheet" shall be issued at each preconstruction meeting for a fire cistern installation. One copy shall be held by the developer/installer. The other copy shall be held by the Town's consulting engineer.

After a milestone inspection item on the "Construction/Installation Inspection Sheet" has been successfully completed, the Planning Board shall be given a copy of the signed off sheet.

~~21. The Developer must bring a written gant-type construction schedule and an erosion control plan to the preconstruction meeting, both to be submitted to the Planning Board for review.~~

~~22. The Developer must submit a fully executed "Receipt of Specifications and Agreement to Conform" sheet as an attachment to the design plans submitted for review and approval. The sheet is available at the Office of the Planning Board/Planning Department.~~

B. CAST-IN-PLACE CONCRETE

1. All cast-in-place concrete utilized as part of the construction of a fire cistern ~~must~~ **shall** meet or exceed the specification requirements listed below:

CONCRETE

- a. All concrete work shall conform to the requirements of the specifications, the latest edition of the ACI Building Code (ACI 318) and ACI 301, Specifications for Structural Concrete for Buildings, and to the ~~BOCA National Building Code~~ **International Building Code**. In case of conflict, the more stringent requirements shall govern.
 - b. All concrete shall be ready-mixed in accordance with ASTM C94.
 - c. Vertical construction joints and stops in the concrete work shall be made at mid span. ~~Provide~~ **dowels shall be provided** at construction joints of area equal to **0.5%** of the vertical concrete area. See specifications. ~~Provide~~ **beveled keyways shall be provided** at all construction joints.
 - d. At least 48 hours shall elapse before depositing of new concrete against previously placed concrete.
 - e. All concrete shall attain minimum compressive strengths at 28 days age of 4,000 psi. Refer to specifications and ACI 301 for design strengths required for selecting mix proportions.
 - f. The use of calcium chloride is prohibited.
2. All cast-in-place concrete furnished as part of construction of the fire cistern and placed and cured must be in accordance with the

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most recent applicable ACI publication. Said ACI codes shall include but not be limited to the following:

ACI 301	Specifications for Structural Concrete for Building
ACI 304	Recommended Practices for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305	Hot Weather Concreting
ACI 306	Cold Weather Concreting
ACI 308	Standard Practice of Curing Concrete
ACI 309	Standard Practice for Consolidation of Concrete
ACI 318	Building Code Requirements for Reinforced Concrete
ACI 347	Recommended Practice for Concrete Formwork

3. The tolerances for concrete work is as follows:
 - a. Walls - All walls shall be even in appearance. Horizontal and vertical surfaces shall be plumb and/or level to within 1/4" in ten feet.
 - b. Slabs - All slabs shall be even and level with a uniform appearance and have a smooth profile of surface. The surface shall be level to within 1/4" in ten feet.
4. All reinforcing steel used ~~must~~ **shall** meet or exceed the following specification requirements:

REINFORCING

- a. All reinforcing bar details shall conform to the latest ACI Code and detailing manual, except as otherwise specified.
- b. All reinforcing bars shall conform to ASTM A615 Grade 60 except ties and stirrups Grade 40. All welded wire fabric shall conform to ASTM A185 and shall be provided in flat sheets. Laps shall be staggered and shall be 1-1/2 full mesh minimum.
- c. Schedule with the shop drawings all necessary accessories to hold reinforcing securely in position. Minimum requirements shall be: high chairs - 4 feet on centers; slab bolsters - 3'6" on centers; support bars for high chairs - #5.
- d. All bars, except as otherwise noted, shall be continuous and shall be run continuously around corners, lapped at necessary splices, and hooked at discontinuous ends. Laps shall be 30-bar diameter minimum, unless otherwise noted.
- e. The concrete protective covering for main reinforcement shall be, unless shown otherwise:
 - i. Footing bottoms - 3 inches
 - ii. Columns, beams and formed surfaces in direct contact with soil or exposed to the weather (except slabs) - 2 inches
 - iii. Interior faces of walls and slabs exposed to the weather - **1** inch
 - iv. Interior slabs - 3/4 inch
- f. All concrete, unless specifically noted to be plain concrete, shall be reinforced.

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- g. All reinforcing shall be inspected and approved before concrete is placed.
- ~~5. All suction and vent piping above the cistern roof slab is to be ASTM Schedule 40 Steel. All above grade Schedule 40 Steel piping and supports must be painted in accordance with the following paint system: SHERWIN WILLIAMS OR EQUAL:~~
- ~~EXTERIOR PIPING: Including vent fill and suction piping~~
- ~~1st Coat: High solids catalyzed epoxy 6 mil DFT*~~
- ~~2nd Coat: High solids Aliphatic 4 mil DFT~~
- ~~*Dry Film Thickness~~
~~Surface preparation and application of the paint must be in accordance with the manufacturer's requirements.~~
- ~~Below grade Schedule 40 Steel pipe is to be coated with CIM1000 or Elastoshield coating. Suction piping within the cistern tank is to be Schedule 10 Type 304 Stainless Steel.~~
6. ~~The 8 x 5 inch eccentric reducer is available from Boston Pipe and Fittings of Cambridge, MA, or equal.~~
7. ~~The final suction connection is to be a 4 1/2 inch National Hose Male Thread. A cap must be provided and both the cap and the adaptor must be brass.~~
5. ***The Developer/Contractor shall, for approval, submit to the Town's Consulting Engineer two (2) copies of the following shop drawings and material certifications two weeks prior to use in construction.***
- * ***Rebar***
 - * ***Form work and accessories***
 - * ***Concrete design mix***
 - * ***PVC waterstop***
 - * ***Waterproofing coating***
 - * ***Form tie patching***
 - * ***Suction, fill, and vent piping including supports***
 - * ***Backfill materials including structural fill, crushed stone and fabric***
 - * ***Access manhole structure and casting***
6. ***The entire concrete structure of the cistern shall be completed, filled with water, and inspected prior to backfilling.***
- ~~8. The filler pipe siamese fitting (located on the Vent Pipe) is to have 2 1/2 inch National Standard Female Threads, with either plastic or breakable iron caps. The filler siamese shall be located a minimum of 36 inches, and a maximum of 48 inches, above final grade level.~~

