SUBDIVISION RULES AND REGULATIONS

FOR NAS SOUTH WEYMOUTH

EFFECTIVE DATE: DECEMBER 16, 2014

ARTICLE I - GENERAL

ARTICLE II – SUBMISSION OF PLANS

ARTICLE I - GENERAL

1.1 Authority

A. These Subdivision Rules and Regulations for NAS South Weymouth, hereinafter the "Regulations," shall be known and may be cited as the Subdivision Rules and Regulations of Naval Air Station (NAS) South Weymouth.

B. Under the authority vested in the Southfield Redevelopment Authority (the "Authority") under Chapter 291, Sections 6(t) and 14(h) of the Acts of 2014 adopted by the Massachusetts General Court on August 20, 2014 (the "Enabling Legislation"), the Authority hereby (i) acknowledges that the Authority shall, among its other functions, serve the role of a planning board established under M.G.L. Chapter 41, Section 81N; (ii) accepts the provisions of the Subdivision Control Law, M.G.L. Chapter 41, Section 81K to 81GG inclusive (the "Subdivision Control Law"); (iii) confirms that the provisions of the Subdivision Control Law shall be in effect in NAS South Weymouth; and (iv) adopts these Regulations governing the subdivision of land in NAS South Weymouth.

C. NAS South Weymouth is divided into a Central Redevelopment Area and Perimeter Areas, as shown on the Zoning District Map. The provisions in the Zoning and Land Use By-Laws for NAS South Weymouth (the "By-Laws") and these Regulations shall apply in both the Central Redevelopment Area and the Perimeter Areas. The Authority shall administer these Regulations within the boundaries of the Central Redevelopment Area and the planning boards of the respective Towns of Abington, Rockland and Weymouth (the "Towns") shall administer these Regulations within the boundaries of that portion of the Perimeter Area located within such Town. For purposes of these Regulations, the term "Applicable Subdivision Board" shall mean the Authority with respect to the Central Redevelopment Area, and the planning board of each Towns with respect to the portion of the Perimeter Area located within such Town. For purposes of these Regulations, the term "Filing Office" shall mean, (a) the Authority, where the Authority is the Applicable Subdivision Board and (b) the Town Clerk of the applicable Town, where a planning board of one of the Towns is the Applicable Subdivision Board.

D. The Authority, acting in the capacity of a planning board, or the planning board of each of the Towns, shall maintain full authority to administer these Regulations until that authority is transferred to another board established in accordance with Section 33 of the Enabling Legislation and M.G.L. Chapter 41, Sections 81A and 81N, except as otherwise provided herein.

1.2 Purpose

These Regulations are adopted for the purpose of protecting the safety, convenience and welfare of the inhabitants and the environment of NAS South Weymouth 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, parks and open areas. The administrative powers of the Applicable Subdivision Board under these Regulations will facilitate uniform redevelopment policies for NAS South Weymouth and shall be exercised with due regard for:

- Providing adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel;
- Lessening congestion to such ways and in the adjacent public ways;
- Reducing danger of life and limb in the operation of motor vehicles;
- Securing safety in the case of fire, flood, panic, and other emergencies;
- Insuring compliance with the By-Laws;
- Securing adequate provision for water, sewerage, drainage, underground utility services, fire, police and other similar municipal equipment, and street lighting, landscaping and other requirements where necessary in a subdivision;
- Coordinating the ways in a subdivision with each other and with the public ways in NAS South Weymouth, with the ways in neighboring subdivisions located in NAS South Weymouth and with the public ways adjacent to NAS South Weymouth;
- Encouraging the use of solar energy and protecting access to direct sunlight of solar energy systems; and
- Encouraging the use of low impact development techniques where appropriate to promote groundwater recharge and minimize detrimental impacts of stormwater runoff and drainage resulting from the creation of a subdivision.

1.3 Intent

It is the intent of the Subdivision Control Law (under which these Regulations are adopted) that any subdivision plan filed with an Applicable Subdivision Board shall receive the approval of such Applicable Subdivision Board if said plan conforms to the recommendation of the applicable Board of Health, or board or officer having like powers and duties, and to these Regulations and all other applicable laws and regulations.

1.4 Scope; Interrelationship with the By-Laws

The scope of the Regulations and the intended interrelationship of the Regulations with the By-Laws and all other regulations adopted by the Authority is set forth in Section 1.4.C of the By-Laws which provides as follows:

> "The Regulations shall be consistent with [the] By-Laws and shall provide additional substantive and procedural controls over the reuse of NAS South Weymouth; in the event of any inconsistency, the By-Laws shall control. The Regulations shall contain detailed land-use controls, including, but not limited to, procedures and standards for development plans, special permits and site plan review, sign standards, streetscape and landscape standards, parking and loading designs, building design guidelines, open space guidelines, affordable housing regulations, subdivision control standards, infrastructure standards, watershed and water resource protection standards, and standards and procedures required to ensure full compliance with Commonwealth of Massachusetts wetlands protection laws."

1.5 Reference

For subdivision matters not covered by these Regulations, reference is made to the Subdivision Control Law and the Enabling Legislation.

1.6 Applicability

No person shall make a subdivision within the meaning of the Subdivision Control Law of any lot, tract, or parcel of land within NAS South Weymouth, or proceed with the improvement or sale of lots in a subdivision, or the construction of ways in a subdivision, or the installation of public utilities in such ways, unless and until a definitive plan of such subdivision has been submitted to and approved by the Applicable Subdivision Board as hereinafter provided.

1.7 Procedures

A. Regular meetings of each Applicable Subdivision Board shall be held on the dates and times as posted with the applicable Filing Office, or another board or officer having like powers and duties. Except for executive sessions as provided for in M.G.L Chapter 30A, Sections 18-25 or as provided in the Enabling Legislation, meetings of each Applicable Subdivision Board shall be open to the public to attend. Anyone desiring to meet with an Applicable Subdivision Board shall do so by appointment except as provided for elsewhere in these Regulations. To secure an appointment, an Applicant shall notify the Applicable Subdivision Board in writing fourteen (14) days before a regularly scheduled meeting by delivery of such notice to the applicable Filing Office, or board or officer having like powers and duties. In such notice, the Applicant shall state his/her name, address and a brief outline of the nature of the business to be discussed with the Applicable Subdivision Board.

B. Any person attending an advertised public hearing may address the Applicable Subdivision Board at the pleasure of the chairperson without prior notice and in so doing shall state his/her name, address and person represented, if any.

C. All meetings of each Applicable Subdivision Board shall be conducted formally under the direction of its chairperson. In the absence of the chairperson, any vice chairperson shall act as chairperson. In the absence of both the chairperson and vice chairperson, any secretary or clerk shall act as chairperson.

D. Quorum and Voting Procedure.

(1) When the Authority is the Applicable Subdivision Board, five (5) members of the Authority's board shall constitute a quorum and a minimum of four (4) affirmative votes of the quorum shall be required for any action; provided, however, that less than four (4) members of the Authority may vote to adjourn, subject to the meeting be rescheduled as provided herein.

(2) When the planning board of one of the Towns is the Applicable Subdivision Board, a majority of the members of the applicable planning board shall constitute a quorum.

(a) Less than a majority may vote to adjourn, subject to the meeting being rescheduled as provided herein.

(b) All other action of the applicable planning board shall require a majority vote of all the members.

(3) In the event that there is less than a quorum present at any scheduled meeting, the chairperson shall reschedule a meeting as soon as practicable thereafter.

E. The records of each Applicable Subdivision Board shall be maintained in the manner set forth in M.G.L Chapter 30A, Sections 18-25 and/or the Enabling Legislation or any other applicable law or policy of the Authority, and may contain such other matters as each Applicable Subdivision Board at its discretion may deem appropriate.

F. An Applicable Subdivision Board may require any Applicant to produce evidence of ownership, or authority of an agent, representative, or assign.

1.8 Effect of Prior Recording of Plans

The recording of a plan of land in NAS South Weymouth, prior to the effective date of these Regulations, showing the division thereof into existing or proposed lots, sites or other divisions and ways furnishing access thereto, shall not exempt such land from the application and operation of the Subdivision Control Law except as provided in M.G.L. Chapter 41, Section 81FF.

1.9 Definitions

Capitalized terms not otherwise defined in these Regulations shall have the same meaning as in the By-Laws. The following terms shall have the meanings set forth below:

AASHTO: American Association of State Highway and Transportation Officials.

ADA: Americans with Disabilities Act.

ADT: Average Daily Traffic.

ANR or APPROVAL NOT REQUIRED: A plan of land that does not require approval under the Subdivision Control Law, as provided for in M.G.L. Chapter 41, Section 81P. Also known as "Form A Plan."

APPLICABLE FIRE DEPARTMENT: The Authority's or the Towns designated Fire Chief, as applicable. APPLICABLE SUBDIVISION BOARD: See Article 1.1C.

APPLICANT: An owner or his/her agent or representatives, or his/her assigns.

ASTM: American Society for Testing and Materials

AUTHORITY: See Article 1.1B.

AWWA: American Waterworks Association.

BMP: Best Management Practice.

BY-LAWS: See Article 1.1C.

CUTOFF: The luminous intensity (in candelas) at or above an angle of ninety (90) degrees above nadir does not numerically exceed two and one-half percent (2.5%) of the luminous flux (in lumens) of the lamp or lamps in the luminaire, and the luminous intensity (in candelas) at or above a vertical angle of eighty (80) above nadir does not numerically exceed ten percent (10%) of the luminous flux (in lumens) of the lamp or lamps in the luminaire.

DISABILITY GLARE: The eye's line-of-sight contact with a direct light source, which causes a partial blindness.

DRAINAGE PLAN: See Article 3.6B.

EIR: Environmental Impact Report.

ENABLING LEGISLATION: See Article 1.1B.

EPA: United States Environmental Protection Agency.

FEMA: Federal Emergency Management Agency.

FILING OFFICE: See Article 1.1C.

FOOT CANDLE: A unit of measure for luminance. A unit of luminance on a surface that is everywhere one foot from a uniform point source of light of one (1) candle and equal to one (1) lumen per square foot.

FORM A PLAN: See "ANR."

FULL CUTOFF: The luminous intensity (in candelas) at or above an angle of ninety (90) degrees above nadir is zero, and the luminous intensity (in candelas) at or above a vertical angle of eighty (80) degrees above nadir does not numerically exceed ten percent (10%) of the luminous flux (in lumens) of the lamp or lamps in the luminaire.

GRADING PLAN: See Article 3.8B.

HEIGHT OF LUMINAIRE: The vertical distance from the finished grade of the ground directly below to the lowest direct light emitting part of the luminaire.

HORIZONTAL LUMINANCE: The measurement of brightness from a light source, usually measured in foot-candles or lumens, which is taken through a light meter's sensor at a horizontal position.

IESNA: Illuminating Engineering Society of North America.

LIGHT TRESPASS: Light from an artificial light source that is intruding into an area where it is not wanted or does not belong.

LUMEN: A measure of light energy generated by a light source. One (1) Foot Candle is one lumen per square foot. For purposes of these regulations, the lumen output shall be the initial lumen output of a lamp, as rated by the manufacturer.

LUMINAIRE: A complete lighting system, including a lamp or lamps and a fixture.

MADEP: Commonwealth of Massachusetts Department of Environmental Protection.

MASSDOT: Massachusetts Department of Transportation – Highway Division

MDPWSS: Massachusetts Department of Public Works Standard Specifications.

MEPA: Massachusetts Environmental Policy Act Office.

MHD: Massachusetts Highway Department.

MOUNTING HEIGHT: Vertical distance from the grade elevation of the surface being illuminated to the bottom of the lighting fixture (i.e. luminaire).

MWRA: Massachusetts Water Resources Authority.

NONRESIDENTIAL DEVELOPMENT: Any development, including change of use in an existing building, that is comprised fully or partially of a use that is not intended for habitable living space, or a use accessory thereto.

NPDES: National Pollutant Discharge Elimination System.

PEDESTRIAN LIGHTING: See Article 3.5C(6).

POTABLE WATER: Water that has been treated to meet federal and state regulatory standards for drinking water. Water from any on-site well that may be capable of meeting standards for drinking water but has not been treated shall not be considered Potable Water.

PPP: Pollution Prevention Plan.

PRIMARY STREETS: See Article 3.4D.

PRIVATE STREET LIGHTING: See Article 3.5E(1).

PRIVATE VILLAGE LIGHTING: See Article 3.5E(1).

PROJECT GEOTECHNICAL REPORT: See Article 3.4C(8).

REGULATIONS: See Article 1.1A.

RESIDENTIAL DEVELOPMENT: Any development that is not a Nonresidential Development.

SECONDARY STREETS: See Article 3.4D.

SEWER PLAN: See Article 3.2B.

STREET LIGHTING: See Article 3.5C(6).

SUBDIVISION CONTROL LAW: See Article 1.1B.

SWPP: Storm Water Pollution Prevention Plan.

TEMPORARY DECORATIVE LIGHTING: The specific illumination of an outside area or object by any man-made device located outdoors that produces light by any means for a period of less than thirty (30) days, with at least one hundred eighty (180) days passing before being used again. All seasonal and temporary lighting should be rated less than 1,800 lumens.

TOWNS: See Article 1.1C.

TSS: Total Suspended Solids.

UNIFORMITY RATIO: (U. Ratio) Describes the average level of illumination in relation to the lowest level of illumination for a given area. Example: U. Ratio=4:1 for the entire area, the lowest level of illumination (1) should be no less than twenty-five percent (25%) or "4 times less" than the average (4) level of illumination.

USDOT: United States Department of Transportation.

VILLAGE CENTER LIGHTING: See Article 3.5C(6).

WASTEWATER FACILITIES PLAN: See Article 3.3B.

WATER PLAN: See Article 3.1B.

WWTP: Waste Water Treatment Plant and related infrastructure providing for the sewer collection, treatment and disposal capacity for NAS South Weymouth that

is financed, designed, constructed, operated and maintained by the Master Developer pursuant to, and to the extent provided in, Section 15 of the Enabling Legislation.

1.10 Validity

If, in any respect, any provision of these 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 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 Regulations shall be invalidated, impaired or affected thereby.

ARTICLE II - SUBMISSION OF PLANS

2.1 Certification of Plans

A. All plans submitted to the Applicable Subdivision Board shall include a certification as to their conformance with these Regulations and as to the validity of their content, executed by a person registered in the Commonwealth of Massachusetts as a Land Surveyor or Professional Engineer or both.

