

Town of South Hadley

Chapter 360

Subdivision Regulations

Adopted by the Planning Board February 9, 2026

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Article I
Authority and Purpose

§ 360-1 Authority

Under the authority vested in the Planning Board of the Town of South Hadley by Section 81-Q of Chapter 41 of the General Laws, as amended, and by all subsequent thereto, said Board hereby adopts these Rules and Regulations Governing the Subdivision of Land in the Town of South Hadley.

§ 360-2 Purpose

These Subdivision Regulations for the Town of South Hadley have been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of South Hadley 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 the subdivisions and in proper cases parks and open areas. The powers of the Planning Board and of the Board of Appeals under these Regulations shall be exercised with due regard for:

- A. The provision of adequate access to all of the lots in a subdivision by ways that:
 - (1) will be safe and convenient for travel;
 - (2) will provide safe and convenient access for all users of all ages and abilities, by all modes of transportation including pedestrians, bicyclists, motorists, public transportation users, and delivery and emergency vehicle operators;
- B. Minimizing congestion in ways in a subdivision and in the adjacent public ways;
- C. Reducing danger to life and limb in the operation of motor vehicles or travel by foot, bus, bicycle, or wheelchair;
- D. Securing safety in the case of fire, flood, panic and other emergencies;
- E. Ensuring compliance with the applicable Zoning Bylaws and Stormwater Management Bylaw of the Town of South Hadley;
- F. Securing adequate provision for water, sewerage, drainage, underground utility service, street lighting, police, fire and other requirements where necessary in a subdivision;
- G. For coordinating the ways in a subdivision with each other, with the public ways in the Town of South Hadley, and with the ways in neighboring subdivisions.

Article II
General

§ 360-3 Subdivision compliance required.

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

§ 360-4 More than one principal building for dwelling purposes per lot.

Not more than one principal building designed or available for use for dwelling purposes shall be erected or placed or converted to use as such on any lot in the Town of South Hadley without the consent of the Planning Board, and such consent may be conditioned upon providing adequate ways furnishing access to each site for such building, in the manner as otherwise required for lots within a subdivision.

§ 360-5 Compliance with Other Regulations, Bylaws, and Permits Required.

Subdivisions must be undertaken in compliance with all other applicable municipal, state or federal regulations, bylaws, and permits including but not necessarily limited to:

- A. Zoning. Subdivisions shall meet the requirements pertaining to lot size, frontage, and all other requirements under the existing Zoning Bylaw and applicable State laws. No subdivision rules can dictate the size, shape, width, frontage or use of lots except that they shall be in compliance with all applicable zoning requirements.
- B. Wetlands Protection Act and South Hadley Wetlands Bylaw. All projects occurring within the jurisdiction of the South Hadley Conservation Commission as defined by the Wetlands Protection Act or the South Hadley Wetlands Bylaw (Chapter 240 of the South Hadley Code) shall meet the requirements of the South Hadley Wetlands Bylaw.
- C. Stormwater Management Bylaw. All projects disturbing an acre or more of land shall meet the requirements and design and performance standards of the Town of South Hadley Stormwater Management Bylaw (Chapter 200 of the Town Code).

§ 360-6 Waiver of compliance.

- A. The Planning Board may, in special and appropriate cases, waive strict compliance with such portions of these rules and regulations as provided for in MGL c. 41, § 81R, when, in the judgment of the Board, such action is in the public interest and not inconsistent with the purpose and intent of the Subdivision Control Law.
- B. A request for a waiver of a requirement, rule or regulation shall be made by the applicant in writing at the time of the filing of the definitive plan. Such request shall fully set forth the reasons for the waiver.

- C. If the Planning Board approves the request for a waiver, it shall endorse conditions of such waiver (if any) on the plan or set them forth in a separate instrument attached to and referenced on the plan, which shall be deemed a part of the plan.

§ 360-7 Coordination with municipal departments and other agencies.

- A. In the Town of South Hadley, certain utility services provided to subdivisions are under the jurisdiction of various Town departments and other quasi-public agencies, namely:
 - (1) Sanitary sewerage and storm drainage systems: Selectboard, Department of Public Works Director (DPW Director) or their designee. Hereinafter, the term "DPW Director" includes "or their designee."
 - (2) Water supply and distribution system: Board of Water Commissioners from either Fire District No. 1 or No. 2.
 - (3) Supply of electricity: South Hadley Electric Light Department.
- B. The Board of Health provides for the permitting and inspection of all in-ground sewage disposal systems to protect the public health and safety from present and potential sources of pollution to ground and surface waters; and, the proper siting, construction and testing of private wells.
- C. Compliance with the applicable regulations and requirements of these aforementioned agencies and departments shall be required before a plan is approved by the Board, and certification of performance relative to the proper construction and installation of the respective utilities shall be required before the performance guarantee can be reduced or released.

§ 360-8 Effect of prior recording of subdivision plan.

The recording of a plan of land within the Town of South Hadley in the Hampshire County Registry of Deeds prior to the effective date of the Subdivision Control Law in the Town, (February 8, 1954), 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 these rules and regulations except as specifically exempt by MGL c. 41, § 81FF of the Subdivision Control Law.

§ 360-9 RESERVED FOR FUTURE USE

Article III
Definitions

§ 360-10 Terms defined.

For the purpose of these Rules and Regulations, unless a contrary intention clearly appears, the terms and words defined in MGL c. 41, § 81L shall have the meaning given therein.

The following other terms and words shall have the following meaning:

ABUTTING OWNER

The owner(s) of property which is contiguous to the property being subdivided and the owner(s) of property with frontage immediately across a public way from the property being subdivided. This will be identified from the Assessors' records at the time of application.

ACRE

A unit of land equal to 43,560 square feet.

AGRICULTURAL SOILS

Agricultural land with soils designated as prime or of statewide or local significance by the Natural Resources Conservation Service (NRCS) soil surveys.

APPLICANT

Either the owner of the land stated in the application for subdivision or all the owners where title is held jointly, in common, or in tenancy by the entirety, including corporations. An agent, representative, or his assigns may act for an owner, provided written evidence of such fact is submitted. Evidence in the form of a list of their officers and designated authority to sign legal documents shall be required for a corporation.

APPLICATION

The application for the approval of a proposed subdivision or re-subdivision of land, preliminary or definitive, or for an endorsement of an "approval not required", or "ANR" plan" (Form A).

APPROVAL NOT REQUIRED (ANR)

Division of land that results in new parcels with frontage along existing ways in accordance with MGL Chapter 41, Section 81L and Section 81P. Plans reflecting this type of division do not require approval from the Planning Board.

APPROVED AND ENDORSED BY PLANNING BOARD

As applied to a plan or other instrument required or authorized by the Subdivision Control Law to be recorded, shall mean, bearing a certification or endorsement signed by a majority of the members of the planning board or any other person authorized by the Planning Board

to certify or endorse its approval or other action and named in a written statement to the register of deeds and recorder of the land court, signed by a majority of the board.

BOARD

The Planning Board of the Town of South Hadley.

CMR

The Code of Massachusetts Regulations.

COMPLETE STREETS

Roadways that are designed for all modes of transit, including vehicles, public transportation, biking and walking, for people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking.

COMPLETE STREETS POLICY

Town of South Hadley’s Complete Streets Policy (See Appendix).

CONSULTANTS or CONSULTING SERVICES

A person who provides expert advice professionally. This includes, but is not limited to, architects, biologists and other environmental experts, chemists, engineers, geologists, landscape architects, planners, lawyers, sanitarians, and surveyors.

DEAD END STREET (CUL-DE-SAC)

A street which joins another street at only one end with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

DETENTION BASIN

An excavated basin for the short-term, temporary storage of stormwater runoff which is used to control the peak discharge rates and which provides gravity settling of pollutants. As such it allows a controlled release, typically through a combination of pipes and weirs sized to provide a certain discharge rate.

DEVELOPER

Not necessarily the owner of the land, but the person, persons, or corporation responsible for the subdivision application and development. This is interchangeable with APPLICANT and SUBDIVIDER. The developer may or may not be the original applicant, and may be a subsequent owner of the subdivision.

DEVELOPMENT

Any construction or grading activities conducted on real estate.

DIRECTOR

Unless specifically noted otherwise, this will refer to the Director of Planning and Conservation for the Town of South Hadley.

EASEMENT

A grant or reservation by the owner of land for the use of such land by others for a specific purpose or purposes, and which must be included in the conveyance of land affected by such easement and must be recorded at the Hampshire County Registry of Deeds.

ENGINEER

Any person who is currently registered by the Commonwealth of Massachusetts to perform professional civil engineering services.

GENERAL LAWS (MGL)

The General Laws of Massachusetts. In case of a rearrangement of the General Laws, any citation of particular sections of the General Laws shall be applicable to the corresponding sections in the new codification.

GRASS STRIP

Strip of grass or other plants, and sometimes trees, located between the road edge and sidewalk, and is often within road right-of-way. May also be between sidewalk and front setback of lot.

HEALTHY COMMUNITY

A community where people come together to make their community better for themselves, their family, their friends, their neighbors, and others. A Healthy Community creates ongoing dialogue, generates leadership opportunities for all, embraces diversity, connects people and resources, fosters a sense of community, and shapes its future. (See Appendix)

IMPROVEMENT

Any change to the existing conditions of a site for the purpose of complying with these regulations or rendering the site suitable for development and habitation. As used in these regulations, improvements include, but are not limited to, construction and installation of roadways, paved streets, berms, gutters, sidewalks, utilities, street signs, monuments, shade trees, drainage facilities, erosion and sedimentation control measures, fire ponds, sewage and water systems, buildings, earth filling or removal, seeding, and grading.

LANDSCAPING

Changing, rearranging, or adding to the original vegetation or scenery of a piece of land to produce a desired aesthetic effect appropriate to the site.

LOT

An area of land in one ownership, with definitive boundaries, used, or available for use, as the site of one or more buildings.

MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES

Refers to the current, as amended, version of the Massachusetts Department of Transportation – Highway Division “Standard Specifications for Highways and Bridges”.

MAXIMUM EXTENT PRACTICABLE (MEP)

Refers to the extent of efforts to comply with local post-construction stormwater management requirements. Elements of MEP indicate serious intent to comply and include selecting and implementing design elements to address site restrictions. MEP is defined as the following:

- A. Proponents of development/redevelopment projects have made all reasonable efforts to meet the applicable Massachusetts Stormwater Standards; and,
- B. They have made a complete evaluation of possible stormwater management measures stormwater BMPs, and environmentally sensitive site design that minimizes land disturbance and impervious surfaces; and,
- C. If not in full compliance with the applicable Standards, they are implementing the highest practicable level of stormwater management.

MUNICIPAL SERVICE

Public utilities furnished by the Town in which a subdivision is located, such as water, sewerage, gas, and electricity.

NEW DEVELOPMENT

Any construction activities or land alteration resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing equal to or greater than 1 acre on an area that has not been developed previously to include impervious cover).

OPEN SPACE

Property within a subdivision designated to be deeded by the developer to the Town of South Hadley, homeowner’s association or other approved agency, or to be maintained by the developer or owner in an undeveloped state in a manner approved by the Planning Board. Such open space is to be used for passive or active recreation, agriculture, forestry, rare and endangered species habitat, natural or scenic vistas, unique natural or cultural features, or greenways. Generally, such open space is to be retained in a substantially natural, wild or open condition, or in a landscaped condition in such a manner as to allow to a significant extent the preservation of wildlife or other natural resources. Open space shall be contiguous areas containing a high ratio of interior area to edge area. Open space shall

contain to the greatest extent possible soils uniquely suited to agricultural use and that further create greenway corridors to establish linkages in landscape. Such areas shall be of adequate size and configuration to accommodate the intended use, and shall not include narrow or irregular pieces of land which are remnants from the layout of lots, streets, or drainage structures. Open space does not include areas designated for sediment control, erosion control, or storm water control, nor does it include wetland resource areas. Areas used for sediment control, erosion control or stormwater control are considered part of the subdivision improvements and are not intended to be for recreation.

OWNER

The owner of record as shown at the Hampshire County Registry of Deeds, Land Court, or Probate Court.

PERFORMANCE GUARANTEE

A guarantee, in the form of a surety bond, cash, savings passbook, covenant, negotiable securities or lender's agreement, by the developer to be used to complete subdivision improvements if the developer does not complete the improvements as promised, as required by MGL c. 41, Section 81U.

PLAN, DEFINITIVE

A proposed plan of a subdivision submitted by the applicant to be recorded in the Hampshire County Registry of Deeds or Land Court when approved and endorsed by the Planning Board.

PLAN, FINAL

A proposed plan showing all buildings (not more than one principal building to be used for dwelling purposes) per building lot, to be approved by the Planning Board as a prerequisite to obtaining building permits.

PLAN, PRELIMINARY

A plan of a subdivision submitted by the applicant showing sufficient information to form a clear basis for discussion and clarification of its general contents and for the preparation of a Definitive Plan.

POST CONSTRUCTION IMPERVIOUS SURFACE AREA

The final impervious cover on the SITE.

RECORDED

Recorded in the Registry of Deeds of Hampshire County except that, as affecting registered land, it shall mean filed with the Recorder of the Land Court.

REDEVELOPMENT

Any construction, land alteration, or improvement of impervious surfaces resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing equal to or greater than 1 acre) that does not meet the definition of NEW DEVELOPMENT.

REGISTER OF DEEDS

The Register of Deeds of Hampshire County and, when appropriate, shall include the Recorder of the Land Court.

REGISTERED MAIL

Registered or certified mail.

REGISTRY OF DEEDS

The Registry of Deeds of Hampshire County and, when appropriate, the Land Court.

RESERVE STRIP

A strip of land retained by the subdivider between the dedicated street and the lots to be served by the street. Reserve strips can also separate parks and other public properties from lots.

RETENTION BASIN

An excavated basin intended for the holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass.

RIGHT-OF-WAY

That portion of land which is or is intended to be made available for the construction of roadways, ditches, drainage structures and utility lines and is to be conveyed to the Town of South Hadley in the case of a proposed Town of South Hadley road, or conveyed to an association charged with maintenance of such right-of-way in the case of a private road, including but not limited to the traveled portion and all adjacent land encumbered or intended to be encumbered by all necessary easements.

ROADWAY

That portion of a way which is designed and constructed or intended to be constructed for vehicular travel, also known as the traveled portion of the way. See also STREET.

SITE

The area extent of construction activities, including but not limited to, the creation of new impervious cover and improvement of existing impervious cover, excluding redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways

as described under REDEVELOPMENT above.

SPECIAL FLOOD HAZARD AREA

The land in the floodplain subject to a one-percent or greater chance of flooding in a given year. The special flood hazard area contains all Zones A and A1-A30 as determined from the most recently prepared Flood Insurance Rate Maps, and subsequent revisions, and contains all land within the Floodplain Overlay District on the Official Zoning Map of the Town of South Hadley.

STABILIZATION

Structural or vegetative treatment applied to an area in order to prevent soil erosion.

STANDARD SPECIFICATIONS

Standard Specifications for Highways and Bridges, Massachusetts Department of Transportation, most current as amended/supplemented standard edition.

STORMWATER POLLUTION

Occurs when rain that falls on streets, parking lots and other land carries pollution into lakes, rivers, streams or other water bodies. Pollutants can include oil and fuel from vehicles, fertilizers and pesticides from yards or agricultural lands, pet waste, and soil picked up by erosion.

STREET

A public or private way either shown on a plan approved in accordance with these rules and regulations or otherwise qualifying a lot for access and frontage under MGL c. 41, Section 81L.

STREET, COLLECTOR

A street designed to receive and distribute traffic from and to various subareas and neighborhoods, and which will carry a substantial volume of traffic generally, over 400 vehicles per day.

STREET, MINOR

A street which primarily provides access to adjacent land uses. It may be either a through-street or a cul-de-sac.

STREET, MAJOR

A street having the primary purpose of carrying through-traffic and the secondary purpose of providing access to abutting property.

STREET, PRIMARY

A street which receives and distributes traffic from and to various subareas within a given

region, and receives traffic from a given residential neighborhood or industrial area and carries it to an arterial highway. These roads run through developed areas or connect concentrations of development and carry significant volumes of traffic.

STREET, SECONDARY

A street which primarily provides access to adjacent land uses and which serves to connect minor streets with major streets.

SUBDIVISION

Subdivision shall mean the division of a tract of land into two or more lots and shall include re-subdivision, and when appropriate to the context, shall relate to the process of subdivision or the land or territory subdivided; provided however that the division of a tract of land in two or more lots shall not be deemed to constitute a subdivision within the meaning of the subdivision control law if, at the time when it was made, every lot within the tract so divided has frontage on:

- A. A public way or a way which the Clerk of the Town of South Hadley certifies is maintained and used as a public way; or
- B. A way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law; or
- C. A way in existence when the Subdivision Control Law became effective in the Town of South Hadley, having, in the opinion of the Planning Board, sufficient construction to provide for the needs of vehicular traffic in relation to the proposed use of the land abutting thereon or served thereby, and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon.
- D. All of which have adequate access from a public way

SUBDIVISION CONTROL LAW

Refers to Sections 81-K to 81 GG, inclusive of Chapter 41, of the General Laws of the Commonwealth of Massachusetts, entitled "Subdivision Control" as last amended.

SUBDIVISION, SMALL

“Small Subdivision” is a term used in the Planning Board Fee Schedule. Small Subdivision is defined as a proposed subdivision meeting all of the following conditions:

- A. Creation of no more than 2 building lots; and,
- B. Proposed street length of no more than 400 feet; and,
- C. Street is proposed to be privately owned and maintained; and,
- D. All municipal services to be provided only to the edge of the public right of way.

SUBDIVISION TYPE I

A subdivision for residential uses.

SUBDIVISION TYPE II

A subdivision for commercial and/or industrial uses.

SURVEYOR

Currently Registered Land Surveyor in the Commonwealth of Massachusetts.

TOWN

The Town of South Hadley, Commonwealth of Massachusetts. In referring to various boards and departments and services, where appropriate, it may also be construed to include South Hadley Fire District One and South Hadley Fire District Two and their associated water departments and the South Hadley Electric Light Department (SHELD).

UTILITIES

Public utilities furnished by off-site providers, such as water, sewer, gas, electricity, telephone, television, or other media.

WAY, GENERAL

A right-of-way or means of access to a lot.

WAY, PRIVATE

A way other than a public way (i.e., private way) over land which is owned by a private party but which is set forth by deed covenant, deed description or by other means as a private way.

WAY, PUBLIC - LOCAL

A public way is a way which has been accepted by, and the land owned by, the Town of South Hadley, or by other means created as a public street.

ZONING

Town of South Hadley Zoning Bylaw as amended.

Article IV
Pre-submission Review, Coordination, and Meetings

§ 360-11 Pre-submission consultation Purpose.

Prospective applicants, projects, and the community may benefit from the applicant and their agents consulting with the Director of Planning & Conservation and the various departments prior to submission of an application or plans. This pre-submission consultation could benefit the parties whether it be an ANR Plan, Preliminary Plan, Definitive Plan, or Plan for More Than One Building for Dwelling Purposes Per Lot. The purpose of this consultation is to:

- A. Inform the Director and affected departments/agencies of the prospective plan
- B. Identify issues that should be addressed as part of the applicant's submittal
- C. Identify the various department's/agency's rules and regulations and infrastructure concerns/needs which may impact the plan
- D. Provide an opportunity to assess the "public way" status of the roadway on which the subject property fronts and provides the property access.
- E. Identify additional approvals that will be required from other permitting authorities – particularly if those approvals need to be obtained prior to submitting the applications and plans for the Planning Board review

§360-12 Director of Planning & Conservation role.

The Director of Planning & Conservation is the point person for the staff-level administration of the Subdivision Regulations. Accordingly, it is anticipated that the applicant and their consultants will work through the Director in coordinating the pre-submittal staff reviews.

§360-13 Submittals.

The applicant and/or their consultant should submit an electronic (PDF) copy of the draft of the project plan (ANR, Preliminary, Definitive, or Plan for More Than One Building for Dwelling Purposes Per Lot) to the Director for their review. In turn, the Director will transmit the draft plan to the departments/agencies which the Director determines may be impacted by, or may impact, the prospective project. This draft plan should contain:

- A. Existing Conditions/Site Analysis Map: This sheet should be based on the survey of the subject property and identify, locate, and describe noteworthy/relevant features which impact or should impact the layout of the proposed development. Depending on the plan to be submitted (ANR, Preliminary, Definitive, or Plan for More Than One Building for Dwelling Purposes Per Lot), the scope of the features will vary but should include significant vegetation, wetlands, steep slopes, agricultural soils, historic or cultural features, threatened or endangered species, unusual geological formations, and scenic views or viewsheds.

- B. Draft Layout Plan: A simple and inexpensive drawing prepared by a professional landscape architect, architect, planner, site designer or engineer, which illustrates conceptual layouts of house lots, streets, stormwater management, conservation areas and other improvements. Ideally, this is based on the Existing Resources/Site Analysis Map and reflects comments received from Town of South Hadley officials.

360-14 Coordination.

As the Director of Planning & Conservation is the point person for the Town on administration of the Subdivision Regulations, review of prospective projects should be coordinated by and through the Director. Accordingly, while prospective applicants and their consultants are encouraged to work with the various agencies and departments in preparing their plan and application as well as supporting materials, they should copy the Director on correspondence or otherwise keep the Director informed.

§ 360-15 Pre-application Meetings.

Generally, pre-application meetings are to be conducted only at the “staff level” coordinated by the Director. However, the Director may schedule a pre-application meeting with the Planning Board at a regular Board meeting if:

- A. The Director determines that there is a question regarding the prospective project which is a policy question appropriately addressed by the Board; and,
- B. The prospective project involves a plan submittal that does not warrant or require a public hearing prior to action by the Board. Accordingly, a prospective Definitive Plan shall not be subject of a pre-submission meeting involving the Planning Board.

Article V
Plan Believed Not to Require Approval (ANR Plans)

§ 360-16 General.

Any person who wishes to cause to be recorded in the Registry of Deeds or to be filed with the Land Court a plan of land and who believes that their plan does not require approval under the Subdivision Control Laws may submit their plan and application (Form A) as provided herein for the Board to act upon.

§ 360-17 Filing and Review Procedure.

- A. Persons seeking action on a plan under this section shall submit their plan accompanied by the necessary application form and evidence to show that the plan does not require approval (as outlined in 360-18 and 360-20 below) to the Board or to the Town Clerk. Written notice by the applicant to the Town Clerk shall be by delivery or by registered mail, postage prepaid, that they have submitted such a plan with the Planning Board.
- B. Said plan shall be submitted either by delivery or by registered or certified mail.
- C. Receipt of the plan by the Town Clerk or Board shall constitute the date of submission.
- D. The Director will schedule the matter for Planning Board review at the next scheduled and practical Planning Board meeting.
 - (1) If the submission is made prior to the posting of the agenda for the next meeting, the matter will be scheduled for that meeting.
 - (2) If the submission is made after the posting of the agenda for the next meeting and another meeting is scheduled within two (2) weeks, the matter will be scheduled for the subsequent meeting.
 - (3) The Director will be responsible for scheduling the matter for Board action to allow for filing of a Decision with the Town Clerk within twenty-one (21) calendar days of receipt of the submission.

§ 360-18 Submission Requirements.

Applicants shall include the following in their submissions:

- A. Two (2) mylar (or similar reproducible material as determined acceptable by the Director) and two (2) paper copies of the plan which shall contain items specified in Section 360-20 herein;
- B. A completed and signed Application (Form A);

- C. Documentation or evidence supporting their claim that the plan does not require approval as a subdivision under the Subdivision Control Law;
- D. Electronic versions of the submission in a format acceptable to the Town including:
 - (1) A digital format (PDF format unless otherwise specified by the Director);
 - (2) Copies of said plan which meet the current version of the “MassGIS Standard for Digital Plan Submission to Municipalities” meeting the requirements for Level I submission standards.
- E. Appropriate filing fee as required by the Planning Board’s adopted Fee Schedule (Appendix E).

§ 360-19 Planning Board Action.

Within twenty-one (21) calendar days of receipt of a submission under Section 360-18, the Board must take action on the submission without holding a public hearing, but at a public and properly posted meeting, as follows:

- A. Action by the Board shall be by a majority vote of the Board at a public meeting. Before the Board makes its determination, it shall review the correctness of all street information and compliance with applicable portions of the South Hadley Zoning Bylaw.
 - (1) Where the physical condition or width of a public way, from which the lots shown on the plan have their access, is considered by the Board to be inadequate either to provide for emergency services or to carry the traffic which is expected, in the opinion of the Board, to be generated by such lots, the Board shall determine that the plan does require approval under the Subdivision Control Law.
 - (2) Where the Board determines that in its opinion adequate access (as contemplated by section 81M of the Subdivision Control Law) does not exist, then the Board shall determine that the plan does require approval under the Subdivision Control Law.
- B. If the Board determines that the plan does not require approval, it shall within twenty-one (21) days and without a public hearing endorse on the plan the words "PLANNING BOARD APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED".
 - (1) The Board shall take action finding that the plan is suitable for endorsement and authorizing the plan to be endorsed by either a majority of the Board or a representative to sign on behalf of the Board.
 - (2) The Board shall cause the minutes to reflect who is authorized to sign the plan.

- (3) The Board may cause notes as it determines appropriate to be affixed to the plan including, a note indicating whether one or more of the lots on the plan are “NOT BUILDING LOTS WITHOUT FURTHER ZONING RELIEF”.
 - (4) After such endorsement, Director shall retain one of the signed mylar and one of the signed paper copies for the Town and return the other signed copies to the applicant. The applicant shall file, forthwith, one of the endorsed copies with the Hampshire County Registry of Deeds.
- C. If the Board determines that the plan does require approval under the Subdivision Control Law, it shall vote to deny the plan and file a written statement with the Town Clerk, and mail a copy to the applicant, of its determination including its reason for denial of endorsement of the plan within twenty-one (21) calendar days of submission of said plan, and return the reproducible original of the plan. The Board shall notify the Town Clerk of its action.
 - D. If the Board fails to act upon a submitted plan within 21 days after its submission, it shall be deemed to have determined that approval under the Subdivision Control Law is not required as certified by the Town Clerk.

§ 360-20 Plan Requirements.

The plan shall:

- A. Be prepared by a Massachusetts Registered Land Surveyor;
- B. Be clearly and legibly drawn with waterproof ink upon mylar;
- C. Be drawn at a scale not smaller than one (1) inch equals forty (40) feet or a scale appropriate to project proposed, with the sheet size not exceeding thirty-six (36) inches by twenty-four (24) inches; and,
- D. Contain the following information:
 - (1) True north arrow, date, scale, legend, locus, and title, “Subdivision Approval Not Required”.
 - (2) The names and addresses of the owner/s of record at the time of submission of the application, the applicant(s), and Land Surveyor (including the official seal).
 - (3) Locations, names, lines and widths, distances and bearings of all existing streets, sidewalks, publicly owned trails and shared use paths, and any common or public areas.
 - (4) Location and setbacks of all existing structures on the proposed site.
 - (5) Location, dimensions, bearings, and purpose of all easements, both existing and proposed, within and adjacent to the land in question.
 - (6) The plan shall show boundary lines, dimensions (including distance and bearings of lot lines) of all subject lots, sites of divisions, lot areas (in acres or square feet, as appropriate), with all lots designated numerically and in sequences.

- (7) Location of all monuments properly identified as to whether existing or proposed.
- (8) Frontage dimensions of all lots created and the dimensions of any frontage remaining on the original subdivided parcels, including the area of any subdivided parcels with a structure.
- (9) A locus plan at a scale of one inch equals 400 feet showing the exact location of the plan of land in relation to two or more existing streets.
- (10) The names of all abutters as determined from the most recent tax list, and book and page from the Registry of Deeds.
- (11) Suitable space to record the action of the Board and the signatures of members or other person authorized to sign on behalf of the Board.
- (12) Book and page number from the Hampshire County Registry of Deeds or title reference of subject property.
- (13) A notation reading "Endorsement of this Plan does not certify compliance with the zoning required for a building lot."

Article VI
Preliminary Plans

§ 360-21 General.

- A. A Preliminary Plan review enables the subdivider, the Board, other municipal agencies and owners of property abutting the subdivision to discuss and clarify the problems of such subdivision before a definitive plan is prepared. Oftentimes, a preliminary review will identify infrastructure and environmental issues which will impact a prospective subdivision.
- B. A Preliminary Plan of a Type I subdivision may be submitted by the applicant for municipal review including discussion and action by the Board. While not required for Type I (residential) subdivisions, it is strongly recommended that a preliminary plan be filed in every case.
- C. In accordance with MGL c. 41, § 81S, in the case of a nonresidential subdivision (Type II under these Subdivision Regulations), any person, before submitting a definitive plan for approval, shall submit a preliminary plan for review and action in accordance with this Article.
- D. As detailed in Article IX (Design Principles and Standards), to the fullest extent reasonable and practicable, all subdivisions shall be designed and constructed to incorporate the most recent design standards, best practices, policies and design elements of:
 - (1) Complete Streets (see Appendix)
 - (2) Healthy Communities (see Appendix)
 - (3) Low Impact Development stormwater management practices described by Section 2.3.6.c of the MS4 Permit.
- E. As detailed in Article X and Article XI, all subdivisions must be designed to conform to the Stormwater Management Bylaw (Chapter 200 of the Town of South Hadley Code). Of particular note, all subdivisions are to incorporate Low Impact Development strategies, consistent with the requirements of the MS4 permit to the extent practicable and supported by the municipal agencies/departments.
- F. Expenses for outside consultants for professional review of the plans, survey, or inspections shall be paid by the applicant in accordance with the Planning Board's General Rules and Regulations. These expenses and associated fees are in addition to the application fee.

§ 360-22 Submission.

- A. Preliminary plans shall be submitted:

- (1) by delivery at properly posted and convened meetings of the Planning Board and Board of Health; or,
- (2) by certified or registered mail to the Planning Board and Board of Health, postage prepaid.
 - (a) The Office of the Director of Planning and Conservation serves as the mailing or delivery destination for the Planning Board outside of Board meetings. Accordingly, applications including the Preliminary Plan may be delivered or mailed to the Office of the Director in lieu of submission at a Planning Board meeting.
- B. A notice shall also be filed with the Town Clerk by delivery or by registered mail, postage prepaid, that such a plan has been submitted to the Planning Board. If the notice is given by delivery, the Town Clerk shall, if requested, give a written receipt therefor.
- C. If submission is made at a properly posted and convened Planning Board meeting, the date of said meeting shall constitute the date of submission.
- D. If submission is made by mail, the date of receipt (as shown on the returned registered mail receipt) shall be the date of submission of the plan. Such plan shall be accompanied by the completed form, the required filing fee (See Planning Board Rules and Regulations for Fees), and such other materials as specified in Section 360-22F below.
- E. Two (2) complete paper copies of the submission shall be provided to the Planning Board and two (2) copies shall be provided to the Board of Health.
 - (1) If the Director informs the applicant that additional paper copies are needed or requested by Board members of other municipal agencies/departments for the review process, the applicant shall provide the additional copies as requested in a timely manner – no later than fourteen (14) calendar days after the request is made by the Director.
- F. Each copy of the submissions shall include:
 - (1) A paper copy of the proposed plan (prepared in accordance with these Subdivision Regulations, specifically but not limited to Section 360-23).
 - (2) Signed copies of the application form.
 - (3) A list of anticipated requested waivers from the Subdivision Rules and Regulations.
 - (4) A project narrative which generally describes the proposed development and the project site.

- (5) A narrative which describes how the proposed development will conform to the Design Principles and Standards described in Article X and any waivers from the Design Standards which the applicant anticipates requesting.
 - (6) A narrative which describes how the project incorporates Low Impact Development strategies, consistent with the requirements of the MS4 permit.
 - (7) Preliminary Development Impact Statement.
 - (8) For development sites lying within the Water Supply Protection District, a detailed assessment of the amount of native earth to be removed from the site and an assessment of the project's impact on the public water supply – quantity and quality.
 - (9) If the applicant owns additional land contiguous to the project site but is not part of the proposed project, a narrative which describes how the remaining land owned by the applicant is anticipated to be developed or maintained.
- G. To make application information available on the Town's website, efficient and rapid transmittal of plans and materials to the Board members and various municipal agencies/departments involved in the review process, and for presentation purposes at public meetings/hearings, all submissions materials (including but not necessarily limited to, the application form - Form B, Preliminary Development Impact Statement, Waiver Requests, Preliminary Plans, required and other narratives, supportive information, photographs, etc.) shall also be submitted in a digital format (acceptable to the Director – generally a PDF format) on a single disk or drive at the time of the submission. The individual components of the submission should be provided as separate digital files to better permit uploading to the website, downloading for viewers, and email purposes.
- H. At the time of submission, the center line of the proposed roadway(s) shall be adequately and accurately staked or flagged on the site, and the individual proposed lots shall be identified in some manner, sufficient for identification by the Board members and South Hadley municipal officials when site visits are made.

§ 360-23 Plan Requirements.

- A. The Preliminary Plan shall be prepared by a currently Registered Massachusetts Engineer and currently Registered Massachusetts Land Surveyor.
- B. The Preliminary Plan shall be drawn at a scale of one inch equals forty feet (1"=40') or such other scale as the Board may accept to show details clearly and adequately on a sheet of paper twenty-four by thirty-six inches (24" x 36").
- C. The Preliminary Plan shall include the following:

- (1) The Subdivision name, boundaries, North arrow, date, scale, legend, and title "Preliminary Plan".
- (2) The names and addresses of the owners of record, the applicant and the engineer or surveyor responsible for preparation of the Preliminary Plan.
- (3) The names of all abutters as determined from the most recent tax list, and book and page from the Registry of Deeds.
- (4) A locus plan overlaid on the most recent MassGIS orthophotos or other best available high-quality low-elevation air photos.
- (5) Existing and proposed lines of streets, rights-of-ways, other ways, sidewalks, trails, shared use paths, and easements, and any public or common areas within the subdivision, in a general manner.
- (6) Location of natural waterways and water bodies within and adjacent to the subdivision.
- (7) The proposed system of drainage, including adjacent existing natural waterways, including location, size, direction of flow of existing and proposed culverts and storm drains, in a general manner.
- (8) The proposed method of sanitary sewage disposal and system and water distribution system (including general soils information), including location, size, direction of flow of existing and proposed sewers, in a general manner.
- (9) The approximate boundary lines of proposed lots with approximate dimensions and lot areas in square feet.
- (10) The names, approximate locations, and widths of adjacent streets.
- (11) The existing and proposed topography of the land, in a general manner.
- (12) Land subject to protection/permitting under the South Hadley Wetlands Bylaw and the Wetlands Protection Act (CMR 140).
- (13) Zoning districts covering the subject property, including any overlay districts.
- (14) An index plan at a scale of one inch equals two hundred feet (1"=200'), when multiple sheets are used.

- (15) Profiles of proposed streets, on a horizontal scale of one inch equals 40 feet and a vertical scale of one inch equals four feet, showing existing and proposed grades along the center lines.
- (16) In the case of a subdivision covering less than all of the land owned by the subdivider, a plan showing in a general manner the contemplated development and street layout of all said land.

§ 360-24 Plan Review Process.

- A. A Preliminary Plan, under MGL c. 41, § 81S, is not subject to a public hearing. However, the Preliminary Plan is to be reviewed by the Board and acted upon in a public meeting. Prior to the Board reviewing the Preliminary Plan submission, various impacted agencies/departments are to review the submission and be requested to provide recommendations to the Board.
- B. The Director is to coordinate and schedule the review process. Accordingly, the Director shall, upon receipt of a Preliminary Plan submission:
 - (1) Post a copy of the submission on the Town's website;
 - (2) Schedule the Preliminary Plan for a Planning Board meeting to be held sufficiently to allow the Board to make and file a decision within the forty-five day time frame for filing of a decision set forth in MGL c. 41, § 81S;
 - (3) Distribute the Preliminary Plan submission electronically to the following agencies/departments with a stated deadline for receipt of comments – said date to be at least one week prior to the scheduled Planning Board meeting:
 - (a) Director of Public Health
 - (b) Conservation Administrator
 - (c) Director of Public Works
 - (d) Fire Department (for the Fire District or Districts in which the project is located)
 - (e) Water Department (for the Fire District or Districts in which the project is located)
 - (f) South Hadley Electric Light Department
 - (g) Police Chief
 - (h) Tree Warden

- C. Agencies/departments with concerns regarding the proposed development are to raise those concerns with the Director as early in the review period as possible. The Director shall schedule and conduct site visits and/or meetings with the applicant as the Director determines to be appropriate.

§ 360-25 Action on preliminary plan.