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~~9. The entire concrete structure of the cistern must be completed, filled with water, and inspected prior to backfilling.~~

~~10. During the construction of the fire cistern, the excavation must be kept stable and dry. The excavated area must be dewatered to 2 feet below bottom of footing grade for the entire construction and testing period.~~

117. The bedding material for the cistern shall be a 12-inch layer of 1-1/2 inch crushed, washed stone. The bedding material ~~must~~ **shall** be compacted by mechanical means, and shall meet the following gradation requirements:

Sieve Designation	Percent Passing
2"	100
1-1/2"	95-100
1"	35-85
3/8"	20-52
No. 8	0-5

~~12. Prior to placement of the bedding material, a layer of geotextile separation fabric must be placed on subgrade that is stable and dry. The fabric is to be MIRAFI 140.N or equal.~~

138. All backfill material ~~is to~~ **shall** be screened gravel and ~~must~~ **shall** be compacted to 95% of the material modified proctor value. The material ~~must~~ **shall** meet the following gradation requirements:

Sieve Designation	Percent Passing
3"	100
2"	95-100
1"	55-85
No. 4	27-52
No. 200	0-12

149. Filler pipe siamese ~~is to~~ **shall** be a minimum of 36 inches, and a maximum of 48 inches, above final backfill grade.

1510. ~~The relationship of the height of the final cistern suction connection to the suction connection on the fire engine is absolutely critical. The intention is to have the~~ **The** final suction connection of the suction pipe **shall be** 20 - 24 inches above the level of the pad where a fire vehicle's wheels are located, which is about ten feet from the cistern suction connection. **SEE DETAIL.** The cistern design ~~must~~ **shall** include design elevations, i.e. top of base slab, top of roof slab and centerline of suction piping, and any other necessary elevations for construction of the cistern. The design engineer ~~must~~ **shall** set a minimum of two (2) benchmarks on the proposed cistern site for use by the Contractor. The benchmarks

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~~must~~ **shall** be protected and maintained throughout the duration of construction. ~~SEE DETAIL.~~

~~1611.~~ Suction pipe ~~is to~~ **shall** be supported to the top of the tank.

~~1712.~~ Cistern ~~must~~ **shall** be designed so that it will not float when empty. This must be stated on the plans.

~~1813.~~ Perimeter of tank at floor/wall joint ~~to~~ **shall** be sealed with continuous 6-inch PVC waterstop. All butt-ends ~~are to~~ **shall** be heat welded. ~~Also, all~~ vertical wall joints and horizontal slab joints ~~must~~ **shall** have a continuous 6-inch PVC waterstop.

~~19.~~ The Developer/Contractor ~~must, for approval, submit to the Town's Consulting Engineer two (2) copies of the following shop drawings two weeks prior to use in construction.~~

- ~~_____ * Rebar~~
- ~~_____ * Form work and accessories~~
- ~~_____ * Concrete design mix~~
- ~~_____ * PVC waterstop~~
- ~~_____ * Waterproofing coating~~
- ~~_____ * Form tie patching~~
- ~~_____ * Suction, fill, and vent piping including supports~~
- ~~_____ * Backfill materials including structural fill, crushed stone~~
~~_____ and fabric~~
- ~~_____ * Access manhole structure and casting~~

~~2014.~~ After backfilling, the tank area ~~is to~~ **shall** be enclosed with ~~2-ft x 2-ft x 3-ft stones~~ **3ft diameter boulders** placed 6ft +/- on center. SEE DETAIL.

~~2115.~~ Backfill over the tank shall be:

- a. 4 feet of fill; or
- b. if less than 4 feet, the top and highest 2 feet of sides of cistern insulated with **2"** vermin-resistant foam insulation, and minimum 2 feet of fill.
- c. All backfill shall extend 10 feet beyond the edge of the cistern, then maximum 3:1 slope, loamed and seeded. All fill and loam shall remain **4" 12 to 18 inches** below the rim of the manhole.

~~2216.~~ NO EXCEPTIONS PERMITTED: All form ties shall be of a type that permit breaking-off at least one inch below the surface of the concrete with a one-inch diameter PVC cone. In addition, waterstop washers shall be placed halfway along the length. All form ties ~~are to~~ **shall** be broken at least one inch below the surface and sealed with a non-shrinking hydraulic cement.