B. The classification and precision of surveys shall conform to Class A or better of the most recent *Land Court Manual of Instructions*, Commonwealth of Massachusetts. It is recommended that all other survey and Definitive Plan preparation, where not herein specified, be guided by the *Land Court Manual of Instructions*. Where infrastructure is shown to connect to the infrastructure of one of the Towns and that Town is utilizing a different vertical datum than the Authority, connection points identified on plans shall note depths in both vertical datums.

C. An Applicant is encouraged to be represented at any meeting with an Applicable Subdivision Board by the person responsible for the design of the subdivision and the preparation of the plans.

D. All plans submitted to the Applicable Subdivision Board shall be accompanied by an electronic copy of the plans as required by Section 2.2D of the Administrative Rules and Regulations of NAS South Weymouth.

2.2 Professional Assistance to the Board

Each Applicable Subdivision Board reserves the right to engage professional assistance in reviewing any and all plans submitted for its consideration. All costs and fees for such assistance shall be paid by the Applicant in accordance with Article 2.3 of these Regulations.

2.3 Fees

The Applicable Subdivision Board shall charge fees, including filing fees, advertising and notification fees, project review fees, professional fees, inspection and/or administrative fees and testing fees as provided in the Section 2.3 of the Administrative Rules and Regulations of NAS South Weymouth.

2.4 Plan Believed Not to Require Approval

Any person who wishes to cause to be recorded in a 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 shall submit the plan according to the following manner. Plans filed in this manner are more commonly referred to as "ANR Plans" or "Form A Plans."

A. Submission of Plan

An Applicant shall submit the following to the Applicable Subdivision Board:

(1) A properly executed Form A (see Appendix C); Form A shall be signed by the owner(s) of all land contained in the lot or lots in question.

(2) A copy of any decisions by a Zoning Board of Appeals of the Towns or the Authority, including but not limited to development plan approvals, special permits, site plan approvals and variances, regarding the land or any buildings thereon.

(3) Original plan, on material suitable for recording or filing, and two (2) prints of the plan.

(4) Proper filing fee as established pursuant to Article 2.3.

(5) Necessary evidence to show that the plan does not require approval.

B. Notice

The Applicant shall give written notice to the Filing Office, on a form approved by the Authority, by hand delivery or by registered mail, postage prepaid, stating the date of submission of the plan to the Applicable Subdivision Board. If the notice is given by delivery, the clerk of the Filing Office shall, if requested, give a written receipt thereof to the person who delivered such notice. The date of the submission shall be the date on which all plans and information are deemed complete and accurate as required by these Regulations by the Applicable Subdivision Board's agent and the filing fee is paid. The notice shall be stamped received by the Filing Office within three (3) business days of the date of submission.

C. Required Contents

A plan shall be legibly drawn in accordance with the latest rules and regulations of each applicable Registry of Deeds, pertaining to plan size, material, lettering, and related requirements. The plan scale shall preferably be forty (40) feet to the inch or such other scale as the Applicable Subdivision Board may accept and shall contain the following:

(1) Identification of the plan by name of owner(s) of record and location of the land in question; NAS South Weymouth or applicable Town assessor's map(s) and parcel(s) numbers on which the land is located (if available); the scale, North point and date; and the name, signature, and stamp of the registered land surveyor.

(2) Sufficient space for the date and the signature of the clerk or secretary of the Applicable Subdivision Board shall be provided.

(3) Zoning classification; the location of any and all zoning district boundaries, including all flood zones established by FEMA which may lie within the locus of the plan.

(4) In the case of the creation of a new lot, the new lot area and remaining land area and frontage of the land in the ownership of the Applicant shall be shown.

(5) The names of abutters adjacent to the land and across adjoining ways as obtained from the Authority's tax list or the Town's tax list.

(6) The names and status (private or public) of streets and ways shown on the plan.

(7) The location of all existing easements of record as well as existing buildings and the location of septic systems, if any.

(8) The location of all brooks as well as all wetland areas as defined by M.G.L. Chapter 131, Section 40, or by the Wetlands Protection Rules and Regulations for NAS South Weymouth.

(9) A locus map at the same scale as the Zoning District Map.

D. Endorsement of Plan not Requiring Approval

If the Applicable Subdivision Board determines that the plan does not require approval, it shall, without a public hearing and within twenty-one (21) days of submission, endorse the plan. The Applicable Subdivision Board may add to such endorsement a statement of the reason approval is not required. The endorsed plan shall be forwarded to the Authority (if the Applicable Subdivision Board is not the Authority) and the Authority will return the endorsed plan to the Applicant for recording with a Registry of Deeds or filing with the Land Court. The Applicable Subdivision Board shall also notify the Filing Office in writing of its action.

E. Determination that Plan Requires Approval

If the Applicable Subdivision Board determines that the plan does require approval under the Subdivision Control Law, it shall, without a public hearing and within twenty-one (21) days of the submission of the plan, so inform the Applicant in writing and return the plan. The Applicable Subdivision Board shall also notify the Authority (if the Applicable Subdivision Board is not the Authority) and the Filing Office in writing of its action.

F. Failure to Act

If the Applicable Subdivision Board fails to act upon a plan submitted under this Section or fails to notify the Filing Office and the person submitting the plan of its action within twenty-one (21) days after its submission, 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 Filing Office shall issue a certificate to the same effect.

G. Determination

(1) The Applicable Subdivision Board, at a duly called and posted meeting, without a public hearing, shall by a majority vote determine if such plan does not require approval. A determination shall be based on the following criteria:

(a) The proposed lots shown on the plan shall front on:

(i) A public way or a way which the Applicable Subdivision Board certifies is maintained and used as a public way;

(ii) A way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law; or

(iii) A way in existence when the Subdivision Control Law became effective, having, in the opinion of the Applicable Subdivision Board, sufficient width, suitable grades, and adequate construction to provide for the needs of vehicular traffic in relation to the proposed use of the land.

(b) The proposed lots shown on the plan meet the minimum lot frontage requirements as contained in the By-Laws.

(c) Each lot shown on the plan shall have vehicular access onto the way from the frontage shown on the plan or, in the case of certain developments containing residential uses, on an Neighborhood Alley.

(d) The way on which the proposed lots front shall provide adequate access.

(e) Each lot shown on a plan shall have practical access from the way to the buildable portion of the lot.

(f) If applicable, the owner(s) of the land have agreed in a covenant, in a form recordable with each applicable Registry of Deeds, that no buildings shall be constructed on such lots until the Applicable Subdivision Board certifies that the way on which the proposed lots front is maintained and used as a public way.

(g) The division of a tract of land on which two (2) or more buildings were standing on the effective date of these Regulations into separate lots, on each of which one of such building remains standing, shall not constitute a subdivision.

(2) A determination regarding a plan submitted for Approval Not Required under subdivision control law is based on the aforementioned criteria. Such endorsement cannot be withheld or granted for any other reason.

(3) If, in the course of review, the Applicable Subdivision Board determines that one or more of the proposed lots has some zoning deficiency, other than minimum frontage requirements, the Applicable Subdivision Board may note along with its endorsement, the phrase "No determination of compliance with zoning conformance has been made or intended by the attached endorsement."

2.5 Preliminary Sketch

A. Prior to submitting a preliminary plan of a subdivision, an Applicant may submit a preliminary sketch, showing less information than required by a preliminary plan, for an informal review and comments from the Applicable Subdivision Board. An Applicant may submit such preliminary sketches in order to obtain the Applicable Subdivision Board's comments regarding the overall layout and the location of proposed streets in a future subdivision, thus avoiding the expense and delays necessitated by changes in a definitive plan if submitted without preliminary plan review.

B. A preliminary sketch will not have the status of a preliminary plan, and the comments or the recommendations of the Applicable Subdivision Board shall be conditioned on the extent of information shown on the sketch. As such, review of a preliminary sketch does not afford the Applicant an established period of time for which these Regulations and the By-Laws remain in effect if a preliminary plan or definitive plan is submitted at a later date nor does it guarantee approval of a preliminary plan or definitive plan submitted at a later date.

C. Review of a preliminary sketch is at the discretion of the Applicable Subdivision Board.

2.6 Preliminary Subdivision Plan

A preliminary plan of a subdivision may be submitted to the Applicable Subdivision Board and to the applicable Board of Health by the Applicant for discussion and consideration by the boards prior to the submission of a definitive plan, and shall be submitted for all subdivisions which the Applicant reasonably anticipates will include Nonresidential Development. The submission of such a preliminary plan will enable the Applicant, the Applicable Subdivision Board (in the case of subdivisions in the Perimeter Areas, other boards of the applicable Town) and owners of property abutting the subdivision to discuss and clarify the details of such subdivision before a definitive plan is prepared. Therefore, although a preliminary plan is not required for a subdivision containing only Residential Development, it is recommended that a preliminary plan be filed in each case. Except as is otherwise provided, the provisions of the Subdivision Control Law relating to a plan shall not be applicable to a preliminary plan, and no register of deeds shall record a preliminary plan.

A. Submission of Plan

An Applicant shall submit the following to the Applicable Subdivision Board and the applicable Board of Health:

(1) A properly executed Form B (See Appendix C); Form B shall be signed by the owner(s) of all land contained within the proposed subdivision.

(2) A sufficient number of prints for use by the Applicable Subdivision Board and distribution to other boards and authorities of the Authority or the Towns as appropriate.

(3) A copy of any decisions by a Zoning Board of Appeals of the Towns or the Authority, including but not limited to development plan approvals, special permits, site plan approvals and variances, regarding the land or any buildings thereon.

(4) Proper filing fee as established pursuant to Article 2.3.

(5) A list of the names and addresses of all abutters, as determined from the most recent tax list and certified by the Authority or Towns with attached Form D (See Appendix C).

(6) Addressed and stamped envelopes in a quantity sufficient to deliver a first-class mail notice to each abutter regarding the scheduling of the Applicable Subdivision Board's meeting to discuss the preliminary plan.

B. Notice

The Applicant shall give written notice to the Filing Office, on a form approved by the Authority, by hand delivery or by registered mail, postage prepaid, stating the date of submission of the plan to the Applicable Subdivision Board and the applicable Board of Health. If the notice is given by delivery, the clerk of the Filing Office shall, if requested, give a written receipt thereof to the person who delivered such notice. The date of the submission shall be the date on which all plans and information are deemed complete and accurate as required by these Regulations by the Applicable Subdivision Board's agent and the filing fee is paid. The notice shall be stamped received by the Filing Office within three (3) business days of the date of submission.

C. Required Contents

The preliminary plan shall be drawn at a scale of one inch equals forty (40) feet or such other scale as the Applicable Subdivision Board may accept. The preliminary plan shall show sufficient information about the subdivision to form a clear basis for discussion of potential site development problems prior to the preparation of a definitive plan. Such information shall include:

(1) A title block containing the name of the subdivision, name and address of the Applicant, record owner(s), engineer, surveyor, the date, and scale and title "Preliminary Plan."

(2) North point, legend, the stamp and signature of a registered land surveyor if surveying information is shown and the stamp and signature of registered professional engineer if the plan shows the design of road pavements, water pipes, sewerage or other utilities.

(3) Boundary lines of the subdivision with the location and ownership of abutting property (obtained from the Authority or Towns' tax list) and, if registered land, the Land Court case number.

(4) Approximate boundary lines of proposed lots, with their approximate areas and dimensions.

(5) Zone or district boundary lines established by the By-Laws which divide or bound the area to be subdivided.

(6) The existing and proposed lines of streets, ways, easements, and any public areas within the subdivision in a general manner.

(7) A schematic representation of the proposed system for water distribution and sewage collection, including the location and size of all existing pipes in or adjacent to the subdivision.

(8) A schematic representation of the proposed system of drainage, including existing natural waterways, showing the approximate locations of all inlets, outlets, pipes and drains, and other appurtenances to the proposed drainage system.

(9) The proposed locations and depths of other municipal services and utility installations where possible.

(10) Major features of the land, including proposed and existing topography in a general manner, footprints of existing buildings and significant structures, and site features such as ledge outcroppings, ditches, bodies of water, streams or other waterways, walls fences, existing easements, delineated wetlands, and predominant vegetation.

D. Suggested Additional Contents

An Applicant may submit additional information with a preliminary plan. The following items are not part of the requirements of a preliminary subdivision plan; however, these items are offered as a suggestion for any Applicant who desires a more detailed review.

(1) Proposed street names.

(2) Additional features of the land, such as vegetated wetlands and bordering vegetative wetland areas, as defined by M.G.L. Chapter 131, Section 40 or by the Wetlands Protection Rules and Regulations of NAS South Weymouth, natural drainage courses, trees six (6) inches in diameter measured four (4) feet above the ground diameter at breast height, and wooded areas which exist on or near the site at the time of survey.

(3) Aerial photographs.

(4) Location of any 100 year flood plains.

(5) Drainage calculations in a suitable form along with amplifying plans outlining drainage areas within and affecting the subdivision.

(6) A list of all other local, state and federal permits required, giving the status of each at the time of filing.

E. Preliminary Subdivision Plan Review

(1) The Applicable Subdivision Board reserves the right to send a copy of a preliminary plan to any board or authority of the Authority or of any of the Towns, which, in the opinion of the Applicable Subdivision Board, may have an interest or some jurisdictional authority in the parcel being subdivided or the use proposed thereon. The Applicable Subdivision Board may forward copies of a preliminary plan to said boards or authorities, asking for their review and written comment on the proposed preliminary plan. The remaining sets of the plan shall be retained for the Applicable Subdivision Board's use and files. The Applicable Subdivision Board shall file the copies of the plan with boards or authorities within fourteen (14) calendar days of submission for their review and written comments. Officials shall comment within fourteen (14) days of receipt. In each referral, the Applicable Subdivision Board will assume that the respective officials have no comment if no statement is received within the specified time frame.

(2) The Applicable Subdivision Board will meet with the Applicant to discuss the proposed plan and any modifications or corrections to the preliminary plan. The Applicable Subdivision Board may also visit and inspect the property proposed for subdivision under the provisions of M.G.L. Chapter 41, Section 81CC.

(3) The Applicable Subdivision Board will notify the Applicant as well as all abutters (as provided by the Applicant in the submission of the preliminary plan) by first class mail of the date, time and place at which the Applicable Subdivision Board will discuss the preliminary plan.

F. Decision

(1) Within forty-five (45) days after submission of a preliminary plan, the Applicable Subdivision Board shall notify the Applicant, the Filing Office and the Authority (if the Applicable Subdivision Board is not the Authority), by certified mail that (a) the plan has been approved, (b) the plan has been approved with modifications suggested by the Applicable Subdivision Board or agreed upon by the Applicant, or (c) the plan has been disapproved. In the case of disapproval, the Applicable Subdivision Board shall state in detail its reasons therefor.