- A. Pursuant to MGL c. 41, § 81S, within forty-five (45) days after submission of a preliminary plan, the Planning Board and Board of Health shall act upon the Preliminary Plan submission and shall notify the applicant and the Town Clerk, by certified mail, of their action regarding the Preliminary Plan. The purpose of the Planning Board's review of the Preliminary Plan is to determine whether it is in compliance with the design standards, as set forth in these rules and regulations.
- B. In acting upon the Preliminary Plan, both boards shall either:
 - (1) Approve the plan as submitted;
 - (2) Approve the plan with modifications suggested by the board or agreed upon by the person submitting the plan;
 - (3) Disapprove the plan.
- C. In the case of approval with modification, the notice of decision shall state the modifications to be made in the Preliminary Plan,
- D. In the case of disapproval, the notice of decision shall state in detail the reasons for plan disapproval.
- E. Failure of the Board to file its decision on a Preliminary Plan within 45 days after submission shall be deemed to constitute approval of such a plan.
- F. Approval of the plan does not:
 - (1) Constitute the approval of a subdivision and no Register of Deeds shall record a Preliminary Plan, but does facilitate the procedure in securing approval of the Definitive Plan.
 - (2) In any way authorize the owner to proceed with construction of roadways and/or other work in the subdivision.

Article VII
Definitive Plan

§ 360-26 General

- A. A Definitive Plan shall be governed by the Subdivision Regulations in effect at the time of submission of such plan or in effect at the time of submission of a Preliminary Plan, provided that a Definitive Plan evolved therefrom shall have been submitted to the Planning Board within seven months from the date of submission of the Preliminary Plan.

- B. A Definitive Plan shall also be governed by the zoning in effect at the time of submission of such plan or a Preliminary Plan from which a Definitive Plan evolved in accordance with the provisions of MGL c. 40A, § 6, as amended.

- C. As detailed in Article X (Design Principles and Standards), to the fullest extent reasonable and practicable, all subdivisions shall be designed and constructed to incorporate the most recent design standards, best practices, policies and design elements of:
 - (1) Complete Streets (see Appendix)

 - (2) Healthy Communities (see Appendix)

 - (3) Low Impact Development stormwater management practices described in Section 2.3.6.c of the MS4 Permit, or applicable section of the most recent permit.

- D. As detailed in Article X and Article XI, all subdivisions must be designed to conform to the Stormwater Management Bylaw (Chapter 200 of the Town of South Hadley Code). Of particular note, all subdivisions are to incorporate Low Impact Development strategies, consistent with the requirements of the MS4 permit to the extent practicable and supported by the municipal agencies/departments.

- E. Prior to submitting an application for Definitive Plan approval, applicants must:
 - (1) Conduct soils tests at the sites of any proposed detention or retention basins to verify that the soils are suitable for such facilities. Test pits for infiltration systems are required to be witnessed by a representative of the Board of Health.

 - (2) Conduct core borings to a depth of at least 6 feet below the proposed finished grade of the proposed roadway.

- F. Expenses for outside consultants for professional review of the plans, survey, or inspections shall be paid by the applicant in accordance with the Planning Board's General Rules and Regulations. These expenses and associated fees are in addition to the application fee.

- G. Approval of a Definitive Plan does not authorize an applicant to begin construction of a subdivision. No construction or site work can begin until the Definitive Plan has been endorsed by the Planning Board pursuant to Article IX of these Subdivision Regulations.
- H. Approval of the Definitive Plan by the Planning Board, construction of the required improvements, and approval of the construction of the required improvements does not constitute nor assure acceptance of the roadways or any improvements by the Town.
 - (1) Acceptance of the improvements by the Town can only be accomplished by a vote of Town Meeting.
 - (2) Consideration of acceptance by Town Meeting will not be scheduled until after all of the required improvements have been completed to the satisfaction of the Planning Board and the documentation required for Release of the Performance Guarantee has been received by the Director.
 - (3) Until the improvements are accepted by the Town, the developer is solely responsible for maintenance of all improvements.
- I. All required improvements and legal documents shall be completed within a maximum period of three years from the date of endorsement of the Definitive Plan by the Planning Board.

§ 360-27 Submission

- A. A Definitive Plan of a subdivision must be submitted to the Planning Board and Board of Health for approval.
- B. Definitive Plans shall be submitted by
 - (1) by delivery at properly posted and convened meetings of the Planning Board and Board of Health, or
 - (2) by certified or registered mail to the Planning Board and Board of Health, postage prepaid.
 - (a) The Office of the Director of Planning and Conservation serves as the mailing or delivery destination for the Planning Board outside of Board meetings. Accordingly, applications including the Definitive Plan may be delivered or mailed to the Office of the Director in lieu of submission at a Planning Board meeting.
- C. A notice shall also be filed with the Town Clerk by delivery or by registered mail, postage prepaid, that such a plan has been submitted to the Planning Board. If the notice is given by delivery, the Town Clerk shall, if requested, give a written receipt therefor.

- D. If submission is made at a properly posted and convened Planning Board meeting, the date of said meeting shall constitute the date of submission.
- E. If submission is made by mail, the date of receipt (as shown on the returned registered mail receipt) shall be the date of submission of the plan. Such plan shall be accompanied by the completed Form C, the required filing fee (See Planning Board Rules and Regulations for Fees), list of abutters certified by the Board of Assessors and mailing labels for same (as detailed below) and such other materials as specified in Section 360-27G below.
- (1) The certified list of abutters shall not be dated more than two weeks prior to the submission of the Definitive Plan to the Planning Board or Director.
 - (2) The applicant shall also provide two sets of abutter addresses on mailing labels.
 - (3) The applicant is responsible for obtaining the list of abutters from the appropriate Board of Assessors.
- F. Two (2) complete paper copies of the submission shall be provided to the Planning Board and two (2) copies shall be provided to the Board of Health.
- (1) If the Director informs the applicant that additional paper copies are needed or requested by Board members of other municipal agencies/departments for the review process, the applicant shall provide the additional copies as requested in a timely manner – no later than fourteen (14) calendar days after the request is made by the Director.
- G. In addition to the two copies of the plans be submitted to the Planning Board under Section 360-27F, at the Board's discretion, at least one 24"x36" print shall be submitted to the Director which shall have the significant features illustrated according to the following color scheme, and shall be used for presentation purposes (with the specified feature identified by the corresponding color noted below):
- (1) Roads - Dark gray
 - (2) Streams and water bodies – Blue
 - (3) Wetlands Solid – Red
 - (4) 100-year floodplains – Orange
 - (5) Dedicated open space and recreation areas – Green
 - (6) Pedestrian and bicycle paths – Brown

(7) Subdivision and lot boundaries - Black

H. Each copy of the submissions shall include:

- (1) A paper copy of the proposed plan (prepared in accordance with these Subdivision Regulations, specifically but not limited to Section 360-28).
- (2) Signed copies of the application form (Form C).
- (3) A list of requested waivers from these Subdivision Rules and Regulations. For each waiver requested, there shall be provided:
 - (a) A detailed reference to the specific requirement from which a waiver is requested; and,
 - (b) An explanation as to how granting of the waiver would be consistent with the purposes of these Rules and Regulations.
- (4) A project narrative which generally describes the proposed development and the project site.
- (5) A narrative which describes how the proposed development conforms to each of the Design Principles and Standards described in Article X and any waivers from the Design Standards which the applicant is requesting.
- (6) A narrative describing and explaining changes from the Preliminary Plan, if one was approved.
- (7) A narrative which describes how the Low Impact Development strategies incorporated are consistent with the requirements of the MS4 permit. This narrative is to include clear and specific references to the plan sheets on which each of the strategies is incorporated.
- (8) Detailed and documented Development Impact Statement including but not limited to:
 - (a) Assessment of the impact on the groundwater supply and the maintenance of safe and sufficient public water supplies; and,
 - (b) Compliance with all aspects of the Zoning Bylaw.
- (9) List of permits required by local, State, or Federal law or regulation to undertake the proposed development and documentation as to the status of such permits.

- (a) A timetable for submittal of applications for such permits shall be provided.
- (10) Stormwater Management Report and Stormwater Management Permit application pursuant to Chapter 200 of the South Hadley Code.
- (11) Report regarding all soils tests conducted at sites of proposed stormwater detention and retention basins. This shall include a map identifying the location of each such test.
- (12) Logs of all core borings taken along the proposed roadway.
- (13) Traffic Analysis. The developer shall be required to provide a traffic analysis prepared by a registered traffic engineer. This report must bear the traffic engineer's stamp and detail the number of vehicle trips generated per day, and how traffic will affect the surrounding road network. This analysis must conform to the standards contained in the most recent version of the Massachusetts Department of Transportation Highway Division Traffic and Safety Engineering 25% Design Submission Guidelines. This plan shall explain traffic impacts (during and post construction), types of streets, opportunities for public transit access, impacts on vehicle, pedestrian and bicycle circulation, and include the following:
 - (a) Estimated daily and peak hour vehicle trips generated by the proposed use, traffic patterns for vehicles and pedestrians showing adequate access to and from the site, and adequate vehicular and pedestrian circulation within the site. Previously generated data may be used but may not be more than two years old. These projections shall include during and post construction.
 - (b) Traffic flow patterns at the site, including entrances and egresses and curb cuts on site and within 200 feet of the site.
 - (c) An interior traffic and pedestrian circulation plan designed to minimize conflicts and safety problems.
 - (d) Adequate pedestrian access, including provisions for sidewalks to provide access to adjacent properties and between individual businesses within a development.
 - (e) Safe provision for school bus stops and public transit stops when appropriate.
- (14) A detailed estimate for construction of all improvements required pursuant to Article XI of the Subdivision Rules and Regulations and the applicant's proposed Stormwater Management Plan.
 - (a) Said estimate shall be certified by the project's Registered Professional Engineer

- (b) Said estimate shall be based on the latest approved edition of MassDOT Standard Specifications for Highways and Bridges, and shall include:
 - i. Schedule of Values for Subdivision Construction, (Line item construction cost estimate)
 - ii. Total amount for cost of completion of project.
 - iii. Costs adjusted to account for municipal prevailing wages rates

- (15) A plan for maintenance of the subdivision right-of-ways, easements and roads for the time prior to acceptance by the Town. The maintenance plan should include provision for the maintenance of road pavement, sidewalks, water and sanitary sewer, stormwater management, soil settling problems, street sweeping, snowplowing and clearing of snow from sidewalks and shared use paths, maintaining vegetative stabilization of all right-of-ways and easements, erosion controls, Fall leaf clean up, catch basin and drainage system cleaning, and other provisions as determined to be necessary by the Planning Board.

- (16) For development sites within the Water Supply Protection District, a detailed assessment of the amount of native earth to be removed from the site and a quantitative and qualitative assessment of the project's impact on the public water supply.
 - (a) If the project lies within either a Zone I or Zone II of the public water supply, the assessment must provide a detailed Hydrogeologic Assessment of the impact on the public water supply prepared by a licensed hydrologist based on a detailed inventory and assessment of the existing and proposed changes to the site's underlying soils and geology.

- (17) Description of the cut in the natural grade to be undertaken for the purpose of constructing the roadways and an assessment of their impacts on the subdivision design and the natural environment including, but not limited to, public water supplies.

- (18) Where private, individual on-site sewage disposal systems are proposed to serve lots in a subdivision, a feasibility report of the proposed sanitary sewage systems shall be required.

- (19) A copy of the application for a sewer system extension or connection permit, when connecting to the public sewer system is proposed.

- (20) Description of how and where Low Impact Development practices per MS4 permit incorporated into the subdivision design with specific references to plan locations.

- I. To make application information available on the Town's website, efficient and rapid transmittal of plans and materials to the Board members and various municipal agencies/departments involved in the review process, and for presentation purposes at public meetings/hearings, all submissions materials (including, but not limited to, the application form - Form C, Development Impact Statement, Waiver Requests, Definitive Plans, required and other narratives, supportive information, photographs, etc.) shall also be submitted in a digital format (acceptable to the Director – generally a PDF format) on a single disk or drive at the time of the submission. The individual components of the submission should be provided as separate digital files to better permit uploading to the website, downloading for viewers, and email purposes.

- J. At the time of submission, the proposed subdivision elements shall be visibly, adequately, and accurately staked out as follows:
 - (1) The center line of the proposed roadway(s) shall be staked and identified every 100 feet at station points corresponding to the stations set forth on the Definitive Plan; and,
 - (2) The individual lot locations shall be identified in a clear and appropriate manner; and,
 - (3) Locations of proposed detention and retention facilities shall be similarly identified in a clear and appropriate manner; and,
 - (4) Limits of wetland buffer zones and Riverfront Area shall be reasonably identified; and,
 - (5) Locations of all soils test sites shall be reasonably identified; and,
 - (6) If the project is located within the Water Supply Protection District and will involve the removal of more than 5,000 cubic yards of native earth materials from the project site, any location proposed to have an excavation depth of greater than ten (10) feet shall be clearly and adequately identified.

§ 360-28 Plan Requirements.

- A. The Definitive Plan shall be prepared by a currently Registered Massachusetts Professional Engineer and currently Registered Massachusetts Professional Land Surveyor.

- B. The Definitive Plan shall be drawn at a scale of one inch to forty feet (1"=40') or such other scale as the Board may accept to show details clearly and adequately on a sheet of paper twenty-four by thirty-six inches (24" x 36").
 - (1) If multiple sheets are used, they shall be accompanied by an index sheet showing the entire subdivision. The data required in Section 360-28C may be on separate sheets as is necessary.

- (2) All plans, plan sheets, layouts, profiles, cross-sections and application shall be deemed to constitute the Definitive Plan.

C. The Definitive Plan shall include the following:

- (1) The subdivision name, boundaries, North arrow, date, scale, legend, and title "Definitive Plan".
- (2) The names and addresses of the owners of record, the applicant, the engineer and surveyor and their official seals.
- (3) The names of all abutters as determined from the most recent tax list, and book and page from the Registry of Deeds.
- (4) Key or locus plan showing location of the subdivision at a scale of one inch equals one thousand feet (1"=1000').
- (5) An index plan at a scale of one inch equals two hundred feet (1"=200'), or at a scale matching that used on the Assessors maps.
- (6) Existing and proposed lines of streets, sidewalks, shared use paths, rights of way, lots, easements, and public or common areas within the subdivision.
 - (a) Proposed names of new streets shall be shown – but are subject to approval by the Planning Board.
 - (b) Purpose and width of all easements shall be shown.
- (7) Location, names, and present widths of street(s) bounding, approaching, or within reasonable proximity of the subdivision.
- (8) Zoning districts, including any overlay zoning districts, of all the areas shown on the plan.
- (9) Topographic plan of the entire subdivision with existing (broken line) and proposed (solid line) topography shown at two (2) foot contour intervals including the finished grade of all lots.
 - (a) Benchmarks shall be shown.
 - (b) All elevations shall be to the U.S.G.S. benchmarks.
 - (c) Proposed spot elevations should be shown at the intersection of all proposed lot lines and other pertinent points to show the proposed finished grading of the subdivision.
 - (d) Indicate the volume of earth to be removed from the site.

- (10) Boundary lines, dimensions, and bearings of all proposed lots, with lot areas in square feet, and all lots numbered numerically and in sequence.
 - (a) Proposed street addresses shall be shown, but are subject to approval by the Planning Board.
- (11) Sufficient data including the length, bearings, radii, and central angle to determine the exact location, direction, and length of every street, and way, lot line and boundary line, and to establish these lines on the ground.
- (12) Location of all natural waterways and water bodies within and adjacent to the subdivision.
- (13) Location of significant site features located within the proposed right-of-way and/or easements such as:
 - (a) existing stone walls;
 - (b) fences;
 - (c) buildings;
 - (d) large trees - with a minimum diameter of 18" measured at 4' DBH (Diameter at Breast Height);
 - (e) flood plains; and,
 - (f) rock outcroppings.
- (14) Boundaries of lands subject to the Massachusetts Wetlands Protection Act and the South Hadley Wetlands Bylaw.
- (15) Location and limits of soil types, particularly Agricultural Soils, consistent with the soils classification maps prepared by the Natural Resources Conservation Service.
- (16) Areas where the depth of natural soil to bedrock is four (4) feet or less.
- (17) The extent of any Interim Wellhead Protection Areas and Recharge Areas.
- (18) Delineation of slopes of twenty-five percent (25%) or greater.
- (19) Areas delineated as "BioMap Core Habitat" or "Critical Natural Landscape" as identified by the Massachusetts Natural Heritage & Endangered Species Program.
- (20) Location of all permanent monuments, properly identified as to whether proposed or existing.

- (21) If requested by the Board of Health, the location and results of all percolation tests to evaluate subsurface conditions for each lot in the prospective subdivision. These tests will be done if individual sewer systems are proposed. The tests will be done in accordance with the State Sanitary Code and the regulations of the South Hadley Board of Health.
- (22) Location of all existing wells and areas of potential well locations for each proposed lot.
- (23) The size, pressure, and location of existing and proposed public water supply facilities.
- (24) The size, pressure and location of all fire hydrants, pump, water lines between hydrants and pump, and source(s) of water for fire fighting.
- (25) The size, capacity and location of existing and proposed components of all sanitary sewer facilities.
- (a) If the development is proposed to be served by on-site sewage disposal systems, the distance to the nearest public sanitary sewer line and its dimension shall be indicated on the key or locus map.
- (26) Location of all the following improvements unless specifically waived in writing by the Board:
- (a) street paving;
 - (b) bike lanes;
 - (c) sidewalks;
 - (d) shared use paths;
 - (e) street lighting;
 - (f) all utilities above and below ground (i.e., electricity, phone, cable TV, gas);
 - (g) curbs;
 - (h) gutters;
 - (i) storm drainage; and,
 - (j) all easements (with statement of the purpose of each such easement) including any required utility easements outside of the right-of-way.
- (27) The location of core borings taken along the center line of the proposed road every 100' to a depth of 6'. The logs of such core borings shall be included.
- (28) Stormwater Management Plan and Erosion and Sediment Control Plan as proposed based on the Stormwater Management Report for the proposed development to

conform to the Town's Stormwater Management Bylaw (Chapter 200 of the Town's Code).

- (a) Where a storm drainage line discharges into a brook, stream or drainage area, a profile will be shown of the brook, stream or drainage area to determine condition, and proposed method of stabilization.
- (b) Construction details for catch basins, manholes, endwalls, etc.

(29) Street layout and corresponding Profile plan for each street shall be prepared as follows:

- (a) A horizontal scale of 1" = 40'.
- (b) A vertical scale of 1" = 4'.
- (c) Existing grade of road center line drawn in fine black solid line.
- (d) Existing right sideline drawn in fine black dotted line.
- (e) Existing left sideline drawn in fine black dash line.
- (f) All elevations shall refer to the U.S.G.S. benchmarks.
- (g) Proposed roadway center line grades drawn in heavy red line with precise elevations at point of vertical tangency, point of vertical contact, high point and low point.
- (h) Rates of roadway gradient shown in percentage.
- (i) Size, location and rates of gradient of proposed stormwater management facilities, drains, sewer lines, catch basins, manholes, as well as required new waterways, and sizes of all pipes.
- (j) Invert and rim elevations of each manhole or catch basin shall be shown.
- (k) As long as the work is related to the proposed subdivision, profiles shall be shown even if the new work is outside said subdivision.
- (l) Water mains will be shown in profile to demonstrate sufficient clearance of other structures.
- (m) Size and location of all other utilities to be placed in the right of way. These shall be placed so as to minimize flood damage.
- (n) Location of any intersected public or private way.

(30) A typical cross-section for each proposed street shall be shown in compliance with the Typical Section contained in Appendix A and shall include: Street section showing foundation materials, paving, crown, berm, width of traveled way, shoulder and distance to the right of way line, sidewalks, bike lanes and cross sections for any stormwater management facilities. drainage trench, utility locations (and where appropriate, the distance between different utilities), etc.

(31) Suitable space to record the action of the Board and signatures of Board members.

(32) The following Statements shall appear on all plans:

- (a) Planning Board approval of any subdivision shall be deemed revoked in all cases where the construction of ways and installation of municipal services has not been completed or where the applicant (his agents or assigns) has failed to meet any conditions of said approval by the completion deadline date stated in the Subdivision Approval, unless such time is extended in writing between the applicant (his agents or assigns) and the Planning Board in accordance with the provisions of the Completion Time Schedule in Article IX, of the South Hadley Rules and Regulations Governing the Subdivisions of land.
 - (b) Compliance with the requirements of the South Hadley Subdivision Rules and Regulations, unless they have been specifically waived by the Planning Board, are required as part of the approval of this plan.
 - (c) Approval of this plan shall be automatically revoked if recorded more than six (6) months following the date of endorsement unless specifically waived prior to such expiration by the Planning Board.
- (33) Location of all special flood hazard areas as determined from Flood Insurance Rate Maps, designated as Zones A and A1-A30, for the Town of South Hadley, as well as a note on the plan stating the Community Panel Number(s) and whether or not the subject property is in a Special Flood Hazard Area.
- (34) Landscaping Plan showing the location of all existing and proposed landscaping, including the center of any proposed cul-de-sacs. Tree species must be approved by the Tree Warden.
- (a) Indicate which large trees (with a minimum diameter of 18” measured at 4’ DBH (Diameter at Breast Height)) are proposed to be removed within the proposed right-of-way.
- (35) Construction details for all proposed improvements.
- (36) A sketch plan of the applicant's contiguous unsubdivided land, showing possible or contemplated development and street layout.
- (37) Any other information that the Board may deem necessary.

§ 360-29 Additional subdivision requirements

- A. On-site sanitary sewage system. Where sewage disposal is to be by individual on-site sewage disposal system and the Board of Health requests a design plan for the proposed sanitary sewage system, the applicant shall prepare such and submit a design plan of the proposed sanitary sewage systems which conforms to Title V of the State Sanitary Code to be made a part of the Definitive Plan record.

- (1) The plan shall take into consideration the factors required by the Board of Health and applicable local and State laws and regulations including Title V of the State Sanitary Code.
 - (2) The following materials shall be provided as part of the Design Plan submission:
 - (a) Results of percolation tests. Such tests shall be executed in accordance with Article XI of the Massachusetts Sanitary Code and the regulations of the South Hadley Board of Health (as amended).
 - (b) A map showing locations of tests on each lot and other pertinent data as deemed necessary.
 - (c) Topographic and ground level conditions, natural drainage patterns and flood heights of nearby waterways.
 - (d) A report of the subsurface investigation and analysis to include a determination as to the suitability for the system in regards to underlying soil characteristics, absorption qualities, maximum groundwater elevations and distance to bedrock.
 - (e) Location and dimensions of each proposed on-site sewage disposal system, together with computations used in determining sewage leaching fields.
 - (f) An evaluation of the suitability of the proposed disposal system(s) to function properly in the given lots, and any modifications to the proposed system(s) or precautions that may be necessary.
 - (g) Such additional information as required by the South Hadley Board of Health.
- B. Sewer extension permits. When the development is proposed or required to be connected to the Town's public sanitary sewer system, the applicant shall submit to the DPW Director an application for such an extension including the engineering studies and calculations, and plans and specifications for any proposed sewer lines, pumping stations, pumps, forced mains, and other appurtenances.
- (1) The phrase "required to be connected to the Town's public sanitary sewer system" is to be interpreted as including any requirement under by these Subdivision Rules and Regulations due to proximity to the existing system, any requirement under a local bylaw, order by any local or State board or agency, or any requirement under State law.
 - (2) The applicant shall include with the Definitive Plan submission, a copy of any for sewer extension permits for the proposed development.

C. Water system extension. All developments are located either within South Hadley Fire District 1 or South Hadley Fire District 2. Each of these districts have their own water departments with their individual rules and regulations. Applicants are required to consult with the respective Fire District's Fire Chief and Water Superintendent to coordinate planning for the provision of water services to the proposed development, as well as inspection of the water system improvements as they are being installed.

(1) Applicants are to provide the Director with a copy of any studies and plans submitted to the Fire District for confirmation that the plans do not change the Definitive Plan submission.

D. The Massachusetts Wetlands Protection Act and South Hadley Wetlands Bylaw (Chapter 240 of the Town's code) require approval of work to be undertaken within areas of jurisdiction under the Conservation Commission.

(1) In order to determine if certain proposed subdivisions, or parts thereof, are subject to the provisions of the Wetlands Protection Act, the Director will submit a copy of the Definitive Plan submission to the Conservation Administrator/Planner.

(2) The Conservation Administrator/Planner shall, to the extent practicable, file a report with the Director as soon as practicable, but not later than 35 days after receipt of the plan stating whether or not the project is subject to the jurisdiction of the Conservation Commission.

(3) Since submission to and review by the Conservation Commission could alter the Definitive Plan, applicants are encouraged to resolve any such jurisdictional issues and impacts on their plan prior to the Planning Board acting upon the Definitive Plan.

(a) Consultation with the Conservation Administrator/Planner prior to development of the Definitive Plan could prevent such issues from arising.

§ 360-30 Reviews by Other Municipal Boards and Departments

A. Review of the Definitive Plan by the Planning Board involves input from various municipal departments/agencies. The Director is responsible for coordination of this interdepartmental review process as described herein.

B. The Director shall, upon submission of a Definitive Plan, transmit a digital copy of the submission to the following:

- (1) Applicable Fire District Fire Chief
- (2) Applicable Fire District Water Superintendent
- (3) Building Commissioner/Inspector
- (4) Director of the Department of Public Works

- (5) Police Chief
- (6) Conservation Administrator/Planner
- (7) Public Health Director
- (8) South Hadley Electric Light Department Manager

- C. Comments and recommendations from the people identified in Section 360-30B shall be made to the Director within thirty-five days following transmittal of the digital copy of the submission or receipt of a paper copy if a digital copy is unavailable.
- D. Prior to commencing of the public hearing as described in Section 360-31 below, the Director shall schedule a meeting of the officials listed in Section 360-30B(2) and the applicant and their engineer to review the plans and the comments received to ensure that all parties understand any concerns and to ensure that any changes made in response to a department's comments will not change responses from other departments.
- E. Prior to the conclusion of the public hearing as described in Section 360-31 below, the Director shall schedule a meeting of the officials listed in Section 360-30B(2) and the applicant and their engineer to review the plans as they have been revised during the public hearing process ensure that all parties understand any concerns and to ensure that any changes have not altered the findings made by various departments.
 - (1) As part of this joint review of the revised plans, the Director will provide an opportunity for comments on the Director's proposed conditions for approval or reasons for denial of a proposed Definitive Plan.
- F. Pursuant to MGL c. 41, § 81U, applicants are required to file separately with the Board of Health. Accordingly, at the time of the filing of the Definitive Plan with the Planning Board, two (2) copies of the submission shall also be filed with the Board of Health.
 - (1) The Board of Health shall report in writing its approval or disapproval of said Plan within forty-five (45) days after the filing of the Plan.
 - (2) In the event of disapproval, the Board of Health shall:
 - (a) make specific findings as to which if any of the lots shown on said Plan cannot be used as building sites without injury to the public health;
 - (b) include specific findings and the reasons therefore in such report; and,
 - (c) where possible make recommendations for adjustments necessary for the Plan's approval.

- (3) Any approval by the Planning Board shall be on the condition that lots deemed injurious to public health shall not be built upon without prior consent of the Board of Health. The Planning Board shall endorse on the plan such conditions, specifying the lots to which said conditions apply.
- (4) Failure by the Board of Health to report on the proposed subdivision within forty-five (45) days after the filing of the Plan shall be deemed approval of the Plan by the Board of Health.

§ 360-31 Public Hearing.

- A. Before approval, modification and approval, or disapproval of a Definitive Plan is given, a public hearing shall be held by the Planning Board.
 - (1) Notice of the specific date, time, and place of the hearing, and of the subject matter, sufficient for identification, shall be given by the Board at the expense of the applicant by advertisement in a newspaper of general circulation in the Town of South Hadley once in each of two successive weeks, the first publication being not less than fourteen (14) calendar days before the day of such hearing.
 - (2) A copy of said notice of public hearing shall be filed with the Town Clerk and posted on the Town's website not less than fourteen (14) calendar days before the day of such hearing.
 - (3) A copy of said notice of public hearing shall be mailed by the Planning Board to the applicant and to all owners of land abutting upon the land included in such plan as appearing on the most recent tax list in accordance with the M.G.L. Chapter 41, Section 81T.
 - (4) The Planning Board shall also send notice of a public hearing to the following: the Selectboard, Superintendent of Schools, Board of Health, and the municipal officials listed in Section 360-30B(2).
- B. When the proposed development requires issuance of a Special Permit under the Zoning Bylaw to be an allowed use and the Planning Board is also the special permit granting authority, the Board may hold the Definitive Plan public hearing together with the public hearing required by MGL c. 40A, § 9 and allow for the publication of a single advertisement giving notice of the consolidated hearing.
- C. The applicant and the project engineer should be present at the hearing.
- D. To ensure that the public has access to the Definitive Plan submission prior to the public hearing:

- (1) The applicant shall ensure that a copy of the Definitive Plan is available to the Public through the Town Clerk's office, not less than fourteen (14) days before the date of the Public Hearing.
- (2) The Director shall ensure that the Definitive Plan submission, in the entirety of the digital copy provided by the applicant, is posted on the Town's website within fourteen (14) calendar days of receipt of the submission.

§ 360-32 Action on Definitive Plan

- A. After the required public hearing but within ninety (90) days from submission, in the case for Type II subdivision, or Type I subdivision that has submitted a Preliminary Plan, or within one-hundred and thirty-five (135) days for Type I subdivision which no Preliminary Plan was submitted, the Board shall take final action upon the Definitive Plan as follows:
 - (1) It shall approve the Plan as submitted, modify and approve the Plan, or disapprove the Plan.
 - (2) If the Board modifies or disapproves the Plan, it shall state with its vote the reasons for its action.
 - (3) "Final Action" on the Definitive Plan means:
 - (a) Voting the Board's approval of the Plan as submitted, modification and approval of the Plan, or disapproval of the Plan; and,
 - (b) Filing of a Notice with the Town Clerk documenting the Board's action including any conditions for approval and any reasons for denial.
- B. The failure of the Board either to take final action within the deadlines set forth in Section 360-32A above, or such further time as may be agreed upon at the written request of the applicant, shall be deemed to be an approval thereof.
 - (1) Notice of any such extension of time shall be filed forthwith by the Board with the Town Clerk.
- C. Approvals of Definitive Subdivision Plans are transferable only upon the prior approval of the Planning Board.
- D. Final action by the Board pursuant to Section 360-32B shall NOT authorize the applicant to begin any development of the site. No construction or site alteration may begin unless and

until the Definitive Plan has been endorsed pursuant to Article IX herein or any other required permits have been issued, whichever occurs last.

ARTICLE VIII

Submission and Approval of Plans for More Than One Principal Building for Dwelling Purposes Per Lot

§ 360-33. General.

A plan for more than one building for dwelling purposes per lot must be submitted by the applicant to the Planning Board for consent.

§ 360-34. Submission.

- A. The applicant shall submit two complete paper copies of the plan and application Form H (see Appendix), to the Planning Board, together with all other information and documentation, such as plans, reports, maps and cross-sections, as required in these rules and regulations. The applicant shall, simultaneously, file two (2) complete paper copies with the Board of Health along with other necessary information and documentation.
- B. At the time of submission, a fee, in accordance with the Fee Schedule (see appendix), shall be paid by the applicant to cover the cost of handling and reviewing; any additional expenses for advertising, plans, surveys or inspections in excess of this amount shall also be paid by the applicant.
- C. The applicant shall submit the plan for more than one principal building for dwelling purposes per lot to the Planning Board office during working hours, or to the Planning Board either by delivery at a regular or special meeting of said Board, or by delivery or registered mail, postage prepaid, in care of the Town Clerk. In either case, written notice (a copy of Form H) shall be filed, by delivery or registered mail postage prepaid, with the Town Clerk, stating the date of submission for such approval. If the notice is given by delivery, the Town Clerk, if requested, shall give a written receipt thereof.
- D. Receipt by the Planning Board or date of mailing of such notice, plans and such documentation as may be required in these rules and regulations shall constitute the effective date of submission.

§ 360-35. Contents.

- A. The plan for more than one principal building for dwelling purposes per lot shall be prepared by a registered civil engineer and/or land surveyor. The plan shall be at a scale of one inch equals 40 feet, unless otherwise specified by the Planning Board, and of a sheet size not to exceed 24 inches by 36 inches in outside dimensions. If multiple sheets are used, they shall be accompanied by an index sheet showing the entire tract of land, and all plans, layouts, profiles, cross-sections and application shall constitute the plan.
- B. The plan shall contain the following information:
 - (1) The name of the development, boundaries, zoning district, true North arrow, date, scale, legend and title "More Than One Principal Building For Dwelling Purposes Per Lot."
 - (2) The names and addresses of the owners of record, the applicant and the registered civil engineer and/or land surveyor and official seal(s).
 - (3) The names of all abutters as determined from the most recent tax list, and book and page from the Registry of Deeds.

- (4) Existing and proposed lines of streets, rights-of-way, lots, easements and any public or common areas within and adjacent to such tract.
- (5) Location, names and present widths of adjacent streets, approaching or within reasonable proximity to the development.
- (6) The location, dimensions and purpose of all existing or proposed easements, within and abutting the development.
- (7) Location of natural waterways and water bodies within and adjacent to the development.
- (8) Significant site features such as existing stone walls, fences, buildings, swamps, floodplains, large trees with a minimum diameter of 18" measured at 4' DBH, and rock outcroppings.
- (9) Sufficient data to determine readily the location, direction, width and length of every street and way line, lot line and boundary line, and to establish these lines on the ground.
- (10) Location of all permanent monuments and benchmarks, properly identified as to whether existing or proposed. Bounds are required at all intersections of street lines, angle points and changes in curvature of street lines.
- (11) Suitable space to record the action of the Planning Board and the signatures of the members of the Board.
- (12) A locus plan of the tract at a scale of one inch equals 400 feet showing the exterior lines of proposed streets in the development and their exact location in relation to two or more existing streets, and of such accuracy to register as close as possible with the one-inch-equals-four-hundred-feet Town street map.
- (13) A sketch plan of the applicant's contiguous unsubdivided land, showing possible or contemplated development and street layout.
- (14) Where a storm drainage line discharges into a brook, stream or drainage area, a profile will be shown of the brook, stream or drainage area to determine condition and proposed method of stabilization.
- (15) A topographic plan of the entire development at two-foot contour intervals showing existing (broken line) and proposed (solid line) topography, with proposed spot elevations at pertinent points to show the proposed finished grading of the development.
- (16) A street layout plan on a separate sheet, 36 inches by 24 inches in size, for each street in the development, showing exterior lines, roadway lines, curblines, walks, parking areas, intersection angles, points of tangency, and radii of curves. Also included on the street layout plan shall be location, size, type of construction, elevation, and invert of all pipes and conduits of the:

- (a) Water supply system, including wells, pumps, valves, stubs, gates, hydrants, and similar equipment;
 - (b) Storm drainage system, including manholes, catch basins and appurtenant structures;
 - (c) Sanitary sewerage system, including manholes, pumps, septic tanks and appurtenant equipment;
 - (d) Electrical supply equipment, including transformers, primary and secondary cables, lighting fixtures and other electrical equipment;
 - (e) Other underground utility systems in the right-of-way, such as gas, telephone and cable TV facilities.
- (17) A profile plan on the same sheet located directly below and coordinated with the street layout plan indicating existing profiles on the exterior lines (using lightweight lines) and proposed profile on the center line (using heavyweight lines) of each proposed street, at a maximum stationing of fifty-foot intervals and at a horizontal scale of one inch equals 40 feet and a vertical scale of one inch equals four feet. All elevations shall refer to Town datum.
- (a) Profiles shall show existing and proposed street grades, rates of gradient in percentages, ground elevations at center line of each fifty-foot station, and intersecting streets and ways shall be clearly indicated.
 - (b) The profile plan shall show vertical location of existing and proposed storm drainage and sanitary sewer lines, slopes of all storm and sanitary sewer lines, invert and rim elevations of each manhole or catch basin. Such structures are to be properly identified by number. (For identification purposes, if necessary, water distribution system shall be in blue, sanitary sewer system in red, and storm drainage system in orange colors.)
- (18) A typical cross-section for the full width of the proposed street shall be shown in accordance with the "Typical Cross-Section" illustrated in the appendix, showing foundation material, wearing surface, crown and width of traveled way, curbing, grass strips, sidewalks, utility locations, etc.
- (19) Construction details for catch basins, manholes, endwalls, etc.
- (20) Proposed layout and design of any and all parks, pools, or similar community improvements, including all water, drainage and electrical layouts, if any, designed to service such community improvements.
- (21) Where applicable, the plan of the proposed development shall be subject to the additional requirements set forth under § 360-29, including but not limited to:
- (a) Sewer extension permit;
 - (b) Water system extension permit;
 - (c) Massachusetts Wetlands Protection Act and/or South Hadley Wetlands Bylaw permitting;

- (d) Stormwater Management Permit; and,
- (e) Stormwater Management Plan and Sediment Control Plan.

§ 360-36. Approval, modification or disapproval.