~~2317.~~ The **A** method of positive leak prevention ~~must~~ **shall** be provided. The inside of the cistern walls, and floor, as well as the below-

grade Schedule 40 carbon steel piping, ~~must~~ **shall** be waterproofed with a modified urethane industrial membrane system equal to CIM1000 or Elastoshield, that will ensure long-term water tightness of the structure.

~~2418. The Fire Wards or other agent/agency shall perform such tests on the cistern both during and after construction as necessary. These tests shall include a flow test and a leakage test; the latter requires at least two weeks. The leakage test is a zero leakage test.~~

TESTING

After the tank is broom cleaned and has been inspected, but prior to backfilling, insulation and inspection of the cistern piping, the fire cistern shall be leakage tested. The vessel shall be filled with potable water to within 1-inch of the top cover of the manway. The installer should allow 48-hours for the water elevation to stabilize before commencing the 14-day leakage test. The tank level measurements shall be made and recorded by the Town's Consulting Engineer. The installer shall provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway covers. The test is a zero leakage test. If after the fourteen-day test leakage is verified, the tank and/or components shall be repaired to stop the leak. Any repairs made shall be acceptable to the Board of Fire Wards, with a leakage retest. Flow testing shall be conducted by the Fire Department

C. SINGLE-WALL FIBERGLASS REINFORCED PLASTIC TANK

1. GENERAL

~~1.01A~~ Acceptable Tank Manufacturer

~~A-(1)~~ Manufacturer

Xerxes Corporation, Minneapolis, Minnesota, or approved equal.

~~B-(2)~~ Manufacturing Standards:

i. Manufacturer shall be able to provide documentation that the tank shell has been built to the applicable requirements of Underwriters Laboratories Standard UL 1316 **or American Water Works Association (AWWA) D120.**

ii. Tank manufacturer shall be in the business of manufacturing tanks to UL 1316 **or AWWA D120** standards.

~~C-(3)~~ Materials:

i. Tank shall be manufactured of 100% resin and glass-fiber reinforcement, with no sand fillers and no exposed glass fibers.

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~~1.02B~~ Submittals

Applicant shall submit to the Planning Board **and Board of Fire Wards**, four (4) copies of shop drawings for each tank and four (4) copies of manufacturer's literature. ~~The shop drawing can be submitted to the Planning Board only if the submittals are marked reviewed and approved by the installer and "Engineer of Record".~~ Submittal must include:

- Tank Plan
- Tank Section
- Hold-Down Deadmen Details
- Hold-Down Strap Materials and Hardware
- Tank Loading Capacity
- Internal Components
- Warranty
- Tank Weight
- Flange Type and Locations
- ~~Date of Manufacture~~

In addition to the above submittals, a final design plan shall be prepared by the design engineer siting the cistern and detailing the installation specifications.

Two weeks prior to construction, the Developer/Contractor shall submit two (2) copies of the manufacturer's job specific shop drawings to the Town's Consulting Engineer for approval.

2. PRODUCTS

~~2.01A~~ Single-Wall Fiberglass Underground Tanks

~~A-(1)~~ Product-Storage Requirements:

- i. Tank shall be vented to atmospheric pressure, as the tank is not designed as a pressure vessel.
- ii. Tank shall be designed for maximum product-storage temperature of 150 degrees F.

~~B-(2)~~ Loading Conditions: Tank shall meet the following design criteria:

- i. Internal Load: Tank shall withstand a 5-psig air-pressure test with 5:1 safety factor. Installer shall air-test each tank for leakage prior to installation. Maximum test pressure is 5-psig (3-psig for a 10-foot tank).
- ii. Vacuum Test: To verify structural integrity, each tank up through 10-foot diameter shall be vacuum tested by the manufacturer at the factory to 11.5 inches of mercury.
- iii. Surface Loads: Tank shall withstand surface HS-20 axle loads when properly installed according to manufacturer's current installation instructions.
- iv. External Hydrostatic Pressure and Burial Depth: Tank shall be capable of being buried in the ground with a

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maximum 7 feet of overburden, the excavation fully flooded, and a safety factor of 5:1 against general buckling.

- v. The tank shall support accessory equipment - such as drop tubes, as shown on tank drawings and when installed according to tank manufacturer's recommendations.
- vi. The tank shall be a Xerxes, or equal, 30,000-gallon tank, 10-foot diameter, minimum empty weight of 12,500 pounds, model 10'-30,000, and shall meet the following specifications:
 - ASTM D4021-92
 - U.L. Listing (Certification Plate on Tank)
 - 30,590-Gallon Capacity
 - NFPA 30
 - 9,400 lbs. Tank Weight
- vii. The cistern shall be designed so it will not float, with a 1.5 factor of safety.

~~2.02B~~ Accessories

~~A-(1)~~ Anchor Straps:

- i. Straps shall be FRP anchor straps as supplied by tank manufacturer.
- ii. Number and location of straps shall be shown on tank drawings.