(2) A decision of the Applicable Subdivision Board on a preliminary plan shall be valid for a period of seven (7) months from the date of submittal and the version of these Regulations and the By-Laws in effect at the time of submission of the preliminary plan shall govern the definitive subdivision plan evolved from such preliminary plan.

2.7 Definitive Subdivision Plan

A definitive plan of a subdivision shall conform substantially to any related preliminary plans as approved but may constitute only that portion which is proposed to be developed at the time.

The version of these Regulations and the By-Laws in effect at the time of the submission of a preliminary plan shall govern the definitive plan if said definitive plan is duly submitted within seven (7) months of the date of the filing of the preliminary plan.

If a preliminary plan has not been submitted, the version of these Regulations and the By-Laws in effect at the time of submission of the definitive plan to the Applicable Subdivision Board shall govern the definitive plan until final action has been taken by the Applicable Subdivision Board or the time for such action has elapsed.

A. Submission of Plan

An Applicant seeking approval of a definitive plan or revision of a definitive subdivision plan previously approved, where such revisions in the opinion of the Applicable Subdivision Board require a public hearing, shall submit the following to the Applicable Subdivision Board and the applicable Board of Health:

(1) A properly executed Form C (See Appendix C); Form C shall be signed by the owner(s) of all land contained within the proposed definitive subdivision, and shall identify all easements, restrictions, and mortgages to which the land within the subdivision is subject and all easements and restrictions appurtenant to such land over the land of others.

(2) The original plans and a sufficient number of prints for distribution to other boards and authorities of the Authority or of the Towns, as appropriate.

(3) A copy of any decisions by a Zoning Board of Appeals of the Towns or the Authority, including but not limited to development plan approvals, special permits, site plan approvals and variances, regarding the land or any buildings thereon.

(4) Proper filing fee as established pursuant to Article 2.3.

(5) A list of the names and addresses of all abutters, as determined from the most recent tax list and certified by the Authority or applicable Town with the attached Form D (See Appendix C).

(6) Addressed and stamped envelopes in a quantity sufficient to deliver first-class mail notice to each abutter regarding the scheduling of the Applicable Subdivision Board's meeting to discuss the definitive plan.

(7) Copies of the most recent deeds to the properties for which a subdivision is being proposed, certified by the applicable Registry of Deeds.

B. Notice

The Applicant shall give written notice to the Filing Office, on a form approved by the Authority, by hand delivery or by registered mail, postage prepaid, stating the date of submission of the plan to the Applicable Subdivision Board and the applicable Board of Health. If the notice is given by delivery, the clerk of the Filing Office shall, if requested, give a written receipt thereof to the person who delivered such notice. The date of the submission shall be the date on which all plans and information are deemed complete and accurate as required by these Regulations by the Applicable Subdivision Board's agent and the filing fee is paid. The notice shall be stamped received by the Filing Office within three (3) business days of the date of submission.

C. Required Contents

The definitive plan shall be prepared by a registered land surveyor or a registered professional engineer and shall comply with the following requirements:

(1) All sheets of the definitive plan shall be clearly and legible drawn in accordance with the current rules and regulations of each applicable Registry of Deeds. The plans shall be drawn in waterproof ink, or an ink with equivalent cohesiveness.

(2) Plan sizes shall be twenty-four (24) inches by thirty-six (36) inches with three-fourths (3/4) inch border. The minimum letter size on plans presented for recording shall be one-eighth (1/8) inch.

(3) Drafting standards shall include the following: dimensions shall be in feet and decimals to the nearest hundredth; bearings in degree, minutes, and seconds; the boundary of the subdivision to be indicated in a solid heavy line; existing topography in dashed lines; proposed topography in solid lines; and, if multiple sheets are used, they shall be accompanied by an index sheet showing the entire subdivision with match lines and with a key plan on each sheet properly oriented and a title block on each sheet properly labeled.

(4) A vicinity map shall be drawn at a scale of one inch equals six hundred (600) feet to show on one sheet all of the proposed subdivision, all other proximately located land of the Applicant and other adjacent properties to the nearest existing street in every direction. Important ground features such as brooks, public areas, lot lines, easements and streets only need be shown in a general manner and labeled. No dimensions need be given except where of specific importance in evaluating the subdivision. The limits of the proposed subdivision shall be indicated by a heavy line or by use of color. Existing and proposed features should be distinguished by different lines, labeling, or other methods.

(5) Each sheet of the definitive plan shall contain the following information:

(a) Subdivision name, boundaries, magnetic North, date of submission (and revision dates), legend and scales and suitable space to record the action of the Applicable Subdivision Board. A three-and-one-half (3 ½) inch square reserved for Registry of Deeds use and a certification clause signed by the preparer stating that he/she has conformed with the rules and regulations of the applicable Registry of Deeds in preparing the plan shall be provided on all sheets to be recorded.

(b) Name and address of the record owner(s) and Applicant, the stamp and signature of a registered land surveyor, if surveying information is shown, and the stamp and signature of a registered professional engineer, if design of road pavements, water pipes, sewerage and other utilities are shown.

(c) Suitable space to record the notice of any Applicable Subdivision Board covenant and the date thereof as well as the Filing Office certification of no appeal.

(d) Existing and proposed lines of streets, ways, lots, easements, waterways, and public or common areas within the subdivision. The purpose of all easements should be clearly indicated.

(e) Location of all permanent monuments properly identified as to whether existing or proposed.

(f) Location, names, and present width of streets that bound approach or are within three hundred (300) feet of the subdivision.

(g) Lengths, radii, bearings and central angles to determine the exact location, direction and length of every street and way line, lot line, easement line and boundary line.

(h) Zoning classifications, including FEMA floodplain zones. Wetlands as defined by the M.G.L. Chapter 131, Section 40 and the Wetlands Protection Rules and Regulations for NAS South Weymouth shall also be shown along with the name of the firm responsible for the delineation of said wetlands and the date of the delineation.

(i) Watercourses, marshes, ledge outcrops, walls, fences and trees over ten (10) inches in diameter at six (6) feet above grade and other significant natural features.

(j) Size and location of existing and proposed storm drainage, sanitary sewerage, and water supply systems. Existing and proposed electric, telephone, gas, CATV and other utilities shall also be shown.

(6) The following items shall be submitted and must be prepared and/or certified by a registered professional civil engineer.

(a) Soil conditions in a general way, using if desired the U.S. Department of Agriculture Soil Conservation Study for the applicable Town(s) in the applicable County(s).

(b) Storm drainage system including invert and rim elevations of all catch basins and manholes together with surface elevations of all waterways within the subdivision at one hundred (100) foot intervals and approximate depth of water at these points. Surface elevation and approximate depth of water shall be shown at each point where a drainage pipe ends at a waterway.

(c) Location of all the following improvements, unless specifically waived in writing by the Applicable Subdivision Board: street paving, sidewalks and street signs, including, but not limited to, stop, warning, directional, and speed limit signs, streetlighting standards, all utilities above and below ground, curbs, gutters, street trees, storm drainage, public sewerage, if appropriate, all easements, and fire alarm boxes.

(d) Profiles of the proposed streets and drainage/sewer lines outside of the street layout indicating the following information:

(i) A horizontal scale of one inch to forty (40) feet.

(ii) A vertical scale of one inch to four (4) feet.

(iii) Existing center line in fine dashed line with elevations shown at fifty (50) foot stations.

(iv) Proposed center-line grades and elevations, with elevations shown at twenty-five (25) foot stations, except that in vertical curves, elevations shall be shown at fifty (50) foot stations.

(v) All existing intersecting walks and driveways shown on both sides.

(vi) Rates of gradient along with vertical curve data.

(vii) Size and location of existing and proposed water mains and their appurtenances and surface drains and their appurtenances.

(viii) All existing and proposed municipal services and their appurtenances.

(ix) Vertical location of waterlines, drainage lines, sewer lines and other utilities as well as required new waterways. Sizes of all pipes shall be shown as well as inverts of all pipes at each manhole or catch basin, together with center-line stations, rim and invert elevations of all catch basins, and manholes; and invert elevations of all cross drains, sanitary sewers, or culverts. Complete profiles shall be included for each proposed main water line, all proposed sewerage system lines and all proposed drainage lines, whether or not within the subdivision or in the roadways.

(e) Cross section of typical catch basins and sewer and drainage manholes.

(f) Three (3) copies of all computations and worksheets originally sealed and endorsed by the registered professional civil engineer, used in designing the storm drainage system.

(g) Any special construction details or detailed drawings or other pertinent information that the Applicable Subdivision Board may request as is necessary to evaluate the feasibility of the proposed design of the subdivision, including, but not limited to, standard drawings or details which should be obtained from the Director of Public Works from the Town where the proposed project is located.

(h) Any special construction features, deviating from or not covered by standard specifications, shall be shown on detail drawings. Such detail drawings may be incorporated as part of a utility plan or profile or may be executed on separate sheet or sheets and shall provide information as to dimensions, locations, inverts, rim elevations, elevations, materials, etc., of the construction details involved. The requirement for detail drawings shall be applicable to, but not limited to, bridges, culverts, structurally stabilized slopes, utility piping encased in concrete, ditches, and brooks shaped or constructed to a definite cross section, dams and spillways, stormwater management devices, detention basins, steps within the exterior lines of the street, and similar construction features.

(i) Base flood elevation (level of one hundred year flood) data shall be provided for any land being developed within the federal flood insurance district, as shown on the latest FEMA mapping. For subdivisions in an unnumbered "A" Zone, the Applicant shall be responsible for establishing the base flood elevation as required by the latest FEMA regulations.

D. Earth Removal

The approval of a definitive plan by the Applicable Subdivision Board does not constitute an authority to remove earth materials from the site. The Applicant shall be required to comply with the provisions of the By-Laws and with any other laws and regulations relative to the removal of soil, loam, sand, gravel, rock and other earth materials.

E. Laying Out of Ways in a Subdivision as Public Ways

Approval of a definitive plan by the Applicable Subdivision Board shall not constitute the laying out or acceptance by the Authority or any Town of any way shown on such plan as a way, or the establishment as a public improvement of any reserved area, work, or improvement in the subdivision shown on the plan. The ways shown on such plan shall not become public ways unless and until laid out and accepted by the Authority or the Towns in accordance with applicable law.

F. Review by Board of Health

The applicable Board of Health shall report to the Applicable Subdivision Board, in writing, its approval or disapproval of said plan. The applicable Board of Health shall make its report to the Applicable Subdivision Board within forty-five (45) days after the filing of the definitive plan with the applicable Board of Health. In case of disapproval, it shall make specific findings, the reasons for them, and, where possible, make recommendations for adjustments. Any special conditions imposed by the applicable Board of Health, such as lots which cannot be used for building sites, shall be either inscribed on the plan or contained in a separate document. The Applicant shall abide by the applicable Health Regulations for NAS South Weymouth pertaining to subdivisions and should consult with the applicable Board of Health for a copy of the current rules and regulations and for other requirements necessary for applicable Board of Health review prior to drafting a definitive plan.

G. Definitive Subdivision Plan Review

The Applicable Subdivision Board reserves the right to send copies of a definitive plan to any board or authority of the Authority or of any of the Towns for their review and comment. The Applicable Subdivision Board may forward copies of a definitive plan to said boards or authorities, asking for their review and written comment on the proposed definitive plan. The remaining sets of the plan, if any, shall be retained for the Applicable Subdivision Board's use and files. The Applicable Subdivision Board shall file the copies of the plan with other boards or authorities within fourteen (14) calendar days of submission for their review and written comments. Officials shall comment within thirty (30) days of submission. In each referral, the Applicable Subdivision Board will assume that the respective officials have no comment if no statement is received within the specified time frame.

H. Public Hearing

Before approval, modification and approval, or disapproval of the definitive plan is given, a public hearing shall be held by the Applicable Subdivision Board. Notice of such hearing shall be given by the Applicable Subdivision Board at the expense of the Applicant in each of two (2) successive weeks by advertisement in a newspaper(s) of general circulation in the Towns as determined by the Authority. The first notice shall be not less than fourteen (14) days before such hearing; the second notice shall be not less than seven (7) days before such hearing. The Applicable Subdivision Board shall notify by first-class mail the abutters (as provided by the Applicant in the submission of the definitive plan) to the proposed development.

I. Performance Guarantee

Before endorsement of approval of a definitive plan, the Applicable Subdivision Board shall require the construction of ways and installation of municipal services be secured by either a covenant, as described below, or by one of or a combination of the following methods:

(1) Covenant

By a covenant, executed and duly recorded by the owner(s) of record in the form of Form E (see Appendix C) stating that ways and services shall be provided to serve any lot before said lot may be built upon it. In such a case, the definitive plan to be recorded shall acknowledge there is a covenant which runs with the land shown on said plan. The covenant will be recorded in each applicable Registry of Deeds or filed with the Land Court at the time the definitive plan is recorded or filed. When the Applicant has completed the required improvements shown on the plans for any lots in a subdivision, the Applicant may request a Certificate of Performance, in the form of Form F (see Appendix C) for said lots. If the improvements have been completed to the satisfaction of the Applicable Subdivision Board, the Applicable Subdivision Board will then execute and deliver to the Applicant such Certificate of Performance.

(2) Funds

By a proper bond or a deposit of money or negotiable securities, sufficient in the opinion of the Applicable Subdivision Board to secure performance of the construction of ways and installations of municipal services required for lots in the subdivisions shown on the definitive plan. The status of such security will be reviewed at least annually by the Applicable Subdivision Board and may be increased to reflect increases in estimated costs for completion of construction.

(3) Time of Completion

The Applicable Subdivision Board's decision shall set forth an appropriate time period to complete the ways and install required public utilities, which may be extended from time to time by the Applicable Subdivision Board.

J. Conveyance of Utilities and Easements

If the Authority or the Towns choose to accept utilities or easements, the Applicable Subdivision Board will not release a surety bond or deposit, or, in the case of a covenant, issue a Certificate of Performance, until the Applicant has executed an instrument, on a form approved by the Authority or the Towns, transferring to the Authority or the Towns, without cost, valid unencumbered title to all common sewers, storm drains and water mains, the underground electrical distribution system and appurtenances thereto, constructed and installed in the subdivision or portion thereof to be approved, and conveyed to the Authority or the Towns without cost and free of all liens and encumbrances, perpetual rights and easements to construct, inspect, repair, renew, replace, operate and forever maintain the aforesaid underground utilities, with any manholes, pipes, conduits and other appurtenances, and to do all acts incidental thereto, in, through and under the whole of all streets in the subdivision or portion thereof to be approved, and if any such utilities have been constructed and installed in land not within such street, then in, through under and a strip of land extending ten (10) feet in width on each side of the center line of all such sewers and water mains.