- A. Within 60 days from the date of submission, the Planning Board shall approve, modify and approve, or disapprove the plan for more than one building for dwelling purposes per lot. The action of the Planning Board in respect to such plan shall be by vote, copies of which shall be certified and filed with the Town Clerk and sent by registered or certified mail to the applicant. If the Planning Board modifies or disapproves such plan, it shall state with its vote the reasons for its actions.
- B. If the consent of the Planning Board is granted, it shall be deemed conditional until such time as the applicant submits a written statement guaranteeing that adequate ways furnishing access to all buildings will be provided in accordance with Articles X and XI of these rules and regulations. Final consent shall be endorsed on the original drawing of the final plan by the signatures of a majority of the Planning Board.
- C. In the event that ways are not constructed in accordance with the applicant's written guarantee, then the Planning Board, on its own motion, shall have the power to modify, amend or rescind its approval of a plan. Written notice of any such action will be transmitted to the Selectmen and Building Commissioner for appropriate disposition.
- D. Final consent does not constitute the laying out or acceptance by the Town of any way or other public improvement shown on the plan.

Article IX

Pre-Endorsement, Endorsement, Performance Guarantees, and Implementation of Definitive Plan

§ 360-37 General

- A. As stated in Section 360-26G, approval of a Definitive Plan does not authorize an applicant to begin construction of a subdivision. No construction or site work can begin until the Definitive Plan has been endorsed by the Planning Board pursuant to the Section 360-40 below.
- B. Further, construction activity may be ordered to cease if work is not undertaken in accordance with the endorsed plan and the Performance Guarantee and required inspections are not conducted or required reports submitted by the developer in a timely manner.
- C. The developer is solely responsible for ensuring that the endorsement and implementation of the Definitive Plan is undertaken in accordance with these Subdivision Rules and Regulations.
- D. Construction of the required and approved improvements must be undertaken in a continuous manner without unreasonable interruption.
- E. Construction of the required improvements (e.g., streets, sidewalks, and installation of utilities) may be phased in accordance with the approved Completion Time Schedule (§ Section 360-45) provided that each section shall not be less than 500 feet.

§ 360-38 Expiration of Appeal

- A. Planning Board action on a Definitive Plan is subject to appeal within twenty (20) days of filing of the Notice of the Board's action with the Town Clerk.
- B. Consistent with MGL c. 41, § 81V, Planning Board endorsement of an approved plan shall not occur until after the mandatory twenty (20) day appeal period has elapsed as certified by the South Hadley Town Clerk, or after issuance of a final decree of the court sustaining the approval of such plan, if appealed.

§ 360-39 Pre-Endorsement Submissions and setting Amount Required for Performance Guarantee

- A. Planning Board endorsement of an approved plan must occur prior to commencement of any construction or site work on the proposed subdivision.
- B. Prior to Planning Board consideration of the approved Definitive Plan, the applicant shall submit to the Director one (1) paper and an electronic draft of:

- (1) All materials required for submission under § 360-40 for the Director's review and comment and for the Board to use to set the amount of the Performance Guarantee.
- (2) A detailed Construction Cost Estimate for all construction within the proposed roadway layout and/or public utility easements, certified by the project's registered professional engineer. Said estimate shall be based on the "Standard Specifications for Highways and Bridges," 1988 Edition, as amended, of the Commonwealth of Massachusetts, and shall include:
 - (a) Schedule of Values for Subdivision Construction (Line Item Construction Cost Estimate)
 - (b) Total amount for cost of completion of project.
 - (c) Costs adjusted to account for municipal prevailing wage rates.

C. The Director shall review the draft materials for the purpose of determining whether the plans have been revised to conform to any conditions the Board set forth in its decision to approve with modifications the Definitive Plan and whether the accompanying materials appear to satisfy the requirements of these Subdivision Rules and Regulations.

- (1) The Director will notify the applicant within twenty-one (21) days of receipt of the draft materials if they determine any items need further revision.
- (2) If the Director determines that the materials are sufficient and the applicant proposes to post a Financial Performance Guarantee in lieu of a Covenant Agreement, the Director will schedule an agenda item for the Board to set the initial amount of the Performance Guarantee.

D. If the Director determines that the materials are not sufficient and should be revised, the applicant is encouraged to make the recommended revisions. However, the applicant may submit the materials in accordance with Section 360-40 for the Board's consideration with or without the revisions suggested by the Director.

§ 360-40 Plan Endorsement and Recission

A. Applicants seeking Planning Board endorsement of the Definitive Plan shall submit the following materials after complying with Section 360-39:

- (1) Two (2) Mylar originals, and two (2) paper copies, and an electronic copy of the revised Definitive Subdivision Plan with the necessary corrections if conditional approval was given or modification required
 - (a) The Definitive Plan shall conform to the content requirements of § 360-28 "Plan Requirements" of these Subdivision Rules and Regulations.

- (b) Said Mylar originals of the Definitive Plan shall be suitable for recording at the Hampshire County Registry of Deeds.
- (c) Said Mylar originals, paper copies, and electronic copy shall bear certification by the Town Clerk that the appeal period has lapsed and no appeal has been filed or other certification that any appeal has been dismissed by a final decree of the court sustaining the approval of such plan

(2) Certified documentation that

- (a) the mandatory twenty-day appeal period has elapsed as certified by the South Hadley Town Clerk, or
- (b) a final decree of the court sustaining the approval of such plan, if appealed, has been issued.

(3) A municipal lien certificate, indicating that all taxes, assessments, and charges have been paid in full.

(4) In a form acceptable to the Town Counsel, executed deeds of easements, as shown on the plan and/or required by the Planning Board.

(5) A signed agreement to pay for Town engineering or legal review service, and public hearing advertisement (if any be required).

- (a) If the Director or the Board have provided a written estimate of the amount of the cost for such reviews or advertisements, the applicant shall provide a cash deposit for these costs in the amount estimated by the Town to accompany the agreement.

(6) Executed Performance Guarantee in a form acceptable to the Town.

- (a) The monetary value of said guarantee, using any method other than a covenant, shall be the amount set by the Planning Board pursuant to §360-42 of these Subdivision Rules and Regulations.
- (b) The developer shall use one of the forms of Performance Guarantee specified in §360-41 of these Subdivision Rules and Regulations

(7) Payment for Inspection Fees.

- (a) The Director shall furnish the applicant with the amount of the inspection fees as set forth in the Planning Board's fee schedule.
- (b) The applicant shall submit payment in the form of a check or cash or such other form as is acceptable to the Town of the required Inspection Fees.

- (8) All documents including, but not limited to, master deeds, restrictive covenants, deed restrictions, shared land, stormwater management system(s), open space, and recreation areas.
- (a) A homeowners' association must be established to maintain the streets and infrastructure until and unless the streets are accepted by the Town.
 - (b) Covenants must include the requirement that the homeowner's/landowner's association or other entity accept all responsibility under Town Bylaw/Regulations to keep all sidewalks in front of open space associated with the project free of snow. This requirement shall apply even if omitted from a covenant.
 - (c) The developer must demonstrate that the Homeowner's Association is sufficiently funded and organized to ensure that the maintenance responsibilities can and will be carried out. The developer is responsible for ensuring that the maintenance activities are undertaken and may commit to undertake the required activities on behalf of the Homeowner's Association.
- (9) A proforma or sample of the individual property deeds to the individual homeowners to be used showing that the developer will retain rights and ownership of the right-of-way and reflecting any Planning Board imposed conditions which relate to the individual lot or their owners.
- (a) To enable the developer to be able to convey title to the right-of-way to the Town for Town acceptance of the streets, it is essential that the developer shall retain the rights and ownership of the right-of-way, and such shall be stated and included in all deeds to lots in the development.
 - (b) Failure of the developer to retain the sole rights and ownership of each right-of-way anticipated to be conveyed to the Town may result in significant impediments to such conveyance and the developer retaining responsibility for maintenance of the streets.
- (10) Delivered an irrevocable offer of dedication of all facilities to be dedicated to the public.
- (a) Said offer must be accompanied by a lawyer's title opinion that the offer is free of any liens and encumbrances, and all mortgages must be subordinated to the offer.
 - (b) The offer shall be irrevocable, except the offer can be withdrawn if the project proponent does not proceed with the project and requests that the subdivision approval be rescinded or otherwise amended such that the dedication is no longer necessary.
 - (c) The deed for dedication shall not be recorded until:
 - i. approved as to form by Town Counsel,
 - ii. the Planning Board has approved Final Release of the Performance Guarantee; and,
 - iii. The Selectboard or Town Meeting have voted to accept dedication.

(11) Drafts of deeds or other executed instruments, for transfer to the Town or to an approved public utility company, without cost to the Town or the public utility company, valid unencumbered title to all sanitary sewers, water mains, and appurtenances thereto, and other utilities constructed and installed in the subdivision or approved portion thereof, and conveying to the Town or to an approved public utility company without cost and free of all liens and encumbrances, perpetual rights and easements to construct, inspect, repair, renew, replace, operate and forever maintain such sanitary sewers, water mains and other utilities, with any manholes, conduits, and other appurtenances, and to do all acts incidental thereto, in, through, and under the whole of all streets in the subdivision or approved portion thereof, and if any such sewers or water mains have been constructed and installed in land not within such streets, then in, through, and under a strip of land extending a width conforming to the approved plans for the development consistent with Article X and Article XI of these Subdivision Rules and Regulations.

(12) In cases where the developer has requested, and the Planning Board has approved, that the road is to be kept as a Private Way, not under the ownership and/or responsibility of the Town but under the ownership and responsibility of private parties (either the adjacent or underlying land owners or a homeowner's association as established in accordance with state law), the developer shall submit to the Planning Board for its approval an irrevocable declaration that shall be included in the deed to the roadway, the homeowner's association Master Deed and Bylaw (if any), and the deeds to all of the lots in the subdivision.

(a) Said irrevocable declaration shall state that:

- i. said way is a Private Way and not a Town road,
- ii. that said way is not under the ownership and/or responsibility of the Town but under the ownership and responsibility of the stated land owners and/or homeowner's association, that it shall remain a Private Way in perpetuity and,
- iii. if at such time said way is ever petitioned to become a Town Road that it first must be brought into compliance with the design and construction standards for a definitive subdivision road required at the time that the petition is submitted.

(b) The declaration must be consistent with the conditions of approval outlined in the Planning Board's Decision on the Definitive Plan.,

(13) Failure of the applicant to meet the above requirements shall be full and sufficient reason to withhold endorsement. If the applicant fails to submit the required performance guarantees, easements and other documentation and the endorsement of the plan by the Planning Board is delayed more than six months after the expiration of the twenty-day (20) appeal period, the Planning Board, on its own motion, shall exercise its power to modify, amend, or rescind its approval of the subdivision plan or to require a change in the plan as a condition of said plan retaining the status of an approved plan

B. Definitive Plans must be considered for endorsement at a posted Planning Board meeting.

- (1) Within thirty (30) calendar days of receipt of the submission pursuant to § 360-40, the Planning Board shall review said submission and act upon the request. The Board shall:
 - (a) Vote to endorse the Definitive Plan
 - i. At least three (3) members shall affix their signatures to said plan; or
 - ii. The Board shall authorize another representative to affix their signature to said plan on behalf of the Board.
 - (b) Vote to deny endorsement of the Definitive Plan
 - i. If the Board votes to deny endorsement, it shall state in specific and detailed terms the reasons for denying endorsement.
 - ii. The applicant shall be given an opportunity to resubmit the documents which the Board has determined are insufficient for Definitive Plan endorsement.

C. Recording of Endorsed Definitive Plans.

- (1) The developer shall, within 10 days after the Definitive Plan has been endorsed, record said plan, required forms and, whenever applicable, the Planning Board's order of conditions, public easements (plans and documents), restrictive covenants, master deeds, etc., at the Hampshire County Registry of Deeds, and in the case of registered land with the Recorder of the Land Court.
- (2) Within seven (7) days of said recording, the applicant shall provide the Director with a copy of the Registry's receipt of said recording including the book, page number, and date of recording. The cost of said recording shall be borne by the developer.
- (3) Following receipt of notification of recording, the Director shall file one print with the Building Commissioner.
 - (a) In accordance with the Subdivision Control Law, the Building Commissioner, if approval with covenant is noted on or affixed to the plan, shall not issue any permit for the construction of a building on any lot within the subdivision without receipt from the Planning Board of a copy of a certified statement releasing the lot(s) in question.

D. Rescinding Approval of the Plan

- (1) Failure of the applicant to record the Definitive Plan at the Hampshire Country Registry of Deeds within six (6) months of its endorsement or to comply with the construction schedule of the performance agreement shall constitute sufficient cause for the Board to rescind such approval, in accordance with the requirements of section 81-W of Chapter 41 of the General Laws as amended.

E. Preconstruction Conference

- (1) Following endorsement of the Definitive Plan, but prior to commencement of construction, the developer and the contractor will participate in meeting scheduled by

the director with the DPW Director and other relevant municipal officials to review the subdivision permit and conditions.

- (2) The applicant must provide evidence that all required documents have been recorded and all required fees paid.

§ 360-41 Performance Guarantees – Minimum Requirements

A. Consistent with MGL c. 41, § 81U, the following are acceptable forms of Performance Guarantee for a Definitive Plan:

- (1) Financial performance guarantees (surety bonds, money or three-party lender agreement). The applicant shall either file a surety company performance bond or provide a deposit of money or negotiable securities in an amount determined by the Planning Board in accordance with § 360-42 to be sufficient to cover the cost of all or any part of the improvements specified in these regulations inclusive of the costs of inspections, record plans, street acceptance plans, and legal work, and reasonable contingencies. Warranty principal shall be not less than 15% of the estimated cost of those components of the entire project which shall be dedicated for public use and shall cover workmanship and materials.
- (2) Covenant Agreement. Instead of filing a bond or depositing money, the applicant may file an executed and duly recorded covenant agreement running with the land, that no lot in the subdivision shall be sold and no building erected thereon until such ways, services and, whenever applicable, temporary turnarounds are constructed and installed, and until record plans, street acceptance plans, and other required work are accepted by the Planning Board in accordance with these rules and regulations so as to adequately serve the lots.
- (3) Whether a Financial Performance Guarantee Agreement or Covenant Agreement is used, the applicant shall cause the executed agreement to be filed with the recording of the Endorsed Definitive Plan in the Hampshire County Registry of Deeds.
- (4) Prior to accepting any form of Performance Guarantee, the Planning Board shall have the Director forward the proposed Performance Guarantee to the Town Counsel for review. The Board shall not determine the Performance Guarantee acceptable unless and until the Town Counsel has indicated it is sufficient from a legal perspective.

B. If financial performance guarantees are used, the Board may require that at least two lots in a subdivision which can be built on are also covered by a covenant agreement to ensure that all work, including legal work, is completed.

C. All performance guarantees (bond, deposit of money or negotiable securities or covenant agreement) shall be in a form and structure acceptable to the Town of South Hadley.

D. Financial performance guarantees, at a minimum, shall conform to the following:

- (1) Three-party agreement for lender retention of funds, surety bonds and other financial performance guarantees must be drafted so that the only requirement that must be met for the Planning Board to draw on the letter is to notify the financial institution (grantor) that the Town has incurred liability by reason of the failure of the applicant/developer/owner to satisfactorily complete the improvements. This notice may take the following form:

“We have incurred liability by reason of the failure of the applicant/ developer/owner, within ninety (90) days of the expiration of this letter, to complete the construction of their project (insert name of subdivision and plans) in accordance with the Definitive Subdivision Plans and submittal, the subdivision approval, the South Hadley Zoning Bylaw, and the Rules and Regulations Governing the Subdivision of Land in South Hadley. The amount drawn, which may be more than required to complete the project, will be held in a segregated bank account until the work can be bid competitively and the bid awarded and paid for or until the contract for the work is otherwise let and the work paid for. Any excess over the cost of completing the work will be returned to the grantor.”

- (2) Approval with Money. Deposits of money shall take the form of one or a combination of the following:

- (a) Savings passbook (with three signed withdrawal slips) account made out to the Town of South Hadley and controlled by the Town Treasurer, with agreement from the bank that no withdrawal from the account be made without approval of the Planning Board.
- (b) Certified cashier’s check or bank check.

- (3) For any surety bond:

- (a) The surety must agree that any litigation stemming out of the bond will take place in Massachusetts
- (b) The bond must include the name and address of the person to be served for any legal action.
- (c) The bond must specifically include the terms above.
- (d) No expiration date may be allowed in the bond (The bond must be valid until the work is complete.), and the warranty performance period has been completed.

E. Covenant Agreements shall either be inscribed on the Definitive Plan or on a separate document recorded in the Hampshire County Registry of Deeds.

- (1) There shall be a reference to the recorded Covenant Agreement noted on the Definitive Plan recorded in the Hampshire County Registry of Deeds.
- (2) A copy of the recorded Covenant Agreement shall be delivered to the Planning Board.

F. Regardless of the form of the Performance Guarantee, the applicant shall specify the time within such construction shall be completed. Said time shall not exceed thirty-six (36) months from the date the Notice of Planning Board approval of the Definitive Plan was filed with the Town Clerk.

- (1) The Planning Board will allow for extensions of said time frame for good cause upon request by the applicant; however, the Board may require additional amounts of Performance Guarantee with any such extension.

G. While the applicant chooses the initial form of the Performance Guarantee, the Planning Board may require a change in the form/method and amount of the Performance Guarantee when a partial release is requested by the applicant.

§ 360-42 Setting the Amount for a Financial Performance Guarantees

A. When the applicant/developer seeks to post a Financial Performance Guarantee, they shall submit the following to the Director:

- (1) A detailed Construction Cost Estimate for all construction within the proposed roadway layout and/or public utility easements, certified by the project's registered professional engineer. Said estimate shall be based on the "Standard Specifications for Highways and Bridges," 1988 Edition, as amended, of the Commonwealth of Massachusetts, and shall include:

- (a) Schedule of Values for Subdivision Construction (Line Item Construction Cost Estimate)
- (b) Total amount for cost of completion of project.
- (c) Costs adjusted to account for municipal prevailing wage rates.

- (2) A copy of the Definitive Plan as approved with the extent of work completed to date identified on said plan by the project engineer.

- (3) If the applicant/developer is also requesting a Release of a Performance Guarantee, the applicant/developer shall also submit such information and materials as required under § 360-43.

B. The Director shall request review of the materials by the following:

- (1) DPW Director
- (2) Applicable Fire District Water Superintendent
- (3) SHELD Manager
- (4) Such other departments/consultants as the Director determines to appropriate

C. The Planning Board, at a public meeting, shall set the Performance Guarantee for completion of the subdivision as depicted on the approved Definitive Plan and related materials.

- (1) In setting the amount of the Performance Guarantee, the Board shall consider the applicant's engineer's cost estimate, input from the DPW Director, input from the SHELD Manager or Engineer, input from the applicable Fire District's Water Superintendent, input from the Director, and such other factors as the Board deems appropriate. The Board shall also consider construction costs at state (or, if required, federal) prevailing wages, record plans, street acceptance plans, and legal costs.
- (2) The Director shall notify the applicant of the Board's determination as to the amount of the Performance Guarantee.
- (3) Any Performance Guarantee established under these Subdivision Rules and Regulations shall be in addition to any Performance Guarantee the Board required for a Special Permit for the project, if any, under Section 255-130C of the Zoning Bylaw.

§ 360-43 Evidence of Performance and Release of Performance Guarantee

A. Partial Release of Performance Guarantee

- (1) The developer may, upon partial completion and installation of required improvements in a subdivision, make formal application, in writing, to the Planning Board for partial release of the performance guarantee, in accordance with the procedures set forth herein.
 - (a) It is up to the discretion of the Planning Board whether to approve such request. Accordingly, the Planning Board may deny, approve or partially approve any request for a partial release of a performance guarantee.
 - (b) The Planning Board shall determine/approve the actual dollar amount (where applicable).
 - (c) The Planning Board may require a change in the form/method and amount of the Performance Guarantee when a partial release is requested by the applicant.
 - (d) Any reduction in a Financial Performance Guarantee will be proportional to the extent of demonstrated satisfactory completion of the required improvements.
 - (e) Any release of lots from a Covenant Agreement shall be limited to lots which:
 - i. Abut the functionally (in the opinion of the Planning Board) completed portion of the road.
 - ii. Run consecutively and are released on both sides of the road simultaneously, beginning with the lots nearest any intersection of the subdivision road and a public road (Town or State).
 - iii. Contiguously located within an area of the subdivision where all the required improvements have been completed.
 - (f) Requests to Release Lots from a Covenant Agreement in exchange for a bond, deposit of money or surety shall be treated as a "Partial Release of Performance Guarantee";

accordingly any request and the Board's consideration shall conform to this § 360-43A.

- (2) All requests for a partial release of the performance guarantee must be accompanied by:
- (a) A revised Construction Cost Estimate for all of the work remaining to be completed in accordance with the approved plans.
 - (b) A certification from the project's engineer detailing the work that has been completed to date and work that remains to be undertaken to complete the required improvements in accordance with the approved plans and improvements completed to date are functioning as designed and intended.
 - (c) Proof that all fees to cover inspections for the release of the performance guarantee have been paid in full by the applicant.
 - (d) "As-Built" plans for that portion of the required improvements for which a partial release is being requested.
 - (e) Copies of Stormwater System Maintenance Reports demonstrating that the applicant has been maintaining the stormwater system in accordance with the Stormwater Management Plan for the development.
 - (f) Certification and documentation that the applicant has maintained compliance with the conditions of the Board's approval of the Definitive Plan.
 - (g) A written request for the Partial Release of Performance Guarantee detailing how approval of the request would be in conformity with § 360-43A(2) and would not be detrimental to the timely completion of the required improvements for the subdivision.

(3) Procedures for Partial Release of Performance Guarantee

- (a) The applicant shall submit all of the required items listed in § 360-43A(1) to the Director. The applicant shall submit two paper copies and one electronic digital copy (PDF format unless the Director authorizes a different electronic format) of all required materials.
- (b) Upon receipt of the required materials, the Director shall:
 - i. Distribute the electronic copy to the following departments for their review and comment including comments as to the reasonableness/accuracy of the cost estimate submitted: DPW Director, Water Superintendent for the applicable Fire District, SHELD Manager, and any consulting engineer the Town has retained for Third-Party Review for the subject subdivision
 - ii. If the subdivision involves use of on-site septic disposal systems, the Director shall submit the request to the Public Health Director for comment.
- (c) Within thirty (30) calendar days of receipt of the request, the Director shall schedule the matter for consideration by the Board.

- i. Prior to the Planning Board meeting, the Director shall provide the Board with the review comments/certifications from the departments/consultants specified in § 360-43A(3)b.
 - d. The Planning Board, at a public meeting, shall approve, deny, or partially approve the request.
 - i. The Board shall specify the form of Financial Performance Guarantee which is acceptable for completion of the subdivision.
 - ii. If the Board approves the request, they shall set the amount required for the Financial Performance Guarantee in accordance with the provisions of § Section 360-42C of these Subdivision Rules and Regulations.
 - iii. If the Board's approval includes a Partial or Full Release of a Covenant Agreement, the Board members shall sign a Release of Covenant Agreement. However, the document Releasing the Covenant Agreement or lots subject to the Covenant Agreement shall not be provided to the applicant unless and until § 360-43A(3)d-iv has been satisfied.
 - iv. No Release or Reduction of a Performance Guarantee shall become effective unless and until the Director has received the Financial Performance Guarantee in the amount and form specified by the Board and the Town Counsel has advised that the Performance Guarantee is acceptable as to form.
 - e. The applicant shall, within fourteen (14) calendar days of receipt of a Release of Covenant Agreement provide the Director with documentation that the Release has been duly recorded in the Hampshire County Registry of Deeds.

B. Procedures for full/final release.

- (1) The developer may, upon completion and installation of all required improvements in a subdivision, the completion of record plans and street acceptance plans, as specified in these rules and regulations, and the completion of a one-year labor and materials warranty period make formal application, in writing either by hand delivery or certified mail, to the Planning Board for full release of any outstanding performance guarantee in accordance with the procedures set forth herein.
 - (a) Partial or final release for the roadway and sidewalk improvements may be requested of the Planning Board no sooner than April 1st of the calendar year subsequent to completion of way and walks.
 - (b) The request for the Release of Performance Guarantee shall be submitted to the Director accompanied by all required materials.
- (2) The developer's formal application referenced in § 360-43B(1) shall contain the following materials:

- (a) A written request for release of the Performance Guarantee signed by the authorized representative of the developer.
 - (b) A certification from the project's engineer that all work and systems have been completed in accordance with the approved plans and are functioning as designed and intended.
 - (c) Documentation that the sanitary sewer and public water systems have been pressure tested and video taped and comply with the applicable Town and Fire District standards.
 - (d) Certification and documentation that the final road course and sidewalks have withstood one full winter season.
 - (e) Documentation from the electric, telephone, gas and cable TV companies and all other public and private utilities stating that their respective underground systems have been installed and are functioning to their satisfaction.
 - (f) Certification and documentation from a Registered Land Surveyor that all permanent bounds and monuments on all street lines and on the lot or lots within the subdivision are in place and are accurately located in accordance with the approved Definitive Plan and these Subdivision Rules and Regulations.
 - (g) Two (2) Mylar, two (2) paper, and one (1) electronic sets of record "as-built" construction plans.
 - (h) A street acceptance plan or plans and necessary documents required for Town acceptance of any roadways and other improvements.
 - (i) A draft deed for conveyance of the roadways to the Town.
 - i. The deed shall be accompanied by a Title Certification certifying and demonstrating that the developer has retained rights to the subdivision road(s) right-of-way and has the sole authority to transfer the roadways and associated rights of ways to the Town.
 - (j) Documentation that all Stormwater Management system components have been maintained in accordance with the Stormwater Management Report/Plan approved by the Planning Board as part of the Definitive Plan Approval. This documentation must include copies of Stormwater System Maintenance Reports.
 - (k) Documentation demonstrating that all fees to cover inspections for the release of the performance guarantee have been paid in full by the applicant.
- (3) Upon receipt of the developer's request for Release of Performance Guarantee, the Director shall
- (a) Transmit the submittal to the following requesting certification that all improvements have been completed according to the respective department's rules and regulations and the approved plans:
 - i. DPW Director
 - ii. SHELD Manager
 - iii. Water Superintendent for the appropriate Fire District

- (b) Transmit the submittal to the Public Health Director for review and comment if the subdivision involves on-site septic disposal systems.
 - (c) Transmit the submittal to any consulting engineer the Town has retained for Third-party review of the subdivision.
 - (d) Transmit the documents related to street dedications and easements to Town Counsel for review and approval as to form.
 - (e) Schedule and conduct an on-site inspection of the subdivision improvements.
 - (f) After receipt of the certifications and comments from the officials referenced in §360-43B(3)a, b, c, and d but no later than thirty (30) calendar days of receipt of the request, the Director shall schedule the matter for consideration by the Board.
- (4) The Planning Board, at a public meeting, shall take action by majority vote to approve or deny the request.
- (a) Before the Planning Board approves the Release of the full interest of the Town in said performance guarantee, the Planning Board shall:
 - i. Receive approvals of the work, plans, and other documents from the officials referenced in §360-43B(3)a, b, c, and d.
 - ii. Receive a certification from the project's engineer that all work and systems have been completed in accordance with the approved plans and are functioning as designed and intended.
 - iii. Receive written verification that the sanitary sewer and public water systems have been pressure tested and videotaped and comply with the municipality's standards.
 - iv. Receive written certification that the final road course and sidewalks has withstood one full winter season.
 - v. Receive certification that the streets and drainage system have functioned as designed and intended and been in use for through one full winter.
 - vi. Receive from the applicant written evidence from the electric, telephone, gas and cable TV companies and all other public and private utilities stating that their respective underground systems have been installed and are functioning to their satisfaction.
 - vii. Receive from the applicant written evidence from a Registered Land Surveyor that all permanent bounds and monuments on all street lines and on the lot or lots within the subdivision are in place and are accurately located in accordance with the approved Definitive Plan.
 - viii. Find that all fees to cover inspections for the release of the performance guarantee have been paid in full by the applicant.
 - ix. Obtain from the applicant a set of record "as-built" construction plans which have been reviewed and approved by the DPW Director, the SHELD Manager, and the appropriate Fire District Water Superintendent.

- (b) If the Planning Board determines that all improvements as shown on the endorsed Definitive Plan and all required plans and legal documents have been completed satisfactorily, it shall release all the interest of the Town in such performance guarantee and return the Performance Guarantee (bond, cash, etc.) to the person who furnished the same, or release the covenant, by appropriate instrument, duly acknowledged, which must be recorded.
 - i. If the subdivision Performance Guarantee has also been serving as the Stormwater Management Performance Guarantee and the Board determines that the requirements for maintenance of the Stormwater Management system has not been fulfilled or sufficiently documented, the Board shall require retention of a Stormwater Management Performance Guarantee if it releases the Subdivision Performance Guarantee.
- (c) If the Planning Board determines after inspection that said construction or installation has not been completed, or wherein said construction or installation fails to comply with these Subdivision Rules and Regulations or the requirements of the applicable Fire District or SHELD, the Planning Board shall deny the request and send by registered mail to the applicant and to the Town Clerk the details wherein said construction or installation fails to comply with its rules.
 - i. The applicant shall have 30 days after receipt of such notice to correct all problems mentioned in the above.
 - ii. Failure of the applicant to finish all the necessary work within said 30 days shall cause the Planning Board to draw upon the bond or deposit of money.
- (d) In accordance with the provisions of the Performance Guarantee, any such bond or deposit may be enforced and any such deposit may be applied by the Planning Board for the benefit of the Town of South Hadley, as provided in MGL c. 41, § 81, upon failure of the performance for which any bond or deposit was given to the extent of the reasonable cost to the Town of completing such construction and installation.

§ 360-44 Required submittal of stormwater management maintenance reports

- A. Site clearance and infrastructure construction for a subdivision is anticipated to require a Stormwater Management Permit under Chapter 200 of the Town of South Hadley Code of Bylaws. Such permits require maintenance of the stormwater management system during and after construction. As part of any such permit, there is established maintenance schedules – typically contained in an appendix to the Report prepared by the applicant’s engineer.
- B. Applicants are required to submit to the Director a copy of the maintenance report associated with the Stormwater Management System as follows:
 - (1) When the applicant requests a release of the Performance Guarantee (Partial or Full)
 - (2) When the applicant requests a substitution of the Performance Guarantee
 - (3) When the applicant requests an extension of the time frame for completion of the improvements
 - (4) Annually – on the date of the Planning Board’s Endorsement of the Definitive Plan.

§ 360-45 Completion Time Schedule

- A. All required improvements and legal documents shall be completed within a maximum period of three years from the date of endorsement of the Definitive Plan by the Planning Board.
 - (1) There shall be at least a three-month period between the completion date of all improvements and one-year warranty period and the expiration date of any bond, deposit of money, letter of credit or covenant.
 - (2) Said three-month period shall give the Town the opportunity to collect the financial performance guarantee so that it will be able to complete the necessary improvements in case the developer is unable to do so and/or the Planning Board denies any requests for an extension of time. "Warranty" shall include all workmanship and materials.
 - (3) As provided in § Section 360-37E, construction of the required improvements (e.g., streets, sidewalks, and installation of utilities) may be phased provided that each section shall not be less than 500 feet.
 - (a) Any such phasing must be approved by the Planning Board.

- B. Upon written request from the applicant filed with the Planning Board prior to the expiration date, the Planning Board at its discretion, may grant an extension of time, and an agreement to such extension shall be executed and affixed to the financial performance guarantee or covenant.
 - (1) In the case of a surety company bond, such an agreement for an extension shall not be effective until the surety delivers to the Planning Board a written statement that the surety agrees to the proposed alteration of the completion schedule and that such alteration shall not relieve or affect the liability of the surety company.

- C. In the case of a covenant, the Board may grant final approval of the Definitive Plan conditional upon the completion of the construction of all ways and installation of utilities within specified time period from date of said covenant. Failure to complete such improvements shall automatically rescind approval of the plan.

- D. Failure to complete all improvements as required by these rules and regulations within the time allotted shall cause the Planning Board to draw upon the performance guarantee (surety bond, deposit of money, letter of credit) in order to complete said improvements and/or schedule a public hearing in order to rescind approval of the subdivision in accordance with appropriate sections of MGL c. 41, § 81.

- E. If the specified subdivision improvements in accordance with the Rules and Regulations are not completed within two (2) years of the date of the bond, deposit of money, lender's agreement or covenant, the Planning Board may require an estimate of the costs of the remaining work, increase the amount of the performance guarantee proportionately, and establish a new date for completion of said required improvements. Failure of the developer

to complete the improvements within said two (2) year period, or any extension thereof, shall not relieve the developer from his/her obligation to pay for increased costs for completing the improvements in excess of his/her performance guarantee and shall be grounds for rescission of the approval of the plan pursuant to G.1., Ch.41, Sec. 81 W

§ 360-46 Deviation from approved plan

- A. After approval of any Definitive Plan, the location and width of ways shown thereon, or any street or way subject to the Subdivision Control Law, shall not be changed unless the plan is amended in accordance with the provisions set forth in MGL c. 41, § 81W and approved by the Planning Board.
- B. In the event the applicant desires to alter or change the grade of a street, or the size, location or layout of a storm or sanitary line or appurtenant structure, the applicant shall.
 - (1) Provide the Director with a written statement requesting such alteration or change; and
 - (2) Provide the Director with three prints of the original Definitive Plan, with the proposed changes drawn on said prints in red.
 - (3) Provide the Director with an electronic copy of the original Definitive Plan, with the proposed changes drawn on said prints in red.
- C. The Director shall transmit a copy of the applicant's submittal to the departments identified in §360-30B for their review and comments.
- D. The Director shall schedule Planning Board review and consideration of the applicant's request within thirty (30) calendar days of the applicant's submittal.
- E. No change, alteration or deviation shall be permitted unless such change, alteration or deviation has been approved by the Planning Board.
- F. After approval of an alteration or modification, the applicant shall cause such approved changes to be corrected on the original drawings of the Definitive Plan.
- G. Deviations from material and construction specifications shall not be allowed except as specifically authorized by the DPW Superintendent or appropriate agency having jurisdiction over a particular utility system.

§ 360-47 Relationship to Street Acceptance.

- A. Final approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of any street or other public improvement shown on the plan.
- B. Planning Board approval of the construction of the improvements as evidenced by Final Release of the Performance Guarantee and acceptance of the "As-Built" plans does not constitute the laying out or by the Town of any street other public improvement.

- C. Procedures for the laying out and acceptance of Town streets and ways are under the administration of the Selectboard in accordance with MGL c. 82, §§ 22 to 24, and such procedural steps as enumerated in the statute, including approval at Town Meeting, are mandatory for a valid acceptance of a street.
- D. Upon completion of the required improvements and Planning Board Final Release of the Performance Guarantee and acceptance of the “As-Built” plans, the developer or other owner of the improvements may request the Town to consider acceptance of the way as a Town way.
- E. As part of the process for the Town to have acceptance of the way considered at Town Meeting, the Planning Board is typically requested to make a recommendation regarding the request for acceptance of the way.
- F. The party requesting acceptance of the ways shall be responsible for ensuring that the Director has received a copy of all materials submitted to the Selectboard/Town Administrator as part of the request for acceptance of the ways. The following materials are reasonably expected to be submitted as part of a request for acceptance of ways by the Town:
 - (1) A plan of the road or way "as built," at a scale of one inch equals forty (1"= 40') feet to the inch at size 24" x 36". Said plan to show a center line profile (4 feet per inch on the vertical scale and 40 feet per inch on a horizontal scale) taken at fifty (50) foot intervals along the road or way as it has been completed. All utilities, public and private, above and below grade shall be shown on the plan as they exist. Said plan shall also be submitted in an electronic format acceptable to the Planning Board.
 - (2) The description by metes and bounds of each road and easement considered for acceptance by the Town.
 - (3) A release of liens under oath from all contractors and subcontractors approved for work on the road or way, attesting to the fact that all payments due them for labor and materials have been received, and that payments for all materials have been rendered.
 - (4) A Roadway Conveyance Plan showing the overall boundary of the proposed roadway to be conveyed to the Town. This plan must include the bearing and distance descriptions of the roadway right-of-way.
 - (5) A Roadway Conveyance Instrument prepared by an attorney and in a form suitable for execution by the Selectboard after acceptance of the roadway at Town Meeting. This instrument must include a legal description of the right-of-way and include reference to any easement documents.
 - (6) An Easement Conveyance Plan showing overall boundary of any proposed easements to be conveyed to the Town. This plan must include the bearing and distance description of the easement tied to the roadway right-of-way.
 - (7) An Easement Conveyance Instrument prepared by an attorney and in a form suitable for execution by the Selectboard after acceptance of the easement at Town Meeting. This

instrument must include a legal description of the easement as well as a description of the Town's rights within the easement.

Article X
Design Principles and Standards

§ 360-48 General.