~~B-(2)~~ Manways:

- i. All manways shall be flanged and 30-inch ID, complete with UL-listed gaskets, bolts and covers.
- ii. Location(s) shall be shown on tank drawings.
- iii. Manway extensions shall be FRP.

~~C-(3)~~ Gauge Plates:

- i. Gauge plates shall be installed under each service fitting and manway opening.

~~D-(4)~~ Manway Hatch:

- i. The manway hatch shall be an aluminum Haliday Hatch, Model HC3636, or equal.

~~E-(5)~~ Internal Anti-Vortex Device:

- i. An internal anti-vortex plate shall be factory installed by tank manufacturer.

~~F.~~(6) Fittings:

- i. All pipe fittings shall be constructed of carbon steel and shall have welded joints.
- ii. All standard threaded fittings shall be half-couplings, and of 6-inch or 8-inch diameter. Reducers ~~are to~~ **shall** be used for smaller sizes where shown and provided by contractor.
- iii. All NPT flanges shall withstand a minimum of 150 foot-pounds of torque and 1,000 foot-pounds of bending, both with a 2:1 safety factor.

~~G.~~(7) Internal Piping:

- i. The tank shall be provided from the manufacturer with an 8" diameter FRP suction pipe with a flanged connection at the crown of the tank and a flanged connection to the anti-vortex device.

~~2.03C~~ Concrete

~~A.~~(1) All concrete used for the deadmen, manway pad and bollards shall meet the following specifications:

- 3,500 psi compressive strength
- 6%± 1% air entrainment
- Max. slump 5"
- Placed in accordance with all applicable NHDOT and ACI specifications

~~2.04D~~ Sitework

~~A.~~(1) Dewatering

The tank excavation shall be dewatered to 2'-0 below the bottom of the excavation until the tank is 100% backfilled and deadmen are in place.

~~B.~~ ~~Excavation Safety/Support~~

~~It is required that all work be performed in accordance with all applicable safety laws and regulations. Neither the Town nor its agents assume any responsibility relative to construction safety; that is the sole responsibility of the applicants and his agents.~~

~~G.~~(2) Erosion Control

The cistern site shall be protected against any erosion and siltation off the site. The installation shall employ any and all erosion control measures necessary to comply with this requirement.

3. EXECUTION

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A. Installation

- ~~i.~~(1) Tank shall be installed according to manufacturer's current underground storage tank installation instructions.
- (2) **Contractor is responsible to prepare manufacturer's "Tank Installation Checklist - Fiberglass Underground Storage Tanks" during construction to the satisfaction of the Town's Consulting Engineer.**

B. Backfill Material

- ~~i.~~(1) Pea stone (mix of rounded particles) ~~must~~ **shall** have a minimum diameter of 1/8" and a maximum dimension of 3/4", with a maximum of 2% passing a No. 200 sieve.
- ~~ii.~~(2) Crushed stone shall be washed crushed stone particles with a mix of angular particles between 1/8" and 1/2" and ~~must~~ **shall** meet ASTM C-33 para. 9.1 requirements, with a maximum of 2% passing a No. 200 sieve.
- ~~iii.~~(3) No more than 5% of the backfill shall pass a No. 8 sieve.
- ~~iv.~~(4) Compaction of the backfill shall be every 12" lift; compaction shall be **by** mechanical means **but should be performed with hand-operated equipment**, with every effort made to avoid directly contacting the tank with tools and equipment during backfilling procedures.
- (5) **In any location where gravel is placed over crushed stone or pea stone a geotextile separation fabric shall be placed between the two materials to prevent migration of fines into voids of crushed stone. The fabric shall be Mirafi 140-N or equal.**

4. WARRANTY

- A. Warranty shall be ~~30~~ **50** years by the tank manufacturer.
- B. A copy of the written warranty shall be provided to the Planning Board **and Board of Fire Wards for review** prior to installation of the fire cistern.
- C. **Before the Town accepts the cistern for operation the Contractor shall submit to the Town's Consulting Engineer for review, the manufacturer's shipping paperwork, a copy of the manufacturer's "Installation Manual and Operating Guidelines", and the completed "Tank Installation Checklist - Fiberglass Underground Storage Tanks."**

5. TESTING

After the tank has been backfilled and the manway and miscellaneous piping is installed, the fire cistern tank shall be leakage tested.

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The tank ~~must~~ **shall** be filled with potable water to within 1 inch of the top cover of the manway. The installer may allow the filled tank to sit for one (1) day prior to commencement of the test. The test duration ~~will~~ **shall** be seven (7) calendar days. The tank level measurements ~~will~~ **shall** be made and recorded by the Town's Consulting Engineer. The installer ~~must~~ **shall** provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway cover. The test is a zero leakage test. If after the seven-day test leakage is verified, the tank and/or components ~~must~~ **shall** be repaired to stop the leak. Any repairs made ~~must~~ **shall** be acceptable to the ~~Planning Board~~ **Board of Fire Wards**, with a leakage retest. Any repairs made to the tank ~~must~~ **shall** be done with prior written recommendation by the tank's manufacturer.

Flow testing shall be conducted by the Fire Department.

6. MISCELLANEOUS WORK

Any work or specification requirement not included in this section shall come under the ~~preview~~ **purview** of the applicable ~~Town~~ of New Boston Fire Cistern Specifications **and/or the direction of the Board of Fire Wards**.