K. Waivers

Strict compliance with the requirements of these Regulations may be waived when, in the judgment of the Applicable Subdivision Board, such action is in the public interest and not inconsistent with the Subdivision Control Law. All requests for waivers shall be accompanied by a letter signed by the Applicant listing requested waivers from the terms of these Regulations. The letter shall include, for each waiver request, an estimate of the cost savings in initial cost and annual maintenance and an explanation of any public benefit served. The approved definitive plan shall include a sheet listing the waivers requested and approved by the Applicable Subdivision Board. If in the public interest, the Applicable Subdivision Board may grant waivers not requested by the Applicant.

L. Certificate of Approval or Disapproval

(1) After the required hearing, the Applicable Subdivision Board shall take final action on the definitive plan thereon as follows:

(a) In the case of a Nonresidential Development or in the case of a Residential Development where a preliminary plan was duly submitted and acted upon, or where at least forty-five (45) days has elapsed since submission of said preliminary plan, the failure of the Applicable Subdivision Board either to take final action or to file with the Filing Office a certificate of such action regarding the definitive plan submitted by an Applicant within ninety (90) days after such submission, or such further time as may be agreed upon at the written request of the Applicant, shall be deemed to be an approval thereof. Notice of such extension of time shall be filed forthwith by the Applicable Subdivision Board with the Filing Office and the Authority (if the Applicable Subdivision Board is not the Authority).

(b) In the case of a Residential Development where no preliminary plan was submitted and acted upon by the Applicable Subdivision Board, the failure of the Applicable Subdivision Board either to take final action or to file with the Filing Office a certificate of such action regarding the definitive plan submitted by an Applicant within one hundred thirty-five (135) days after such submission, or such further time as may be agreed upon at the written request of the Applicant, shall be deemed to be an approval thereof. Notice of such extension of time shall be filed forthwith by the Applicable Subdivision Board with the Filing Office and the Authority (if the Applicable Subdivision Board is not the Authority).

(2) The Applicable Subdivision Board may approve, approve with modifications, or disapprove said definitive plan.

(3) The action of the Applicable Subdivision Board in respect to such plan shall be by vote, copies of which shall be certified and filed with the Filing Office and sent by delivery or registered mail to the Applicant. If the Applicable Subdivision Board modifies or disapproves such plan, it shall state in its vote the reasons for its actions. Final approval, if granted, shall be endorsed on the original drawing(s) of all of the sheets that constitute the definitive plan by the signature of the members of the Applicable Subdivision Board voting for such approval, but not until the statutory twenty (20) day appeal period has elapsed following the filing of the certificate of the action of the Applicable Subdivision Board with the Filing Office, and said Filing Office has notified the Applicable Subdivision Board that no appeal has been filed. The Applicable Subdivision Board will file notice of the action taken with the Filing Office within fourteen (14) days of the vote of the Applicable Subdivision Board or by the last day on which action must be taken, whichever occurs first. A copy of any certificate or decision under this Section shall be delivered to the Authority (if the Applicable Subdivision Board is not the Authority).

(4) The Applicable Subdivision Board may, as a condition of granting approval, impose reasonable requirements designed to promote the health, convenience, safety, and general welfare of the community. In such event, the Applicable Subdivision 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 a part of the plan.

M. Recording an Approved Plan

After the return to the Applicant of the definitive plan, as approved and endorsed, the Applicant shall cause to be recorded at each applicable Registry of Deeds, and in the case of registered land, with the Land Court, said plan with covenant, if any, and shall pay all fees and costs related to recording and filing the plans. After such plans, or modification thereof, are approved by the Applicable Subdivision Board it shall be recorded and/or filed within six (6) months, or said approval will no longer be valid. Furthermore, the Applicant shall notify the Applicable Subdivision Board and the Authority (when the Applicable Subdivision Board was not the Authority) of such recording or filing, submitting evidence thereof satisfactory to the Applicable Subdivision Board. Upon receipt of notification of recording or filing, the Applicable Subdivision Board shall file one print of the definitive subdivision plan with its related building inspector. Where approval with covenant is noted thereon, the related building inspector shall issue no permit for the construction of a building on any lot within the subdivision, except upon receipt from the Applicable Subdivision Board of a copy

of the Certificate of Performance, Form F (see Appendix C) releasing the lot in question.

N. Revision of Definitive Plan

No revision or change of a definitive plan can be made without the prior approval of the Applicable Subdivision Board and/or its designee. This includes any revision of any nature whatsoever of the definitive plan. If the Applicant desires to make revisions due to field conditions or for any reason whatsoever, said Applicant shall submit a print of the plan or plans to be revised with a colored representation of the changes said Applicant proposes to make. The Applicable Subdivision Board and/or its designee will consider such change in the same manner as consideration of the original plan, and approve, disapprove, or modify the requested change with or without a public hearing as the Applicable Subdivision Board may determine. The change as approved shall then be incorporated on the original definitive plan and prints shall be filed as required of the original plan. The modified plan to be filed at the applicable Registry of Deeds shall note that it supersedes a previously approved plan.

2.8 Appeal of Decision

In accordance with M.G.L. Chapter 41, Section 81BB, a determination by the Applicable Subdivision Board may be appealed to the Superior Court for the county in which land is situated or to the Land Court.

2.9 Acceptance of Streets

If the Authority or the Towns elect to accept any street in NAS South Weymouth, said acceptance shall be done in accordance with the pertinent provisions of the Massachusetts General Laws, the By-Laws and any other by-laws, rules and regulations adopted by the Authority or the respective Towns.

ARTICLE III - INFRASTRUCTURE AND UTILITY PLAN

3.1 Water System Design

A. Introduction

This Section covers the design of water systems, including water mains, fittings, valves, fire hydrants, water services, meters, pressure regulating stations, water storage and water pump plants for subdivisions in NAS South Weymouth. All water facilities plans and plans for proposed encroachments affecting such facilities shall be approved by the Applicable Subdivision Board.

B. Planning

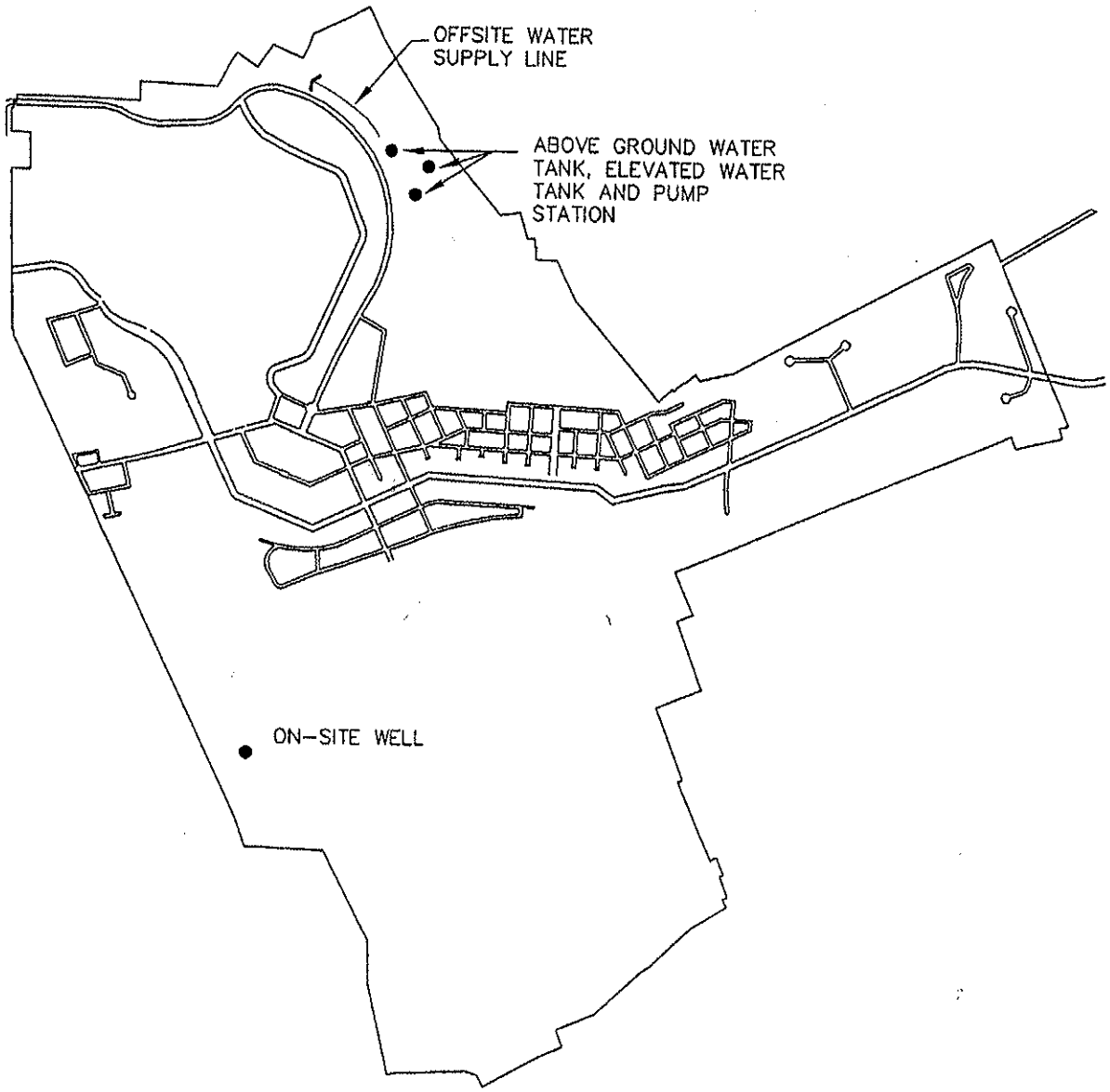
The facilities described in this Section will be designed to implement the By-Laws in connection with the subdivision of land within NAS South Weymouth. In addition, an on-site and off-site Water Plan (the "Water Plan") has been prepared for the EIR submitted to MEPA. Design of water facilities must be in substantial conformance with the Water Plan. Both the Water Plan and this Section shall be consistent with all by-laws, rules and regulations adopted by the Authority and the regulations of MADEP.

C. Water Main Design (Onsite)

The normal depth of cover over the top of a water main shall be five (5) feet. The maximum depth of cover shall be eight (8) feet. Less than five (5) feet or more than eight (8) feet of cover shall require both the submittal of a special design, with complete load and safety calculations, and the approval of the Applicable Subdivision Board.

The operating pressure and depth of cover shall determine the necessary class of pipe in conformance with AWWA requirements for the type of pipe used. The normal operating pressure shall be between thirty-five (35) psi and sixty (60) psi. The class of pipe(s) shall be indicated on the profile of the plans for the water main.

In general, water mains shall be located ten (10) feet southerly or easterly of the centerline of the streets. For Neighborhood Alleys, Narrow Neighborhood Streets and private driveways (less than thirty-six (36) feet curb to curb), water mains may be located less than ten (10) feet, but not less than six (6) feet, from the centerline. When there is a raised center median with curb, water mains shall be located a minimum of five (5) feet from the face of the median curb but within the center feet of a traffic lane. There shall be a 3-way setup at all intersections.



NOTES:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.
2. THIS EXHIBIT IS INTENDED TO SHOW PLANNED FACILITIES. ACTUAL LOCATIONS MAY VARY.

Not to Scale

Figure 1-1
Water Supply,
Irrigation Supply and Reservoirs

To avoid excessive utility crossings in winding streets, it is desirable to keep water mains to one side of the street with a minimum of ten (10) feet of separation from other utilities when possible.

On a definitive plan, the profile of water mains shall include stations and elevations at grade breaks. Abrupt vertical grade breaks resulting in upward thrust should be avoided. For pipes twenty-four (24) inches in diameter and larger, the top of the pipe shall also be shown.

(1) Water Main Materials

(a) Ductile Iron (DI) Pipe

Thickness design shall conform to AWWA C-150 and C-151. Rubber-gasket joints shall conform to AWWA C-111. Installation of DI pipe and its appurtenances shall conform to AWWA C-600. Shop-applied cement mortar lining as specified in AWWA C-104 shall be double thickness per Section 4-8.2 of AWWA C-104. All DI pipe installed underground shall be coated with a liquid epoxy coating system per AWWA C-210. Polyethylene encasement shall be considered on a case-by-case basis after testing of existing soil characteristics and chemical composition. Polyethylene encasement is not recommended if the system is under cathodic protection.

(b) Polyvinyl Chloride (PVC) Pipe

PVC pipe four (4) inches through twelve (12) inches in diameter shall conform to AWWA C-900. The dimension ratio (DR=O.D./t) for PVC pressure pipe shall not exceed eighteen (18). PVC is allowed with the appropriate location wire.

Solvent cement or mechanical joints are not acceptable for pipe-to-pipe connections. Use bell and spigot pipe only. Pipe-to-fitting connections shall be mechanical joint only.

PVC pipe sixteen (16) inches through thirty-six (36) inches in diameter used for transmission purposes shall conform to AWWA C-905. However, pipes used for distribution purposes shall have a safety factor of 2.5 per AWWA C-900.

Concrete encasement with PVC pipe shall be avoided whenever possible. Higher strength pipe supported by design calculation shall be used in lieu of encasement. However, in cases where concrete encasement is required (i.e., water main(s) crossing or being crossed by other piping) the concrete encasement shall extend in both directions a sufficient length to reduce the possibility of creating shear points at the end of the encasement due to traffic loading, etc.

(2) Fittings

Iron fittings shall only be used for DI and PVC pipe and shall conform to AWWA C-110. The inside diameter of the fitting shall be compatible with the outside diameter of the pipe.

All iron fittings, valves, and appurtenances shall be coated per Section 10-9.1 of AWWA C-110 and, when installed underground, shall be coated with a liquid epoxy coating system per AWWA C-210 or a cold applied petroleum wax tape system per AWWA C-217. Polyethylene encasement shall be considered on a case-by-case basis after testing of existing soil characteristics and chemical composition. Polyethylene encasement is not recommended if the system is under cathodic protection.

The only acceptable joint for PVC pressure class water pipe-to-fitting connections is the mechanical joint (AWWA C-110 & C-111). Push-on joints and solvent cement fittings are not acceptable.