- A. These design principles and standards are intended to ensure that subdivisions are designed to further the purposes of these Subdivision Rules and Regulations as outlined in § 360-2.
- B. To the fullest extent reasonable and practicable, all subdivisions shall be designed and constructed to incorporate the most recent design standards, best practices, policies and design elements of:
 - (1) Complete Streets (see Appendix);
 - (2) Healthy Communities (see Appendix); and,
 - (3) Low Impact Development stormwater management practices described by Section 2.3.6.c of the MS4 Permit (or most recent permit and section).
- C. Where minimum standards are not herein specified, the latest edition of AASHTO (American Association of State Highway and Transportation Officials) A Policy on the Geometric Design of Highways and Streets shall apply.
- D. Preliminary and Definitive Plans are to reflect adherence to the design principles and standards contained and referenced in this Article.

§ 360-49 Subdivision design principles.

- A. Design principles are to guide the design of the subdivision layout and provide an overarching perspective for the application of the Design Standards.
- B. Subdivisions shall be designed and laid out following these design principles:
 - (1) Create cohesive, safe, and interconnected residential neighborhoods to support socialization;
 - (2) Protect ecological integrity of natural landscape features and open spaces;
 - (3) Integrate open spaces with residential uses;
 - (4) Interconnect new neighborhoods with the broader community through street, sidewalk and bikeway layout and design;
 - (5) Ensure infrastructure is compatible with lot layout and design;
 - (6) Promote non-vehicular modes of transportation;
 - (7) Maximize residential amenities within the subdivision and connections to nearby amenities; and,
 - (8) Promote consistency with the goals of the South Hadley Master Plan.

§ 360-50 Standards for Streets and Ways

- A. General
 - (1) Types of subdivisions are defined in Article III.

- (2) All streets in the subdivision shall be designed so that, in the opinion of the Board, they will provide safe and convenient access for all users of all ages and abilities, by all modes of transportation including pedestrians, bicyclists, motorists, public transportation users, and delivery and emergency vehicle operators. Due consideration shall also be given by the subdivider to the attractiveness of the street layout in order to obtain the maximum livability and amenity of the subdivision as well as connections to existing and planned public ways, vehicular, pedestrian and bicycle facilities, and connections to adjacent ways and properties.
- (3) In all instances, the paved roadway, sidewalks, grass strips and curbing shall be required as shown on the Typical Street Cross-Section drawing (see Appendix).

B. Location and Alignment

- (1) Provision shall be made, which is satisfactory to the Planning Board, for the proper projection of streets and ways for bicycles and pedestrians, or for access to adjoining property which is not yet subdivided or developed.
- (2) Reserve strips prohibiting access to streets or adjoining property shall not be permitted, without expressed written approval of the Board.
 - (a) In granting approval of such reserve strips, the Board must make a written determination that the strips are consistent with the purposes of these Subdivision Rules and Regulations, consistent with the Design Principles, and in the public interest.
- (3) Streets and ways shall be continuous and in alignment with existing streets, as far as practicable, to ensure free and safe movement of vehicular traffic. Accordingly, dead-end streets (cul-de-sac) are discouraged and shall be permitted as minor streets only. Developers should make every effort to avoid the creation of dead-end streets and should connect proposed subdivisions to existing dead-end streets wherever reasonable and practicable.
 - (a) Where a developer demonstrates to the Board's satisfaction that a future connection to an existing street is not possible or practicable or beneficial to the Town (due to, unique topography, extremely sensitive or permanently protected natural resources, etc.), the Board may grant the developer permission to build a dead-end or cul-de-sac road. In this situation the project must:

[1] provide a viable pedestrian and bicycle connection to the surrounding property as appropriate; and,

[2] provide a dead-end street which conforms to § 360-50H

- (b) There shall not be vegetated island within a right of way, unless the roadway is to be owned and maintained in its entirety by the developer, their successors and assigns, or a homeowners' association.
- (4) Horizontal curves on the street centerline shall not begin or end within one hundred and fifteen (115) feet of the centerline of the intersecting street.
- (5) The vertical alignment at grade changes or minimum stopping sight distance at 3.5 feet above the pavement shall be:
 - (a) 200 feet for Type I subdivision streets
 - (b) 275 feet for Type II subdivision streets
- (6) Streets entering on opposite sides of another street shall be laid out directly opposite each other; or with a minimum offset of 200 feet between their respective centerlines.
- (7) The center line of a new road running parallel to an existing road shall be a minimum of 450 feet from the center line of an existing road.
- (8) The centerline of the roadway shall coincide with the centerline of the right-of-way unless otherwise approved by the Board.

C. Cuts for Roadways

- (1) To maintain the development site in as natural a setting as possible, cuts from the natural grade of the ground prior to the development should be minimized for the purposes of constructing the roadways.
- (2) Cuts in the natural grade shall not exceed 10 feet.
 - (a) Cuts for the purpose of the roadways are to be measured as the difference between the natural ground grade and the finished roadway grade at 100-foot intervals.
 - (b) The Board may grant a waiver from this requirement, provided the Board determines:
 - [1] The project site is unique topographically;
 - [2] The cuts would be in keeping with the purposes of the Subdivision Regulations;
 - [3] The number of cuts exceeding 10 feet will not exceed 10% of the points for which measurements are used;
 - [4] The average depth of the cuts for the entire subdivision will not exceed 5 feet;
 - [5] The cut depths at the locations proposed are necessary for buildout of the subdivision including other phases laid out in detail on the Definitive Plan submittal;
 - [6] The cut depths will not be detrimental to the water recharge quality and quantity;
 - [a] If the subdivision is within the Water Supply Protection District, the Board's determination must be based in part on a Hydrogeologic Analysis of the

project. The applicant will be required to submit such an analysis which the Board will have reviewed and analyzed by a qualified third-party consultant.

(c) The pre-development natural grade shall be documented by the applicant as of the date of the Preliminary Plan if one was prepared or the Definitive Plan if no Preliminary Plan was prepared.

(3) To the extent practicable, cuts and fills for the purposes of constructing roadways on the site shall be balanced to achieve a “zero” net excavation or fill of materials.

(a) The Board may grant a waiver of this requirement if the applicant demonstrates to the Board’s satisfaction that the applicant has taken reasonable efforts to achieve a net “zero” cut and fill and the extent of the imbalance is relatively minor, as determined by the Planning Board.

(4) All “fills” should be achieved by use of natural materials from the development site as opposed to the importation of non-native materials.

D. Right of way and Roadway Widths

(1) The minimum widths of street rights-of-way and paved roadways shall be:

(a) Type "I" subdivisions.

[1] Right-of-way width: 50 feet.

[2] Paved roadway width: 22 feet.

(b) Type "II" subdivisions.

[1] Right-of-way width: 60 feet.

[2] Paved roadway width: 28 feet to 36 feet.

(2) The paved roadway width shall be measured from back of curb to back of curb and is inclusive of bike lanes, etc. All curbs shall be set on the roadway pavement.

(3) Greater widths may be required by the Planning Board when deemed necessary for present and future vehicular traffic or to provide for the incorporation of Low Impact Development Best Practices.

E. Roadway Grades.

(1) The minimum grades of all streets and ways shall be:

(a) Type "I" subdivisions.

[1] No grade shall be greater than 9%.

[2] No grade shall be less than 0.5%.

(b) Type "II" subdivisions.

[1] No grade shall be greater than 6%.

[2] No grade shall be less than 0.5%.

F. Horizontal alignment.

- (1) The minimum center-line radii of horizontal street curves shall be:
 - (a) Type "I" subdivisions: 250 feet.
 - (b) Type "II" subdivisions: 500 feet.

G. Intersection

- (1) Streets and ways shall be laid out so as to intersect at 90-degree angles. The Board may grant a waiver but not to an angle of intersection of less than 60°.
- (2) Minimum sight distance (at stop-controlled or obstructed-view intersection) shall be:
 - (a) Type I subdivisions: 300 feet
 - (b) Type II subdivisions: 550 feet
- (3) Minimum Distance center line of road shall be straight when approaching an intersection and shall be 115 feet.
- (4) Street and way lines at all intersections shall be rounded with a curve at each corner which has a radius of not less than specified in § 360-50G(7) and (8). When the intersection of two streets varies more than 10° from a right angle, the radius of the curve at the obtuse angle may be less, and at the acute angle shall be not less than specified in §360-50G(7) and (8).
- (5) Intersections of streets and ways shall have center-line offsets of not less than 200 feet.
- (6) A leveling area with a slope of less than 1% shall be provided for a distance of not less than 50 feet measured from the nearest exterior line of the intersecting street.
- (7) Minimum radius at edge of roadway pavement:
 - (a) Type I subdivisions: 25 feet
 - (b) Type II subdivisions: 55 feet
- (8) Minimum Radius at edge of right-of-way:
 - (a) Type I subdivisions: 25 feet
 - (b) Type II subdivisions: 55 feet

H. Sidewalks

- (1) Sidewalks shall be provided along both sides of the street within the right of way starting at the subdivision property line, unless the Board waives such requirement in part or in its entirety in accordance with § 360-6 of these Subdivision Rules and Regulations.
- (2) The Planning Board may waive the requirement for sidewalks on both sides of the street and permit sidewalks on only one side where an in-lieu of payment, in an amount approved by the Planning Board, is made. Such payments shall be deposited into a dedicated Reserve Account to be used solely for expenses (land acquisition, design

engineering services and construction costs, but not maintenance costs) related to adding sidewalks and bicycle parking spaces, and improving the utilization of existing parking spaces.

I. Adequate Access from Public Way

(1) Applicant must demonstrate that the way from which the subdivision has its access is a way maintained for the public as a roadway by the Town.

(a) When the physical condition or width of a public way from which a Subdivision has its access is considered by the Board to be inadequate to carry the traffic expected to be generated by such Subdivision, the Board may require as a condition of approval that the Applicant dedicate a strip of land for the purpose of widening the abutting public way to a width at least as great as that required within the Subdivision, and to make physical improvements to and within such public way to the same standards required within the Subdivision per § 360-50. Any such dedication of land for purpose of way and any such work performed within such public way shall be made only with permission of the governmental agency having jurisdiction over such way, and all costs of any such widening of construction shall be borne by the Applicant.

(b) Similarly, when there does not exist a sidewalk along the public way from which a Subdivision has its access, the Board may require the applicant to include construction of a sidewalk along said public way for the length of the property owned by the applicant.

(2) The Board may disapprove of a subdivision plan where, in the opinion of the Board, the existing surrounding municipal infrastructure (e.g. street width and construction and necessary utilities) is insufficient and/or incapable of handling the additional volumes (e.g. traffic, storm water) anticipated, by the Board, to be generated by the project. Board may accept or require off-site improvements to mitigate any of these impacts.

J. Cul-de-sac or dead-end street.

(1) Maximum length: 1,000 feet, as measured along the centerline of construction of the street from the edge of the development's property line nearest the connecting existing public street which is not itself a dead-end street to the middle of the cul-de-sac.

(2) The Board may grant a waiver of the maximum length specified in § 360-50J(1) upon a finding that:

(a) the greater length is necessitated by topography or other local conditions; and

(b) the greater length does not pose a public safety concern as evidenced by concurrence with the proposed length and design by the Fire Department for the applicable Fire District, the Police Chief, and DPW Director.

- (3) Permanent cul-de-sac streets shall be provided with a turnaround at the end of the street having a minimum curb radius of 60 feet and a property line radius of at least 85 feet. The radius is measured from the center point of the turnaround.
- (4) The entire area of the turnaround shall be paved, unless the Board grants a waiver based on certainty that the roadway is to remain privately owned and maintained in perpetuity or is designed to serve as drainage detention with the concurrence of the DPW Director.
 - (a) If the roadway is to be left in private ownership and maintenance in perpetuity, the turnaround may be designed or required by the Planning Board to have a pavement width of 24 feet, beginning at the inner circle, graded, seeded and/or appropriately planted with acceptable trees or shrubs, provided there is recorded a proper deed covenant stating that lot owners are responsible for ongoing maintenance, and that maintenance of such planted areas will not be the responsibility of the Town.
- (5) Design of a turnaround is, in some situations, optional depending on topographical conditions and natural features, but must be acceptable and approved by the Planning Board. With the concurrence of the Fire Department for the appropriate Fire District, Police Chief, and DPW Director, the Board may approve a turnaround (or “backaround”) with a "Y" or "T" configuration as depicted in the Appendix. Generally, the Board should only approve such configurations for temporary or short (not greater than 400 feet in length) cul-de-sac streets, sites with steep slopes, or sites with unique soils/drainage issues.
- (6) A temporary cul-de-sac shall be allowed only where, in the opinion of the Planning Board, it is essential to the reasonable development of the subdivision and where it is part of the street or way that eventually will be extended into adjoining property.
 - (a) The design of a temporary turnaround shall be satisfactory to the Planning Board, and clearly shown on the plan as temporary in nature, and such property lines shall be those which would normally have been required or used without the turnaround.
 - (b) Layout of the turnaround beyond the normal street right-of-way lines shall be in the form of an easement to the Town of South Hadley covering said premises included in the turnaround. When the street is extended into adjoining property, the easement shall become null and void.
 - (c) Temporary dead-end or cul-de-sac streets shall conform to the provisions of alignment, width, and grade that would be applicable to such streets if extended.
 - (d) Before the Board can determine that a temporary cul-de-sac is essential for the reasonable development of the subdivision, the applicant must provide a Definitive Plan for the development of the adjoining property if owned by the applicant.

§ 360-51 Standards for Utilities

A. Sewerage

- (1) Required connections

- (a) If a proposed subdivision is within 500 feet of the Town's sanitary sewerage system and the DPW Director determines that connection to the existing system is technically feasible, the development shall be designed to include public sanitary sewerage system with connections for all of the lots and dwellings.
- (b) If a subdivision is within 500 feet of a planned public sewerage system, the development shall be designed to include a sewer main and laterals, in order to connect to the planned sewer in the future. The planned public sewerage system shall have been adopted at a previous Town Meeting and shall be scheduled to be built no more than 5 years from the date of submission of a Definitive Plan.
- (c) Cost for required connections shall be born by the project applicant/project developer, not the Town.

(2) Public sewerage. Where a proposed subdivision is required or otherwise planned to be connected to the Town's sanitary sewerage system, the subdivision shall be designed to be in compliance with the Rules and Regulations of the Department of Public Works relative to sanitary sewerage (Chapter 315 of the Town's Code of Bylaws and Regulations), in effect at the time of definitive plan approval.

(3) Where a public sewerage system connection is not feasible (according to the above rules), a private on site sewerage system shall be designed and constructed in conformity with the Title V Regulations of the Commonwealth of Massachusetts and subject to the approval by, and in conformity with the Town of South Hadley Board of Health and its Rules and Regulations.

B. Water

(1) All subdivisions shall be planned and constructed for the distribution of water from the public water system operated by the Water Department of the Fire District in which the subdivision is to be located.

(2) Private on-lot water systems shall be constructed in accordance with the Title V Regulations of the Commonwealth of Massachusetts. It shall be subject to the approval of the Town of South Hadley and Board of Health.

(3) The extension of the public water system to and within the proposed subdivision shall be designed and built in accordance with the Rules and Regulations of the Water Department of the Fire District in which the subdivision is to be located.

(4) There shall be no use of water hydrants for construction purposes without the prior written approval of the Water Department of the Fire District in which the subdivision is to be located.

- (5) If the proposed subdivision traverses both of the Fire Districts in South Hadley, the water system shall be designed in consultation with both Water Departments and provide for appropriate cross connections between the two public water systems.
- (6) All plans for water services shall be approved by the Water Superintendent for the appropriate Water Department.

C. Electricity and Fiber Optic

- (1) Nearly all of the land area in South Hadley is served by the South Hadley Electric Light Department. The department provides electrical and fiber optic services.
- (2) Electrical service and fiber optic services shall be designed in accordance with the Rules and Regulations of the South Hadley Electric Light Department.
- (3) All plans for electrical services and fiber optic services shall be approved by the South Hadley Electric Light Department.

D. Street Lighting

- (1) Street lighting should be designed to provide for safe illumination for motorists and pedestrians in a manner sensitive to the natural environment and for dark sky.
- (2) Streetlight service shall be designed in accordance with the requirements of the South Hadley Electric Light Department.
- (3) Approval of the street light plan is subject to approval by the Town Administrator and Selectboard.

E. Stormwater Management System

- (1) The Stormwater Management System shall be designed in accordance with the requirements of the South Hadley Stormwater Management Bylaw (Chapter 200 of the Town Code) including, but not limited to,
 - (a) The design capacity of the drainage system
 - (b) The design of the drainage collection and piping system
 - (c) Where, in the opinion of the Board, the particular local conditions are such that flooding would produce damage or a safety hazard, the design frequency storm shall be increased to a more appropriate level.
- (2) The Stormwater Management system, to the extent practicable, shall utilize nonstructural methods and green infrastructure elements particularly Low Impact Development stormwater management practices described by Section 2.3.6.c of the MS4 Permit.

- (a) Requests for waivers from this requirement shall demonstrate why the Low Impact Development practices are not practicable or suitable for this development or not in the Town's best interest.
- (3) Erosion and sediment controls must be designed and implemented, as delineated in Article V and Article VII of the South Hadley Stormwater Management Bylaw (Chapter 200 of the Town Code).
- (4) All stormwater management systems must have an Operation and Maintenance (O&M) Plan to ensure that systems function as designed, in accordance with Article VIII of the South Hadley Stormwater Management Bylaw (Chapter 200 of the Town Code).
- (5) The Stormwater Management system must be designed to encourage/facilitate on-site groundwater recharge.
- (6) All permanent storm water control structures (including but not limited to detention/retention ponds, oil/water separators, weirs, etc.) should be located on parcels with easements to promote their maintenance by the responsible entity.
- (7) Storm water management shall not be designed to permit sheet flow across the surface of the roadway, unless the practice is demonstrated to satisfactorily meet the requirements of the South Hadley Stormwater Management Bylaw.
- (8) The method of construction and the materials used in construction shall conform to the most recent Massachusetts Department of Transportation, Standards and Specifications for Highways, Bridges and Waterways

§ 360-52 Standard for Fire Protection.

- A. Fire protection shall be designed in accordance with the requirements of the appropriate for Fire District's Fire Department.
- B. Where the development lies within both Fire Districts, fire protection shall be designed in accordance with both Fire Districts' Fire Department.
- C. Water lines shall be sized and designed to meet the Fire Department requirements as well as the appropriate Water Department's requirements.
- D. Fire hydrants shall be laid out and meet the specifications of the Fire Department.

§ 360-53 Standards for Easements

- A. Easements for utilities.
 - (1) Shall be located around the individual lot's perimeter wherever possible.

(2) Shall be contiguous from lot to lot.

(3) Shall be at least 25 feet in width.

B. Easements for watercourses.

(1) Where a subdivision is bisected by or adjacent to a watercourse either natural or manmade, the Board may require that there be a stormwater or drainage easement of at least 20 feet in width to conform to the path of the watercourse, and to provide for any construction related to that watercourse.

(2) The Board may require an easement for watercourses that are not within a subdivision but may be affected by it.

C. The Board may also require an easement at any place it deems necessary to protect the health and safety of the inhabitants of Town of South Hadley.

D. All easements, including their purpose, shall be shown on the Definitive Subdivision Plan and placed on the parcel(s) deed(s).

§ 360-55 Standards for Protection of Natural Features and Open Spaces

A. Significant natural features (such as large trees, watercourses and wetlands, scenic points, and historical spots, places and areas), add to the attractiveness, and economic value of the subdivision and the Town. Accordingly, all such significant features shall be preserved where possible and practicable.

B. To promote a sustainable natural environment, plans for retention of trees shall consider their long-term survivability and impacts on the development.

C. Diversity and groupings of trees should be incorporated into landscaping and tree retention plans.

D. Open spaces for passive and active recreation add to the attractiveness and economic value of the subdivision and the community. Accordingly, before approving a Definitive Plan for a subdivision, the Board may require that a section of that land be set aside for possible use as a park or a playground or for providing light and air.

(1) The Board may require that no building be erected upon such area until the land is either purchased by the Town, or is deeded in gift to the Town or to a neighborhood civic association.

(a) This land may be held in said status for a period of 3 years, at which time if the land is not deeded or purchased it may be included in a new subdivision proposal.

(2) The open space set aside shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land.

- E. To the extent appropriate and practicable, the significant natural features of the site should be incorporated into the open space for the subdivision.
- F. In identifying and planning for the protection of the significant natural resources, particularly trees, the developer shall consider the long-term sustainability of the features.

§ 360-55 Standard for Access Through Another Municipality

- A. At least one point of access to a subdivision must be within the Town of South Hadley.
- B. If additional access to a subdivision crosses land in another municipality, the Board may require certification from appropriate authorities that
 - (1) such access is in accordance with the Master Plan and subdivision requirements of such municipality and
 - (2) that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic.
- C. Any subdivision with lots located in South Hadley must be serviced and accessible by a Public Road so that emergency and maintenance vehicles can service the lots without having to leave South Hadley.

§ 360-56 Standards for Lot Size and Shape.

- A. At a minimum, all lots shall meet the minimum lot frontage and lot area requirements of the Zoning Bylaw.
- B. Any lots of abnormal configuration and size which are detrimental to the purposes and intent of the Subdivision Control Law shall not be allowed, even though they may meet the dimensional requirements of the Zoning Bylaw.
- C. Side lot lines should be substantially at a right angle to the street lines or to its tangent at point of intersection of the side lot line, but in no case shall the side lot line form an angle of less than 75° with the street line or its tangent at point of intersection.

§ 360-57 Standards for Zoning Bylaw Compliance.

- A. All subdivisions will fully comply with the Town of South Hadley Zoning By-Law.
- B. No plan of a subdivision shall be approved unless it is demonstrated that the proposed development fully complies with all requirements of the Zoning Bylaw. This includes, but is not limited to, the size, shape, width, frontage, or use of lots.

Article XI

Required Improvements for Subdivisions and Developments for More Than One Principal Building for Dwelling Purposes

§ 360-58 General

- A. The applicant shall provide all of the improvements required herein and installed at their own expense.
- B. All work done under this section shall be done under the direction of the Board, including registered engineer(s) and any other consultants appointed by the Board. The applicant shall promptly reimburse the Town for the full amount of the cost of such engineer(s) and other consultants.
- C. No performance guarantee under Article IX shall be released or reduced except in conformity with the provisions of § 360-43.
- D. Improvements to be constructed in accordance with the plans approved pursuant to Article VII and endorsed pursuant to Article IX.
- E. The minimum specifications detailed in § 360-58 through § 360-75 herein and the MassDOT Standard Specifications for Highways and Bridges as defined in § 360-10 shall govern the installation of all roadway, utilities, and other improvements in all subdivisions.
- F. It shall be the responsibility of the contractor to control blowing dust and soil. Accordingly, no clearing or excavating shall be started on any part of the site, unless a functional water truck or any other Town accepted dust control measure has been placed on the site, The dust control measures must be available on site at all times.
- G. No paving will be allowed between November 15 and April 1, without prior approval by the DPW Director. The ground temperature for base course paving shall be forty (40) degrees F and rising. The ground temperature for wearing course pavement shall be fifty (50) degrees F and rising. Base course pavement will not be accepted until it has been in place for a minimum of one (1) winter season at which time the wearing course can be placed.

§ 360-59 Clearing and Grubbing of Right of Way

- A. No clearing or excavating shall be started on any part of the street until the Tree Warden has designated in writing those trees which are to remain in the tree belt. Such trees to be preserved shall be protected during construction by fenders or boxes.
- B. The entire area within the right-of-way of each street shall be cleared of all stumps, brush, roots, boulders and like material, except those trees that are intended for preservation.

- C. No perishable matter such as stumps, trunks, or limbs of trees or brush shall be buried within the limits of the right-of-way lines.
- D. All loam, peat, muck and other yielding material shall be removed from the roadway, side slopes, driveway aprons and sidewalks.
- E. Within the roadway area, including driveway aprons, sidewalks, and grass strips, all material shall be removed to subgrade and any unsuitable material, in the opinion of the DPW Director, below subgrade shall be removed and shall be replaced with proper bank-run gravel and brought to proper compaction. The depth of the subgrade will be governed by existing conditions and shall be as specified by the DPW Superintendent.

§ 360-60 Required Activities Prior to Road Construction

- A. Temporary measures to prevent tracking or flowing of sediment onto the public right-of-way shall be put in place at each site construction entrance. Unless the Board approves an alternative, these measures shall include a mud tracking pad meeting the following specifications:
 - (1) A four (4) inch minimum layer of 2 1/2”– 4” crushed stone
 - (2) Thirty (30) feet in length and fifteen (15) feet wide.
 - (3) Maintained during construction to prevent tracking or flowing of sediment onto the public right-of-way.
 - (4) Shall be removed at the direction of the DPW Director.
- B. All stormwater management systems, including but not limited to detention ponds, drainage swales, level spreaders, and drainage outflows shall be constructed and stabilized with vegetation or erosion control matting prior to the construction of approved roads. Inspections during and after the construction of these facilities by the Board or its Agent shall take place to ensure conformance to Town regulations and the approved Stormwater Management Plan for the subdivision.

§ 360-61 Foundation of Roadway

- A. Construction to follow as depicted in the Typical Cross Section diagrams in the Appendix.
- B. Sub-base
 - (1) Within the roadway area including driveway aprons, sidewalks, and grass strips, all material shall be removed to subgrade and any unsuitable material, in the opinion of the Town DPW Director or Consulting Engineer, below subgrade shall be removed and shall be replaced with proper bank-run gravel and brought to proper compaction. The depth of the subgrade will be governed by existing conditions and shall be as specified by the DPW Director (or their designee).
 - (2) Ground water.
 - (a) Wherever ground water is encountered within four (4) feet of the proposed roadway surface or wherever the soil type indicates the possibility of a capillary rise of water

in the sub-grade soil, sub-drains shall be installed under both shoulders of the roadway.

- (b) Prior to their installation, the engineered design and depth of the sub-drains shall be submitted to and approved by the DPW Director.
- (3) Rock excavations. Wherever rock is encountered, it shall be excavated to a depth of two (2) feet below the sub-base of the roadway for the full width of the street layout. The excavated rock shall be replaced with a granular material satisfactory to the Highway Superintendent (or his designee) and the Planning Board.
- (4) Where fill is required, it shall be placed in layers not deeper than eight (8) inches and shall be spread uniformly with the large stones at the bottom.
- (5) Any gravel used as fill in the subbase shall be composed of hard, durable stone and coarse sand, practically free from loam and clay containing no stone having a dimension greater than six (6) inches, and when spread and compacted shall present a stable foundation.
- (6) Each layer shall be thoroughly compacted with a roller weighing not less than ten (10) tons and rolling shall continue until a firm, even surface true to line and grade is achieved. Any depressions shall be filled and rerolled, and any soft or unsuitable areas shall be removed and replaced with suitable material and rolled. All fill shall be placed in eight (8) inch layers compacted to not less than ninety-five percent (95%) of maximum dry density as specified in the MassDOT Standard Specifications for Highways and Bridges. The developer shall be responsible for the costs of all soil testing and analysis required by the Town.
- (7) The subgrade shall be shaped and finish graded at the required depth below and parallel to the proposed pavement surface, in conformance with the Typical Street Cross-Section.
- (8) Inspections shall be required after completion of the subgrade (see § 360-77).

C. Gravel Base

- (1) The gravel base course shall consist of not less than 12 inches of well-compacted gravel placed upon the subgrade the entire width of the roadway in layers not greater than six inches deep.
- (2) When spreading the gravel, care should be taken to rake forward and distribute the largest stones so they will be at the bottom of the gravel base course and evenly distributed.
- (3) Each layer shall be thoroughly compacted with a roller weighing not less than ten (10) tons, and rolling shall continue until a firm, even surface true to line and grade is achieved. Any depression that appears during or after rolling shall be filled with gravel and re-rolled. All fill shall be placed in six (6) inch layers compacted to not less than ninety-five percent (95%) of maximum dry density as specified in the Massachusetts Department of Transportation Standards. The developer shall be responsible for the costs of all soil testing and analysis required by the Town.
- (4) The gravel used in the base course shall conform to the specifications of the sub-base (§ 360-61B), except that it shall contain no stones having a dimension that complies with Massachusetts Department of Transportation Standards.

- (5) The gravel base surface shall be shaped and finish graded at the required depth below and parallel to the proposed pavement surface, in conformance with the Typical Street Cross-Section.
- (6) Inspections shall be required before commencement and after completion of the gravel base (see § 360-77).

§ 360-62 **Surfacing of Roadway**

- A. The roadway shall be paved the entire width, including under the berms, and the surface treatment shall be compacted bituminous concrete placed in two (2) layers.
- B. The first layer or binder course shall consist of SUPERPAVE Base Course – 37.5 (SBC – 37.5) in accordance with Subsection 460.42 of the MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
 - (1) As a substitute, the first layer may consist of SUPERPAVE Intermediate Course – 19.0 (SIC - 37.5) in accordance with Subsection 460.32 of the MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
- C. The second layer of surface course shall consist of SUPERPAVE Surface Course – 9.5 (SSC - 9.5) in accordance with Subsection 460.22 of the MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
- D. The plant mix material shall be delivered to the site in a hot and easily workable condition, when weather conditions are satisfactory, so that it can be properly placed on the appropriate base. Job mix formula must be approved by applicant's engineer in writing prior to installation.
- E. All bituminous concrete shall be spread by an approved mechanical spreader in a uniformly loose layer to the full width required and to such thickness that each course when compacted shall have the required thickness and shall conform to grade and the Typical Street Cross-Section. Hand spreading of bituminous concrete material will be allowed only for special areas which do not permit mechanical spreading and finishing.
- F. Each course of bituminous material shall be rolled with a self propelled, equally balanced, tandem roller weighing not less than five (5) nor more than ten (10) tons. Places inaccessible to the power roller, shall be compacted by means of hand or vibratory tampers. Any displacement caused by the roller shall be corrected by raking and adding fresh mixture where required. Compaction shall be in accordance with MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
- G. Traverse joints shall be formed by laying and rolling against a form of the thickness of the compacted mixture placed across the entire width of the pavement. When the laying of the mixture is resumed, the exposed edge of the joint shall be painted with a thin coat of

bituminous tack coat. The fresh mixture shall be raked against the joint and thoroughly tamped with hot tampers and rolled.

- H. The final bituminous surface shall show no deviation greater than one-quarter (1/4) inch when tested with a sixteen (16) foot straight edge placed parallel to the centerline of the surface course.
- I. Finished roadway and driveway apron surfaces less than the required thickness or containing any soft or imperfect places will not be approved.
- J. All roadways shall be brought up to the finish grade as shown on the Definitive Plan, and all manhole covers, gate boxes, gas drips and other access to underground utilities shall be set flush with the surface of the road, grass strip or sidewalk. Inspections shall be required upon completion of the binder and surface courses (see § 360-77). Once completed, no steel tracked vehicles are permitted on the roadway's pavement.

§ 360-63 **Berms**

- A. Berms shall be constructed along both sides of major, secondary and minor streets. Their construction shall meet requirements set forth in MassDOT Standard Specifications for Highways and Bridges (Latest Edition) utilizing curbs, berms, catch basins, stormwater drains, oil/water separator (i.e. stormceptor, vortex, etc.) and detention/retention basins.
- B. Berms shall be per MassDOT Standard Specifications for Highways and Bridges (Latest Edition) Cape Cod style placed on the bituminous binder. The installation of bituminous berm shall conform to the relevant provisions of the MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
- C. Where possible, berms shall not be cut out at driveway aprons.

§ 360-64 **Drainage**

- A. Drainage pipe within the roadway shall be reinforced concrete (or other Planning Board approved equal based on supportive engineering data submitted by the development's engineer) and have a minimum diameter of 12 inches. Joints shall be rubber gasket type. HDPE (double walled) pipes may be used for drainage outside of the roadway or for culverts under the roadway.
- B. Where open stream channels exist within a subdivision, adequate provision shall be made for properly maintaining them. It is the Town's intent to preserve and maintain the natural features of such streams and any development should be planned accordingly.
- C. Drainage pipe shall be bedded in accordance with the most recent MassDOT Standard Specifications for Highways and Bridges (Latest Edition) or manufacturer's conditions.

- D. Manholes and catch basins shall be precast (outlets shall contain debris hoods) and a typical detail of such noting materials, dimension and construction details shall be submitted to the DPW Director for approval.
- E. Drain manholes shall be located at every change in grade or direction of the drainage line, at catch basin connections and shall not exceed 300 feet apart in a continuous system.
- F. Iron castings for manhole frames and covers and catch basin frames and grates shall be in accordance with the most recent MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
 - (1) Manhole cover shall have 3-inch lettering to read "DRAIN".
 - (2) Catch basin grates shall be Massachusetts Department of Transportation compliant.
 - (3) Stormwater treatment units shall be installed prior to discharge into basins

§ 360-65 Sidewalks and Crosswalks

- A. Sidewalks shall be constructed on both sides of the street, unless the Board grants a waiver as provided in § 360-6 and § 360-27(H) of these Subdivision Rules and Regulations.
 - (1) Sidewalks must meet ADA standards and must be at least five (5) feet in width.
 - (2) Their construction shall be of bituminous concrete with a 1" top coat, 2" binder course and 10" of gravel base that meet the requirements set forth in the MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
 - (3) Sidewalks shall be crosspitched 1%-2% (see diagram in Appendix A).
- B. All crosswalks and sidewalks shall have curb cuts installed at the time of construction in accordance with ADA/MA-AAB standards as most recently amended. The developer shall be responsible for all costs associated with changes that are necessary to meet the current laws before the Town has fully accepted ownership of the property or ways.
- C. Painted crosswalks are required at adjoining ADA/MA-AAB curb cuts. Their construction shall meet the requirements set forth by MassDOT Standard Specifications for Highways and Bridges (Latest Edition).
- D. The sidewalk binder course must be installed prior to the issuance of any Building Permits

§ 360-66 Driveway Aprons

- A. Driveways shall be constructed at the level of the sidewalk wherever possible to avoid the need for ramps on either side of a driveway. Where it is not possible to construct driveways at the level of the sidewalk, such sidewalk and driveway shall be graded in accordance with ADA/MA-AAB standards as most recently amended.
- B. In Type "I" subdivisions, the minimum driveway width within the right-of-way for a depth of at least two (2) feet shall be 12 feet, with at least a two-foot curb radius.

- C. In Type "II" subdivisions, the minimum driveway width within the right-of-way for a depth of at least two (2) feet shall be 30 feet, with at least a seven-foot curb radius.
- D. The rate of change of grade from property line to the pavement line shall not be over one foot per 10 feet of distance.
- E. The nearest line of a driveway shall not be any closer than 50 feet to the intersection of any two streets.
- F. Driveway apron construction shall consist of a twelve-inch rolled gravel base, and the hardened surface shall be composed of the standard 1 1/2 inches of compacted binder course and one inch of compacted surface course Type I-1, Class I bituminous concrete, rolled with at least an eight-ton roller.
- G. A permit must be obtained from the State Department of Transportation for all driveway entrances to a state highway, and such driveways must conform to state standards.
- H. The gutter end of the paving of any driveway shall have a lip of approximately one inch to 1 1/2 inches to control water flowing along the street gutters.

§ 360-67 Grass Strips

- A. All cleared areas of a right-of-way, not to be planted with groundcover plantings, including all disturbed area over all culverts in drainage easement, shall be loamed with not less than four (4) inches compacted depth of good quality loam, seeded with lawn grass seed. Seeding shall be done at appropriate times of the year and in a manner to ensure growth of grass.
- B. No utility poles, signs or similar items shall be placed within the grass strip within three (3) feet of the edge of the pavement.

§ 360-68 Street Signs

- A. Street name signs of a design conforming to the type specified by the Manual on Uniform Traffic Control Devices shall be furnished and installed by the subdivider, of break-away design in accordance with the MassDOT Standard Specifications for Highways and Bridges (Latest Edition) and erected at all street intersections prior to the occupancy of any house on the street.
- B. The DPW Director may require that a blue street sign designating the street as a "Private Way" be furnished and installed by the subdivider at the entry as a private way, until the street is accepted as a public way at Town Meeting.

§ 360-69 Street Lighting

- A. Street lighting shall be installed along any street the Board deems appropriate.

- B. Locations of street lighting shall be as recommended by the South Hadley Electric Light Department. The potential for light pollution shall be considered in the design and placement of all street lighting.
- C. Street lighting shall be installed in accordance with the plan and specifications approved by the South Hadley Electric Light Department.

§ 360-70 Monuments and Markers

- A. Monuments, including but not limited to iron rods or concrete bounds, shall be installed at all street intersections, at all points of change in direction, or curvature of streets and at other points where, in the opinion of the Board, permanent monuments are necessary. Such monuments shall conform to the standard specifications of the Department of Public Works Director and shall be set according to such specifications.
- B. Markers, the type of which shall be determined by the Planning Board, shall be installed at every corner of each lot within the subdivision. Their locations shall be noted on the Definitive Plan.
- C. All monuments and markers shall be installed before bond or covenant is released.