D. **MODULAR PRE-CAST CONCRETE CISTERN**

1. **GENERAL**

A. **Acceptable Tank Manufacturer**

- (1) **Manufacturer**
Michie Corporation of Henniker, New Hampshire, or approved equal.
- (2) **Manufacturing Standards:**
The manufacturer's primary business shall be the manufacturing of pre-cast concrete products.

B. **Submittals**

- (1) *Shop Drawings from Manufacturer stamped by a Professional Engineer licensed in the State of New Hampshire.*
- (2) *Draft copy of 50-year warranty that will be issued to the Town of New Boston from the manufacturer once installation is complete.*
- (3) *Buoyancy design calculations stamped by a Professional Engineer licensed in the State of New Hampshire demonstrating the tanks will not float when empty with a 1.5 factor of safety.*

- (4) *Site Plan Drawings specific to the site where the cistern is being constructed. Said drawings shall be stamped by a Professional Engineer licensed in the State of New Hampshire.*

2. PRODUCTS

A. Pre-cast Concrete Tanks

(1) Product-Storage Requirements:

- i. *Tanks shall be delivered, stored, and installed with care. Any defects and/or damage done onsite shall be cause to reject the pre-cast segment.*
- ii. *Tanks shall be offloaded and placed by an appropriately sized crane.*

(2) Tank Design Requirements:

- i. *Tanks shall be designed to be leak free and structurally sound for a period of 50-years.*
- ii. *Each tank shall be made from two (2) monolithic pieces, a top and a bottom.*
- iii. *All tank joints shall be leak-proof and shall meet or exceed the requirements of Federal Specification SS-S-210, ASTM C-990, AASHTO M-198B, and ASTM Specifications D-71, D-4, D-6, and D-217.*
- iv. *Tank exterior asphalt coating shall be Seaboard LN-12 or Conceal CS-55.*
- v. *All horizontal pipe connections shall be made with flexible sleeve pipe connections.*
- vi. *All vertical pipes shall be cast in to the tank top segments during manufacturing.*
- vii. *The tank shall be designed to support accessory equipment, such as suction pipe, fill pipe, vent, etc.*
- viii. *All concrete shall be 5,000 psi @ 28 days. Cement shall be Type III per ASTM C-150.*
- ix. *Reinforcing shall be per ASTM A-615, Grade 60 deformed billet steel with a 1" minimum cover.*
- x. *Reinforcing shall meet or exceed requirements of AASHTO HS20-44.*
- xi. *The cistern shall be designed so it will not float, with a 1.5 factor of safety.*

B. Accessories

(1) Manway Risers:

- i. All manway access points shall be constructed with pre-cast concrete risers which meet AASHTO HS20-44 loading.*
- ii. Each tank shall have a manway. Locations shall be shown on tank drawings.*
- iii. Manway covers shall be constructed 12 to 18 inches above finish grade.*

(2) Manway Hatch:

- i. All manways shall be furnished with a hatch which meets AASHTO HS20-44 loading and which is lockable by padlock.*

(3) Internal Anti-Vortex Plate:

- i. An internal anti-vortex plate shall be factory installed by tank manufacturer.*

(4) Fittings:

- i. All pipe fittings shall be constructed of carbon steel and shall have welded joints.*
- ii. Fill connection shall be a 4" storz and suction connection shall be 4-1/2" National Hose Male Thread.*

(5) Piping:

- i. All piping shall be Schedule 40 steel pipe.*
- ii. All above grade piping shall be painted safety red. All below grade piping shall be coated with CIM1000. See Section IX-J,A,14, for details.*

C. Site work

(1) Dewatering

The tank excavation shall be dewatered to 2'0" below the bottom of the excavation throughout installation and backfill operations.

~~*B. Excavation Safety/Support*~~

~~*It is required that all work be performed in accordance with all applicable safety laws and regulations. Neither the Town nor its agents assume responsibility relative to construction safety; that is the sole responsibility of the applicant and his agents.*~~

(2) *Erosion Control*

The cistern site shall be protected against any erosion and siltation off the site. The installation shall employ any and all erosion control measures necessary to comply with this requirement.

3. *EXECUTION*

A. *Installation*

- (1) *Contractor shall excavate site for tanks, prepare bedding, and properly dewater site prior to tanks being delivered to site.*
- (2) *Tanks and all piping shall be installed under the supervision and with assistance from the manufacturer.*

B. *Foundation and Backfill Material & Methods*

- (1) *Prior to placement of the foundation material, a layer of geotextile separation fabric shall be placed on subgrade that is stable and dry. The fabric is to be Mirafi 140-N or equal.*
- (2) *Foundation material shall be ¾" crushed stone, placed a minimum of 12-inches thick.*
- (3) *In any location where gravel is placed over crushed stone a geotextile separation fabric shall be placed between the two materials to prevent migration of fines into voids of crushed stone. The fabric shall be Mirafi 140-N or equal.*
- (4) *Backfill material shall be 1-1/2" bank run gravel. Backfill shall be placed in maximum 12-inch loose lifts. Backfill shall be compacted to 95% of maximum dry density by modified proctor method (ASTM 1557).*
- (5) *Compaction of backfill shall be by mechanical means, but should be performed with hand-operated equipment. Care should be taken to not contact tanks with tools and equipment during backfill procedures.*
- (6) *All areas between tanks shall be filled to a minimum of 12-inches above crown of interconnection pipe with ¾" crushed stone. 1-1/2" bank run gravel may be used above this elevation, provided that proper compaction as stated above can be obtained.*
- (7) *The tanks shall be back-filled prior to filling with water.*
- (8) *The backfill of the tanks shall be done uniformly around each tank. Differential backfill height on opposite sides of a tank should not exceed 2-feet.*

4. *WARRANTY*

A warranty shall be provided by the manufacturer for a period of

50-years.