Crosses and tees shall be the same size in the run (straight) directions.

Restrained joints shall be furnished and installed for all fittings.

(3) Valves

Valves shall be placed at street intersections and on each smaller main as it leaves the larger main. In general, crosses shall be valved in four (4) directions; tees in three (3) directions. In commercial and industrial locations, all tees and crosses shall be valved on all sides. Valves for fire hydrants shall be placed in a direction perpendicular to the water main and in line with the fire hydrant; no offsets are allowed.

Distribution water mains shall be valved at 500-feet maximum spacing in commercial districts and 800-feet maximum spacing in residential and other areas. However, all of the above notwithstanding, valves in the distribution system shall be placed in locations acceptable to the applicable Highway Department/Department of Public Works.

All fire services (including hydrants) shall be valved at the main and open right.

Where future water main extensions are anticipated, or are deemed possible, valves shall be placed, if possible, such that no customers will be out of service for the connection work. In most cases, this will call for a flanged valve fifty (50) feet from the end of the main.

The definitive plan shall specify, either by general note or direct callouts, that valves shall be flanged to crosses and tees. In-line valves need not be flanged. Valves used with PVC pipe shall have mechanical joint ends.

Valves shall open right and be of the size, type, and class indicated on the definitive plan and/or specifications. Unless otherwise specified, all valves shall be minimum Class 150. Only resilient–seated gate and butterfly are allowed. Gate valves shall be used for water mains up to twelve (12) inches. Butterfly valves may be used for water mains larger than twelve (12) inches.

All valves shall be coated with a liquid epoxy coating system per AWWA C-210 or a cold applied petroleum wax tape system per AWWA C-217.

(a) Resilient-seated gate valves

Resilient-seated gate valves shall conform to AWWA C-509. Valve key extensions shall be used whenever the top of the valve is twenty (25) inches or more below the ground or pavement surface.

(b) Butterfly Valves

Butterfly valves and operators shall conform to AWWA C-504.

Butterfly valves need not have a bypass. Valve key extensions shall be inserted for all butterfly valves.

(4) Combination Air and Vacuum Valves

Combination air and vacuum valves shall be placed at high points on water mains twelve (12) inches in diameter and larger. Combination air and vacuum valves shall also be placed down-slope of a permanently closed valves separating two different pressure zones. Air valves for water mains twelve (12) inches in diameter and smaller may be excluded if a water service or fire hydrant is located near the high point.

In general, a one (1) inch combination air and vacuum valve, automatic type, is adequate for water main sizes up to and including twelve (12) inches in diameter. However, for water mains on very steep slopes and for pipe sizes twelve (12) inches and larger and diameter, calculations to determine the size of combination air and vacuum valves are required. Combination air & vacuum valves shall be located out of the traveled way, yet within an easement.

(5) Yard Hydrant

A yard hydrant will be included in water systems to remove the buildup of sludge from dead end mains. The service connections should be a minimum of three (3) feet from the end of such a connection.

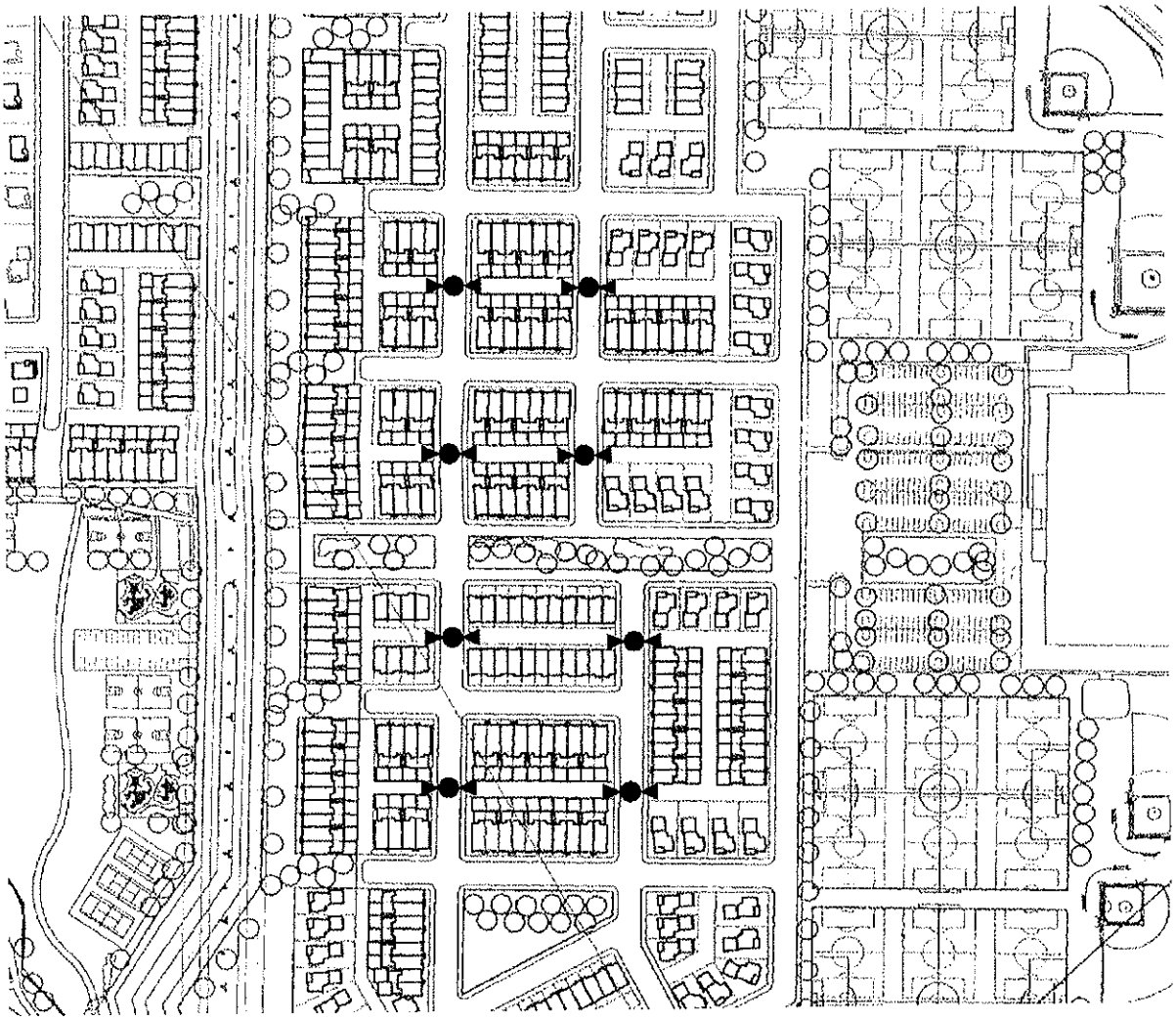
(6) Blow-offs

Two (2) inch blow-offs shall be placed at low points on water mains. Larger pipe sizes require either a four (4) inch or six (6) inch blow-off assembly, the exact size depending on the size of the main and the distance between the blow-offs. Discharge from blow-offs shall be directed away from the water main so as not to cause any erosion; either into a nearby storm drain or a nearby non-erodible surface drainage channel. Blow-offs shall be installed at dead-ends. Blow-offs shall be located out of the traveled way, yet within an easement.

(7) Thrust Blocks and Anchorage

Thrusts at all bends, tees, dead-ends, and reducers shall be resisted by thrust blocks or restrained joints.

Upward thrust shall be restrained by the use of DI pipe with restrained joints.



NOTE: EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Figure 1-2

Typical Fire Hydrant Placement
At Alley/Street Intersection

D. Fire Hydrants

Fire hydrants shall conform to AWWA C-503 and to the requirements of the Authority. The Mueller Super Centurion shall be the approved fire hydrant.

In general, fire hydrants shall be required at each street intersection, but not more than six hundred (600) feet apart in the Residential District and no more than three hundred (300) feet apart in the Village Center District, Mixed-Use Village District and Shea Village Commercial District. Alternatively hydrants may be placed at Neighborhood Alley/street intersections, and maintain spacing requirements. *See* Figure 1-2: Typical Fire Hydrant Placement at Alley/Street Intersection. Fire hydrants in the middle of blocks shall be located on lot lines. Fire hydrants shall not be allowed on four (4) inch diameter mains or on six (6) inch diameter mains not supplied from both ends. No more than two (2) fire hydrants (excluding fire services) shall be allowed on dead-end mains or out-of-service at any time.

In previously developed areas, concurrence pertaining to the location of fire hydrants shall be obtained from affected landowners. In general, when a water main is replaced by a parallel main, the fire hydrant shall be moved three (3) feet in either direction from its original location; when the main is replaced in place, the fire hydrant shall be replaced in its original location.

Fire hydrants in the Residential District, Village Center District, Mixed-Use Village District and Shea Village Commercial District shall have one (1) four (4) inch port and two (2) two and one half (2 ½) inch ports. Fire services connected to fire hydrants shall typically be six (6) inches in diameter. Fire hydrants in areas of anticipated exceptionally high fire demands shall have two (2) four (4) inch ports and one (1) two and one half (2 ½) inch port. The Applicant shall check (on a case-by-case basis) to see if an eight (8) inch diameter fire service is necessary to supply such fire hydrants.

Fire hydrants placed in unprotected (unimproved) areas shall have protective posts installed around them.

Services to fire hydrants shall be installed perpendicular to the water main and shall not be installed in cul-de-sacs.

All hydrants shall be located a minimum of four (4) feet and a maximum of eight (8) feet from the edge of pavement. Hydrants shall not be located so close to the street as to be vulnerable to damage by snowplows or other maintenance equipment. Normally hydrants shall be located behind the sidewalks. Hydrants shall always be located within the right-of-way of the street.

Hydrants shall have a steamer connection (4 ½-inch outlet) facing the traveled way at a ninety (90) degree angle to the street. The bottom of said connection shall be a minimum of twenty (20) inches above the finished grade at the hydrant so as to allow easy access to all connections and shall also be a minimum of twenty (20) inches above the finished centerline grade of the street so as to assure visibility of the hydrant.

The Applicant shall consult with the Applicable Subdivision Board regarding proper fire hydrant color-coding and painting specifications to be used. High visibility fiberglass locating markers shall be mounted on all fire hydrants located within the proposed development. Locating marker lengths, colors and mounting method and location shall be approved by the Authority and the Applicable Fire Department.

E. Fire Lanes

All buildings within the proposed development shall be provided with access for firefighting equipment by means of either public streets or fire lanes. As per Massachusetts state requirements, fire lanes shall be no less than eighteen (18) feet wide with access from two (2) locations wherever possible. Free-standing buildings over five (5) stories in height shall have access to firefighting equipment on all sides to provide for the safe and efficient operations of the fire department.

Fire lanes shall be constructed as required by the Applicable Fire Department. Fire lanes, where required, shall be in conformity with the standards and provisions of the current edition of the National Fire Protection Association National Fire Codes, as the same may be amended.

All private alleyways shall be designated fire lanes. The Applicant shall consult with the Applicable Subdivision Board and the Applicable Fire Department regarding requirements for signage and/or pavement markings.

F. Fire Alarm System

Fire alarm service, and all necessary equipment, wiring and appurtenances incidental thereto, shall be installed by the Applicant at his/her expense in accordance with the requirements of the Applicable Fire Department. The fire alarm service shall be installed prior to the occupancy of any dwellings within the subdivision.

All plans, equipment and installation of equipment shall be in conformity, where applicable, with the standards and provisions of the current edition of the National Fire Protection Association's National Fire Codes, as the same may be amended, including particularly Volume 7 thereof and Public Communications Standard No. 73 and all amendments thereto.

The Applicant's obligation under this Section shall not be deemed satisfied unless and until the Applicable Fire Department so certifies in writing to the Applicable Subdivision Board. Such certification shall constitute a release of the Applicant from all obligations under this Section; provided however, the Applicable Fire Department may impose conditions, suitably secured, for the performance of same with regard to obligations on the part of the Applicant to maintain or repair the fire alarm service, including all equipment, wiring and appurtenances, until acceptance of the streets or otherwise. All equipment installed in ways and easements shall not become the property of the Authority or the Towns until such time as the Authority or the Towns accepts said way or easement, at which time the equipment shall be maintained by the Authority or the Towns.

G. Fire Flow

Required fire flow and duration shall be calculated by using ISO calculations. Criteria submittal of all calculations and applicable data are required with the applicable subdivision definitive plan.

The required fire flow shall be provided by one or more fire hydrants within a maximum radius of six hundred (600) feet from a fire.

H. Fire Services

All fire services or private water mains shall be valved at the main and have an approved backflow prevention device per 310 CMR 22.22 (9)(d)(1) after it enters the property.

Fire service plans shall show all existing on-site fire hydrants. The complete onsite water network shall be approved by the Applicable Subdivision Board before the Applicable Fire Department issues any necessary permits.

When a water main is being replaced or relocated, existing unused fire services to fully developed lots shall not be replaced or reconnected. Conversely, existing active fire services to vacant lots shall be replaced or reconnected, unless a permitted building plan for the lot shows otherwise.

I. Water Services

Water services shall be sized relative to the number of units with one (1) inch being the minimum size. All water service connections to PVC pipe are required to be made with a saddle and copper tubing shall be Type K. Direct taps are acceptable on DI pipe.

All services smaller than four (4) inches, shall be type K copper or PVC pipe.

If the definitive plan does not specify the type of material to be used, the plan shall specify PVC pipe.

Four (4) inch or larger services shall be DI or PVC pipe and require a detail to be included on the definitive plan. All valves and appurtenances should be shown.

All PVC services shall be AWWA approved and shall meet ASTM testing standards for PVC pipe or tubing.

The Applicable Subdivision Board shall adhere to the requirements of the Uniform Plumbing Code, which states that a pressure regulating valve must be furnished on any individual water service having a maximum pressure greater than eighty (80) psi. This maximum pressure is commonly the static pressure. However, for pressure zones supplied by pumps, the pump shutoff pressure setting shall be considered the maximum static pressure.

Water services must have a minimum bury depth of five (5) feet. When five (5) feet of cover is not achievable due to site constraints, the water service shall be insulated. Water services shall be installed perpendicular to the water main and shall be tapped not closer than thirty (30) inches apart. Taps to the end of a capped pipe shall be a minimum of fifteen (15) inches away from the cap. In high-density areas (e.g., apartments, condominiums, biopharmaceutical manufacturing) water services may also be taken from a main extension to reduce the number of taps being made into the water main.