§ 360-71 Trees and Planting

- A. Street Trees
 - (1) Shade trees of a species to be determined by the Board shall be planted along the side lines of the streets with the grass strips at intervals to be determined by the Board. The applicant shall be responsible for survival for two full growing season for these trees or shall be responsible for replacing the tree with one at least equal in size to the tree being replaced and again guarantee for two growing seasons.
 - (2) There shall be a minimum of two street trees for every lot frontage spaced 75' apart or as otherwise approved by the Planning Board.
 - (3) Large and medium height growing trees shall have a minimum 2 ½" trunk diameter, caliper measured at 4' above the ground. Small height growing trees (for placement under utility lines) shall have a 9' crown height and a 5' spread.
- B. Bank Plantings
 - (1) All cut or fill banking that tend to wash or erode shall be planted with suitable, well-rooted, and low-growing plantings. All plants shall be the equivalent of nursery grown stock in good health, free from injury, harmful insects, and diseases.
 - (2) Use of invasive species is prohibited. Please refer to the "Massachusetts Prohibited Plant List" maintained by the Massachusetts Department of Agricultural Resources for the latest list of invasive species. Acceptable planting include very low-growing (4" to 12"), low growing (12" to 30"), and herbaceous plantings. Perennial grass turf installed as sod is an acceptable alternative for the planting of banks.

- (3) If bank plantings are of a type which are properly spaced at close intervals, eight (8) to twelve (12) inches of loam shall be spread over the entire bank. If the plantings are to be widely spaced they may be planted in loam pits.
- (4) Mulch (wood chips or equal) shall be spread heavily among plantings for weed and erosion control. Softwood wood chips should not be used in areas where they will be subject to flotation and washing away.
- (5) The subdivider shall be responsible for maintenance of bank plantings and replacement of those which have died or become diseased from the time of planting through two growing seasons.

C. Corner Plantings. Requirements for plantings adjacent to street intersections shall be the same as those for Bank Plantings with the following exceptions:

- (1) Turf may be provided by seeding as well as by planting sod.
- (2) Bushy shrubs and herbaceous plantings that would tend to obscure visibility are not permitted within one hundred (100) feet of the intersection of the curbs adjacent to the corner lot.

D. Cul-de-Sac Plantings. The central portion of a permanent dead-end street shall not be planted unless approved by the Planning Board. If planting of the central portion of the cul-de-sac is approved by the Board, the following options are permitted:

- (1) Planting with ground cover using an eight (8) to twelve (12) inch base of loam, and spreading mulch between plants for weed control.
- (2) Planting perennial grass by either sod or seed.
- (3) Planting ornamental shrubs of a type acceptable to the Board.
- (4) Retaining existing vegetation, with the approval of the Board.
- (5) Standards and Specifications. The standards of the American Nurserymen Association and the specifications of the Associated Landscape Contractors of Massachusetts shall apply to landscaping subject to these regulations.
- (6) The Tree Warden will have final authority for the approval of trees concerning their health, species, size and location.

E. Performance Guarantee. The Board shall retain a sufficient Performance Guarantee to satisfy the replacement of trees and plantings in accordance with this section.

§ 360-72 Fire Protection

A. Fire protection shall be installed/constructed in accordance with the requirements of the applicable Fire District Fire Department.

§ 360-73 Guard Rails

A. Guard rails shall be installed as required by the Board based on MassDOT Standard Specifications for Highways and Bridges (Latest Edition) or the publications of the American Association of State Highway and Transportation Officials (AASHTO).

§ 360-74 Underground Utilities Required

- A. All electrical, telephone, fire alarm and other wires and cables shall be installed underground, unless in the opinion of the Board and the appropriate utility company, such installation is impractical or not in the best interest of the Town.

- B. If located within a flood prone area (determined by the Board), transformers, switching equipment, or other vital components shall be flood-proofed and approved by the Board or a Board appointed engineer at the subdivider's expense.

§ 360-75 Final Clean Up

- A. After completion of construction and before release of the performance guarantee, the subdivider shall remove all temporary structures, debris, surplus materials, and rubbish, and shall otherwise leave the area in a neat and orderly appearance and shall clean the entire drainage system.

- B. Burying or burning of the rubbish and waste material is prohibited.

Article XII
Administration

§ 360-76 General

- A. The Planning Board is the administrative authority for all approvals under these Subdivision Rules and Regulations

- B. The Director is responsible for the day-to-day administration and interpretation of these Subdivision Rules and Regulations under the general policy guidance of the Planning Board.

§ 360-77 Inspections

- A. Inspections at appropriate times during the specified stages during the development of the subdivision and its required improvements shall be mandatory and carried out by:
 - (1) the project engineer,
 - (2) the Town's designated engineering professional (to be paid for by the applicant), and
 - (3) either the DPW Director or a representative of the appropriate municipal agency involved (e.g., applicable Fire District Water Department, the Electric Light Department, Conservation Commission, or Board of Health).

- B. Each specified construction stage shall be completed to the satisfaction of the representative of the appropriate municipal agency.
 - (1) The municipal agency representative shall give their inspection approval in writing before further work shall be undertaken.
 - (2) Any development which progresses beyond an inspection stage without written approval of the authorized representative of the applicable municipal agency shall be required to return the construction to the status necessary to perform the required inspection.

- C. As part of their duty to comply with these Subdivision Rules and Regulations, the applicant shall also be responsible for:
 - (1) Engaging, at their expense, a qualified engineer to engineering supervision during construction to ensure proper construction of improvements in accordance with the approved plan including, but not limited to, setting all lines, grades and stakes to the satisfaction of the DPW Director.
 - (2) Payment of the municipal costs for inspections including payment of a third-party engineer if the Town determines that to be necessary and payment of the required Inspection Fees as provided in the Planning Board's adopted fee schedule.
 - (3) Requesting inspections as provided for in § Section 360-77.
 - (4) Ensuring that the approved construction plans are implemented and construction qualities are met.
 - (a) Surveillance and field revisions by Town officials and inspectors cannot be construed as fulfilling this responsibility.
 - (5) Providing the Town's designated engineering professional and the inspecting agencies with an anticipated construction/inspection schedule.

D. Third party engineering inspector

- (1) The Board may make arrangements with a professional person or firm to carry out all or portions of the required inspections on behalf of the Town.
- (2) The applicant shall provide the Planning Board with an inspection payment in an amount approved by the Planning Board sufficient to cover the municipality's expenses for their designated engineering professional to undertake the required inspection process.

E. At a minimum, the inspections called for in § Section 360-77A shall be carried out at the following stages:

- (1) Prior to the commencement of any work required and authorized by the approval of the Definitive Subdivision Plan, inspection of the erosion/sedimentation control facilities installed.
- (2) Before clearing and grubbing, the Tree Warden shall designate those trees which are to be preserved in the tree belt;
- (3) The roadway shall be inspected at the following individual stages of
 - (a) sub-base,
 - (b) gravel base,
 - (c) binder course,
 - (d) surface course;
- (4) The sanitary and storm drainage systems before the backfilling of utility trenches, and underground drainage or stormwater conveyance structures and related structures/elements;
 - (a) After the filling and compacting of the utility trenches, the applicant shall have an inspection of installed drainage lines and sewer mains performed by means of a television camera.
 - (b) This video inspection shall be conducted at the applicant's expense, and the results forwarded to the DPW Director.
- (5) Water lines and related elements before the backfilling of utility trenches;
- (6) Prior to, during, and following installation of the water system and related accessories as required by the Rules and Regulations of the applicable Fire District's Water Department;
- (7) Sidewalks shall be inspected upon completion of the sub-base, permanent binder and finish courses;
- (8) Curbs, loaming, and seeding operations may also be inspected by DPW Director and/or a Board appointed Engineer;
- (9) Prior to backfilling of joints, bonds, couplings, etc.;
- (10) Stormwater Management system elements in accordance with Stormwater Management Bylaws and as called for in the development's approved Stormwater Management Plan.

F. Final inspections before final release of performance guarantee:

- (1) Final Inspection when all work, including construction of stormwater management facilities and landscaping have been completed.

- (2) Final inspection shall include a full, dated TV inspection of all stormwater pipes installed.
- (3) At the completion of all improvements in the subdivision, the Board appointed Engineer and/or DPW Director shall make an inspection.

G. Request for inspections

- (1) Applicants are responsible for making timely requests of municipal agencies and departments and their agents for making of inspections.
- (2) Requests for inspections shall be made at least seventy-two (72) hours in advance.
 - (a) This period does not include weekends or municipal holidays during which Town of South Hadley Town Hall is closed.
- (3) The procedures for making such inspection requests should be determined at the pre-construction meeting required pursuant to § Section 360-40E.

H. Right of entry for inspection.

- (1) The filing of an application pursuant to these Subdivision Rules and Regulations shall be deemed as the property owner's permission to the Planning Board, or its agent(s), for the right to enter the property at reasonable times and in a reasonable manner for the purpose of the inspection.
- (2) When any new stormwater control or other facility is installed on private property, or when any new connection is made between private property and a public drainage control system or sanitary sewer, the filing of an application shall be deemed as the property owner's permission to the permit granting authority, or its agent, for the right to enter the property at reasonable times and in a reasonable manner for the purpose of the inspection.
- (3) The forementioned right to enter a property includes the right to enter a property when it has a reasonable basis to believe that a violation of these Subdivision Rules and Regulations is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of these Subdivision Rules and Regulations.

§ 360-78 Interpretation

- A. The Director shall interpret these Subdivision Rules and Regulations as the administrative point of contact for these Rules and Regulations.
- B. Whenever these Subdivision Rules and Regulations made under the authority hereof differ from those prescribed by any local bylaw/ordinance or other local regulation, the provision which imposes the greater restriction, or the higher standard shall govern.
- C. The Town of South Hadley shall not be held responsible for any individual interpretation of these rules and regulations.

§ 360-79 Fees.

- A. The Board shall adopt reasonable fees to cover all administrative and review costs.

- B. The fee schedule may be amended by the Board when deemed necessary by the Board (see Appendix).
- C. The Board has the right to hire “outside consultants” at the expense of the applicant in accordance with MGL Chapter 44, Section 53G (see Appendix for the Planning Board’s General Policies and Procedures).
- D. Applicants should consult with the Director in calculating the applicable application and review fees.

§ 360-80 Administrative Forms.

- A. The Board shall adopt appropriate administrative forms for administration of these Subdivision Rules and Regulations (see Appendix for certain administrative forms, applications, and other documents associated with subdivisions).
- B. These forms may be changed from time to time by majority vote of the Board without notice to reflect changes in procedures or laws.
- C. The Director may update these forms from time to time as to their form or to maintain their consistency with these Subdivision Rules and Regulations.

§ 360-81 Amendments.

- A. These rules and regulations or any portion thereof may be amended from time to time in accordance with MGL c. 41, § 81Q.

§ 360-82 Validity/Severability.

- A. The invalidity of any section, paragraph, clause or provision of the foregoing rules, regulations, and requirements shall not affect the validity of the remainder.
- B. Any part of these Regulations subsequently invalidated by a new state law or modification of an existing state law shall automatically be brought into conformity with the new or amended law, and shall be deemed to be effective immediately.

§ 360-83 Appeals.

- A. Appeals may be taken to the Superior Court in accordance with MGL c. 41, § 81BB.

Appendix A
Typical Diagrams

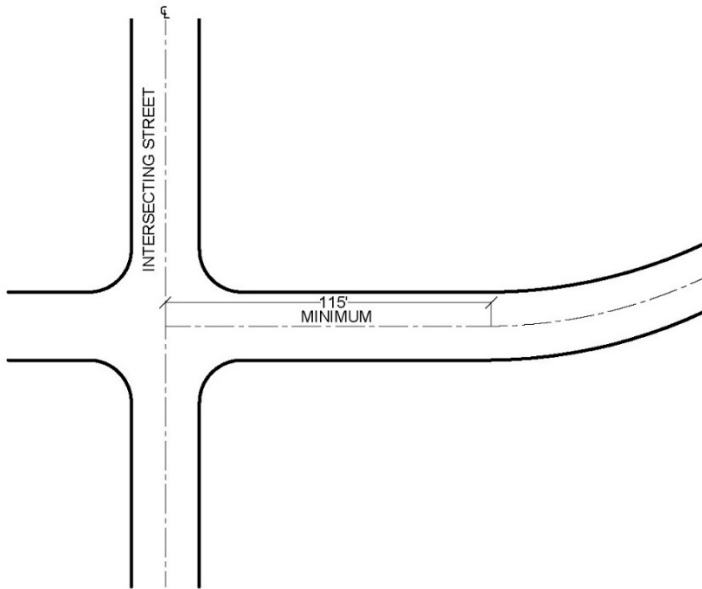
- I. Intersection Diagrams
 - Horizontal Curves
 - Offset Opposing Streets

- II. Pavement Details
 - Sidewalk
 - Road Type I
 - Road Type II

- III. Street Sections
 - Type I Subdivision Road
 - Type II Subdivision Road
 - Green Stormwater Infrastructure

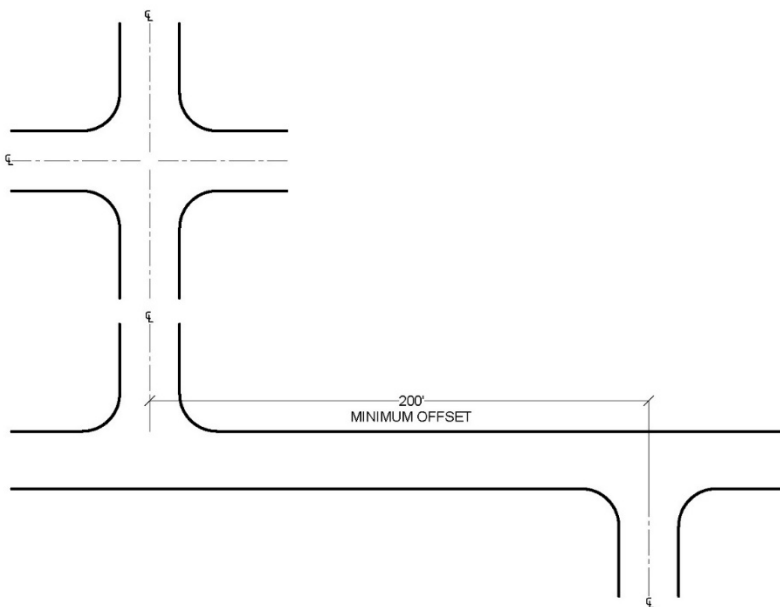
- IV. Turnarounds
 - Cul-de-sac
 - Alternatives for Dead-end Streets

I. INTERSECTION DIAGRAMS



HORIZONTAL CURVES

NOT TO SCALE



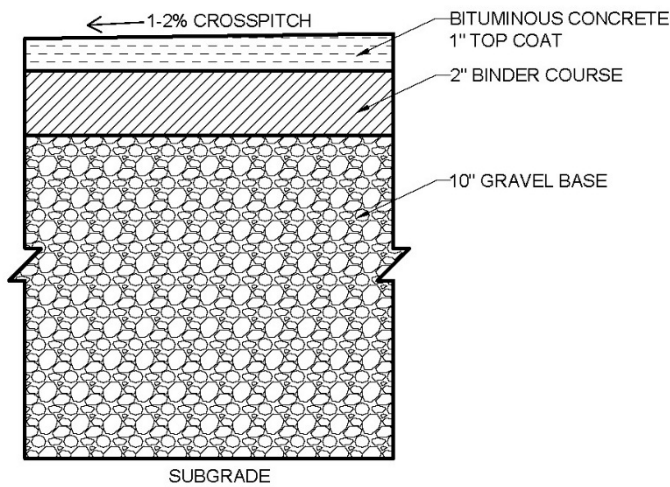
Top: Preferred (Streets Intersect Directly Opposite)

Bottom: Allowable, with 200' Minimum Offset

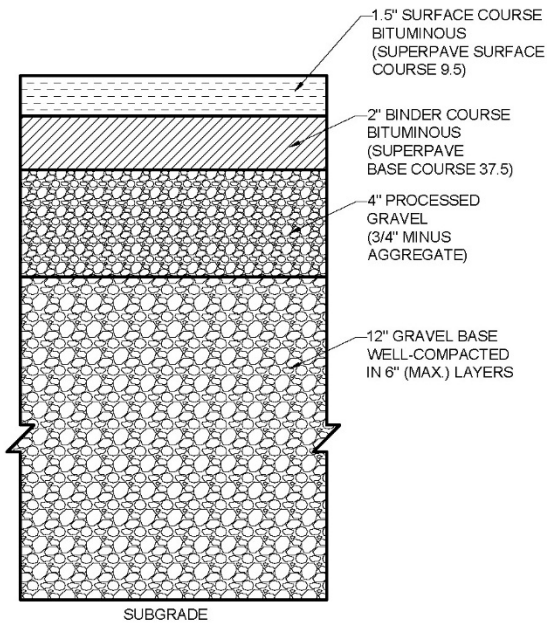
OFFSET OPPOSING STREETS

NOT TO SCALE

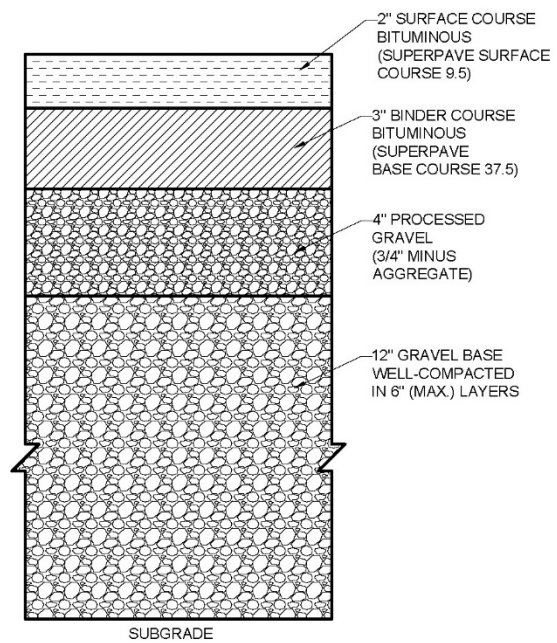
II. PAVEMENT DETAILS



SIDEWALK NOT TO SCALE

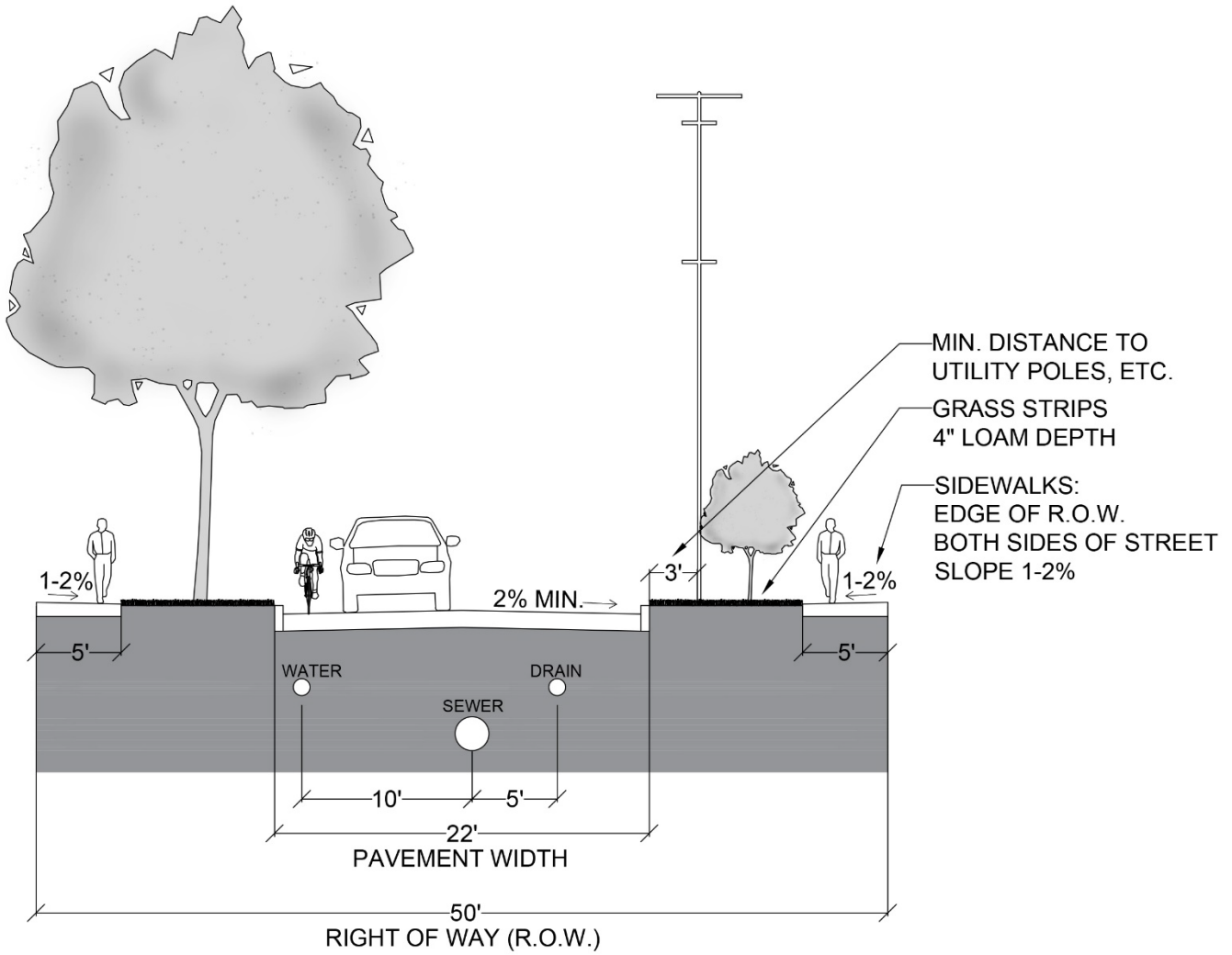


ROAD (TYPE I) NOT TO SCALE



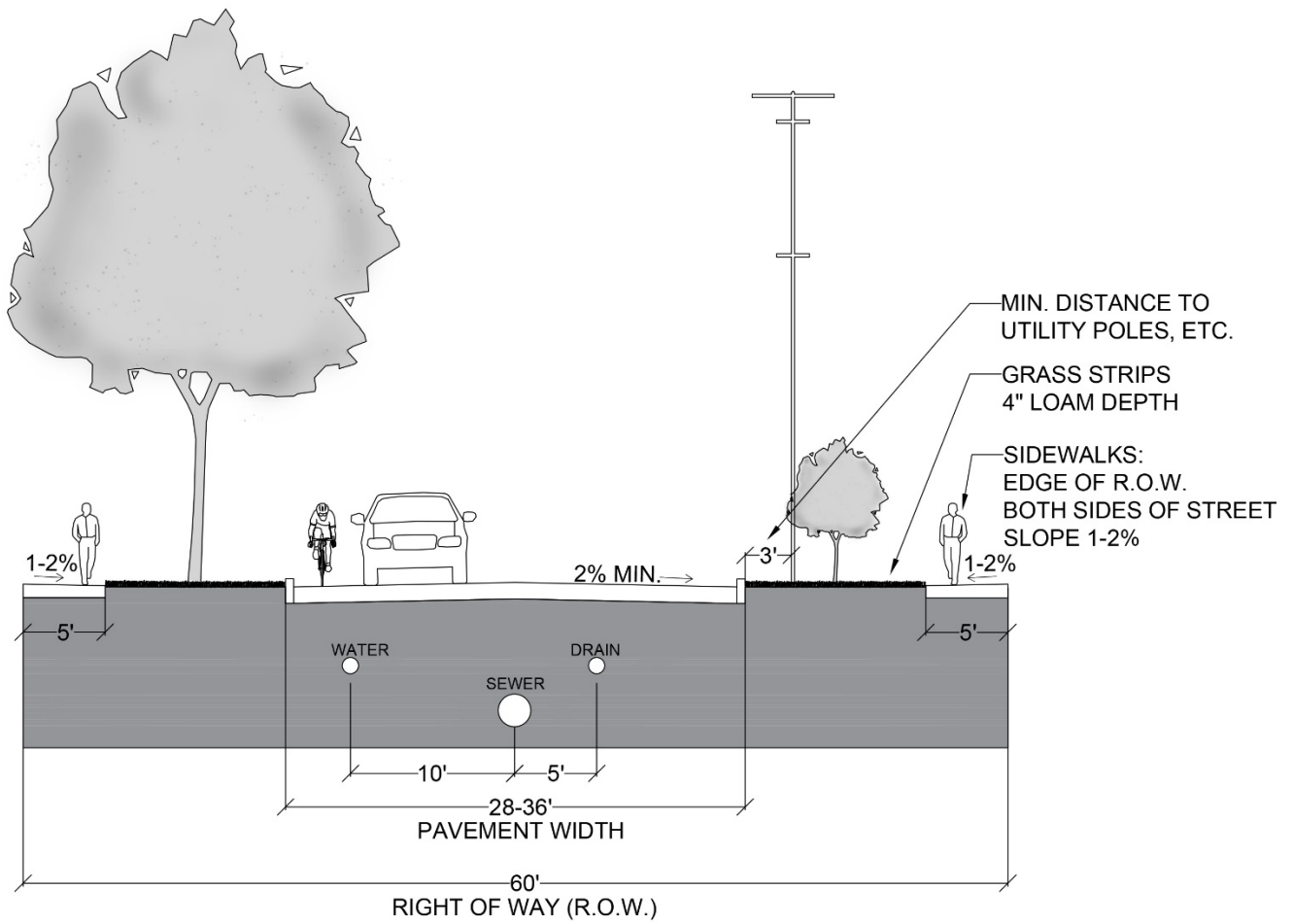
ROAD (TYPE II) NOT TO SCALE

III. STREET SECTIONS

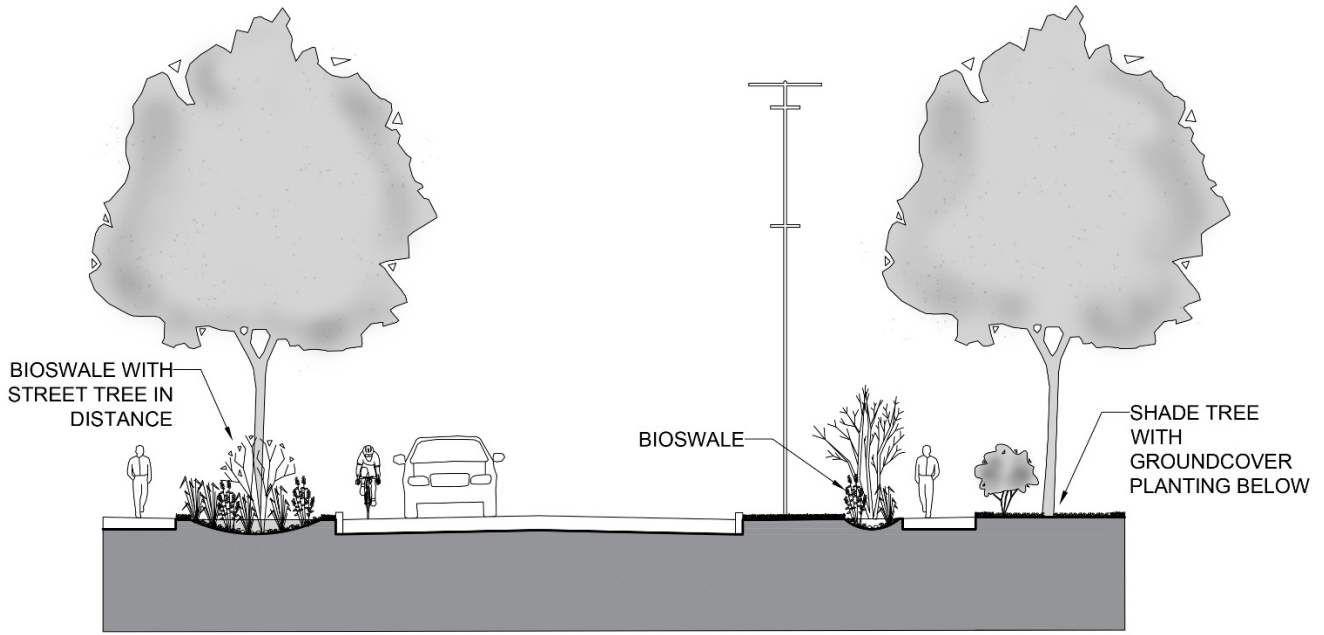


TYPE I SUBDIVISION ROAD

NOT TO SCALE



TYPE II SUBDIVISION ROAD
NOT TO SCALE



GREEN STORMWATER INFRASTRUCTURE
NOT TO SCALE

Precedent Photographs of Green Stormwater Infrastructure



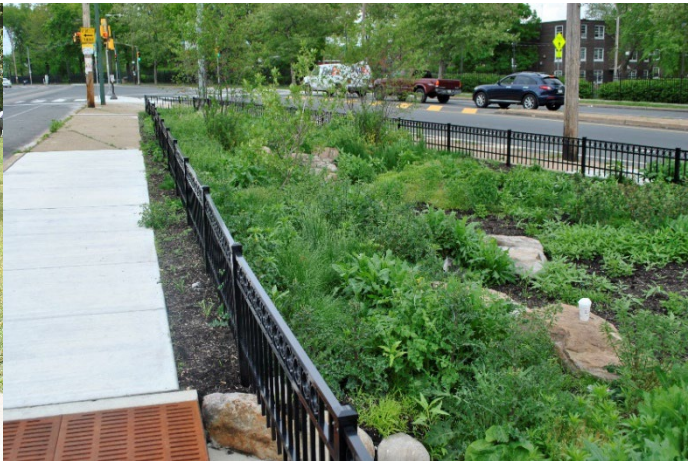
Streetscape rain garden in the right-of-way. A curb cut (foreground) channels street runoff into a forebay (brick-lined), where sediment settles before the water overflows into the planted area for infiltration. Photo source: Kate Cholakis.



Streetscape rain garden in the right-of-way. A curb cut channels street runoff into the rain garden. Larger rocks at the inlet catch sediment, and sturdy plants tolerate the flush of water. Photo source: Alex Kim.

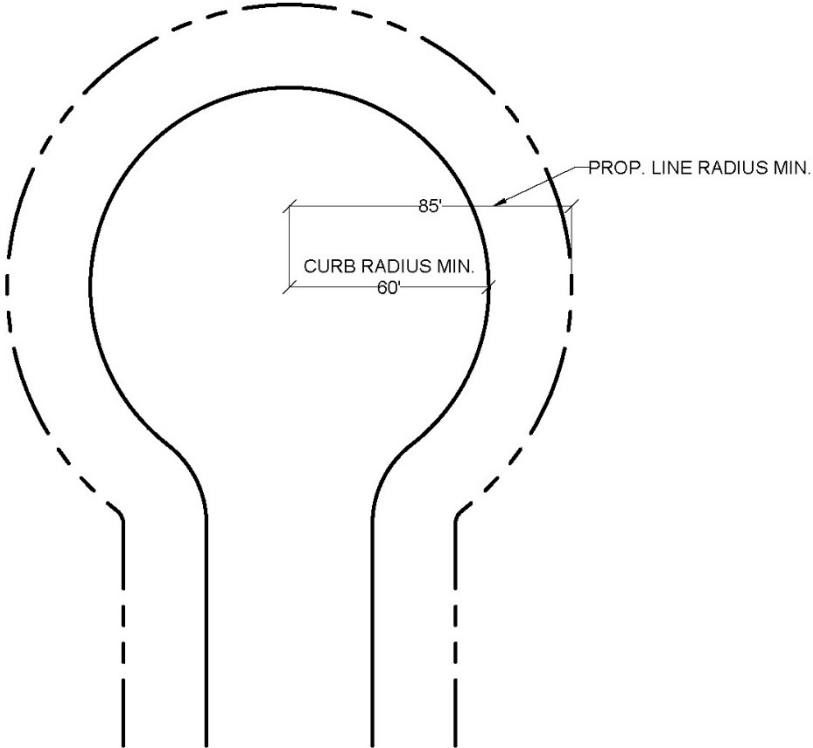


Bioswale within a municipal park slows and treats stormwater runoff from the road surface. This wider garden accommodates perennials, shrubs, and trees. Photo source: Kate Cholakis.

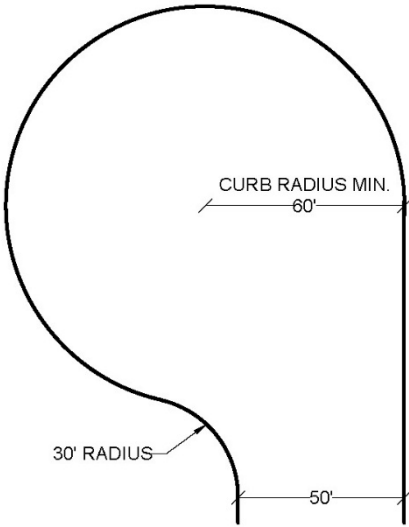
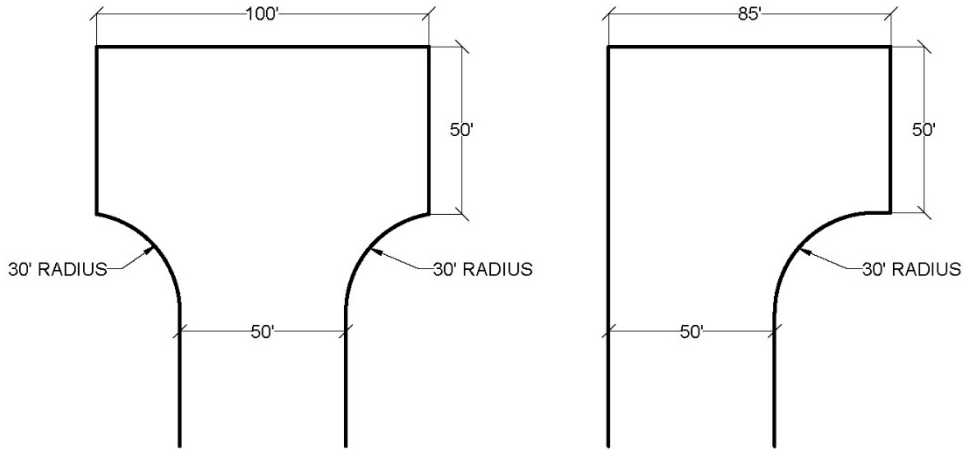


Rain garden in a traffic median collects and cleans stormwater runoff from the street. The runoff enters the rain garden from a curb cut and trench drain through the sidewalk (bottom left). Photo source: "[Swale and Rain Garden in Traffic Triangle, near Bartrams Garden](#)" by Philadelphia Water Department is licensed under [CC BY 2.0](#).

IV. TURNAROUNDS



CUL-DE-SAC
NOT TO SCALE



ALTERNATIVE TURNAROUNDS FOR DEAD-END STREET
BOARD APPROVAL REQUIRED
NOT TO SCALE

Appendix B
Complete Streets and South Hadley Policy

Complete streets are designed and operated to provide safety and accessibility for all the users of Town roadways, trails and transit systems, including pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles, and for people of all ages and abilities. Complete streets principles contribute toward the safety, health, economic viability, equity and quality of life in a community by providing accessible and efficient connections between home, schools, work, recreation, and retail destinations by improving the pedestrian and vehicular improvements through the community.

The Massachusetts Department of Transportation manages the State’s Complete Streets program. South Hadley adopted its complete streets policy in 2016 and MassDOT approved the policy July 11, 2016. The South Hadley Policy is codified as Chapter 402 of the Town’s Code at <https://ecode360.com/32389887> The Policy is replicated below.

Since most new streets are privately built with the intent that they will become public ways, it is key for private developers to take measures to design and build streets consistent with the “complete streets” approach. Applicants are encouraged to review the South Hadley Complete Policy and the Best Practices listed in § 402-4 of the policy. Any questions regarding the policy should be discussed with the Director during the preliminary discussions regarding the proposed development.

**Chapter 402
(As of March 7, 2022)**

COMPLETE STREETS

§ 402-1. Findings and purpose; applicability.

- A. Complete streets are designed and operated to provide safety and accessibility for all the users of Town roadways, trails and transit systems, including pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles, and for people of all ages and abilities. Complete streets principles contribute toward the safety, health, economic viability, equity and quality of life in a community by providing accessible and efficient connections between home, schools, work, recreation, and retail destinations by improving the pedestrian and vehicular improvements through the community.

- B. The purpose of South Hadley's complete streets policy is to provide accommodations for all road users by creating a road network that meets the needs of individuals utilizing a full range of transportation modes. To the best extent possible, the Town of South Hadley will ensure that all plans, designs, operations and maintenance of streets safely accommodate all

users of all ages and abilities. This policy directs decision makers to consistently plan, design, construct, and maintain streets for the accommodation of all anticipated users, including, but not limited to, pedestrians, bicyclists, motorists, emergency vehicles, transit, freight, and commercial vehicles, in a context-sensitive manner.

- C. This policy shall apply to all municipal, state, and federal (when allowed by law) roadway repairs, upgrades, and expansion projects within the public right-of-way and private developments requiring approval from the Town. Procedures will be developed to ensure complete street elements are incorporated into these activities.

§ 402-2. Scope; compliance required.