5. *TESTING*

After the tank has been backfilled and the manway and miscellaneous piping is installed, the fire cistern shall be leakage tested. The vessel shall be filled with potable water to within 1-inch of the top cover of the manway. The installer should allow 48-hours for the water elevation to stabilize before commencing the 14-day leakage test. The tank level measurements shall be made and recorded by the Town's Consulting Engineer. The installer shall provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway covers. The test is a zero leakage test. If after the fourteen-day test leakage is verified, the tank and/or components shall be repaired to stop the leak. Any repairs made shall be acceptable to the Board of Fire Wards, with a leakage retest. Any repairs made to the tank shall be done with prior written recommendation by the tank manufacturer. Flow testing shall be conducted by the Fire Department.

6. *MISCELLANEOUS WORK*

Any work or specification requirement not included in this section shall come under the purview of the applicable Town of New Boston Fire Cistern Specification and/or the direction of the Board of Fire Wards.

CAST-IN-PLACE CONCRETE
CONSTRUCTION INSPECTION SHEET (Amended 8/10/04.)

Inspections ~~must~~ **shall** be conducted and work found acceptable at the following points during construction. The Planning Board's authorized inspection agent ~~must~~ **shall** be notified at least 48 hours before the inspection is required.

	Fire Ward or Agent (Sign & Date)
1) Inspection after excavation and prior to placement of crushed stone base.	
2) Inspection of slab rebar, formwork, and waterstop 24 hours prior to concrete placement.	
3) Inspection during placement of concrete for base slab.	
4) Inspection of wall rebar and interior formwork.	
5) Inspection of wall formwork in place with top slab dowels 24 hours prior to concrete placement.	
6) Inspection during placement of concrete for walls.	
7) Inspection of top slab formwork, rebar and piping sleeves 24 hours prior to concrete placement.	
8) Inspection of top slab concrete placement.	
9) Inspection of form tie cones removed prior to patching.	
10) Inspection of form tie cones patched.	
11) Inspection of interior substrate prior to applying waterproofing.	
12) Inspection of cistern prior to filling. Tank shall be broom clean.	
13) Two-week leak test.	Start Finish
14) Inspection of backfilling of cistern and placement of insulation.	
15) Inspection of cistern piping.	

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Regulation Amendments for June 2011

16) Flow test (approval by Fire Dept.)	
17) Refill with potable water	
17 18) Inspection of landscaping.	
18 19) Final inspection.	

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**SINGLE WALL FRP TANK
CISTERN INSTALLATION INSPECTION SHEET** (Added 8/10/04.)

Inspections ~~must~~ **shall** be conducted and work found acceptable at the following points during construction. The Fire Department's authorized inspection agent ~~must~~ **shall** be notified at least 48 hours before the inspection is required.

	Fire Ward or Agent (Sign & Date)
1) Observe after excavation and erosion control; prior to placing pea gravel	
2) Observe rebar, formwork of deadmen; prior to placing concrete	
3) Observe fiberglass tank in ground with straps and turnbuckles, attached to anchor	
4) Observe backfilling of cistern and placement of insulation; prior to fill cover	
5) Observe piping and painting; with sonotubes in place	
6) Observe final grading and landscaping	
7) Observe paving/grading	
8) One-week leak test	Start Finish
9) Flow test (by Fire Dept.)	
10) Refill tank with potable water	
1011) Final inspection	

Design engineer ~~must~~ **shall** certify that construction is acceptable prior to backfilling. This ~~must~~ **shall** be submitted in writing to the Building Inspector, PO Box 250, New Boston, NH 03070.

**MODULAR PRE-CAST CONCRETE CISTERN
CISTERN INSTALLATION INSPECTION SHEET**

Inspections shall be conducted and work found acceptable at the following points during construction. The Fire Department's authorized inspection agent shall be notified at least 48 hours before the inspection is required.

	<i>Fire Ward or Agent (Sign & Date)</i>
<i>1) Observe after excavation and erosion control; prior to placing tank bedding</i>	
<i>2) Observe tank bedding being placed</i>	
<i>3) Observe installation of tanks</i>	
<i>4) Observe backfilling of cistern and placement of insulation; prior to fill cover</i>	
<i>5) Observe piping and painting</i>	
<i>6) Observe final grading and landscaping</i>	
<i>7) Observe paving/grading</i>	
<i>8) Fourteen day leak test</i>	<i>Start Finish</i>
<i>9) Flow test (by Fire Dept.)</i>	
<i>10) Refill tank with potable water</i>	
<i>11) Final inspection</i>	

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~~RECEIPT OF SPECIFICATIONS AND AGREEMENT TO CONFORM~~ (Amended 8/10/04.)