Water services located under a structure or any above-ground appurtenance are required to be sleeved. Water services under driveways, parking areas or other traveled ways should be sleeved.

When a water main is being replaced or relocated, the existing unused water services to fully developed lots shall not be replaced or reconnected. Existing water services to vacant lots shall not be replaced or reconnected, unless a permitted building plan for the lot shows otherwise. In areas of anticipated urban redevelopment, existing water services serving vacant lots should be deleted from the drawings of replacement plans. In order to ensure proper credit for the property at the time of redevelopment, adequate record to all services must be kept. An existing plan showing the services to be deleted and their addresses shall be sent to the Applicable Subdivision Board for approval. Water services shall be replaced and reconnected in accordance with specifications of the Applicable Subdivision Board.

Common water service serving two or more lots is not allowed unless approval is granted by the Applicable Subdivision Board and an association of landowners serviced by the common water service has been formed and a copy of the covenants, conditions and restrictions covering maintenance of the services and payment of the water bills is provided.

Water services should not cross lot lines unless covenants, conditions and restrictions (covering maintenance) are provided. When this is impractical, a private easement sufficient to maintain and repair the service shall be dedicated to the lot benefiting from the service.

Encroachment water services may be allowed for Single Family Houses when all of the following conditions are met:

(1) Installation of a fire hydrant is not warranted (per the Applicable Fire Department);

(2) The lot does not front on a public main;

(3) The Applicant does not own an adjacent lot(s); and

(4) A temporary service agreement is recorded against the subject lot.

Duplexes and higher density developments without frontage on an existing water main shall be required to extend the main to their own frontage if (a) there is a possibility of further main extensions, or (b) there are other lots that could connect to the new main at a later date.

J. Water Meters

Water meters shall be located in buildings, as close to the service entry as possible, valved on both sides, and protected from freezing. All new water services shall be located outside of parking areas, driveways, or other traveled ways, but with the following exception:

Water meters two (2) inches in size and smaller, shall be installed in accordance with current standard specifications and drawings.

Manifolded two (2) inch meters shall be located in the same vault. Manifolded meters shall have read holes with caps and chains situated over each meter. When services and meters are to be manifolded, a detail is required to be included in the definitive plan. Meters shall not be manifolded on the side of the meters facing the water main. Manifolded meters shall meet all flow requirements.

All meters three (3) inches in size and larger and required backflow devices shall be built in an above ground installation with reinforced concrete slab and protective enclosure. In areas where above ground meter installations for larger meters are not feasible, meters in vaults may be installed with prior approval of the Applicable Subdivision Board.

All details for meter installation and vault or slab construction for meters larger than two (2) inches shall be approved by Applicable Subdivision Board. Written approval, either on the definitive plan or by memorandum, is required.

K. Above Ground Water Tank

The above ground water tank will be located in approximately the same location as shown on Figure 1-1. Water level in the tank will be controlled by altitude valve. The water tank shall be designed and constructed in accordance with AWWA standard D110, Type III, with precast concrete walls, steel diaphragm, wire prestressing, and freestanding concrete dome roof. The tank shall consist of a cast-in-place reinforced concrete floor, a precast, wire-wound prestressed concrete wall with a continuous mechanically bonded steel diaphragm, and a precast or cast-in-place prestressed clear span concrete dome with no interior columns.

Horizontal prestressing shall be continuous. Discontinuous prestressing tendons or strands will not be allowed. The precast, wire-wound prestressed tank wall shall be designed as a composite concrete wall with an embedded mechanically bonded steel diaphragm in combination with vertical mild steel reinforcement.

A protective fence shall be installed around the water tank.

L. Elevated Water Tank

The elevated water tank design should include Multi-Column Tank, with one hundred twenty (120) feet to the high water line, designed per AWWA D100-96 and loads for Seismic Zone 1, and will be located in approximately the same location as shown on Figure 1-1. The elevated water tank shall be built on a spread footing foundation based on a 3000 PSF soil bearing value. The painting system and sterilization shall conform to AWWA D102-97.

The difference between the maximum and minimum water level in the tank shall be twenty (20) feet.

M. Pump Station

The pump station shall be designed to properly transfer water from the ground water tank to the elevated water tank, and will be located in approximately the same location as shown on Figure 1-1. The pump station will be automatically controlled by the water levels in the elevated storage tank with appropriate low level and high level cut outs and alarms with a dial-up alarm system.

The pump station shall also include an emergency generator (60-75 Kw) with an automatic transfer switch capable of operating two of the three pumps and the pump station heating, ventilation and lighting systems. The pump station shall include appropriate architectural treatments that are aesthetically pleasing, compatible with all by-laws, rules and regulations of the Authority, and commensurate with high end residential and mixed-use developments.

A protective fence shall be installed around the pump station.

N. Transmission Water Main Design

Transmission water main design shall conform to the regulations of the water provider. Transmission water mains (sixteen (16) inches in diameter and larger) shall have a minimum of five (5) feet of cover to the top of pipe. The maximum spacing of valves along transmission water mains shall be one-half (½) mile.

O. Onsite Well

An onsite well water supply may be used for either Potable Water use or as an irrigation supply, and will be located in approximately the same location as shown on Figure 1-1. Irrigation in NAS South Weymouth will be provided by the onsite well and reclaimed water from the WWTP. Overall design will incorporate a variety of water saving features including drip irrigation, bubblers, etc.

All MADEP permits must be obtained before the well is utilized for Potable Water, construction water or irrigation water.

P. Water Supply

Public water mains shall be (a) class one hundred and fifty (150) double cement-lined, DI pipe, (b) class 150 PVC pipe or (c) approved to be equal by the Applicable Subdivision Board, and shall be not less than eight (8) inches in diameter.

Each hydrant shall have a four (4) inch connection and two (2) two and one half (2 ½) inch connections. Hydrants should be placed at property corners whenever possible.

The Applicant is directed to contact the Applicable Subdivision Board early in the approval process to insure the availability of water capacity to service the proposed development.

Connecting to or extending existing water facilities to assure adequate supply shall be the responsibility of the Applicant.

Hydrant locations are to be approved in writing by the Applicable Fire Department. No water service shutoffs are to be allowed in proposed driveways.

All water main testing and chlorination will be in compliance with AWWA C600 and AWWA C651.

3.2 Sewer System Design

A. Introduction

This Section will cover sewer main design, alignment, manholes and sewer pump station design for subdivisions in NAS South Weymouth. All sewer facilities plans and plans for proposed encroachments affecting such facilities shall be approved by the Applicable Subdivision Board.

B. Planning

The facilities described in this Section will be designed to implement the By-Laws in connection with the subdivision of land within NAS South Weymouth. In addition, a Sewer Plan has been prepared for the EIR submitted to MEPA (the "Sewer Plan"). Design of sewer facilities must be in substantial conformance with the Sewer Plan. Both the Sewer Plan and this Section shall be consistent with all by-laws, rules and regulations adopted by the Authority. Additionally, except where noted herein, sewer facility design will comply with the following as they may be amended from time to time:

- Regulations of the MADEP
- Gravity Sanitary Sewer Design and Construction ASCE Man #6 / WPCF Man # FD-5
- Guideline for the Drainage, Construction, Operation and Maintenance of Small Wastewater Treatment Facilities with Land Disposal; April 2004, MADEP
- Guides for the Design of Wastewater Treatment Facilities TR-16, 1998 Edition, New England Interstate Water Pollution Control Commission
- Rules and regulations of the MWRA

C. Sewer Main Design

(1) Sewer Mains Fifteen (15) Inches and Smaller

The depth of a sewer main is the vertical distance from the finished grade to the invert of the main. Sewers will be designed with minimum depths to provide a sewer lateral depth of five (5) feet at the property line. Lateral depth requirements shall be considered in sewer replacement projects if possible. Dead-end mains with the potential for future extension should not be shallower than seven (7) feet at the dead-end. In general, a depth of main of seven (7) feet to nine (9) feet is desirable. Grades shall be as uniformly continuous as practical and deeper if basements are planned.

Sewer mains fifteen (15) inches in diameter and smaller shall not have a greater than ninety (90) degree change of direction. There shall be a minimum of four (4) inch pipe for building sewer and a minimum of six (6) inch pipe for sewer within the right of way.

Chimney pipes (a vertical pipe from a deep sewer main to within six (6) feet to seven (7) feet below the surface for the purpose of future lateral connections) should be considered when a drop between a building and the main is greater than or equal to three (3) feet or if the sewer main depth is greater than twelve (12) feet.

Cover is the vertical distance from the finished grade over the top of the sewer main. A depth of six (6) feet to nine (9) feet is desirable and depths between five (5) feet and ten (10) feet are acceptable. Lined and coated DI pipe may also be used in shallow applications without concrete encasement with consideration being given to corrosion prevention requirements.

In accordance with ASTM D3034, no less than thirty (30) days after completion of a PVC sewer pipe installation, the pipeline shall be tested for deflection using a "go/no-go" deflection mandrel having a minimum of nine evenly spaced arms or prongs. The "go/no-go" gauge shall be hand pulled through all sections of the pipeline by the Applicant or its designee. The Applicant or its designee, shall submit drawings of the "go/no-go" gauge to the Applicable Director of Public Works for approval prior to testing. Complete dimensions of the gauge for each diameter of pipe to be tested shall be in accordance with ASTM D3034. Any section of pipe found to exceed 7.5 percent deflection shall be deemed a failed pipe and shall be excavated and replaced by the Applicant or its designee, at his own expense.

(2) Alignment of Sewers

Sewers designed to serve the adjacent property on both sides of the street shall be located at the street centerline.

If the sewer will serve the property on one side of the street only, it may be located on that side of the street if no potential conflicts with other utilities exist.

Where the Applicant has the choice of locating the sewer in a street or in an easement, the sewer shall be located in the street.

In Neighborhood Alleys or private driveways with an Neighborhood Alley type section, the sewer main shall be located north and/or west of the centerline when there is an existing water main. Otherwise, sewer mains shall be located on centerline.

The maximum practical distance (greater than ten (10) feet) between proposed sewers and parallel existing substructures is desirable.

Long skew crossings under existing substructures and utilities should be avoided. Sewers shall cross other existing substructures perpendicular. Skew angles of less than seventy-five (75) degrees shall be avoided.

Horizontal Curvatures are not allowed.

(3) Profile of Sewers

Profiles shall be designed to provide the best possible flow for the sewer main. Three (3) feet per second (fps) is the minimum flow required. Four (4) to five (5) fps is optimum, with ten (10) fps being the maximum allowable flow.

The slopes and pipe diameters shall conform to MADEP standards.

(a) Vertical Curvature

Vertical curves are prohibited. Only a continuous slope from manhole to manhole is acceptable.

(4) Manholes

All sewer collection system components outside the right-of-way shall have twenty (20) foot wide vehicular access easements for maintenance. Such access easements shall have a minimum four (4) inch gravel roadbed with a maximum slope of fifteen percent (15%).

Manholes are required at all of the following locations:

(a) Change of grade;

(b) Changes in pipe size;

(c) Dead ends;

(d) At the intersection of mains; and

(e) At change of direction of sewer mains.

Manholes shall not be located in the following locations:

(a) Inaccessible areas;

(b) Gutters and other depressions or areas subject to inundation;

(c) In sidewalks or crosswalks; and

(d) In driveways.

Manholes and any other sewer system components should be avoided in surface water areas. Sealed covers shall be used where surface water may collect. Regular manhole frame and covers shall be LeBaron, LT 102-000, or similar. Sealed frame and covers shall be LeBaron, LTW 357-000, or similar. No service connections will be made at manholes, except as noted in Article 3.2(c)(6).

The distance between manholes will not be greater than shown below.

Sewer Size (Inches)	Maximum Distance Between Manholes (Feet)
8 to 12	300
over 12	500

The shelves in manholes shall be of approximately equal size on either side of the main channel (except in manholes with changes in direction of sewer flow) in order to provide a good working platform for sewer maintenance personnel.

Dead-ended sewers require a manhole with an invert through the table. The invert in tables shall be slightly wider in the middle, whether they are curved or straight.

All manholes located in unpaved areas shall be equipped with approved locking covers and concrete collars.

All manholes will have forty-eight (48) inch diameter cones and openings. Manhole top cones shall be 4-feet – 0-inch i.d. to 2-feet – 0-inch i.d. tapers. Flat-top sections are allowed. Rotate 2-feet – 0-inch diameter opening to align with manhole steps. Manhole sections shall be 4-feet – 0-inch i.d. with a minimum five (5) inch thick walls. Butyl rubber gaskets shall be placed between sections to eliminate infiltration.

Inside drop manholes will be allowed for maintenance accessibility. There will be a two and one half (2 ½) feet to three (3) feet minimum drop required.

If the proposed sewer is to outlet directly into an outfall sewer or other larger sewer in which a corrosive atmosphere exists or is anticipated, it should be designed so as to prevent the backup of gases.

Vacuum testing of sewer manholes shall be in accordance with ASTM-C1244. Water exfiltration testing may also be required.

(5) Pipe Bedding

Normal bedding is crushed stone encasement. Recycled materials conforming to the gradation requirements may be used. The induced trench method of construction in which the trench is excavated in compacted fill and refilled with loose compressible materials is not allowed.

Where high groundwater is present and may follow the pipe trench, water dams shall be used to prevent loss (transportation) of groundwater. Clay or controlled density fill shall be used at intervals to control groundwater flow.

(6) Sewer Laterals

All new sewer laterals shall be located outside of parking areas, driveways or other traveled ways unless (a) the lateral already exists or (b) sufficient area is not available outside of driveways to locate the lateral(s) (e.g. cul-de-sacs).

Sewer laterals located under any structure or above ground appurtenance are required to be sleeved. Sewer laterals under driveways, parking areas or other traveled ways should be sleeved.

Gravity sewer laterals shall be a minimum of six (6) inch PVC pipe to within ten (10) feet from the building foundation, at which point the Massachusetts State Plumbing Code has jurisdiction. Pressure laterals shall not be smaller than two (2) inches in diameter. Pressure laterals shall discharge into a manhole and the manhole shall be lined with PVC liner (i.e., T-lock).

Sewer laterals shall be a minimum of five (5) feet deep at the property line; however, when special circumstances dictate that the cover over a lateral is less than five (5) feet, the lateral shall be insulated.

The diameter of a sewer lateral shall be at least two (2) inches less than the diameter of the sewer main into which it discharges; however, six (6) inch and eight (8) inch diameter laterals may connect into a sewer main of the same size with a "Y" connection provided the "Y" branch of the sewer main shall be turned up slightly to allow for the pitch of the sewer connection. Angling the "Y" forty-five (45) degrees from horizontal is not recommended. Sewer lateral connections to structures shall be designed not to have bends greater than twenty-two and one half (22 ½) degrees.