- A. The Town of South Hadley recognizes that all users of all modes, including, but not limited to, pedestrians, bicyclists, transit users, school bus riders, motorcyclists, motorists, delivery and service personnel, freight haulers, and emergency responders, are legitimate users of streets and deserve safe facilities. "All users" includes users of all ages and abilities, including those with disabilities.
- B. The Town of South Hadley recognizes that all projects (new, maintenance, or reconstruction) are opportunities to implement complete streets design principles. The Town will, to the maximum extent possible, design, construct, maintain, and operate all streets to provide for a comprehensive and integrated street network of facilities for people of all ages and abilities.
- C. Complete streets design recommendations shall be incorporated into all publicly and privately funded projects, as appropriate. All transportation infrastructure and street design projects requiring funding or approval from the Town of South Hadley, as well as projects funded by the state or federal government, such as Chapter 90 funds, city improvement grants, Transportation Improvement Program (TIP), MassWorks Infrastructure Program, Community Development Block Grants (CDBG), Capital Funding, and other state and federal funds for street and infrastructure design, shall adhere to the Town of South Hadley's Complete Streets Policy. Private developers and related street design components or corresponding street-related components, including new subdivisions, shall adhere to the Complete Streets Policy for the Town of South Hadley. In addition, to the extent practical, state-owned roadways will comply with the complete streets resolution, including the design, construction, and maintenance of such roadways with the Town boundaries.

§ 402-3. Exceptions.

Exceptions to the policy are only allowed upon approval of the Town Administrator based on recommendations by the Police Chief, Town Planner and DPW Superintendent, or other relevant departments or authority:

- A. Facilities where specific users are prohibited by law, such as interstate freeways or pedestrian malls. An effort will be made in these cases for accommodations elsewhere.
- B. Where cost of accommodation is excessively disproportionate to the need or probable use or probable future use.
- C. The existing public right-of-way or adjacent land is constrained in a manner that inhibits the addition of transit, bicycle, or pedestrian improvements. In this case, the Town shall consider alternatives such as lane reduction, lane narrowing, on-street parking relocation, shoulders, signage, traffic calming, or enforcement.
- D. Where such facilities would constitute a threat to public safety or health.
- E. Where construction and future maintenance will create significant adverse environmental impacts to streams, floodplains, wetlands, or historical resources.

§ 402-4. Best practices.

- A. The Town of South Hadley's Complete Streets Policy will focus on developing and maintaining a connected, integrated network that serves all road users. Complete streets will be integrated into policies, planning, and design of all types of public and private projects, including new construction, reconstruction, rehabilitation, repair, and maintenance of transportation facilities on streets and redevelopment projects.
- B. Implementation of the Town of South Hadley's Complete Streets Policy will be carried out cooperatively within all departments in the Town of South Hadley, with multijurisdictional cooperation, to the greatest extent possible, among private developers, and state, regional, and federal agencies.
- C. Complete streets principles include the development and implementation of projects in a context-sensitive manner in which project implementation is sensitive to the community's physical, economic, and social setting. The context-sensitive approach to process and design includes a range of goals by considering stakeholder and community values on a level plane with the project need. It includes goals related to livability with greater participation of those affected in order to gain project consensus. The overall goal of this approach is to preserve and enhance scenic, aesthetic, historical, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.
- D. The latest design guidance, standards, and recommendations available will be used in the implementation of complete streets, including:
 - (1) Massachusetts Department of Transportation, Project Development and Design Guidebook.

- (2) Massachusetts Department of Transportation Separated Bike Lane Planning and Design Guide.
- (3) Institute of Transportation Engineers (ITE) Designing Walkable Urban Thoroughfares: A Context Sensitive Approach.
- (4) National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide and Urban Street Design Guide.
- (5) Federal Highway Administration Separated Bike Lane Planning and Design Guide.
- (6) American Association of State Highway Transportation Officials (AASHTO), A Policy on Geometric Design of Highway and Streets, as well as the AASHTO Guide for the Development of Bicycle Facilities.
- (7) United States Department of Transportation Federal Highway Administration's Manual on Uniform Design Controls.
- (8) The Architectural Access Board (AAB) Rules and Regulations.
- (9) Documents and plans created for the Town of South Hadley, such as bicycle and pedestrian network plans.

§ 402-5. Performance measures.

Complete streets implementation and effectiveness should be constantly evaluated for success and opportunities for improvement. The Town will develop performance measures to gauge the implementation and effectiveness of the policies. These performance measures may include, but not be limited to:

- A. Number of staff with complete streets training.
- B. Total miles of bike lanes.
- C. Total miles of roadway with a shoulder of four feet wide or greater.
- D. Linear feet of sidewalk added or reconstructed.
- E. Crosswalk and intersection improvements.
- F. Number of crosswalks evaluated for ADA compliance.

- G. Number of ADA-compliant curb ramps installed.
- H. Closure of gaps in bicycle/pedestrian infrastructure network.
- I. Number of bicycle racks installed.
- J. Crash and personal injury data.
- K. Citations for traffic violations.
- L. Public participation in bicycle, pedestrian, and transit systems.
- M. Estimate of the quantity of funds applied toward the design and construction of complete streets measures.

§ 402-6. Implementation.

- A. The Town shall seek to make complete streets practices a routine part of everyday operations, shall approach transportation projects and programs as an opportunity to improve streets and the transportation network for all users, and shall work in coordination with other departments, agencies, and jurisdictions to achieve complete streets.
- B. Implementation of this policy will be coordinated by the DPW Superintendent and be carried out cooperatively within all departments in the Town of South Hadley, with multijurisdictional cooperation, to the greatest extent possible, among private developers, and state, regional, and federal agencies.
- C. The Town will maintain a comprehensive inventory of pedestrian and bicycle facility infrastructure that will prioritize projects to eliminate gaps in the sidewalk network and to implement the Town's complete streets build-out vision.
- D. The Town shall review and either revise or develop proposed revisions to all appropriate planning documents (master plan, open space and recreation plan, etc.), zoning and subdivision codes, bylaws, procedures, rules, regulations, guidelines, programs, and templates to integrate complete streets principles.
- E. The Town shall promote interdepartmental project coordination among Town departments with an interest in the public right-of-way in order to make enhanced use of fiscal resources.
- F. The Town will train pertinent Town staff and decision-makers on the content of complete streets principles and best practices for implementing the Town's complete streets policy.

G. The Town will seek out appropriate sources of funding and grants for implementation of complete streets policies

Appendix C
Healthy Communities Overview

(Source: Pioneer Valley Planning Commission, *Model Subdivision Regulations, Appendix D*)

A Healthy Community is where people come together to make their community better for themselves, their family, their friends, their neighbors, and others. A Healthy Community creates ongoing dialogue, generates leadership opportunities for all, embraces diversity, connects people and resources, fosters a sense of community, and shapes its future. (MA DPH Office of Healthy Communities – 2013).

Healthy Community design is about planning and designing communities to make it easier for people to live healthy lives. Healthy Community design encourages mixed land uses to bring people closer to the places where they live, work, worship, and play. Doing so reduces dependence on cars and provides affordable housing, good bicycle and pedestrian infrastructure, space for social gathering, and access to transit, parks, and healthy foods. (US CDC – 2013).

In 2014, the Massachusetts Department of Public Health (MA DPH) engaged the Pioneer Valley Planning Commission (PVPC) to develop a Healthy Community Design Toolkit for the Commonwealth of Massachusetts. This toolkit is available at:

<https://www.mass.gov/files/documents/2016/07/vr/healthy-comm-design-toolkit.pdf>

Developers wishing to make their projects as healthy as possible are encouraged to use the MA Healthy Community Design Toolkit. The toolkit includes a **Subdivision Regulations Checklist**:

- Require sidewalks.
- In rural environments or other locations where sidewalks on both sides of the street may not make sense, a sidewalk on one side of the street may be acceptable.
- Require interconnecting street and sidewalk networks.
 - If a dead-end is created, require the subdivision design to allow for streets to be connectable in the future.
 - Where applicable, require multi-use paths at the end of dead-end streets that connect to a larger network of pathways.
 - Require bicycle and pedestrian linkages to nearby public ways.
- Design driveways to minimize pedestrian impacts.
 - Encourage shared/common driveways to reduce the number of automobile curb cuts.
 - Require driveways to rise up to the level of the sidewalk instead of designing the sidewalk to descend to the level of the driveway.
- Narrow road widths and the turning radius at intersections to reduce traffic speeds and the crossing distance at intersections. (Reducing the total amount of pavement also decreases stormwater runoff pollution impacts on waterways as well as urban heat island effects).
- Encourage a preliminary meeting with the Planning Board/Department prior to subdivision design to review potential healthy design strategies.

- Encourage submission of Preliminary Subdivision Plans to provide an opportunity to encourage healthy design strategies before plans are finalized.
- Create an Inter-Departmental Project Review Process that establishes meetings of representatives from various municipal departments/boards, including the Board of health, to provide review and feedback on projects while still in design development.
- Require a set-aside of future parkland (even if only temporary, as required by Massachusetts law), to give the homeowner's association, municipality or other entity time to acquire it.ⁱ
- Require roads to be designed to "Complete Streets" standards, with equal attention to the needs of automobiles, cyclists and pedestrians.
- Require shade trees along pedestrian and bicycle pathways.
- Require traffic and environmental impact studies for larger subdivisions.
- Require an analysis of pedestrian circulation for subdivisions.

Most Recent Design Standards/Best Practices & Policies/Design Elements

In addition to the Massachusetts Healthy Community Design Toolkit, these resources may be helpful.

- New York City (New York), City of, Center for Active Design. 2010. *Active Design Guidelines: Promoting Physical Activity and Health in Design*. <https://centerforactivedesign.org/dl/guidelines.pdf>
 - This seminal document provides guidelines that promote active, healthy living in urban design (land use mix, transit and parking, parks/open space/recreational facilities, children's play areas, public plazas, grocery stores/fresh produce access, street connectivity, traffic calming, pedestrian pathways, streetscape programming, and bicycle networks/infrastructure) and building design (stairway use, and building programming, facilities, and exteriors/massing that support physical activity).
- Peel (Ontario), Region of. 2014. Affordable Housing Active Design Guidelines and Standards. <http://www.peelregion.ca/health/resources/healthydesign/pdf/CDI-0560.pdf>
 - Provides a set of elements for consideration during the procurement, design, and rehabilitation or retrofit phases of affordable housing development that promote an active lifestyle among residents.
- Toronto Public Health, City of Toronto Planning, City of Toronto Transportation Services and Gladki Planning Associates. 2014. Active City: Designing for Health. <https://www.toronto.ca/legdocs/mmis/2014/hl/bgrd/backgroundfile-69334.pdf>
 - Report identifies and describes ten "Active City" design principles that address proximity, connectivity, design quality, and equity.

- American Planning Association, Planning and Community Health Center. 2015. Health in the Development Review Process. Washington, D.C.: American Planning Association. https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/nationalcenters/health/toolsforhealth/pdf/devreviewguidelines.pdf
 - Guide discusses how local development codes can incorporate healthy community considerations into regulatory language. Identifies the principles of a healthy built environment and applicable code provisions for implementation; offers a health-focused development review checklist.

- Los Angeles (California), City of, and Gensler. 2013. Designing a Healthy LA. <http://www.urbandesignla.com/resources/docs/DesigningAHealthyLA/hi/DesigningAHealthyLA.pdf>
 - This guidebook, intended for those who plan, design, and build the city's buildings, streets, neighborhoods, and open spaces, offers a broad range of guidelines for integrating health into the physical environment.

ⁱ M.G.L. c 41 § 81U. Retrieved from <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter41/Section81U>

Appendix D
**Excerpt of South Hadley Planning Board Fee Schedule
Relative to the Subdivision Rules and Regulations**

The most current Planning Board Fee Schedule is available at the South Hadley Planning and Conservation Department, 116 Main Street, South Hadley

APPLICATION FEES:		
Form	Application Type	Fee Amount
A	Subdivision Approval Not Required (ANR)	\$125/new lot
B		
	Preliminary Subdivision Plan	
	Small Subdivision (as defined in Article III of the Subdivision Regulations)	\$100 plus \$100 per lot
	<i>For Any Other Subdivision:</i>	
	<6 lots	\$400 plus \$100/lot
	6-25 lots	\$400 plus \$ 75/lot
	>25 lots	\$400 plus \$ 50/lot
C		
	Definitive Subdivision Plan (<i>After Preliminary Plan</i>)	
	Small Subdivision (as defined in Article III of the Subdivision Regulations)	\$100 plus \$100 per lot
	For Any Other Subdivision:	\$400 plus \$100/lot plus \$2.00 per linear foot of roadway
C		
	Definitive Subdivision Plan (<i>Without a preceding Preliminary Plan</i>)*	
	Small Subdivision (as defined in Article III of the Subdivision Regulations)	\$400 plus \$200 per lot
	<i>For Any Other Subdivision:</i>	
	<6 lots	\$1,000 plus \$200 per lot plus \$2.00 per linear foot of roadway
	6-25 lots	\$1,000 plus \$175 per lot plus \$2.00 per linear foot of roadway
	>25 lots	\$1,000 plus \$150 per lot plus \$2.00 per linear foot of roadway
	<i>*This fee is applicable if the Planning Board denied the Preliminary Plan or if a period of 12 months or longer has elapsed since the Preliminary Plan was approved.</i>	

PUBLIC HEARING NOTICES:	
In addition to the required application fee, whenever an application for Planning Board approval requires a public hearing, the following fees are to be assessed and paid by the applicant:	
Notices to Abutters*	\$50.00 plus actual cost of postage (certified mail with return receipts). This charge must be paid prior to beginning of public hearing.
Public Hearing Advertisement	actual cost (to be billed directly to the applicant from the newspaper in which the notice is advertised)
<p>*Note: This fee is in addition to any fees other departments (i.e., Board of Assessors) may charge for list of abutters, etc. The applicant is to provide the Planning & Conservation Department with the following:</p> <p>A. A list of abutters and their mailing addresses as recently certified by the Board of Assessors</p> <p>B. Three mailing labels for each of the abutters for the mailing address of the abutter.</p>	

AMENDMENTS & WAIVER REQUESTS:	
Waiver of subdivision requirements	\$25 for each requirement requested for waiver
Amendment to Definitive Plan	\$350

TOWN COUNSEL REVIEWS:	
Review of proposed easement	\$100/ 8 or less easements plus \$ 20/ each additional easement

INSPECTION FEES:	
Sewer Mains & Appurtenances	\$ 2/lineal foot
Road Construction, including curbing & paving	\$ 3/lineal foot
Storm Drainage & Appurtenances	\$ 2/lineal foot
Sidewalk	\$ 1/lineal foot

APPLICATION REVIEW DEPOSITS:	
Subdivision – Preliminary	\$2,500
Subdivision – Definitive	\$7,500
<i>Note: The application review fee may be waived in lieu of a fee for Peer Review pursuant to Chapter 44, Section 53G and the Planning Board's General Rules and Regulations.</i>	

Appendix E
Planning Board General Rules and Regulations

The most current version of the Planning Board's General Rules and Regulations is available at the South Hadley Planning and Conservation Department, 116 Main Street, South Hadley, Massachusetts, and is available during normal business hours as posted on the Town website at www.southhadleyma.gov.

These Rules and Regulations may also be posted on the South Hadley Planning and Conservation Department website here: <https://southhadley.org/1124/Planning>

Appendix F
Development Impact Statement

The Development Impact Statement (DIS) is a documented, written analysis of the proposed development which provides the Planning Board, Town Officials, and the general public with information necessary for plan review. It is an integral part of an application for approval for a development.

It is the developer's/applicant's responsibility to prepare and document the DIS in sufficient detail to permit an adequate evaluation by the Planning Board; however, additional data may be requested by the Board. It is necessary to respond to all sections of the DIS form unless a written exemption is granted by the Planning Board. The applicant is urged to contact the Director of Planning and Conservation in the process of completing a DIS. Any questions regarding the DIS should be reviewed with the Director during the pre-application process.

A. Project Identification:

NAME OF PROJECT:	
TYPE OF PROJECT:	
PROJECT LOCATION:	
MAP/PARCEL NUMBERS:	
ZONING DISTRICTS:	
OVERLAY DISTRICTS:	
TOTAL ACREAGE:	

B. Project Overview:

<i>1. Residential Units:</i>			
Total:		Affordable*:	Market Rate:
Single-Family:		Two-Family	Multifamily:
Row-House:		Other:	
To Be For Sale:		To Be For Rent:	
Number of Bedrooms:	Total:	Row-Houses:	Multifamily:
Projected Price/Unit:	SF Houses:	Condominiums:	Rental:

B. Project Overview (Continued)

2. Commercial/Industrial Spaces:		
Total Square Feet:		
Total Number of Spaces/Lots:		

3. Site Development/Infrastructure:	
Projected Acres to be Disturbed:	
Projected Cubic Yards of Earth Removal	
Proposed Linear Feet of New Roadway:	
Proposed Linear Feet of New Sidewalk:	
Proposed Linear Feet of New Water Line:	
Proposed Linear Feet of New Sewer Line:	
Number of proposed bus stops/shelters proposed:	

C. Circulation System:

1. Street Design –

- a. Explain how the circulation system meets the South Hadley Complete Streets Policy objective and criteria.
- b. Explain reasons for location of streets, stubs, and intersections:
- c. Provide the number of motor vehicles (by type) projected to enter/exit the site per average day and peak hour – during construction and post construction. Compare to pre-development traffic volumes.
- d. Describe how the proposed development’s entry way onto the existing public way will impact or be impacted by traffic on the existing public way.

2. Parking & Bus Stops –

- a. Identify and describe the number, opportunities for multiple use, and screening of parking spaces.
- b. If no bus stops or shelters are proposed, explain the reasons for not providing such features.

- c. If bus stops or shelters are proposed, explain the rationale for their location, shelter design, and orientation relative to any pedestrian path systems.

3. Pedestrian Systems –

- a. Describe the measures taken to provide safe pedestrian access within the development.
- b. Describe how the development’s pedestrian circulation system relates to the existing pedestrian circulation system within the community.

D. Support Systems:

<i>1. Water Distribution</i>	
a. In which Fire District is the project located?	
b. What is the distance from the project site to the existing public water distribution system?	
c. How many linear feet of new water line will be added?	
d. How many new Fire Hydrants will be installed?	
e. How many of the new dwellings will be served by the public water system?	
f. Discuss the project’s water distribution system, including the projected demand, ability to serve all lots, use of water for air conditioning, and any special problems such as check valves or booster pumps which must be addressed.	
g. If the project proposes to remove more than 5,000 cubic yards of earth material from the site and is located within the Water Supply Protection District, discuss the impact of the project on the public water supply and how this impact assessment was determined.	
h. For private systems, discuss the type of system, level of treatment, suitability of soils, and results of percolation tests.	
i. How many of the new dwellings will be served by private wells?	
j. For private systems, discuss the status of Board of Health review/consultation.	

2. Sewage Disposal		
a. What is the distance from the project site to the nearest point of possible connection to the existing public sewage collection system?		
b. Where is the point used for item D.2.a. above?		
c. Does the project propose to connect to the public sewage collection system?	Yes	No
d. How many linear feet of new water line will be added?		
e. How many of the new dwellings will be served by the public sewage system?		
f. Discuss the project's sewage disposal system, including projected flow, size of pumping stations including auxiliary power, and any special problems such as check valves, etc. which must be addressed and the effects on the wastewater treatment facility.		
g. For private systems, discuss the type of system, level of treatment, suitability of soils and results of percolation tests.		
h. How many of the new dwellings will be served by individual septic systems?		
i. For private systems, discuss the status of Board of Health review/consultation.		

3. Stormwater Drainage		
a. Discuss the stormwater management system proposed for the development including the project flow from a 10 year and a 100-year storm, name of the receptor stream, and any flow constriction between the site and the receptor stream.		
b. Discuss how the stormwater management system was designed to promote on-site recharge.		
c. Discuss how Low Impact Development practices and green infrastructure have been incorporated into the proposed development.		
d. Is the stormwater drainage system designed to discharge into the existing system?	Yes	No

4. Refuse Disposal		
a. Will the development be served by the municipal trash and recycling service?	Yes	No
b. If the answer to D.4.a. above is “no”, discuss how the development will handle refuse collection and disposal.		
c. Discuss the location and type of refusal collection/disposal facilities proposed.		
d. Discuss any hazardous materials generated by the development that will require special precautions and how they will be handled.		
e. Discuss plans for screening of refuse disposal facilities.		

5. Lighting		
a. Discuss the proposed street lighting plan.		
b. Discuss the location and size of lights and methods used to screen adjoining properties from glare.		
c. Discuss how “dark sky” practices have been incorporated into the lighting plan for the development.		

6. Fire Protection		
a. In which Fire District is the development located?		
b. What is the distance from the proposed development to the nearest fire station within the Fire District?		
c. If located in both Fire Districts, discuss how the development’s fire protection is coordinated with the two districts.		
d. Identify and discuss any particularly significant sources of potential fire risk posed by the development.		
e. Discuss the type and capacity of fuel storage facilities.		
f. Identify and discuss the type of hazardous substances to be stored on the site and any special requirements associated with the substances.		
g. Discuss the location of storage areas for hazardous substances.		

7. Recreation	
a. What is the distance to existing recreation facilities from the project site?	
b. Identify the names and type of public recreation facilities noted in D.7.a. above.	
c. Discuss the type of recreation facilities to be provided within the development.	
d. How many acres of open space will be retained within the development for public recreation use?	
e. Discuss the character of the open space to be retained within the development.	

8. Schools	
a. Provide projected student population arising from the proposed development by Pre-k, elementary school, middle school, and high school levels.	
b. Provide the distance, capacity, and present enrollment of the elementary, middle, and high schools which will serve the development households.	

E. Natural Conditions:

<i>Briefly describe each of the following natural conditions:</i>		
1. <u>Topography</u> – Are there slopes greater than 25%?	Yes	No
2. If the answer to E.1. is “yes”, indicate the location and impact on the development of slopes greater than 25%.		
3. Topography – Indicate the datum, source, and date of the topographic information.		
4. <u>Soils</u> – Are there prime agricultural soils on the site?	Yes	No
5. If the answer to E.4. is “yes”, describe the prime agricultural land and their extent.		
6. Soils – Indicate the depth to bedrock		
7. Soils – Indicate the extent of land which has been filled.		
8. Soils – Indicate the extent of excavation on the site.		

E. Natural Conditions (Continued):

<i>Briefly describe each of the following natural conditions:</i>	
9. <u>Mineral Resources</u> – Indicate the extent and economic importance of resources on the site.	
10. Mineral Recourse – Indicate the extent, quantity, and means of proposed extraction of resources from the site.	
11. Mineral Resources – Describe plans and measures for site restoration/rehabilitation from extraction of the site’s resources.	
12. Surficial geology	
13. Depth to water table	
14. Aquifer recharge areas	
15. Wetlands – How much of the site is within wetlands or wetland buffer zones?	
16. Wetlands – Describe the character of the wetlands and how they impact the proposed development.	
17. Watercourses	
18. Flood prone areas – How much of the site is within the 100-year flood plain?	19.
20. Flood prone areas – Describe the site flood prone areas	
21. Vegetative cover	
22. Unique wildlife habitats	
23. Unique flora	
24. Environmental constraints	

F. Design Factors:

<i>Briefly describe each of the following design factors/features. Photographs should be provided as they are helpful.</i>	
1.	Present visual quality of the area
2.	Significant viewpoints – Identify their locations
3.	Historic structures/sites
4.	Architecturally significant structures
5.	Type of architecture proposed for the development

G. Environmental Impacts:

<i>Briefly describe each of the following measures to mitigate environmental impacts of the development. Address measures during construction and post-construction</i>	
1.	Measures taken to prevent surface water contamination
2.	Measures taken to prevent ground water contamination
3.	Measures taken to protect public water supplies
4.	Measures taken to maximize ground water recharge
5.	What percent of stormwater runoff will be recharged on site?
6.	Measures taken to prevent air pollution
7.	Measures taken to prevent erosion and sedimentation
8.	Measures taken to maintain slope stability
9.	Measures taken to reduce noise levels
10.	Measures taken to preserve significant views & scenic roadways
11.	Measures taken to preserve historically significant structures and sites
12.	Measure taken in project design to conserve energy
13.	Measures taken to preserve wildlife habitats
14.	Measures taken to ensure compatibility with surrounding land uses

H. Plans

<i>Describe briefly how the proposed project is consistent or inconsistent with the following plans:</i>
1. South Hadley Master Plan
2. South Hadley Open Space & Recreation Plan
3. Regional plans prepared by the Pioneer Valley Planning Commission

I. Project Scheduling

<i>If the development of the site will take place over more than one year, supply a schedule showing how the development will be scheduled. A flow chart is helpful. This time table shall include each element listed below.</i>
1. Stripping and/or clearing of the site
2. Rough grading and construction
3. Construction of grade stabilization and sedimentation control structures
4. Final grading and vegetative establishment
5. Landscaping
6. The construction of any public improvement shall be specified explaining how these improvements are to be integrated with the development.
7. The number of housing units and the square footage of nonresidential uses to be constructed each year and their estimated value shall be specified

Appendix G
Planning Board Forms

The most current version of the Planning Board's Application Forms are available at the South Hadley Planning and Conservation Department, 116 Main Street, South Hadley, Massachusetts, and is available during normal business hours as posted on the Town website at www.southhadleyma.gov.

These Forms may also be posted on the South Hadley Planning and Conservation Department website here: <https://southhadley.org/1124/Planning>

FORM A

**APPLICATION FOR ENDORSEMENT
OF PLAN BELIEVED NOT TO REQUIRE APPROVAL**

Date _____

File one completed application form and copies of the plan (2 mylar and 2 paper and a digital PDF copy) with the Planning & Conservation Department or Planning Board and one copy of the application with the Town Clerk in accordance with the requirements of Section 360-12 and the Planning Board General Rules and Regulations.

To the Planning Board:

The undersigned, believing that the accompanying plan of his property in the Town of South Hadley does not constitute a subdivision within the meaning of the Subdivision Control Law, herewith submits said plan for a determination and endorsement that Planning Board approval under the Subdivision Control Law is not required.

1. Applicant _____

Address _____ Telephone _____

E-mail Address: _____

2. Engineer or Surveyor _____

Address _____

E-mail Address: _____

3. Deed of property recorded in Hampshire County Registry of Deeds,
Book _____ Page _____

4. Location and description of property _____

5. Assessor's Map # _____ Assessor's Parcel # _____

6. The subject property is presently in zoning district(s) – Sec 255-11: _____

7. Is the property in an Overlay District(s) (Sect 255-15)? ____ If so, what Overlay District(s): _____

Signature of Applicant

Town Clerk:

Date of Submission _____

Signature _____

FORM B

**APPLICATION FOR APPROVAL
OF A PRELIMINARY PLAN**

Date _____

File one completed application form together with prints of plan with the Planning & Conservation Department or Planning Board and one copy with the Town Clerk in accordance with the requirements of Section 360-16 and the Planning Board General Rules and Regulations.

To the Planning Board:

The undersigned herewith submits the accompanying Preliminary Plan of property located in the Town of South Hadley for approval as allowed under the Subdivision Control Law and the Rules and Regulations Governing the Subdivision of Land in South Hadley, Massachusetts.

1. Applicant _____
Address _____ Telephone _____
E-mail Address: _____
2. Owner (if not applicant) _____
Address _____
3. Engineer or Surveyor _____
Address _____
E-mail Address: _____
4. Deed of property recorded in the Hampshire County Registry of Deeds,
Book _____ Page _____
5. Location and description of property _____
6. Map # _____ Parcel # _____
7. The subject property is presently in zoning district(s) – Sec 255-11: _____
8. Is the property in an Overlay District(s) (Sect 255-15)? ____ If so, what Overlay District(s): _____

Signature of Applicant

Town Clerk:
Date of Submission _____
Signature _____

FORM C

**APPLICATION FOR APPROVAL
OF A DEFINITIVE PLAN**

Date _____

File one completed application form together with prints of plan and other necessary documentation with the Planning & Conservation Department or Planning Board and one copy with the Town Clerk in accordance with the requirements of Section 360-20 and the Planning Board General Rules & Regulations.

To the Planning Board:

The undersigned herewith submits the accompanying Definitive Plan of property located in the Town of South Hadley for approval as a subdivision under the requirements of the Subdivision Control Law and the Rules and Regulations Governing the Subdivision of Land in the Town of South Hadley, Massachusetts.

1. Applicant _____

Address _____ Telephone _____

E-mail Address: _____

2. Owner (if not applicant) _____

Address _____

3. Engineer or Surveyor _____

Address _____

E-mail Address: _____

4. Deed of property recorded in the Hampshire County Registry of Deeds,
Book _____ Page _____

5. Location and description of property _____

6. Map # _____ Parcel # _____

7. The subject property is presently in zoning district(s) – Sec 255-11: _____

8. Is the property in an Overlay District(s) (Sect 255-15)? ____ If so, what Overlay District(s): _____

Signature of Applicant

Town Clerk:

Date of Submission _____

Signature _____

FORM D

**TOWN OF SOUTH HADLEY, MASSACHUSETTS
PLANNING BOARD**

PERFORMANCE BOND AGREEMENT

THIS AGREEMENT made this _____ day of _____, 20____, at South Hadley, in the County of Hampshire and Commonwealth of Massachusetts, by and between _____ party of the first part, hereinafter called the SUBDIVIDER, and the TOWN OF SOUTH HADLEY, a township within said County of Hampshire acting through its Planning Board, party of the second part, hereinafter called the TOWN.

WITNESS:

WHEREAS the Subdivider has petitioned the Town for approval of a Definitive Plan of a subdivision entitled: _____, located _____, said Plan has been submitted to the Town Planning Board, copies of which are on file in the office of said Board.

NOW THEREFORE, in consideration of the approval of said Definitive Plan and plan-profile by the Planning Board of said Town, the Subdivider agrees with the Town as follows:

1. To construct and install streets, ways, utilities and improvements as shown on the approved Definitive Plan, cross-sections and plan-profile in strict compliance with the subdivision rules and regulations of the Planning Board and in accordance with the following general specifications:
 - a. Streets and ways shown on the Plan shall be cleared for the entire width, including the necessary side slope excavations, and the roadway shall be excavated to sub-base grade and below sub-grade where specified by the Planning Board and/or Highway Superintendent, and then brought up to sub-base grade by compacting gravel the required number of inches.
 - b. Utilities shown on the Definitive Plan and plan-profile endorsed by the Planning Board shall be installed, where specified, including: water mains, hydrants, sanitary sewers, storm water drains, manholes, catch basins, electrical and telephone wires and cables, together with their appurtenances.
 - c. All roadways shall consist of a gravel base course of twelve (12) inches of good binding gravel placed upon the sub-base in two layers with the first layer consisting of eight (8) inches of bank-run gravel and a second layer consisting of four (4) inches of fine grade road gravel, each layer thoroughly rolled true to lines and grades.
 - d. The hardened surface of the roadway shall be paved the required width, and the hardened surface treatment shall be compacted bituminous concrete, Type I-1, at a depth of two and one-half (2 ½) inches, placed in two (2) layers, as specified in Section 8.02, of the Subdivision Plan and in accordance with the Subdivision Regulations of South Hadley.

- e. Monuments, sidewalks, curbs, loaming and seeding, planting and street signs shall be installed as shown on the Definitive Plan and in accordance with the Subdivision Regulations.
2. To file with the Planning Board a Certificate of Performance attesting to the satisfactory performance of all works and installations as set forth in this agreement and the subdivision rules and regulations of the Town at which time the Planning Board or their authorized representative shall inspect the works and installations and said Board will proceed with the release of the deposit or bond if the provisions of this agreement have been completed.
 3. SPECIAL CONDITIONS:

The Planning Board, its representatives, or other agents of the Town shall have right of entry at all times during the life of this agreement for the purpose of examination and inspection of works and installations included herein and that the Town at its discretion shall have the right to use whatever materials may be in or on the land for completion of said works and installations as hereinafter provided.

- a. All easements to be transferred to the Town by recording said instruments in the Hampshire County Registry of Deeds of Land Court at the expense of the Subdivider before the final bond is released.
 - b. Sale or transfer of any lot or lots abutting any street covered in this Bond Agreement shall not release the Subdivider of any obligation contained herein to complete any roadway construction, including clearing, excavation, side slopes, utility installations, grading, gravel or paving, monuments, sidewalks, curbing, loaming and seeding, planting, and street signs in the fifty (50) foot right-of-way strip.
4. To deposit with the Town Treasurer cash in the form of a Certified Check or Pass Book payable to the Town of South Hadley, or file with the Town Treasurer a bond with sufficient sureties, approved by the Town in the amount of _____ which shall insure to the said Town the faithful performance, by the subdivider, of the within covenants, promises and agreements, which shall be applied in one of the following ways;
 - a. Full amount to be deposited before the Definitive Plan is endorsed and to be released on satisfactory completion of this agreement.
 - b. Full amount to be deposited before the Definitive Plan is endorsed and at the request of the subdivider, partial release to be made upon satisfactory completion and approved by the Planning Board of items 1(a), 1(b), 1(c), 1(d), and the remainder to be released upon completion of the remaining conditions of this agreement.

NOW, THEREFORE, if the Subdivider shall, on or before _____, 20____, make and complete the work and installations as set forth herein and file with the Planning Board the Certificates of Performance required, any cash deposited hereunder shall be released to the Subdivider, and, the obligation under any surety bond filed with the Board shall be null and void; otherwise the amount which the Town pays to complete said work and installations shall be deducted from such cash deposit, and, the principal and surety

shall pay to the Treasurer of the Town the amount which the town pays to complete said work and installations; provided, however, the amount shall not exceed the total deposit required or the penal sum of the bond.

This agreement shall terminate upon satisfactory completion of all requirements under the subdivision rules and regulations of the Planning Board and of said work and installations agreed to.

This instrument includes the Subdivider, his administrator, executor, successor or assigns.

The Subdivider herein states as one of the material allegations that induce the said Town to approve this subdivision that he/it is the owner of the tract in fee, subject to the following incumbrance:

_____ and that he will not sell, convey, mortgage or pledge that tract in whole or in part, except as individual building lots, without consent of the Town and without making such sale, conveyance, mortgage or pledge subject to the conditions set forth herein.

IN WITNESS WHEREOF, the said Subdivider and mortgagee has/have caused his/their seals to be affixed and these presents to be signed the day and year first above written.

MORTGAGEE

SUBDIVIDER

RECEIPT of the original, hereof, together with the cash deposit or Bond stipulated in paragraph (4) is hereby acknowledged.

SOUTH HADLEY PLANNING BOARD

Date _____, Chairman

FORM E
SOUTH HADLEY PLANNING BOARD
COVENANT AGREEMENT

Date _____

The undersigned _____
Name(s) (Print or type)

Of _____
(No. and Street,) (City,) (County,) (State)

hereinafter called the "Covenantor", having submitted to the South Hadley Planning Board, a Definitive Plan of a subdivision entitled, _____

(Name of subdivision)

dated _____ prepared by _____

does hereby covenant and agree with said Planning Board and the successors in office of said Board, pursuant to the General Law, Chapter 41, Section 81-U as amended that:

1. The covenantor is the owner of record of the premises shown on said Plan;
2. This covenant shall run with the land and be binding upon the executors, administrators, heirs, assigns of the covenantor, and their successors in title to the premises shown on said Plan;
3. The construction of streets and ways and the installation of utility services and improvements shall be provided to serve any lot in accordance with the applicable Subdivision Rules and Regulations of said Planning Board before such lot may be built upon or conveyed, other than by mortgage deed; provided that a mortgagee who acquires title to the mortgaged premises by foreclosure or otherwise and any succeeding owner of the mortgaged premises or part thereof may sell any such lot, subject only to that portion of this covenant which provides that no lot so sold shall be built upon until such streets, ways, services and improvements have been provided to serve such lot;
4. The construction of all ways and the installation of all municipal services shall be completed in accordance with the applicable rules and regulations of the Planning Board within _____ months from the date said plan is approved.

- 5. Nothing herein shall be deemed to prohibit a conveyance subject to this covenant by a single deed of the entire parcel of land shown on the subdivision plan or of all lots not previously released by the Planning Board without first providing such streets, ways, services and improvements;
- 6. This covenant shall take effect upon the approval of said Plan;
- 7. Reference to this covenant shall be entered upon said Plan and this covenant shall be recorded when said Plan is recorded.

The undersigned _____
 (wife, husband,) of the covenantor hereby agree that such interest as (I, we,) may have in said premises shall be subject to the provisions of this covenant and insofar as is necessary release all rights of tenancy by the courtesy, dower, homestead and other interest therein.