~~The undersigned have received the "Town of New Boston Fire Protection Cistern Specifications, / / revision" and understand and agree to the provisions therein. In addition to any plans submitted and approved, the above Specifications shall be part of the job plan set. The Developer also agrees that any matters dealing with the construction shall be his responsibility to pursue and correct.~~

~~Any inspections beyond those listed on the "Construction Inspection Sheet" will be billed at a rate not to exceed Seventy Five Dollars (\$75.00) per hour, plus miscellaneous expenses.~~

~~ENGINEER Signed: _____~~

~~_____ Date: _____~~

~~_____ Name and Title: _____~~

~~DEVELOPER Signed: _____~~

~~_____ Date: _____~~

~~_____ Name and Title: _____~~

~~_____ Company Name: _____~~

~~_____ Address: _____~~

~~_____ _____~~

~~_____ Tel. No.: _____~~

~~CONTRACTOR Signed: _____~~

~~_____ Date: _____~~

~~_____ Name and Title: _____~~

~~_____ Company Name: _____~~

~~_____ Address: _____~~

~~_____ _____~~

~~_____ Tel. No.: _____~~

~~For the Fire Wards: _____~~

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Regulation Amendments for June 2011

Proposed Amendment #16

Replace existing cistern details with revised cistern details.

See attached cistern details.

Proposed Amendment #17

Amend Section XII, Amendments, to include reference to the correct State agency in the last sentence.

SECTION XII AMENDMENTS

These regulations may be amended or rescinded by the Board, but only following a public hearing on the proposed changes as required by RSA 675:6. A record of any changes, certified by the signatures of a majority of the members of the Board, shall be transmitted to the Town Clerk and the Office of State **Energy and** Planning. (See RSA 675:8 & 9.)

6/15/11

PLANNING BOARD

TOWN OF NEW BOSTON

NON-RESIDENTIAL SITE PLAN REVIEW REGULATIONS

PROPOSED AMENDMENTS JUNE 28, 2011

Proposed Amendment #1

Amend Section 2, Submission Items: Site Development Plan and Supporting Data, to require submission of 11" x 17" copies of the site plan as part of the completed application.

SECTION 2 SUBMISSION ITEMS: SITE DEVELOPMENT PLAN AND SUPPORTING DATA

On the formal submission of the site development plan, the owner or his agent shall submit the following in order to constitute a completed application:

1. A completed application form to be provided by the Planning Board.
2. Three (3) copies of the floor plan for new and existing buildings in which the business activity will take place, showing all important features, including, but not limited to, the use of areas, location of exits, and hazardous areas.
(Amended 6/26/02.)
3. Four (4) sets of the site plan maps and supporting data. Said maps and supporting documentation shall include, but not necessarily be limited to the ~~following:~~ **requirements in Section 2.1 and 2.2 below.** (Amended 6/26/02.)
4. **Eight (8) legible 11" x 17" copies of the site plan.**

Proposed Amendment #2

Amend Section 2.4, Additional Information, to add language specifying that third party review and consultation may be required during the review process at the applicant's expense as long as the review and consultation does not replicate something that was already done for the ZBA.

2.4 Additional Information

The Planning Board may require a Community Facilities Impact Study, an Environmental Impact Study, soils information in accordance with the Wetlands Conservation District regulations, groundwater information as it relates to the Groundwater Resource Conservation District, suitable building envelope demarcation (if already established) as it relates to the steep slopes conservation district, off-site road traffic impact analysis, and/or such additional information that it deems necessary in

order to enforce the purposes of these regulations. Such studies shall be undertaken at the expense of the applicant for Non-Residential Site Plan Review and at no cost to the Town. The firm, individual, or agency selected by the applicant to prepare such study or studies shall have the prior approval of the Planning Board. (Amended March 14, 2006.)

The Planning Board may require third party review and consultation during the review process, provided that the review and consultation does not substantially replicate a review and consultation obtained by the Zoning Board of Adjustment. The cost of such review and consultation shall be paid by the applicant and at no cost to the Town.

Proposed Amendment #3

Amend Section 4, Design and Construction Requirements, to add Section 4.18, Off-Street Parking, to include details of parking spaces, their size, design and numbers.

SECTION 4 DESIGN AND CONSTRUCTION REQUIREMENTS

4.18 Off-Street Parking

- A. *Off-street parking shall be provided on the same lot as the use and/or building it is to serve in accordance with the standards in this section whenever any new use and/or building is established or any existing use and/or building is enlarged or expanded. Requests for off-site parking shall be reviewed by the Planning Board during the Non-Residential Site Plan Review process.*
- B. *All parking facilities shall be designed and constructed in compliance with all applicable provisions of the Americans with Disabilities Act (ADA).*
- C. *Standard parking lot spaces shall be a minimum of 10 feet wide by 20 feet long (10' x 20').*
- D. *Aisles in parking areas shall be at least 22 feet wide for two-way traffic and 18 feet wide for one-way traffic.*
- E. *All parking surfaces, aisles and drives that are to be paved shall be paved with a minimum thickness of three inches (3") hot bituminous pavement (2 inch binder course and 1 inch wearing course).*
- F. *All parking pavement shall be placed on a compacted gravel surface consisting of a minimum of four inches (4") crushed gravel placed over a minimum thickness of eight inches (8") bank run gravel.*