The vertical distance between the invert of the sewer main at the "Y" location and the invert of the upper end of the one-eighth (1/8) bend which connects the sewer lateral to the "Y" branch of the sewer main is termed the "rise".

For determining the slope of the sewer lateral, it may be assumed that the one-eighth (1/8) bend terminates two (2) feet laterally from the center of an eight (8) inch diameter sewer main.

The standard minimum slope for a sewer lateral is two percent (2%). The slope shall not exceed one (1) horizontal to one (1) vertical (100%).

A sewer lateral shall be constructed to the property line of every lot within a new residential tract.

When a sewer main is being replaced or relocated, the existing laterals running to, but not being used in fully developed lots, shall not be replaced or reconnected. Existing laterals to vacant lots shall not be reconnected unless a permitted building plan for the lot shows a need for the existing lateral(s). In areas of anticipated urban development, existing sewer laterals serving vacant lots should be deleted from the drawings of replacement plans. In order to ensure proper credit for the property at the time of redevelopment, adequate record of all laterals must be kept. An existing plan showing the laterals to be deleted and their addresses shall be provided to the Applicable Subdivision Board.

Deep-cut house connection shall be avoided.

Sewer lateral connections shall be made in accordance with the following chart:

Size/Type of Connection	Size of Main[1]	Connection Made At
8" or Smaller	15" or Smaller	Main
	18" or Larger	Manhole
10" or Larger	Any Size	Manhole
Pressure Lateral[2]	Any Size	Manhole

Notes:
1. Provided the main is not smaller than the connection.
2. A pressure lateral is a pipe under pressure carrying a discharge from a property sewage pump. If there is a cleanout at the property line with a gravity lateral to the main, it will not be construed to be a pressure lateral.

Encroachment sewer laterals may be allowed for the Single Family Houses (up to 5,000 sq. ft. lot and 5,000 to 10,000 sq. ft. lot) units when all of the following conditions are met:

(a) The lot does not front on a public sewer main;

(b) Ownership of the adjacent lot(s) does not belong to the subject lot owner; and

(c) A temporary service agreement between the Applicable Subdivision Board and the Applicant is recorded against the subject lot.

Duplexes and higher density residential units will be required to extend the main to their frontage if there is a possibility of further main extension, or there are other lots that could connect to the new main at a later date.

Common sewer laterals serving two or more lot(s) are not allowed unless the lots are under a maintenance association and a copy of the conditions, covenants and restrictions (covering maintenance of the laterals) is provided to the Applicable Subdivision Board.

Sewer laterals shall not cross lot lines unless conditions, covenants and restrictions are provided. When this is impractical, a private easement shall be dedicated to the lot benefiting from the lateral.

D. Sewer Pump Station

Prior to the commencement of design, construction, or modification of any Sewer Pump Station, the Applicant should contact the Applicable Subdivision Board to set up a conference for the discussion and review of the design and equipment requirements for proposed or modified Sewer Pump Stations.

(1) Access

Vehicular access roads to sewer pump stations shall be paved and a minimum of fifteen (15) feet wide at an eight percent (8%) maximum slope. No private gates are permitted across access roads.

Vehicle access at the sewer pump station shall allow positioning a crane truck of the size required for removal of station equipment. Access shall also be provided for the positioning of a vactor truck to clean the wet well. The site shall also include sufficient parking and turnaround space for two (2) one (1) ton maintenance trucks, and sufficient space for a secondary power source (i.e. on-site generator, portable generator, secondary power feed, etc.).

The Applicant should avoid locating truck access over the inlet and discharge piping penetrations into the sewer pump station to avoid pipe shear loadings at these locations.

(2) Design

Sewer pump station plans shall include pump curves, specifications, details, profiles, pump head, pump horsepower, pump capacity, electrical layout, plumbing diagrams, valve schematics, control system layout and schematic, installed equipment locations and clearances, standard specifications and drawings, existing underground utilities, salvage and demolition notes, elevations, job site safety requirements, highline piping installations for temporary bypass pumping, warning notes, detail or section reference bubbles, complete dimensions of all aspects of station construction (contractor should not be required to scale any dimensions from the drawings) and any other information necessary for the construction of the pump station.

Each pump station shall be provided with two (2) independent sources of power. This can be accomplished by providing (a) an on-site generator powered by either natural gas or diesel fuel, (b) a second source of electricity from a separate substation or (c) a portable generator with appropriate response time.

In order to provide operational redundancy during emergency conditions and in locations where feasible and physically possible, and after consultation with the Applicable Subdivision Board, each sewer pump station shall demonstrate that the wet well plus pipe capacity can provide storage until emergency pumps or power is provided.

(3) Pumps

Minimum pump running time at low flow shall be five (5) minutes.

The minimum number of pumps per station is two (2). In a pump station with two (2) pumps, each pump shall be capable of pumping the maximum peak flow plus thirty percent (30%). In stations with more than two (2) pumps, the backup pump shall have a capacity equal to the largest pump in the station.

Pump/System curve data shall include the following: system curve, design operating point, required net positive suction head (NPSH), hydraulic efficiency, Hp requirements, RPM and other operating conditions required for each pump.

(4) Electrical, Controls and Instrumentation

The following electrical drawings shall be included in the design set of drawings: main service and motor control panel wiring (main buss and MCC buss single line diagram), pump control center name plate schedule, power and lighting plan, circuit breaker load schedule, drawing/tabulated conduit plan, pump control and alarms circuit, bubbler system schematic, telemetry system block diagram, process and instrumentation diagram and electrical specifications for construction.

(5) Alarms and Telemetry

Telemetry alarms shall be negative logic contact closure (except high-high wet well float shall be continuously keyed positive logic), and at the minimum include the following: pump # run, pump # high temperature & seal fail, pump # CB trip & starter overload, control power (110 V) fail, line phase fail, generator run, generator alarm (including low battery), hazardous gas alarm, high wet well (bubbler), high-high wet well (float switch), drywell flood, low bubbler air pressure, low wet fall (float switch and bubbler), scanner fail and a minimum of one spare line.

(6) Force Main

PVC pipe is the preferred material for force mains (pressure rating of two hundred (200) psi minimum) due to its high degree of corrosion resistance, lower material cost, and lower maintenance requirements. Design of the force main shall conform to AWWA C-905 and shall analyze pipeline stresses to PVC that will occur with pressure on/off cycles and surge pressures to ensure the PVC will operate over the working life of the pump station.

3.3 Wastewater Treatment

A. Introduction

This Section covers the design of wastewater treatment systems, including WWTP location, WWTP design, effluent disposal system, water reuse connections, residuals handling and disposal, industrial pretreatment program and WWTP operation. See Figure 3-1: Wastewater Collection, Treatment & Disposal Facilities. For wastewater collection systems, see Article 3.2, Sewer System Design.

An Applicant should contact the Applicable Subdivision Board early in the approval process to insure the availability of sewer capacity and a connection point to service the proposed development. Applicants are advised that permanent sewer capacity will be developed by a central WWTP developed by the Master Developer to service the entire NAS South Weymouth site in

accordance with the Enabling Legislation. Individual onsite systems (e.g. septic systems) for residents, commercial, industrial or any other use are prohibited.

Prior to activation of the central WWTP, limited sewer capacity will be provided by the Town of Weymouth.

An Applicant will not receive permits for projects that do not have assured sewer capacity in the Town of Weymouth system or the onsite WWTP. Connection to the central WWTP or Town of Weymouth sewer facilities to assure adequate sewer capacity shall be the responsibility of the Applicant.

All wastewater facilities plans and plans for proposed encroachments affecting such facilities, shall be approved by the Applicable Subdivision Board.

B. Planning

The facilities described in this Section will be designed in connection with the subdivision of land within NAS South Weymouth as described in the Final Wastewater Facilities Plan as accepted by the MADEP (the "Wastewater Facilities Plan"). Both the Wastewater Facilities Plan and this Section shall be consistent with all by-laws, rules and regulations adopted by the Authority and the regulations of MADEP.

C. WWTP Location

The WWTP shall be constructed at the site identified in the Wastewater Facilities Plan. Requirements for the WWTP location are based on the following criteria:

- Compatibility with land use as described in the By-Laws
- Space required for the treatment units
- Access requirements
- Hydraulics
- Proximity to influent and effluent connections
- Compliance with applicable laws and regulations

The location of the WWTP shall be subject to the following applicable laws and regulations:

(1) Massachusetts Wetlands Protection Act;

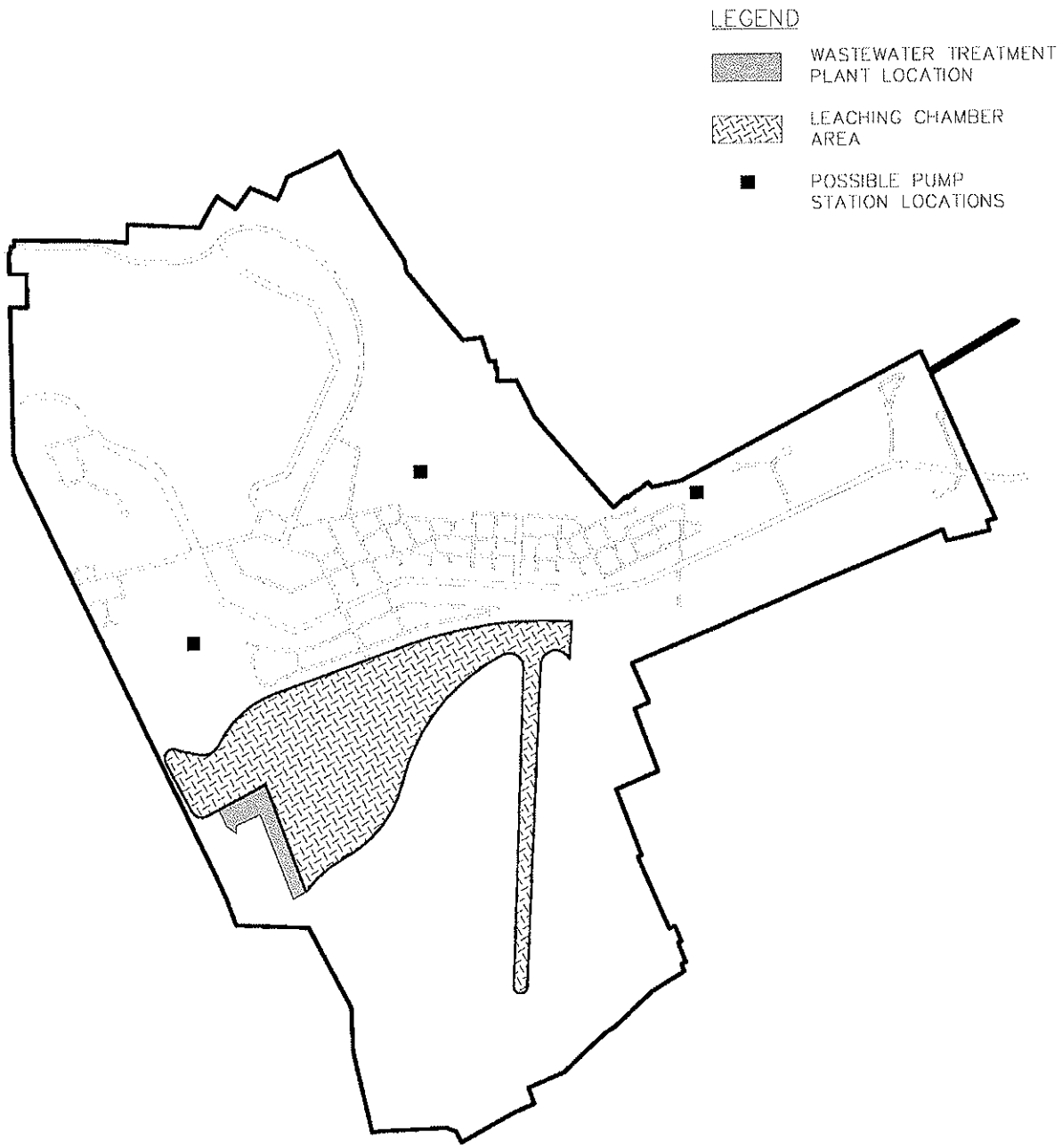
(2) the By-Laws;

(3) the Enabling Legislation;

(4) Stipulations in the Wastewater Facilities Plan;

(5) the environmental permitting documents including but not limited to the EIR submitted to MEPA, associated documents, and secretary's certificates; and

(6) all other applicable federal, state, and Authority laws, regulations, and policies.



NOTES:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.
2. EXPECTED FACILITY LOCATION. ACTUAL LOCATION MAY VARY.

Not to Scale

Figure 3-1

Wastewater Collection, Treatment, + Disposal Facilities

D. WWTP Design

The WWTP must be designed to provide the level of treatment necessary to meet all applicable effluent discharge standards and water reuse standards. Effluent and reuse limits are described in the final Wastewater Facilities Plan and are based on meeting the following regulatory requirements:

(1) Surface Water Discharge: WWTP effluent discharged to surface waters must meet NPDES permit limits, as established under 314 CMR 3.00, and which satisfy state water quality standards as defined in 314 CMR 4.00 to the extent specified in the Wastewater Facilities Plan.

(2) Ground Water Discharge: WWTP effluent discharged to ground water must meet groundwater discharge permit limits established under 314 CMR 5.00, and which satisfy state ground water quality standards as defined in 314 CMR 6.00 to the extent specified in the Wastewater Facilities Plan.

(3) Water Reuse: WWTP effluent connected to water reuse systems must satisfy the requirements of the state reclaimed water guidelines as amended by the MADEP and shall meet water reuse standards as promulgated to the extent specified in the Wastewater Facilities Plan.

The WWTP design must provide treatment for influent wastewater at the flow rates and loading rates described in the Wastewater Facilities Plan. Treatment to the levels described in the Wastewater Facilities Plan must be provided for the full design flow. Flow equalization followed by biological treatment may be used to attenuate peak wastewater flows to meet the required permit levels. Additional treatment, if necessary, must be provided to meet reuse standards for the portion of effluent flow designated for water reuse.

E. Effluent Disposal System

The design of the wastewater treatment effluent disposal system must meet the requirements described in the Wastewater Facilities Plan. The size, location, and type of effluent disposal system must be in accordance with the accepted plan as presented in the Wastewater Facilities Plan. The effluent disposal system shall comply with the groundwater or surface water discharge limits as applicable.