EXECUTED as a sealed instrument this _____ day of _____ 20____

COMMONWEALTH OF MASSACHUSETTS

_____, ss. _____ 20____

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

 Notary Public

My commission expires _____

FORM G – PARTIAL PERFORMANCE

TOWN OF SOUTH HADLEY

CERTIFICATE OF PARTIAL PERFORMANCE

(Registered Engineer's and/or Surveyor's Certificate)

Date _____

To the Planning Board:

The undersigned hereby certifies that most (except as noted below) of the following described works and/or installations have been made in accordance with the approved Definitive Plan:

Name of Subdivider _____

Name of Subdivision _____

Location of Subdivision _____

This is to certify that the necessary streets, sewers, storm drains, water lines, together with their appurtenances and all other necessary requirements have been constructed and installed as specified and in accordance with Article VII and Article VIII (Section 360-31 through Section 360-49) of the Town's Subdivision Regulations and in accordance with the approved plans.

EXCEPTION NOTE: _____

Final "As-Built" plans have not been prepared.

Signature of Engineer or Surveyor

Seal

FORM G

TOWN OF SOUTH HADLEY

CERTIFICATE OF PERFORMANCE

(Registered Engineer's and/or Surveyor's Certificate)

Date _____

File one completed form with the Planning Board and one copy with the Town Clerk, accompanied by a request from the subdivider requesting release of bonds or deposit of money on specified works and installations.

To the Planning Board:

The undersigned hereby certifies that the following described works and/or installations have been made in accordance with the approved Definitive Plan:

Name of Subdivider _____

Name of Subdivision _____

Location of Subdivision _____

This is to certify that the necessary streets, sewers, storm drains, water lines, together with their appurtenances and all other necessary requirements have been constructed and installed as specified and in accordance with Article VII and Article VIII (Section 360-31 through Section 360-49) of the Town's Subdivision Regulations and in accordance with the approved plans.

Signature of Engineer or Surveyor

Seal

FORM H

**APPLICATION FOR APPROVAL OF MORE THAN
ONE BUILDING FOR DWELLING PURPOSES PER LOT**

Date _____

File one completed application form and plans with the Planning & Conservation Department or Planning Board and one copy of the application with the Town Clerk in accordance with the requirements of Section 360-28 and the Planning Board General Rules and Regulations.

To the Planning Board:

The undersigned herewith submits the accompanying “More Than One Building for Dwelling Purposes Per Lot” plan of property located in the Town of South Hadley for approval under the requirements of the Subdivision Control Law and the Rules and Regulations Governing the Subdivision of Land in the Town of South Hadley, Massachusetts.

1. Applicant _____

Address _____ Telephone _____

E-mail Address: _____

2. Owner (if not applicant) _____

Address _____

3. Name of Development _____

4. Engineer or Surveyor _____

Address _____

E-mail Address: _____

5. Deed of property recorded in the Hampshire County Registry of Deeds,

Book _____ Page _____

6. Location and description of property _____

. Map # _____ Parcel # _____

7. The subject property is presently in zoning district(s) – Sec 255-11: _____

8. Is the property in an Overlay District(s) (Sect 255-15)? ____ If so, what Overlay District(s):

Signature of Applicant

Town Clerk:

Date of Submission _____

Signature _____

FORM I

SOUTH HADLEY PLANNING BOARD

RECEIPT OF SUBMISSION OF DEFINITIVE PLAN

The signed original of this form must be filed with the Planning Board prior to the scheduling of a public hearing on a Definitive Subdivision Plan.

The Definitive Subdivision Plan identified below has been submitted for review to the following Town departments and officials on the date indicated:

Applicant: _____

Subdivision Name: _____

Subdivision Location: _____

Applicant Address: _____

SUBMITTED TO

	<u>Submitted To</u>	<u>Received by (Signature)</u>	<u>Date</u>
1.	Dept. of Public Works Supt.	_____	_____
2.	Conservation Commission	_____	_____
3.	Building Commissioner	_____	_____
4.	Water Department	_____	_____
5.	Electric Light Department	_____	_____
6.	Town Clerk	_____	_____
7.	Board of Health	_____	_____
8.	Tree Warden	_____	_____
9.	Planning Board	_____	_____
10.	Fire Chief	_____	_____

Tree and Shrub Planting Guide



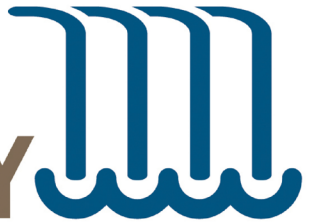
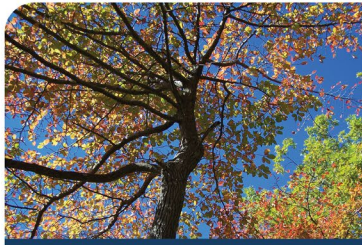
TOWN OF
**SOUTH
HADLEY** 
MASSACHUSETTS

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Overview

Plants in the built environment are critical to community health and well-being. Research demonstrates that plants improve our physical and mental health, clean air and water, provide cooling, reduce building energy needs, increase real estate value, and encourage social interactions. Many of these “ecosystem services” communities would otherwise have to pay for, likely at great expense. Additionally, plants contribute to beauty and sense of place, improving our quality of life, while supporting pollinators, birds, and other animals that are key parts of the ecosystem.

However, some plants provide *fewer* of these functions than others. Turfgrass, non-native plants, and invasive species can use up more resources and harm ecosystems; their maintenance (e.g., by mowing or hedging with gas-powered equipment) can also create pollution. **This guide shares information about selecting trees and shrubs to maximize the benefits described here; the guide works towards the creation of cohesive neighborhoods and other developed areas in South Hadley that support socialization and protect the ecological integrity of the natural landscape.**

For continued learning about ecological landscaping and gardening with native plants, see the **Resources** section.

Benefits of Plants in the Built Environment

Plants mitigate climate change and reduce building energy needs. Urban parks and forests can reduce the energy demand of nearby buildings by 10%. Urban trees can help mitigate climate change by storing carbon in tree tissue and sequestering atmospheric carbon. Trees can contribute 7-15% to property value.

Trees can improve pedestrian safety.

Pedestrian casualty decreases as tree density and canopy increase in the built environment. Trees reduce vehicle speeds by appearing to narrow the road's width. Without trees, the open space gives drivers the illusion that they have more control, which prompts them to drive faster.



Plants decrease air and water pollution.

Trees remove pollutants from the air, filtering up to a $\frac{1}{3}$ of fine pollutants within 300 yards of a tree. Airborne pollutants deposit on tree leaves, which directly removes pollutants from the air. Trees indirectly improve air quality by lowering energy use and associated emissions. Trees absorb rainfall (15-27% of annual rainfall), reducing the amount of stormwater runoff that could otherwise impact water quality of rivers and other waterbodies. Trees and other vegetation filter pollutants out of runoff. Trees cool runoff and prevent temperature shocks to



Plants support healthy communities. Being near green space reduces aggression and anxiety, improves mood, reduces mental fatigue, and encourages people to exercise more and interact with their neighbors. Green spaces help facilitate social interactions and community building. Studies show stronger social networks near trees and garden spaces.

Plants improve physical & mental health. Lowered heart rate and blood pressure are detected in people within minutes of their exposure to natural surroundings. Reductions in cortisol take a bit longer to decrease (approx. 20-30 minutes). Walks in parks cause people to dwell less on anxious thoughts and feel calmer; walks also reduce blood flow to areas of the brain associated with ruminating on negative thoughts.



Plants cool neighborhoods. Trees lower surface and air temperature by providing shade and cooling through evapotranspiration (i.e., absorbing water through roots and evaporating it through leaves). Increasing tree cover can result in fewer deaths in urban areas. Heat stress is the leading cause of weather-related deaths, and can exacerbate underlying illnesses. Heat vulnerability is increasing with climate change; heat-related mortality for people 65+ increased by 85% between 2000–2004



Sources utilized in this section:

(Hyperlinks directing to external organizations are subject to change.)

- Environmental Protection Agency. “Benefits of Trees and Vegetation.” (2025). <https://www.epa.gov/heatislands/benefits-trees-and-vegetation>
- National Park Service. “Carbon Storage by Urban Forests.” (2022). <https://www.nps.gov/articles/000/uerla-trees-carbon-storage.htm>
- Kovacs, Kent et al. “Tree Cover and Property Values in the United States: A national meta-analysis.” *Ecological Economics*. Vol. 167 (2022). <https://www.sciencedirect.com/science/article/abs/pii/S0921800922000866>
- Zhu, Manman, et al. “Effect of Urban Street Trees on Pedestrian Safety: A Micro-level Pedestrian Casualty Model using Multivariate Bayesian Spatial Approach.” *Accident Analysis & Prevention*. Vol. 176. (2022). <https://www.sciencedirect.com/science/article/abs/pii/S0001457522002536>
- Hester, Christina. “Trees for Traffic Calming.” CaseyTrees, Washington, D.C. (2023). <https://caseytrees.org/2023/01/trees-for-traffic-calming/>
- Allard, Robert. “Trees for Clean Air.” Wisconsin DNR Forestry News. (2020). <https://forestrynews.blogs.govdelivery.com/2020/08/14/trees-for-clean-air/>

- World Health Organization. “Heat and Health.” (2024). <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>
- Stuart-Smith, Sue. *The Well-Gardened Mind: The Restorative Power of Nature*. Scribner. (2020).

Sustainable Design Standards for Landscapes

The following design standards apply to all types of developments in the built environment.

- 1. Retain existing trees to the maximum extent practicable.** Trees provide many services to communities, such as shade, stormwater interception, and air pollution mitigation. Preserve existing native species or non-native tree species that are not likely to become invasive. Explore alternative locations and configurations of new buildings, roads, utility trenches, and other infrastructure to avoid tree removals.
- 2. Protect existing vegetation during construction.** Prior to site work, install tree protection fencing ideally at the tree crown's drip line. This area is referred to as the *Critical Root Zone (CRZ)* and contains roots critical to the tree's survival, though tree roots do spread beyond the canopy. Within the fenced area, stockpiling materials and use of heavy equipment should be avoided. Avoid utility trenching within the critical root zone; if this is not possible, explore options for hand trenching and air spading to avoid cutting large roots. Fence or flag other vegetated areas (e.g., shrubs, meadows, perennial beds) to limit damage. Compaction of soil by storing materials or using heavy machinery is difficult to reverse.
- 3. Follow the 10-20-30 rule for tree diversity for new plantings.** Plantings must be comprised of no more than 10% of any one species, 20% of any one genus, or 30% of any one plant family. This is required for new developments, and a best practice for any type of site.
- 4. Plantings must be comprised of at least 70% native species,** preferably native to New England but also native to other nearby North American eco-regions as appropriate due to climate change (i.e., "climate smart plant choices"). "Native" plants are those historically found growing without human intervention in Massachusetts.

What is a "Species"?

A "species" is a distinct type of plant. A plant's scientific name includes two parts: the first part is the genus, and the second is the species. "Genus" describes a group of plant species with similar traits (e.g., for purple coneflower, whose scientific name is *Echinacea purpurea*, *Echinacea* is the genus, and adding *purpurea* describes the species. "Family" is a higher level of classification: plants in this group of plant genera (the plural form of "genus") share certain characteristics. *Echinacea* are part of the *Asteraceae*, or aster, family, which also includes black-eyed Susans (*Rudbeckia hirta*), and, as you

5. **No invasive species on the Commonwealth’s Massachusetts Prohibited Plant List ([located here](#)) can be bought, sold, or planted into any landscaped area.** It is recommended that developers and landowners/managers also avoid planting species listed on MIPAG’s “Likely Invasive” and “Potentially Invasive” lists ([located here](#)).

6. **Ensure alignment between existing site conditions and the plants’ growing requirements (i.e., right plant, right place).** To maximize the success of the planting selection, analyze existing conditions to determine sun exposure, soil type, soil moisture, and other types of environmental conditions (e.g., exposure to excess heat and polluted runoff). The worksheet included in this guide can help you through this process. Match existing site conditions with the plant’s ideal growing conditions.

7. **Avoid conflicts with above and below ground infrastructure.** Examine locations of buildings and other structures, above ground utilities (e.g., overhead wires), and underground utilities. Consider the size of the plant at maturity to make sure that the plant won’t damage buildings or utilities. Planting some tree species too close to sidewalks and other pavements can impact the tree’s health and cause damage to the pavement.

Is This Species Native?

The Native Plant Trust’s GoBotany website (<https://gobotany.nativeplanttrust.org/simple/>) can help with identifying if plants are native; search for an individual species, and check the “Native to North America” and “Distribution” characteristics.

What are invasive plants?

Invasive plant species are “non-native species that have spread into native or minimally managed plant systems in Massachusetts” (MIPAG). “These plants cause economic or environmental harm by developing self-sustaining populations and becoming dominant and/or disruptive to those systems” (MIPAG). Not all non-native species are considered invasive. The Massachusetts Invasive Plant Advisory Group (MIPAG) identifies non-native species that are invasive, likely invasive, or potentially invasive. The Massachusetts Department of Agricultural Resources (MDAR) holds hearings to determine if species that MIPAG lists as “invasive” should be added to MDAR’s list of noxious weeds. **This list prohibits the importation, propagation, purchase and sale of plants on it in the**

What are Climate-Smart Plant Choices?

UMass Amherst and the Northeast Regional Invasive Species and Climate Change Management Network (NE RISCC) created a Climate-Smart Gardening Guide (see fact sheet on page 39; the guide is available free online [here](#)) with commercially available native and near-native plants that are anticipated to grow in the Northeast as the impacts of climate

8. **Utilize groundcover plants to fill in mulched areas.** In landscaped areas where shrubs and other plants are spaced apart from one another with mulch in-between, add groundcover species to fill these mulched spaces over time. This can reduce the need for annual mulch applications and herbicide treatment of weeds. Groundcovers form a “living mulch” that shades the soil, builds soil fertility, reduces stormwater runoff, and increases habitat.

9. **Vegetation in built environments will always require some maintenance. Create a maintenance plan with the person or team that will be maintaining the landscape long-term.** Trees will need watering through establishment (at least the first two years). Stakes and tree ties should be removed after the first season; in many cases, these are forgotten and left on the tree, girdling and killing it. Trees also need pruning every 5 to 7 years to remove broken, diseased, and dead branches, along with branches that cross each other. Some land managers perform yearly inspections. Trees should be protected from mowing equipment: it is not uncommon to see riding mower damage at the base of tree trunks, which can cause permanent damage. One way to keep mowers away from tree trunks is to install mulch rings. Groundcovers can be planted within the rings to reduce the need for annual mulch applications. Many shrubs will not need maintenance; there are some visual benefits to cutting back particular species annually.

10. **Consider the use of massing plants to cover ground, reduce turf area, and define spaces.** Shrubs, grasses, and perennials can be planted in groups to cover ground area, outcompete weeds, and provide many of the functions explained in the Overview section. When massing plants, keep in mind necessary sightlines that must be preserved for safety (e.g., at road intersections) and perception of safety (e.g., to make sure pedestrians feel comfortable). Also keep in mind overall biodiversity within the planting (see the 10-20-30 rule). The following pages share examples of massing plants.

11. **Inspect vegetation prior to planting.** If possible, select trees and shrubs at the nursery for your site. Inspect the trunk to make sure there is no damage. For trees, make sure there is a leader and that it is not broken. Make sure that the root flare is visible and not buried. Look at the roots to see if they have begun to circle the pot or girdle the tree trunk.

Example: Massing Plants



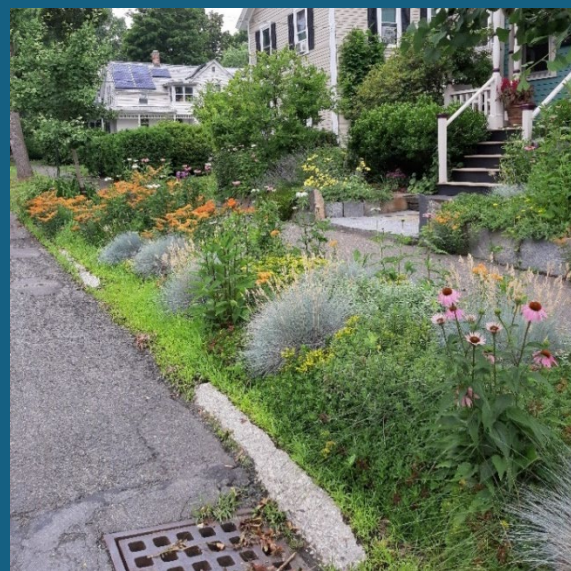
CONVENTIONAL: In this landscaped area, shrubs are sheared several times throughout the summer to maintain their shape. This requires time and energy, and mulch is applied annually. This shrub species is also a state-listed invasive plant. The mulch is eroding due to its slope and exposure to rain.



ALTERNATIVE: Here, the woody shrub smooth sumac (*Rhus aromatica*) is planted as a dense mass to fill an area between the sidewalk and the street. The shrub will need annual cutting back to prevent growth into the sidewalk. The soil surface is protected and stabilized.



ALTERNATIVE: Masses of ornamental grasses are interspersed with woody shrubs to add color, texture, and biodiversity. Sightlines over the tops of the vegetation are preserved. Grasses are cut back annually.



ALTERNATIVE: Multiple perennial species are intermixed here. Though this can require more skill and time to maintain, the visual effect is striking and the planting is more diverse. Note the repetition of species such as the blue-hued grass (blue fescue)

Example: Covering Ground



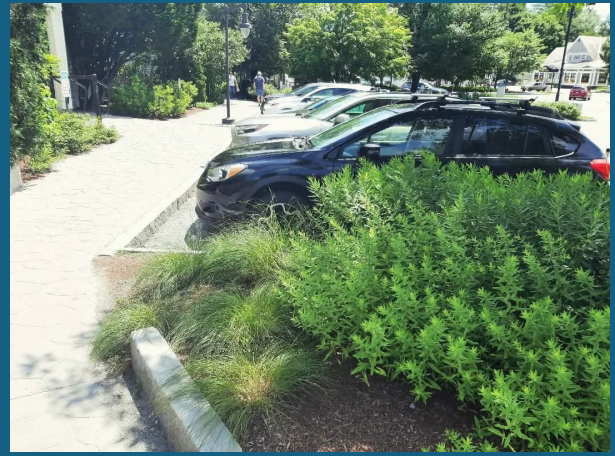
CONVENTIONAL: In this commercial parking lot median, wide expanses of mulch require weeding and annual mulch applications. The mulch surface produces stormwater runoff and provides minimal cooling. Understory plants (in this case ornamental grasses and daylilies) are spaced too far apart to shade the ground and outcompete weeds.



ALTERNATIVE: Here, wide medians in the parking lot provide more space for healthier tree root system development. Perennial flowers and grasses planted underneath cover ground.



ALTERNATIVE: The combination of understory plants provides interesting textures and colors for people visiting this site.

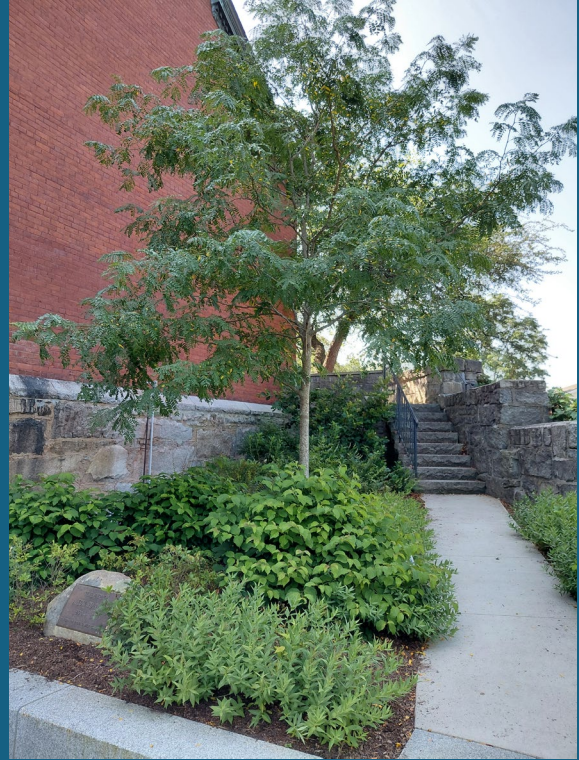


ALTERNATIVE: Plants are chosen strategically to not block sightlines of drivers. Combining plants that reach a maximum of 2 to 3 feet in height with shade trees creates open sightlines between the tops of the perennials and where the tree canopy begins.

Example: Diversifying Plantings



CONVENTIONAL: Burning bush, a state-listed invasive plant that can cause ecological harm, is the only shrub species filling this long parking lot median. Massing this plant does cover ground, but makes the planting less resilient should the species struggle.



ALTERNATIVE: Here, a deciduous tree is underplanted with a row of eastern bluestar (*Amsonia*, foreground), shrub dogwood (*Cornus/Swida*, middle), and the shrub/small tree witch hazel (background). Species are massed in identifiable rows, and the planting is more diverse.

How to Use the Worksheet and List

This guide includes a process for identifying plant species for your site, and recommendations for specific tree and shrub species.

- I. **STEP 1: Fill out the Tree and Shrub Selection Worksheet.** This will help you identify your site conditions and important, desired characteristics.
- II. **STEP 2:** Browse through the **Recommended Plant List** and identify species that meet your criteria. A **quick reference guide for tree height** is also provided.
- III. **STEP 3:** Read through the **Planting Guidelines** to learn about best management practices.

Tree and Shrub Selection Worksheet

Site Location & Description

Desired Tree or Shrub Size

Mature Height: _____ **Mature Spread:** _____

Site Factors

- Soil Moisture:** Wet (poor drainage)
 Moist
 Well Drained (good drainage)

- Sun Exposure:** Full Sun (6+ hours)
 Part Sun (direct sun for less than 6 hours, or filtered sunlight for much of the day)
 Full Shade (little direct sunlight)

Other Conditions

- Salt tolerance** (When a plant is located near a roadway that is treated in the winter with salt; or when the plant is in an area that receives stormwater runoff from treated roadways)
- Excess Heat** (Areas with full sun exposure and/or where the plant is subject to reflected and radiated heat loads from pavements, cars, and buildings. Areas near roads and parking lots and against buildings tend to be hotter than areas in a vegetated landscape.)
- Drought Prone** (Areas that may have full sun exposure combined with quickly-draining, sandy soils)

Desired Characteristics

- Striking Fall Foliage**
- Evergreen**
- Fits Under Powerlines**
- Stormwater Tolerant** (Plants that can typically handle temporary flooded conditions as well as periods of drought. Species tend to be salt and pollution tolerant, and have root systems that support infiltrating soils.)
- Pollinator Powerhouse** (Plants that serve a diversity of pollinator species and/or specialist pollinators that rely on that particular species for survival.)

Recommended Plant List

All plants on this list are suitable for **Hardiness Zones 6a** (-10 to -5 °F) **and 6b** (-5 to 0 °F); all land within South Hadley is currently mapped as one of these zones. (For more information, visit <https://planthardiness.ars.usda.gov/>). Note that hardiness zones will change as the climate shifts.

A note on cultivars: A cultivar is a type of species that has been selected for particular, desired traits. Cultivars are indicated with apostrophes (e.g., 'Glenmore'). When buying a plant that is a cultivar, check plant characteristics on the plant tag to ensure that they align with your site conditions and desired characteristics. Some tree cultivars are dwarf specimens, and may only grow to a few feet tall. Some cultivars may not support pollinators and other types of wildlife compared to the straight species of the plant; if supporting wildlife is a primary goal, use cultivars with caution.

A note on pests: The Asian long-horned beetle (*Anoplophora glabripennis*) is particularly drawn to maple trees and will bore into other species as well. Spongy moth (*Lymantria dispar*) feeds on many types of trees and shrubs but particularly prefers oaks. Some communities avoid planting maple and oak trees to avoid losses. Hemlock trees have not been included on the list below due to their susceptibility to the hemlock woolly adelgid (*Adelges tsugae*); ash trees have not been included due to their susceptibility to the emerald ash borer (*Agrilus planipennis*).

Table Key

Bolded species are native to Massachusetts.

Sun: FS = Full Sun; PS = Part Sun; S = Full Shade

Soil Moisture: WD = Well Drained; M = Moist; W = Wet

Other Conditions:

Ⓓ = Drought Tolerant

Ⓗ = Excessive Heat Tolerant

🌳 = Salt Tolerant

Desired Characteristics:

🍂 = Notable Fall Foliage

💧 = Suitable for Stormwater Management Facilities (e.g., rain gardens, swales)

⚡ = Suitable under Powerlines




























🌲 = Evergreen

🦋 = Pollinator Powerhouse






























Tree Species























Scientific Name	Common name	Mature Height	Mature Spread	Sun	Soil Moisture	Other Conditions	Desired Characteristics
<i>Abies concolor</i>	White Fir	50'	25'	FS	WD, M	Ⓓ	🌲
<p>Large, evergreen, pyramidal-shaped tree; easily transplanted; prefers a deep, well-drained soil with adequate moisture; can tolerate more heat and drought than other firs; native to the mountains of the North American west; not for use as a street tree, but excellent as a landscape specimen; provides cover for birds and other wildlife.</p>							
<i>Abies fraseri</i>	Fraser Fir	40'	25'	FS	WD, M		🌲
<p>Medium, evergreen, pyramidal-shaped tree; prefers cooler conditions; dislikes alkaline soils; native to the southeast U.S.; food source for mammals and provides cover for birds and other wildlife.</p>							

<i>Acer rubrum</i>	Red Maple	75'	40'	FS PS	WD, M	Ⓧ	  
Medium to large , deciduous, pyramidal to oval-shaped tree; fast-growing; showy early spring red flowers; tolerant of many conditions; prefers moist and acidic soil; can tolerate flooding; appropriate as a street tree where it will not grow into powerlines; early nectar source for bees; flowers attract many pollinators and seeds are eaten by birds and small mammals.							
<i>Acer saccharinum</i>	Silver Maple	70'	50'	FS PS	WD, M	Ⓧ	  
Large , deciduous, oval/rounded tree; fast growing; yellowish green fall foliage; easily grown and tolerant of many soils; works well as a shade tree; shallow rooted and thus not ideal next to pavements; early nectar source for bees; seeds are eaten by birds and small mammals.							
<i>Aesculus x arnoldiana</i>	Arnold Buckeye	75'	25'	FS PS	WD, M	Ⓧ Ⓜ	
Large , deciduous, rounded tree; showy flowers with chestnut-like fruit in fall; avoid very dry sites; cross between species found in the southeast U.S.							
<i>Aesculus flava</i>	Yellow buckeye	75'	35'	FS PS	WD M		
Large , deciduous, rounded tree; interesting leaf shape; showy light yellow flowers in spring; produces nuts; hummingbirds, bees, butterflies, and other pollinators visit the flowers; squirrels eat the nuts; native just outside of Massachusetts; climate-smart plant choice.							
<i>Amelanchier laevis</i>	Service- berry	25'	10'	FS W	WD M		  
Small , deciduous tree with rounded form; can be found as a single trunk or multi-stemmed plant; white flowers in early spring; yellow-orange fall color; host plant for particular butterfly species; flowers attract bees and fruits are consumed by birds and mammals.							
<i>Amelanchier x grandiflora</i>	Apple service- berry	25'	25'	FS PS	WD M W		 
Small , deciduous tree with rounded form; can be found as a single trunk or multi-stemmed plant; white flowers in early spring; yellow-orange-dark red fall color; fruit is consumed by birds and mammals.							
<i>Betula alleghaniensis</i>	Yellow birch	75'	60'	FS PS	WD M		 
Large , deciduous tree with rounded form; yellow fall foliage; best in cool, moist areas; host plant for particular moths and butterflies; birds eat the seeds and use hollows as nesting sites; squirrels line nests with exfoliating bark.							
<i>Betula nigra</i>	River birch	50'	35'	FS PS	WD M		  
Large , deciduous tree with rounded form (though some cultivars are considerably shorter); interesting bark; more heat tolerant than other birches; host plant for particular moths and butterflies; birds eat the seeds.							
<i>Carpinus caroliniana</i>	American hornbea m	30'	25'	PS S	M		  
Medium , deciduous tree with a spreading form; prefers fertile, acidic, moist soil; host plant for particular butterflies; seeds are consumed by birds, foxes, and squirrels.							
<i>Carya glabra</i>	Pignut hickory	65'	40'	FS PS	WD M	Ⓧ Ⓜ 	 
Large , deciduous tree with oval form; yellow fall foliage; interesting bark texture; host plant for particular butterflies and moths; mammals eat the nuts.							
<i>Carya ovata</i>	Shagbark hickory	80'	35'	FS PS	WD M	Ⓧ Ⓜ 	 
Large , deciduous tree with oval form; yellow fall foliage; interesting bark texture; host plant for particular butterflies and moths; mammals eat the nuts.							

<i>Celtis occidentalis</i>	Common Hackberry	55'	50'	FS PS S	WD M	Ⓧ Ⓧ 🌲	🦋
Medium , deciduous tree; yellow fall color; tolerant of a wide range of conditions; host plant for particular butterfly species; birds and small mammals eat the fruit.							
<i>Cercis canadensis</i>	Eastern redbud	25'	25'	FS PS	WD M		🍁 🦋
Medium , deciduous, rounded tree; native just south of New England; showy pink flowers in spring before leaf out; yellow-green fall foliage; host plant for many species; used by leafcutter bees.							
<i>Chionanthus virginicus</i>	Fringetree	30'	20'	FS PS	WD M	Ⓧ	🍁 🦋
Medium , deciduous tree; native just south of New England; showy white flowers in late spring; yellow fall foliage; birds and mammals eat the fruit.							
<i>Cornus kousa</i>	Kousa dogwood	30'	25'	FS PS	WD		🍁 🦋
Medium , deciduous, rounded tree; native to Asia; late spring flowers; scarlet fall foliage; squirrels and birds eat the fruit.							
<i>Cornus mas</i>	Cornelian cherry dogwood	20'	20'	PS S	WD M		🍁 🦋
Small , deciduous tree with rounded form; yellow flowers in early spring; yellow fall foliage to sometimes red-purple; squirrels and birds eat the fruit.							
<i>Cornus florida</i>	Flowering dogwood	30'	30'	FS PS	M		🍁 🍃 🦋
Small , deciduous tree with rounded form; prefers cool and acidic soil with organic matter; showy white bracts appear around the flowers in spring before leaf out; red to purple fall foliage; host plant for particular butterflies; birds and mammals eat the fruit; supports specialized bees.							
<i>Crataegus crus-galli</i>	Cockspur hawthorn	25'	25'	FS PS	WD M	Ⓧ Ⓧ	🍁 🦋
Small to medium , deciduous, dense and rounded tree; white flowers in spring; red fall foliage; has sharp thorns though some cultivars are thornless; host plant for particular butterflies; nectar source and nesting habitat.							
<i>Crataegus viridis</i>	Hawthorn	25'	25'	FS	WD M	Ⓧ Ⓧ	🍁 🦋
Small to medium , deciduous tree; rounded form; native to southeast U.S.; adaptable to many conditions; red berries in winter; white flowers in spring; reddish-purple fall color; has sharp thorns through some cultivars are thornless; host for particular butterflies; nectar source and nesting habitat.							
<i>Ginkgo biloba</i>	Ginkgo	50'	30'	FS	WD M	Ⓧ Ⓧ 🌲	🍁
Large , deciduous tree; oval form; native to eastern China; striking yellow fall foliage.							
<i>Gleditsia triacanthos var. inermis</i>	Honey locust	50'	50'	FS	WD M	Ⓧ 🌲	🍁 🦋
Medium , deciduous tree with rounded form; native just south of New England; striking yellow fall foliage; casts light shade; if var. inermis is not selected, tree will likely have large thorns; host plant for moths and butterflies; seeds are consumed by small mammals and birds; nectar source.							
<i>Gymnocladus dioica</i>	Kentucky coffee tree	70'	50'	FS	WD M	Ⓧ Ⓧ	🍃
Large , deciduous tree with rounded form; native just south of New England; prefers moist and rich soil but adaptable to many conditions; yellowish fall foliage; interesting bark texture; male tree will not produce seeds pods, which some find messy; female tree has showy flowers; larval host for particular moth species							

<i>Halesia carolina</i>	Carolina silverbell	35'	25'	FS PS	WD M	Ⓧ 	
Medium , deciduous tree with irregular to rounded form; native to mid-Atlantic and southeast U.S.; showy white flowers in spring; yellow-green fall foliage; prefers acidic soils; support hummingbirds and is a host plant for several butterflies and moths.							
<i>Hamamelis vernalis</i>	Ozark witch hazel	10'	10'	FS PS	WD M	Ⓧ 	  
Small , deciduous tree/large shrub; native to the southeast U.S.; yellow fall color; yellow flowers in early spring; attracts pollinators and supplies food for nesting birds and small mammals.							
<i>Hamamelis virginiana</i>	Witch hazel	20'	15'	FS PS	WD M		  
Medium , deciduous tree/large shrub; spreading, open form; yellow fall color; yellow flowers in late fall/early winter; prefers moist, cool, acidic soil; moths pollinate the flowers; seeds are eaten by turkeys; small mammals and birds consume the fruit.							
<i>Ilex opaca</i>	American holly	50'	20'	FS PS	WD M		  
Medium/large , evergreen tree with pyramidal form; prefers cool, acidic soils and sites protected from wind; provides nectar for bees and butterflies and is a host plant for particular butterfly species; birds and small mammals eat the fruit; there are many cultivars available with different mature sizes.							
<i>Juniperus virginiana</i>	Eastern red cedar	40'	20'	FS W	WD M	Ⓧ Ⓜ 	  
Medium , evergreen, pyramidal tree; blue berry-like cones; tolerant of many conditions; host plant for cedar apple rust (avoid planting near apple/crabapple and quince); provides winter cover for wildlife; supports butterflies, moths, songbirds, and small mammals.							
<i>Liquidambar styraciflua</i>	American sweetgum	60'	40'	FS	M W	Ⓧ Ⓜ	 
Large , deciduous tree with oval form; works well as a street tree where space allows; red fall foliage; may require a sheltered location; spiny fruits may be messy; supports particular moths and songbirds.							
<i>Liriodendron tulipifera</i>	Tulip tree	90'	50'	FS	M		 
Large , deciduous tree with oval form; tulip-like flowers in the upper branches; yellow fall color; prefers moist and rich soil; requires plenty of space to grow; host plant for multiple butterflies; hummingbirds, bees, butterflies, and birds feed on flower nectar; small mammals eat the flowers.							
<i>Malus x varieties</i>	Flowering crabapple	20'	15'	FS	WD M	Ⓧ	  
Small , deciduous tree; white to pink to red flowers in spring; yellow to red fall foliage; prefers acidic soils; host plant for butterflies and moths; available in many varieties and cultivars with different levels of heat, drought, and salt tolerance, though this plant generally performs well in developed settings; most species are native to Eurasia but there are species native to the North American eastern coast (<i>M. coronaria</i> and <i>M. angustifolia</i>); will host tent caterpillars.							
<i>Magnolia stellata</i>	Star magnolia	20'	15'	FS	M	Ⓜ	 
Small , deciduous tree/large shrub with rounded, open form; native to Japan; white flowers in early spring; prefers rich, moist soil; heat tolerant in moist soils; butterflies pollinate the flowers; birds and small mammals consume seeds.							
<i>Magnolia grandiflora</i>	Southern magnolia	70'	40'	FS PS	WD M	Ⓜ 	
Large , evergreen tree with pyramidal to oval form; native to the southeast U.S.; showy white flowers; provides winter cover for wildlife; birds and small mammals eat the seeds; potential climate-smart plant choice.							