- G. *Parking spaces, entrance and exit driveways, and direction of traffic flow shall be striped or marked to the satisfaction of the Planning Board.*
- H. *Parking area setbacks shall be as described in the New Boston Zoning Ordinance, Section 314, as the same may, from time to time, be amended.*
- I. *Parking areas shall be arranged so that cars will not back out onto public roads.*
- J. *All parking areas and access driveways shall be graded and drained so as to dispose of all surface water accumulation in accordance with acceptable engineering practices and the Stormwater Management and Sediment and Erosion Control Regulations contained in the Town of New Boston Subdivision Regulations.*
- K. *Any parking requirements not addressed in the following "Use" list will be examined during Non-Residential Site Plan Review for a determination on the minimum parking requirements.*

<u>Use</u>	<u>Minimum Parking Spaces Required</u>
<i>Office; Research and Development; Business Incubator</i>	<i>1 for every 250 sq. feet of gross building area</i>
<i>Retail Store; Pharmacy; Personal Services</i>	<i>1 for every 300 sq. feet of gross building area</i>
<i>Restaurant</i>	<i>1 for every 3 seats</i>
<i>Long Term Care Facility</i>	<i>1 per 3 beds and 1 for each 3 employees on the day shift</i>
<i>Hotel & Motel; Bed & Breakfast/Inn</i>	<i>1 per room</i>

Note: Any building for which a use is being proposed or expanded, where such use does not occupy the gross building area, as in the case of buildings having separate units, or buildings for which there is vacant space that is not intended to be occupied by a principal use or for any related storage or office space associated with the principal use, the "gross building area" requirements shall apply to the gross area to be utilized and occupied by the principal use and its accessory functions.

Proposed Amendment #4

Amend Section 7.7, Compliance Hearing, to include language that

specifies that the Planning Board may condition an approval upon receipt of State or federal permits relating to a project but may not refuse to process an application in the absence of these other permits.

7.7 Compliance Hearing

- a) If the Board places a condition precedent (one to be fulfilled before the project can be built, such as obtaining an easement, posting a bond, procuring special permits, etc.) on the approval, final approval will become effective on the plat or application without further public hearing **upon evidence submitted by the applicant of the satisfactory compliance with the conditions imposed**, providing the conditions are:
1. Minor plan changes whether or not imposed by the Board as a result of a public hearing, compliance with which is administrative and which does not involve discretionary judgment; or,
 2. Conditions which are in themselves administrative and which involve no discretionary judgment on the part of the Board; or,
 3. Conditions with regard to the applicant's possession of permits and approvals granted by other boards or agencies or approvals granted by other boards or agencies, **including State and federal permits.**

Such conditions may include a statement notifying the applicant that an approval is conditional upon the receipt of State or federal permits relating to a project, however, the Planning Board may not refuse to process an application solely for lack of said permits. Otherwise, ~~a~~All other conditions not specified in this section as minor, administrative, or relating to issuance of other approvals, shall require an additional noticed public hearing at which affected parties will have an opportunity to review and comment on the developer's compliance with the condition(s) precedent. Notice as provided in Section 7.4a) shall be required except that additional notice shall not be required of an adjourned session of a hearing with proper notice if the date, time and place of the adjourned session were made known at the prior hearing.

6/15/11

PLANNING BOARD
TOWN OF NEW BOSTON
DRIVEWAY REGULATIONS

PROPOSED AMENDMENTS JUNE 28, 2011

Proposed Amendment #1

Amend Section 9.6, Driveway Entrance Criteria (All Lots), to include language regarding driveways in cuts and fills.

- 9.6 ***For driveways in a cut section, The driveway shall have a 3% negative grade shall be maintained from the edge of the traveled way to the center of the ditchline and no more than a 3% positive grade from the center of the ditchline back to the end of the apron so that the driveway does not drain onto the road. to the right-of-way. For driveways in a fill section, a 3% negative grade shall be maintained from the edge of the traveled way to the right-of-way. Only clean water shall be permitted to drain into the town's ditchline.***

Proposed Amendment #2

Amend the Driveway Permit Form and the Driveway Certificate of Use to include language regarding driveways in cuts and fills.

- This permit requires the driveway to have a 3% negative grade from the edge of traveled way to center of ditchline and no more than 3% positive grade from center of ditchline ~~back to end of apron~~ ***to right-of-way; OR***
- This permit requires the driveway to have a 3% negative grade from the edge of the traveled way to the right-of-way.***
- 3% negative grade from edge of traveled way to center of ditchline & no more than 3% positive grade from center of ditchline ~~back to end of apron~~ ***to right-of-way OR 3% negative grade from edge of traveled way to right-of-way***

Proposed Amendment #3

Replace the Driveway Regulations Figure 1 with revised Driveway Regulations Figure 1 - Driveway Geometric Requirements.

See attached detail.

6/15/11