Effluent shall be managed to maximize the reuse of the onsite generated wastewater.

F. Water Reuse Connections

Connections from the WWTP effluent piping must be provided for reclaimed water users as described in the Wastewater Facilities Plan. Connections must be sized and located according to the end user (i.e., golf course) as identified in the Wastewater Facilities Plan, and in accordance with MADEP guidelines for reclaimed water and the portions of the Massachusetts State Plumbing Codes applicable to reuse systems.

G. Residuals Handling and Disposal

The WWTP must be designed to provide residuals handling processes of the type and size described in the Wastewater Facilities Plan. The residuals disposal program must satisfy state and federal requirements to the extent specified in the Wastewater Facilities Plan, including the following:

(1) Beneficial reuse (land application) must meet state standards under the MADEP Residuals Management Program and EPA regulations under 40 CFR Part 503;

(2) Landfill disposal must be in accordance with MADEP policy and guidance documents;

(3) Incinerator disposal must be in accordance with MADEP policy and guidance documents; and

(4) Others as specified in the Wastewater Facilities Plan.

Residuals handling and disposal systems must be designed to accommodate wastewater residuals of the quantity and quality described in the Wastewater Facilities Plan.

Beneficial reuse shall be given priority over other disposal options and shall be incorporated into the solids management plan to the extent possible. However should beneficial reuse not found to be acceptable in the Wastewater Facilities Plan the other solids disposal options shall be given due consideration.

H. Industrial Pretreatment Program

Wastewater that meets the definition of an industrial discharge pursuant to 314 CMR 2.00 through 12.00 or wastewater from a user deemed a significant industrial user shall be regulated by the MADEP Industrial Wastewater Management Program. Any discharge of industrial wastewater to a conventional septic system, innovative/alternative (I/A) system or cesspool is prohibited.

Industrial wastewater generated on-site must go to an industrial wastewater holding tank and be pre-treated prior to discharge to the WWTP. The industrial user shall regulate the discharge to meet the design requirements established for

the WWTP. In no case shall an industrial discharge be permitted that may inhibit or harm the WWTP process.

The WWTP operations staff must develop an industrial pretreatment program (IPP) in accordance with the above-referenced Industrial Wastewater Management Program and obtain approval from MADEP. The IPP will provide for coordination, monitoring and reporting to MADEP of the industrial wastewater generation and pretreatment. The requirements for the IPP will be included with the WWTP effluent discharge permit.

I. WWTP Operation and Maintenance

WWTP operations staff shall be certified at the appropriate level for the classification of the wastewater treatment as plant specified in the Wastewater Facilities Plan pursuant to 257 CMR 2.00. The purpose of 257 CMR 2.00 is to set forth a process for the evaluation and certification of operators of wastewater treatment facilities in order to insure the facilities' proper management, operation and maintenance.

3.4 Street Plan

A. Introduction

This Section covers the intent and design of the streets and ways network for all subdivisions of land within NAS South Weymouth, including street alignments, recommended plans, types, sections, traffic calming measures, furniture and elements, bicycle network and design standards.

Plans and designs for all streets and ways for all subdivisions of land in NAS South Weymouth shall be approved by the Applicable Subdivision Board.

B. Purpose and Goals

The aim of the roadway system is to provide an efficient, safe, multi-modal network of public streets that accommodates vehicular, pedestrian and bicycle traffic and encourages transit ridership. The generally located alignment of several primary streets provides a basic spine for the street network in NAS South Weymouth. The flexible alignments of all secondary streets are guided by a suggested secondary street plan and overall criteria for block development. The design of all streets and ways is directed by specific street design typologies, which ensure appropriate traffic management, pedestrian safety, utilities coordination, open space access and overall connectivity in NAS South Weymouth.

C. Streets

(1) General

All streets in the subdivision shall be designed so that, in the opinion of the Applicable Subdivision Board, they will provide safe travel for vehicles, pedestrians and bicyclists. Due consideration shall also be given by the Applicant to the attractiveness of the street layout in order to obtain the maximum livability and amenity of the subdivision.

- All streets shall be public, except for Neighborhood Alleys, either as accepted public ways or by perpetual access easements for the public.
- Provisions satisfactory to the Applicable Subdivision Board shall be made for the proper projection of streets or for access to adjoining property which is not yet subdivided.
- Reserve strips prohibiting access to streets or adjoining property shall not be permitted, except where in the opinion of the Applicable Subdivision Board such strips shall be in the public interest.
- Curb-to-curb width is that distance between the curb lines of the respective curbs, as shown in the street sections shown herein.
- That portion of the right-of-way beyond curbs shall slope upward away from the street at a two percent (2%) grade. At street intersections, the main street shall be designed with an approach platform suitable for safe operations. Platforms shall not exceed a grade of three percent (3%) unless approved by the Applicable Subdivision Board.
- Streets shall be designed to have no greater than an eight percent (8%) slope unless approved by the Applicable Subdivision Board.
- Most design details, location requirements, pavement computations, and construction methods will be referenced in the standard drawings, if applicable.

(2) Street Names

Street names shall be in keeping with the character of NAS South Weymouth. Proposed street names shall neither duplicate nor bear phonetic resemblance to the name of existing public ways or any other way qualified to afford frontage under M.G.L. Chapter 41, Section 81L, which is located in Abington, Rockland or Weymouth. Street sign placement shall be approved by the Applicable Subdivision Board, Applicable Fire Department and the applicable Highway Department/Department of Public Works, as applicable.

(3) Street Signs

Street name signs shall be furnished by the Applicant and erected at all street intersections. Street signs shall also be used to identify Common Open Spaces, and erected at locations approved by the Applicable Subdivision Board or its designee.

- Street name sign assemblies shall be post-mounted with at least one assembly at each intersection of streets or roadways. Unless otherwise approved by the Applicable Subdivision Board or its designee, posts shall be 3-inch square aluminum, painted black. Street name sign assemblies may also include logos and/or headers, painted black to match posts.
- Metal street name signs on metal posts are required at each intersection, at any point of street name change and at midpoint in blocks over 2,000 feet in length, in conformance with the standard specifications.
- Sign blanks shall be double-faced so as to indicate street names on both sides. Sign blanks should be 1/8-inch thick aluminum blanks with blue reflective panel and white reflective vinyl letters. Lettering shall be composed of initial upper case letters at least 6 inches in height and lower-case letters at least 4.5 inches in height. Designations such as Street, Road, etc., shall be standard abbreviations as indicated below. If a symbol or letter designation is used, the height and width of the symbol or letter designation shall not exceed the letter height of the sign. The symbol or letter designation should be positioned to the left of the street name.
- Standard abbreviations listed shall be used. Periods, hyphens, commas, and question marks are not to be included on standard faces.

ALLEY .....ALLEY
AVENUE .....AVE
BOULEVARD.....BLVD
CIRCLE .....CIR
COURT.....CT
DRIVE .....DR
EAST.....E
GREEN .....GREEN
LANE .....LN
NORTH.....N
NORTHEAST.....NE
NORTHWEST.....NW
PARKWAY .....PKWY
PATH .....PATH
PLACE.....PL
PLAZA.....PLZ
ROAD .....RD
SOUTH .....S

SOUTHEAST .....SE
SOUTHWEST .....SW
STREET .....ST
WEST.....W

- Stop signs shall be installed at intersections within the subdivision where required by the Applicable Subdivision Board, and at the intersection of the subdivision streets with NAS South Weymouth streets and ways as required by the Applicable Subdivision Board and approved by the Applicable Police Department. Stop signs shall be installed prior to the occupancy of any building on the street.
- The Applicant shall be responsible for installing any required traffic control sign or device. The fabrication and installation of such control signs or devices shall be completed in accordance with the U.S. Department of Transportation, Federal Highway Administration, Manual of Uniform Traffic Control Devices. The Applicant shall install traffic control signs, pavement striping, and pavement markers according to the plans which are to be submitted for approval prior to approval of any development permit.

(4) Street Acceptance

Prior to the time a street or way or portion thereof is accepted by the Authority or the Towns, the Applicant shall have prepared and certified by a registered land surveyor a plan of acceptance drawn to Registry of Deeds standards showing widths, lengths and bearings of all boundary lines of streets and easements and radii and tangents and central angles of all curves in street lines. It shall show and certify that all permanent monuments have been set. See Article 2.7E. Bounds for street layouts shall conform to Article 3.9G.

(5) Drainage

- Street drainage is covered in detail in Article 3.6.
- In streets with raised medians, stormwater must be intercepted at the median in super-elevated sections to prevent flow at points of transition to crowned sections.
- In super-elevated streets, stormwater must be intercepted at side curbs to prevent flow from side streets across the super-elevated street.
- For new street construction, the minimum grade shall be one-half percent (0.5%). Modifications to existing streets that have a grade less than one-half percent (0.5%) shall be considered where practical, through reconstruction of cold plane overlay of the pavement.

(6) Medians

Landscaped medians shall conform to the landscaping guidelines in these Regulations.

(7) Guardrails

Guardrails conforming to MASSDOT standards should be installed if required by the Applicable Subdivision Board for safety or protection of natural resources. The type, size and location of guardrails should be designated on the subdivision definitive plan.

(8) Pavement

- Roadways shall be constructed for the full length of all streets within the subdivision and shall have the curb radii required in these Regulations. The center line of all roadways shall coincide with the center line of the street right-of-way unless a deviation is approved by the Applicable Subdivision Board. The minimum and maximum widths of roadway pavement shall be as specified in these Regulations.
- Streets shall be paved with asphalt over aggregate base.
- The same pavement section is required in shoulders as well as driving lanes.
- Decorative paving will be permitted in the traveled roadway of a public and/or private street (a) to designate pedestrian crosswalks and (b) if the street grade is eight percent (8%) or less.
- Construction plans shall be prepared by a Registered Civil Engineer and shall indicate the location, color and type of material.
- For all wearing surfaces, material and construction methods shall conform to all other requirements of the standard specifications, except that no such construction should be undertaken before April 15th of any year or after November 1st of any year without written permission of the Applicable Subdivision Board or its designee.
- All pavement shall be constructed upon the prepared surface and in conformity with lines, grades and typical cross-section shown on approved plans.

- The pavement depth shall be constructed in courses per the following chart (all measurements in inches):

Road Type	Main Street/ Trotter Road	Shea Boulevard	Main/Standard Neighborhood Street	Narrow Neighborhood Street
Riding Surface	1.75	1.75	1.5	1.5
Binder Course	1.75	1.75	1.75	2.5
Base Course	3.5	3.5	3.25	N/A
Sub Base[1]	12	12	12	12
[1]Sub base material may be reclaimed from air station runway/taxiway demolition.				

These pavement depth sections are the general requirements of the Applicable Subdivision Board. Alternative sections will be determined by utilizing the Massachusetts Highway Pavement Design procedure (Chapter 9, Massachusetts Highway Project Development and Design Guide, 2006), as the same may be amended. Each subdivision application shall include a project geotechnical report with (i) recommendations on grading and foundations, (ii) confirmation that typical roadway sections are appropriate, and (iii) if appropriate, remedial grading or special conditions required to achieve the desired service life (the "Project Geotechnical Report"). The Project Geotechnical Report and the traffic report contained in the EIR submitted to MEPA (with a written justification of the adequacy of said traffic report or justification for the use of alternative traffic studies) may be used to develop alternative pavement sections on a case by case basis upon submittal of all calculations and applicable data. Pavement depth for the Parkway will be determined by MASSDOT.

If existing streets are to remain, the Applicant shall provide calculations to the Applicable Subdivision Board to confirm that the structural section (existing section plus any overlays) is adequate for the projected design volumes.

(9) Driveways

Access to private property from public streets shall be by standard driveways. Curb returns will be permitted when the driveway is signalized. Driveways shall be designed such that access can be provided without backing onto Primary Streets.

Acceptable materials for driveways are concrete, pavers and bricks, meeting the structural requirements.

(10) Traffic Control and Signalization

Where two or more streets intersect, some form of traffic control is usually needed to define the right-of-way of the vehicles entering the intersection. This control can take the form of yield signs, stop signs on the street with

lesser classification, all way stop control or traffic signals. Roundabouts should be considered as an option for traffic control and signalization.

When traffic signals are synchronized and operating in a coordinated system, they can facilitate the flow of vehicular traffic along a street corridor and within a network of streets. Coordinated traffic signals can reduce delay and travel times of vehicles, minimize the number of stops and starts and improve air quality by reducing vehicular emissions caused by the starts and stops. For efficient coordination, intersections controlled by traffic signals should be spaced approximately four hundred (400) feet to one-half (1/2) mile apart.

D. Street Network and Hierarchy

The overall street network within NAS South Weymouth is a bending grid that flanks the alignment of a curved, central Parkway corridor. The core of this grid is accessed by two additional Primary Streets, Main Street and Shea Boulevard. Two tiers of streets are identified in this plan. Primary Streets are prominent, mixed-use streets and provide important, regional routes through NAS South Weymouth. Primary Streets include Shea Boulevard, Main Street, the Truck Connector, the Parkway and the Access Road (the "Primary Streets"). The alignments of these streets are generally indicated, yet are flexible when necessary to support development patterns.

Secondary Streets are those which bring traffic to Primary Streets and small, local corridors and include Main/Standard Neighborhood Streets and Narrow Neighborhood Streets (the "Secondary Streets"). Their alignments are not fixed, but are guided by criteria that suggest their function, location, frequency, and intersection, relative to adjacent land uses. Design of Secondary Streets shall follow the street sections illustrated in these Regulations.

The following section details the street regulating plan and street concept plan for the development area.

(1) Street Regulating Plan

The alignments of the Primary Streets are generally indicated, according to Figure 4-1: Street Regulating Plan. The precise alignment of the Parkway will be determined by MASSDOT.

- Shea Boulevard commences at its intersection with Route 18 at the northwestern corner of NAS South Weymouth. It arcs east and south toward the Village Center District.
- Main Street continues the Trotter Road alignment. From its intersection with Route 18, Main Street continues due east to the Village Center District and turns to the south to intersect with the Parkway.

- The Truck Connector is a north-south connection between Shea Boulevard and the Parkway.
- The Access Road branches off of Shea Boulevard and curves southwest, parallel to Shea, ending northeast of the Parkway and Main Street intersection, toward the Phase One development component.
- The Parkway alignment winds southeast and intersects with Main Street at a point west of the Village Center District. After crossing Main Street, the Parkway curves east and exits NAS South Weymouth to intersect with Weymouth Street in Rockland.