<i>Magnolia virginiana</i>	Sweetbay magnolia	30'	30'	FS PS	WD M		 
Small to medium , semi-evergreen tree with open, irregular form; evergreen in the southeastern U.S. and somewhat evergreen in Massachusetts; white flowers in summer; prefers acidic soils and locations protected from winter winds; provides winter cover for wildlife and is a larval host plant for particular butterflies; birds and small mammals eat the seeds.							
<i>Metasequoia glyptostroboides</i>	Dawn redwood	100'	50'	FS	WD M	Ⓧ	
Large , deciduous conifer with conical form; native to China; leaf texture is airy; interesting bark texture; fast grower; provides winter cover for wildlife.							
<i>Nyssa sylvatica</i>	Black tupelo	50'	35'	FS	WD M	Ⓧ	  
Large , deciduous tree; pyramidal form; striking red fall foliage; prefers deep and acidic soils; important food source for fall bird migration; nectar source for bees; berries consumed by birds and mammals.							
<i>Ostrya virginiana</i>	Hop hornbeam	40'	35'	FS PS S	WD M	Ⓧ	
Large , deciduous tree; rounded form; prefers slightly acidic, moist, cool soil; very sensitive to salt; yellowish to brown fall foliage; interesting bark; host plant for butterflies and moths; nuts consumed by birds and small mammals.							
<i>Oxydendrum arboreum</i>	Sourwood	30'	15'	FS PS	WD M	Ⓧ	 
Medium , deciduous tree; prefers acidic soils; showy white flowers in summer; red to purple fall foliage; larval host for moths; supports bees; native to the southeastern U.S.; climate-smart plant choice.							
<i>Pinus strobus</i>	Eastern white pine	80'	40'		WD M	Ⓧ	
Large , evergreen tree; prefers acidic soils; prone to breakage and thus best suited out in the landscape, away from buildings and areas of frequent use; supports particular moth species; seeds and bark consumed by mammals and birds; provides cover for wildlife.							
<i>Platanus x acerifolia</i>	London planetree	90'	70'	FS	WD M	Ⓧ	
Large , deciduous tree with rounded form; interesting bark texture; yellow-brown fall foliage; adaptable to tough sites; supports some pollinators, birds, and small mammals.							
<i>Platanus occidentalis</i>	Sycamore	90'	70'	FS	WD M	Ⓧ	
Large , deciduous tree with rounded form; interesting bark texture; yellow-brown fall foliage; fruit can be considered messy; seeds are consumed by songbirds.							
<i>Prunus serotina</i>	Black cherry	55'	30'	FS	WD M	Ⓧ Ⓜ 	 
Large , deciduous tree; white flowers in spring; yellow to orange fall foliage; host plant for many butterflies; fruits are eaten by songbirds and small mammals; will host tent caterpillars and fruits can stain hardscape.							
<i>Prunus virginiana</i>	Choke- cherry	25'	20'	FS PS	WD M	Ⓧ Ⓜ 	 
Medium , deciduous tree with rounded form; showy white flowers in spring; yellow to orange to red fall foliage; host plant for many butterflies; fruits are eaten by birds and mammals; will host tent caterpillars and fruits can stain hardscape.							
<i>Quercus alba</i>	White oak	60'	60'	FS PS	WD M	Ⓧ	 
Large , deciduous tree with rounded form; slow-grower; prefers acidic soils; purple-red fall foliage; produces acorns; host plant that supports many butterfly and moth species; acorns are consumed by birds and mammals.							
<i>Quercus bicolor</i>	Swamp white oak	60'	60'	FS PS	WD M	Ⓧ	 



Large, deciduous tree with rounded form; yellow to red fall color; produces acorns; host plant that supports many butterfly and moth species; acorns are consumed by birds and mammals.

<i>Quercus palustris</i>	Pin oak	70'	50'	FS	WD M	 	 
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Large, deciduous tree with pyramidal form; prefers acidic soils; red to bronze fall foliage; produces acorns; host plant that supports many butterfly and moth species; acorns are consumed by birds and mammals.

<i>Quercus rubra</i>	Northern red oak	75'	60'	FS	WD M	 	 
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Large, deciduous tree with rounded form; prefers acidic soils; host plant that supports many butterfly and moth species; acorns are consumed by birds and mammals.

<i>Rhododendron maxima</i>	Rosebay rhododendron	8-30'		PS	WD M		 
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Small to medium, evergreen shrub/tree; pink flowers in early summer; prefers cool, moist soil that is not exposed to winter winds or intense sun; provides cover habitat and flowers attract hummingbirds, bees, and butterflies.

<i>Taxodium distichum</i>	Bald cypress	50-70'	30'	FS	M W	 	 
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Large deciduous, coniferous tree with pyramidal form; interesting bark; native to the southeastern U.S.; prefers acidic soils; wild turkey, squirrels, and songbirds eat the seeds, and branches provide nesting sites for birds of prey; climate-smart plant choice.

<i>Thuja occidentalis</i>	White cedar	30-60'	15'	FS	WD M	 	 
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Medium, evergreen tree with dense, pyramidal form; prefers moist, loamy soils but is adaptable; many cultivars are available with different forms and sizes; provides cover and nesting locations for birds and small mammals, browsed by deer and other mammals; seeds are a preferred food source for the pine siskin songbird.

<i>Tilia americana</i>	American linden, basswood	55'	35'	FS	M		
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Large, deciduous tree with oval/pyramidal form; prefers deep, rich soils; green-yellow fall foliage; appropriate as a street tree where space allows; white flowers in summer attract bees; cavities in trunk are used by woodpeckers and small mammals.

<i>Tilia cordata</i>	Littleleaf linden	50'	30'	FS	WD M		
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Large, deciduous tree with oval form; yellow-green fall foliage; native to Europe; appropriate as a street tree where space allows; bees are drawn to the flowers.

Quick Reference Guide: Tree Species

As noted previously, cultivars of these species may have lower typical heights.

Small (under 20')

Scientific Name	Common Name
<i>Cornus mas</i>	Cornelian cherry
<i>Hamamelis vernalis</i>	Ozark witch hazel
<i>Hamamelis virginiana</i>	Witch hazel
<i>Malus x varieties</i>	Flowering crabapple
<i>Magnolia stellata</i>	Star magnolia

Medium (20-50')

Scientific Name	Common Name
<i>Abies fraseri</i>	Fraser fir
<i>Amelanchier laevis</i>	Serviceberry
<i>Amelanchier x grandiflora</i>	Apple serviceberry
<i>Carpinus caroliniana</i>	American hornbeam
<i>Cercis canadensis</i>	Eastern redbud
<i>Chionanthus virginicus</i>	Fringetree
<i>Cornus kousa</i>	Kousa dogwood
<i>Cornus florida</i>	Flowering dogwood
<i>Crataegus crus-galli</i>	Cockspur hawthorn
<i>Halesia carolina</i>	Carolina silverbell
<i>Ilex opaca</i>	American holly
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Magnolia virginiana</i>	Sweetbay magnolia
<i>Ostrya virginiana</i>	Hop hornbeam
<i>Oxydendrum arboreum</i>	Sourwood
<i>Prunus virginiana</i>	Chokecherry
<i>Rhododendron maxima</i>	Rosebay rhododendron

Large (>50')

Scientific Name	Common Name
<i>Abies concolor</i>	White fir
<i>Acer rubrum</i>	Red maple
<i>Acer saccharinum</i>	Silver maple
<i>Aesculus flava</i>	Yellow buckeye
<i>Betula alleghaniensis</i>	Yellow birch
<i>Betula nigra</i>	River birch
<i>Carya glabra</i>	Pignut hickory
<i>Carya ovata</i>	Shagbark hickory
<i>Celtis occidentalis</i>	Common hackberry
<i>Ginkgo biloba</i>	Ginkgo
<i>Gleditsia triacanthos var. inermis</i>	Honey locust
<i>Gymnocladus dioicus</i>	Kentucky coffee tree
<i>Liquidambar styraciflua</i>	American sweetgum
<i>Liriodendron tulipifera</i>	Tulip tree
<i>Magnolia grandiflora</i>	Southern magnolia
<i>Metasequoia glyptostroboides</i>	Dawn redwood
<i>Nyssa sylvatica</i>	Black tupelo
<i>Pinus strobus</i>	Eastern white pine

Dwarf Tree Cultivars

Some cultivars of trees on the “medium” list grow less than or up to twenty feet in height and may be appropriate to plant where vertical space is limited. Examples include *Malus* ‘Snowdrift’ and *Malus* ‘Adirondack’ (flowering crabapple), *Cercis canadensis* ‘Tennessee Pink’ (eastern redbud), and *Halesia carolina* ‘Meehanii.’ See note on page 13 for















































with branching and leaves extending from the ground to the top of the plant. While this can make them ideal for privacy screening, if planted at intersections or in masses along the street, this can block drivers' views of other vehicles or pedestrians. Drivers' eye height is typically between 3.5 feet and 9 feet. Planting shrubs with a maximum height of 3.5', and/or selecting shrubs that are openly branching in form (e.g., *Aronia*, chokeberry) may be a better choice along the road edge. These shrub plantings can be combined with trees that typically do not have branches close to the ground or can be

<i>Platanus x acerifolia</i>	London planetree
<i>Platanus occidentalis</i>	Sycamore
<i>Prunus serotina</i>	Black cherry
<i>Quercus alba</i>	White oak
<i>Quercus bicolor</i>	Swamp white oak
<i>Quercus palustris</i>	Pin oak
<i>Quercus rubra</i>	Northern red oak
<i>Taxodium distichum</i>	Bald cypress
<i>Thuja occidentalis</i>	White cedar
<i>Tilia americana</i>	American linden
<i>Tilia cordata</i>	Littleleaf linden























Shrub Species



Scientific Name	Common Name	Mature Height	Mature Spread	Sun	Soil Moisture	Other Conditions	Desired Characteristics
<i>Amelanchier obovalis</i>	Coastal serviceberry	3-5'	3-5'	FS PS	WD M	Ⓓ Ⓗ	🌿 ♀
Deciduous, compact, vase-like shrub native to the Atlantic coastal plain; showy white flowers in early spring; yellow to orange fall foliage; supports native bees, butterflies, and birds; climate-smart plant choice.							
<i>Aronia arbutifolia</i>	Red chokeberry	6-8'	3-4'	FS PS	WD M	Ⓓ Ⓗ 🌲	🌿 💧 ♀
Deciduous, vase-shaped, openly branching shrub; flood and drought tolerant; white flowers in early spring; red leaves and small berries in fall; supports pollinators, birds, and small mammals.							
<i>Aronia melanocarpa</i>	Black chokeberry	3-6'	3-6'	FS PS	WD M	Ⓓ Ⓗ 🌲	🌿 💧 ♀
Deciduous, vase-shaped, openly branching shrub; flood and drought tolerant; white flowers in early spring; scarlet leaves and small purple-black berries in fall; supports pollinators, birds, and small mammals.							
<i>Ceanothus americanus</i>	New Jersey tea	3-4'	3-5'	FS PS	WD M	Ⓓ Ⓗ 🌲	♀ 🦋
Deciduous, compact, dense, rounded shrub; fragrant white flowers in late spring; young twigs have a yellow hue and stand out in winter; deep roots help with drought tolerance; caterpillars eat the leaves (e.g., of the spring azure butterfly).							
<i>Cephalanthus occidentalis</i>	Buttonbush	5-12'	4-8'	FS PS	WD M	Ⓓ 🌲	💧 ♀ 🦋
Deciduous shrub with glossy green leaves; flood and drought tolerant; great for restoration as it stabilizes soil and has a deep root system; unique white flowers in early spring; supports pollinators and birds; in wetlands, used by particular bird species for nesting.							

<i>Clethra alnifolia</i>	Summersweet	4-8'	4-8'	FS PS	WD, M		  
Deciduous, dense shrub; flood tolerant; prefers low pH (acidic) soil but will tolerate neutral soil as well; glossy green leaves turn yellow in the fall; mid-summer flowers are showy and fragrant; heavily used by pollinators and serves as cover for birds; can form dense thickets, forming edges/borders and replacing areas of lawn; has shorter dwarf cultivars.							
<i>Comptonia peregrina</i>	Sweetfern	2-5'	4-8'	FS PS	WD	  	
Deciduous shrub; can spread quickly to fill a space as a massing; foliage has an interesting texture and is aromatic when crushed; stabilizes slopes; host of 49 species of lepidoptera.							
<i>Cornus/Swida amomum</i>	Silky dogwood	6-12'	6'-12'	FS PS FS	WD M		   
Deciduous, spreading shrub; fast-grower; tolerates a wide range of soil conditions; produces white flowers in spring and dark blue berries in fall; fall color is yellow; will form thickets; great for restoration as it stabilizes soil and has a robust root system; provides food and nectar for insects and animals.							
<i>Cornus/Swida drummondii</i>	Roughleaf dogwood	6-20'	6-15'	FS PS S	WD M W		   
Deciduous, spreading shrub; fast-grower; showy small white flowers in spring; purplish-red fall foliage; songbirds and small mammals eat the fruit and birds will nest within; will form thickets and thus best in a more naturalized setting; butterflies are drawn to the flowers; native to the midwest U.S.; climate-smart plant choice.							
<i>Cornus/Swida racemosa</i>	Gray dogwood	4-15'	10-15'	FS PS	WD, M		  
Deciduous, spreading shrub; fast-grower; tolerates poor and droughty soil; produces showy white flowers in spring and white fruits; fall color is yellow to orange to red; will form thickets; flowers provide nectar for pollinators; serves as larval host for the Spring Azure butterfly; birds eat the fruit.							
<i>Cornus/Swida sanguinea</i>	Blood-twigg dogwood	5-8'	5-6'	FS PS	WD M	 	  
Deciduous, rounded shrub native to northern Eurasia; fast-grower; tolerates poor and droughty soil; stems have bright red/yellow/orange bark, providing winter interest (prune back every three years to rejuvenate); has white flowers that turn into dark blue fruits; fall color is yellow or red, depending on the soil conditions and cultivar; nectar used by insects that use similar native species.							
<i>Cornus/Swida sericea</i>	Red-twigg dogwood	6-9'	7-10'	FS PS	WD, M, W	  	   
Deciduous, spreading shrub; fast-grower; tolerates a wide range of soil conditions; produces white flowers in spring; stems have bright red bark, providing winter interest; fall color is yellow; will form thickets; great for restoration as it stabilizes soil and has a dense root system; cutting down older stems will help preserve bright stem color; provides food and nectar for insects and animals.							
<i>Corylus americana</i>	American hazelnut	5-9'	4-6'	FS PS	WD M		   
Deciduous shrub with tiered growth habit; orange to yellow fall foliage; nuts are consumed by foxes, birds, and other wildlife; supports many pollinators.							
<i>Dasiphora fruticosa</i>	Shrubby cinquefoil	2-4'	3-5'	FS PS	WD	 	
Deciduous, low, mounding shrub; highly drought tolerant; prefers cooler areas; white to yellow flowers that attract pollinators; long bloom period.							
<i>Diervilla lonicera</i>	Bush honeysuckle	3-4'	3-4'	FS PS	WD	 	  
Deciduous, low shrub; very drought-tolerant; suckers to spread (suitable to plant in mass as a lawn replacement); glossy green leaves; yellow flowers; yellow to purple fall foliage; flowers attract bumble bees, hummingbirds, and butterflies.							

<i>Hydrangea arborescens</i>	Smooth hydrangea	3-6'	3-5'	PS	M			☞ 🦋
Deciduous shrub; spreads by suckering and thus works well as a massing; needs a shady location and some moisture in the soil; showy white flowers in spring that are a pollinator magnet; many cultivars are available; native to U.S. mid-Atlantic and southeast; climate-smart plant choice.								
<i>Hydrangea quercifolia</i>	Oakleaf hydrangea	4-8'	4-8'	PS	M		Ⓜ	☞ ☕ ☞
Deciduous shrub; interesting oak-like leaf shape; red to purple fall foliage; white flowers in summer; prefers fertile, moist soil; protect plant when young from winter winds; native to the U.S. southeast; potential climate-smart plant choice.								
<i>Hypericum kalmianum</i>	Shrubby St. Johnswort	2-3'	2-3'	FS	WD		Ⓜ 🌲	☞ 🌲
Deciduous, low, dense, mounding shrub; leaves are evergreen though can drop in the winter; covered in yellow flowers (best in sun) in summer that attract pollinators; native just outside of Massachusetts; climate-smart plant choice.								
<i>Ilex glabra</i>	Inkberry holly	5-8'	5-8'	FS	WD		Ⓜ 🌲	☕ ☞ 🌲
Deciduous suckering shrub (can be used in a massed planting); glossy green evergreen leaves; tolerant of dry and wet soils; requires acidic soil; in shade, is more openly branching; there are shorter cultivars available; birds forage the berries; honeybees visit the flowers.								
<i>Ilex verticillata</i>	Winterberry	3-12'	3-12'	FS	WD, PS		Ⓜ 🌲	☞ ☕ ☞
Deciduous shrub that prefers wet, acidic soil in full sun but can tolerate dry soils; produces spectacular, bright red berries in fall that persist into the winter (note that you will need to plant at least one male plant for fruit); birds eat the fruit; bees and other insects visit the plant for nectar; it is also used a bird nesting site; there are many cultivars available in the trade.								
<i>Itea virginica</i>	Virginia sweetspire	3-4'	4-6'	FS	WD, PS		Ⓜ	☞ ☕ ☞
Deciduous, broad shrub with arching branches; spreads via suckering and is thus ideal to plant as a massing; great for restoration as it stabilizes soil and has a dense root system; prefers acidic to neutral soil; has white spring flowers and red fall foliage; provides cover habitat for wildlife and nectar for insects; climate-smart plant choice.								
<i>Leucothoe axillaris</i>	Coastal doghobble	2-4'	3-5'	PS	M		Ⓜ	☞ ☞ 🌲
Shade-tolerant shrub from the southeast U.S.; glossy green leaves turn red in fall and persist into the winter; white flowers in spring; prefers acidic soil; should be protected from winter winds; has a high flammability rating and should not be planted directly against buildings; potential climate-smart plant choice.								
<i>Lindera benzoin</i>	Spicebush	6-12'	6-12'	PS	M			☞ ☞
Deciduous, openly branching shrub; yellow blooms in early spring before foliage appears; yellow fall color; spicebush swallowtail butterfly caterpillar feeds on its leaves.								
<i>Morella pensylvanica</i>	Bayberry	5-10'	5-10'	FS	WD, PS		Ⓜ Ⓜ 🌲	☕ ☞ 🌲
Deciduous, dense, rounded shrub that spreads via suckering and thus works well when planted in a massing; tolerant of a wide range of soil conditions; glossy green leaves can be evergreen in warmer locations; gray-blue fruits persist into the winter; birds eat the berries in the winter and butterflies are also attracted to the plant.								
<i>Physocarpus opulifolius</i>	Common ninebark	5-8'	4-6'	FS	WD		Ⓜ Ⓜ	☞ ☞ ☕
Deciduous upright shrub that tolerates many soil types; bark exfoliates and has an interesting appearance in winter; pink or white flowers attract bees; yellow to bronze fall foliage; takes up space in the landscape and is best planted as an accent plant; many cultivars are available with different foliage colors and sizes.								
<i>Prunus pumila var. depressa</i>	Dwarf sand cherry	1-2'	2-4'	FS	WD		Ⓜ Ⓜ 🌲	☞ ☞ 🦋
Low-growing, groundcover-like shrub; great restoration plant for stabilizing soils and covering ground; white flowers in spring; red to purple fall foliage; host plant and attracts bees, songbirds, and other wildlife.								

<i>Rhododendron arborescens</i>	Smooth/sweet azalea	8-20'	8-20'	FS PS	WD M	(H)	
Deciduous shrub; requires acidic soil; pink to yellow flowers in late spring; orange to purple fall foliage; attracts bees, butterflies, and hummingbirds; native to U.S. mid-Atlantic and southeast; climate-smart plant choice.							
<i>Rhododendron atlanticum</i>	Deciduous azalea	2-6'	2-5'	PS	WD M		 T
Deciduous, compact shrub; white flowers in early spring that attract bees, butterflies, and hummingbirds; yellow fall color; native to U.S. mid-Atlantic and southeast; climate-smart plant choice. See also: <i>Rhododendron calendulaceum</i> and <i>Rhododendron prinophyllum</i> .							
<i>Rhododendron catawbiense</i>	Mountain rosebay	6-10'	8-10'	FS PS	WD M		
Evergreen shrub; prefers acidic, well-drained soil and cooler locations; showy pink flowers in spring; can grow taller than 10', thus avoid planting against buildings; butterflies visit flowers; native to the U.S. southeast.							
Rhus aromatica	Fragrant sumac	2-6'	6-10'	FS PS	WD M	(D) (H)	 T
Deciduous shrub that spreads (ideal for massing); glossy green leaves; vibrant orange to red fall foliage; stabilizes slopes; lower-growing cultivars are available; supports native bees and other pollinators.							
Rhus copallinum	Flameleaf sumac	7-15'	7-20'	FS PS	WD, M	(D) (H) 	 
Deciduous shrub/small tree; spreads via suckering to form larger massing, which can present a maintenance challenge if that is not desired; tolerant of high pH (alkaline) soils; bright red and orange fall color and red fruits that persist into the winter; fruits are a winter food source for birds and mammals; supports bees and other pollinators; can work well as a screening plant at the back of a planting.							
Rosa palustris	Swamp rose	3-6'	3-6'	FS	W		  T
Deciduous shrub that prefers wet soils; red fall foliage and fruit; thorny; prefers acidic soil; showy and fragrant pink flowers throughout summer; supports birds and provides nesting material for native bees.							
Rubus odoratus	Flowering raspberry	3-6'	6-12'	FS PS	M		 T 
Deciduous shrub with wider coarse leaves; rose-like purple flowers have a long bloom time in summer; pale yellow fall foliage; spreads by suckering and thus works well as a massing; supports many pollinators.							
Sambucus canadensis / nigra	Elderberry	5-12'	5-12'	FS PS	M	(H)	  T 
Deciduous shrub that prefers moist soils and produces edible fruit; showy white flowers; yellow to golden fall foliage; berries are eaten by birds and mammals; flowers provide nectar for pollinators; many cultivars are available.							
Spiraea tomentosa	Steeplebush	2-4'	3-5'	FS	M		  T 
Deciduous, mounding shrub with showy pink flowers; prefers moist soils but is adaptable; supports birds, butterflies, and bees.							
Vaccinium corymbosum	High bush blueberry	6-12'	8-12'	FS PS	M, W		 T 
Deciduous shrub that requires acidic soil; prefers well-drained soil with moisture; openly branching growth habit; red fall foliage; white flowers in spring; fruit consumed by birds; pollinators utilize the flowers.							
<i>Viburnum dentatum</i>	Arrowwood viburnum	6-10'	6-10'	FS PS	M	(D)	T
Deciduous shrub with white flowers in late spring; glossy green leaves; fall foliage can be attractive depending on soil conditions (prefers moist loams); supports pollinators; native to U.S. mid-Atlantic and southeast; climate-smart plant choice.							
Viburnum lentago	Nannyberry viburnum	14-16'	6-12'	FS	WD		 T 
Deciduous shrub/small tree with edible fruit; tolerates high pH (alkaline) soils; glossy green leaves and showy white flowers; red to purple fall foliage; habitat for small mammals and birds; supports butterflies.							
<i>Xanthorrhiza simplicissima</i>	Yellowroot	1-3'	1-3'	PS	WD, M	(D)	 T

Low shrub that spreads to form masses; leaves have an interesting texture; red to purple fall foliage; native to the U.S. mid-Atlantic/southeast; supports bees and other pollinators; climate-smart plant choice.

Sources of information utilized in this section:

(Hyperlinks directing to external organizations are subject to change.)

- The Native Plant Trust’s GoBotany Tool: <https://gobotany.nativeplanttrust.org/>
- University of Connecticut Plant Database: <https://plantdatabase.uconn.edu/>
- Vermont Urban & Community Forestry Program’s *Vermont Tree Selection Guide* (2022) <https://vtcommunityforestry.org/sites/default/files/2022-11/complete-vt-tree-selection-guide-2022.pdf>
- Dropkin, et. al. *Woody Shrubs for Stormwater Retention Practices*. Cornell University. (2013). http://www.hort.cornell.edu/uhi/outreach/pdfs/woody_shrubs_stormwater_hi_res.pdf
- Xerces Society. “Native Plants for Pollinators & Beneficial Insects: Northeast.” (2023). https://xerces.org/sites/default/files/publications/22-026_01_NPPBI%E2%80%9494Northeast_web.pdf

Tree and Shrub Family Reference by Family and Genus

Follow the 10-20-30 rule for tree diversity for new plantings.

To ensure landscape resilience, plantings must be comprised of no more than 10% of any one species, 20% of any one genus, or 30% of any one plant family.

FAMILY	GENUS-COMMON NAME
Adoxaceae (Formerly Caprifoliaceae)	Sambucus-Elder Viburnum-Viburnums
Anacardiaceae – Cashew Family	Rhus -Sumac
Aquifoliaceae - Holly Family	Ilex-Holly
Betulaceae - Birch Family	Betula–Birch Carpinus–Hornbeam Corylus–Hazelnut Ostrya–Hop-hornbeam
Caprifoliaceae–Honeysuckle Family	Diervilla–Bush honeysuckles
Clethraceae–Summersweet Family	Clethra–Summersweet
Cornaceae–Dogwood Family	Benthamidia, Cornus, Swida–Dogwood
Ericaceae–Heath Family	Oxydendrum–Sourwood Leucothoe–Leucothoe Rhododendron–Rhododendron & Azalea Vaccinium–Blueberry
Fabaceae/Leguminosae–Legume Family	Cercis–Redbud Gleditsia–Honey locust Gymnocladus–Kentucky Coffeetree
Fagaceae–Beech Family	Fagus–Beech Quercus–Oak
Ginkgoaceae–Ginkgo Family	Ginkgo
Hamamelidaceae–Witchhazel Family	Hamamelis–Witchhazel Liquidambar–Sweetgum
Hydrangeaceae–Hydrangea Family	Hydrangea–Hydrangeas
Hypericaceae–St. Johnswort Family	Hypericum–St. Johnswort
Juglandaceae–Walnut Family	Carya–Hickory
Magnoliaceae–Magnolia Family	Liriodendron–Tuliptree Magnolia–Magnolia
Myricaceae–Sweet Gale Family	Comptonia–Sweet Fern Morella–Bayberry Myrica–Bayberry, Sweet Gale
Nyssaceae	Nyssa–Tupelo
Oleaceae–Olive Family	Chionanthus–Fringetree Fraxinus–Ash
Pinaceae–Pine Family	Abies–Fir Pinus–Pine

Platanaceae–Planetree Family	Platanus–Planetree
Ranunculaceae–Buttercup Family	Xanthorhiza–Yellowroot
Rhamnaceae–Buckthorn Family	Ceanothus–New Jersey Tea and others
Rosaceae–Rose Family	Amelanchier–Serviceberry Aronia–Chokeberry Crataegus–Hawthorn Dasiphora–Shrubby Cinquefoil Malus–Crabapple Physocarpus–Ninebark Prunus–Cherry Rosa–Rose Rubus–Raspberry Spiraea–Spiraea
Sapindaceae–Soapberry Family	Acer–Maple species Aesculus–Horse-chestnut, buckeye
Saxifragaceae–Saxifragaceae Family	Itea–Sweetspire
Styracaceae–Silverbell Family	Halesia–Silverbell
Taxodiaceae & Cupressaceae–Cypress Family	Metasequoia–Dawn Redwood Taxodium–Baldcypress Thuja–Arborvitae
Tiliaceae–Linden Family	Tilia–Linden
Ulmus–Elm Family	Celtis–Hackberry

Sources of information utilized in this section:

(Hyperlinks directing to external organizations are subject to change)

Dirr, Michael A. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*. 5th ed., Stipes Publishing, 1998.

The Native Plant Trust’s GoBotany Tool: <https://gobotany.nativeplanttrust.org/>

University of Connecticut–College of Agriculture, Health, and Natural Resources, Plant Database: <https://plantdatabase.uconn.edu/>

Planting Guidelines

Before Planting: Locate Underground Utilities

Before digging in the soil for a shrub or tree planting, it is critical to know the location of underground utilities in order to avoid damage. Call Dig Safe at 811 or (888) 344-7233; you will need to mark the area being considered for the planting using white flags, paint, and/or stakes. Note that municipal water and sewer departments are not required to join Dig Safe, and thus may not mark underground utilities. To locate those pipes, you may need to hire a private locator. For more information: <https://www.mass.gov/guides/about-dig-safe>.

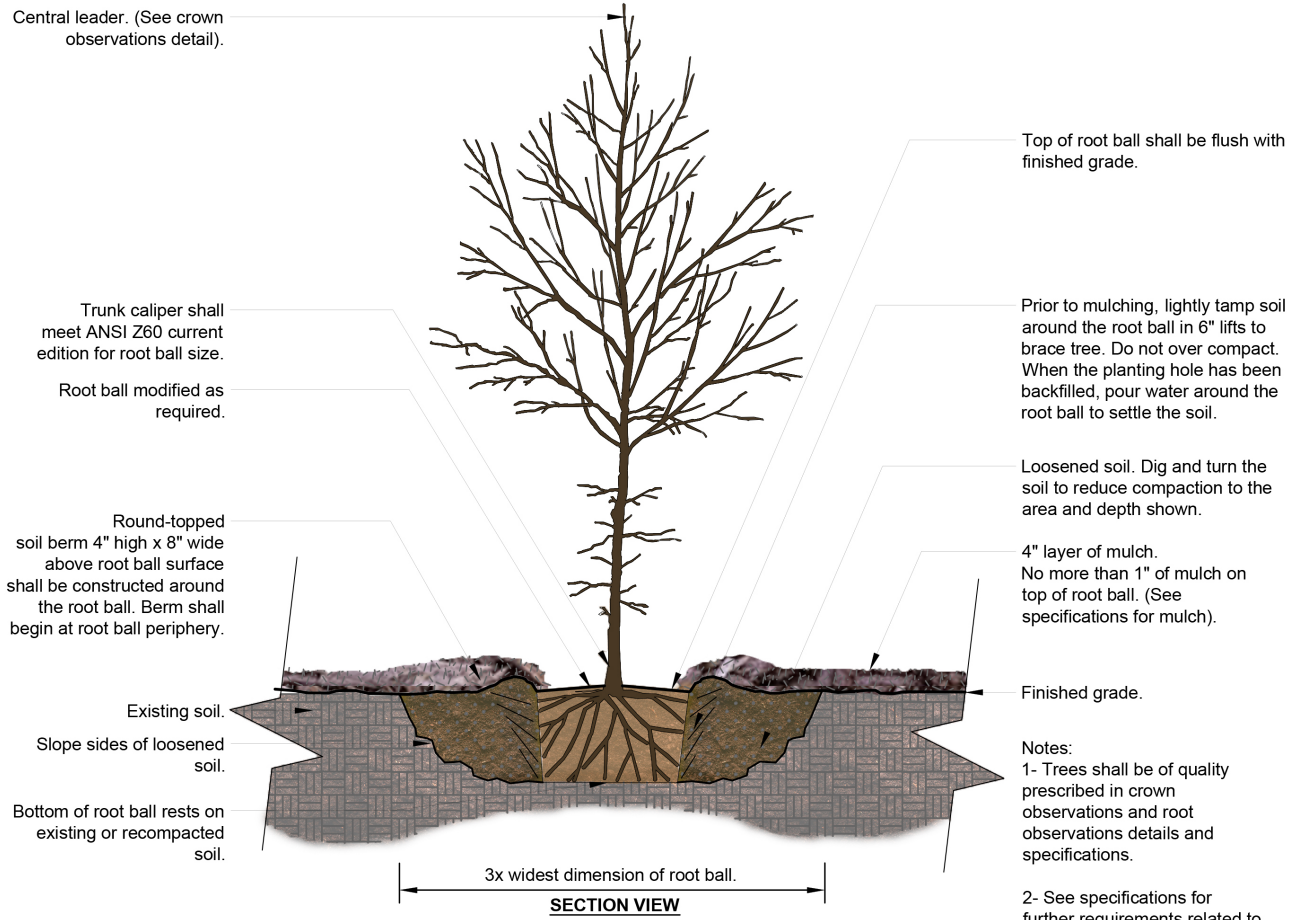
Planting Construction Details

For construction details that can be used in construction documents, one resource is the “Planting Details and Specifications” posted on the International Society of Arboriculture’s website (<https://www.isa-arbor.com/education/onlineresources/cadplanningspecifications>). These details were prepared by Dr. Ed Gilman from the University of Florida, Jim Urban, FASLA, and Brian Kempf and Tyson Carroll of the [Urban Tree Foundation](#). Details have been peer reviewed and are available for free in CAD, PDF, and Word format. They are open source and editable. Examples from this resource are provided on the following pages (color and textures are not original and were added for this guide).

Planting and Maintenance

The **Massachusetts Urban & Community Forestry Program’s Tree Planting 101 fact sheets** follow the construction details below. These fact sheets present critical steps in planting and maintaining trees, and can be utilized for shrub planting as well.

Tree Planting in Existing Soils



Notes:
 1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.
 2- See specifications for further requirements related to this detail.

P-X

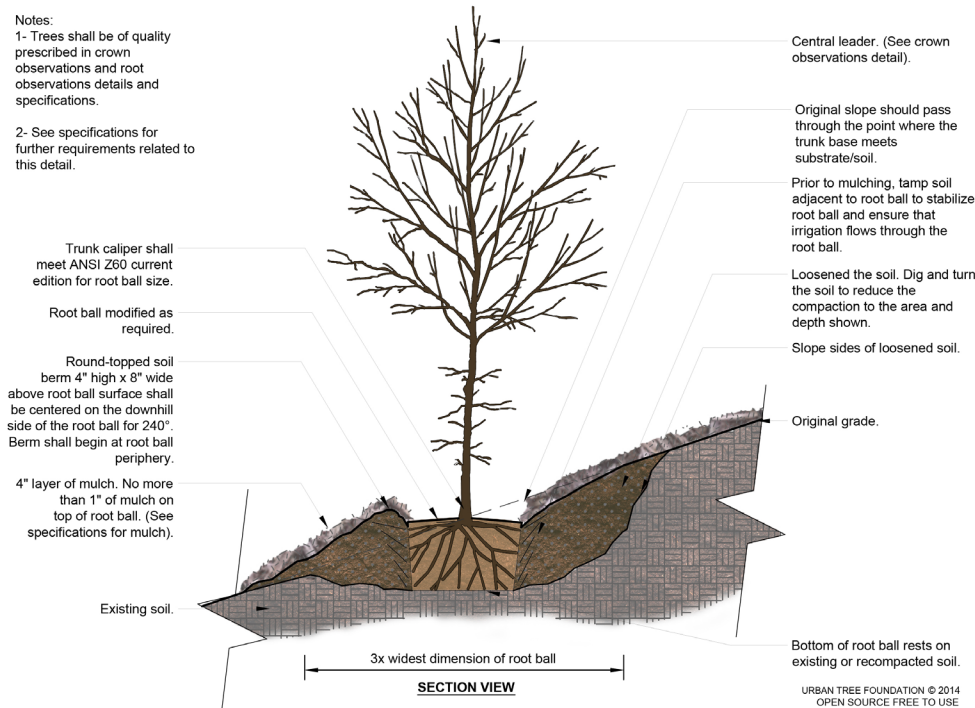
TREE w/ BERM (EXISTING SOIL NOT MODIFIED)

URBAN TREE FOUNDATION © 2014
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Tree Planting on a Slope in Existing Soils

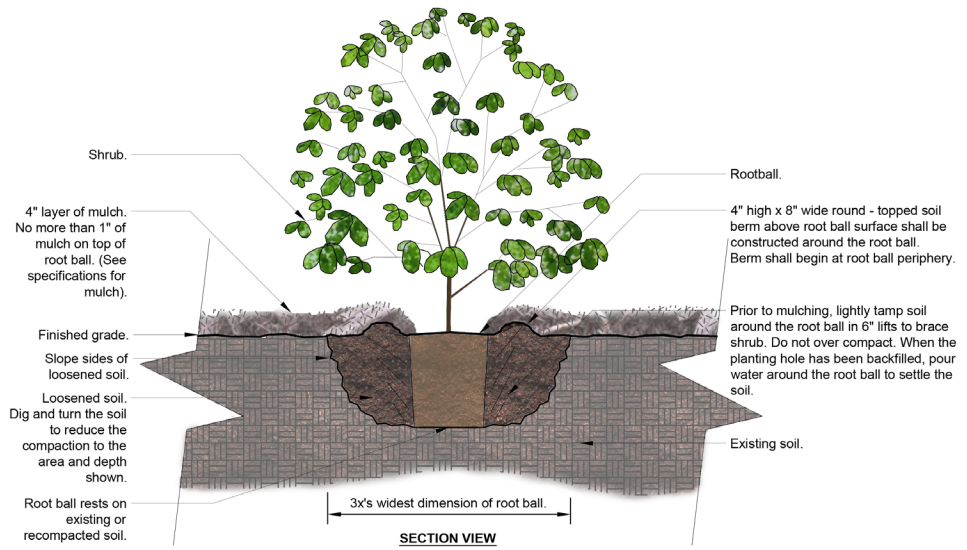
Notes:

- 1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.
- 2- See specifications for further requirements related to this detail.



P-X TREE ON SLOPE 5% (20:1) TO 50% (2:1) - UNMODIFIED SOIL

Shrub Planting in Existing Soils



Notes:

- 1- Shrubs shall be of quality prescribed in the root observations detail and specifications.
- 2- See specifications for further requirements related to this detail.

P-X SHRUB - UNMODIFIED SOIL

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TREE PLANTING 101

The saying goes, “The best time to plant a tree was 20 years ago, but the next best time is now.” Planting your tree properly is one of the best things you can do to ensure the successful establishment of your tree in the landscape. Prior to planting, treat your tree gently and protect it during transport. Keep it in a cool, shaded place and keep the root ball moist. Plant the tree as soon as possible. Follow these steps for a successful planting. And remember, call Dig Safe® at 811 before you dig.

- 1. Take Stock!** Examine your tree and remove packaging around trunk and branches.
- 2. Find your Flare!** Locate the trunk flare (also called root flare or the root collar). The ANSI A300 defines this as “the area of transition between the root system and the trunk,” and it should be at or just above the finished grade. It is where the trunk will typically start to curve and where structural roots become distinct from the trunk. This is often highly visible on trees in the woods, and can be less conspicuous on young, nursery-grown trees. There may be excess soil on top of the trunk flare, so you may have to remove soil from the top of the root ball to identify the flare. You can gently probe the root ball with a chaining pin, skewer, screwdriver, or wire in order to locate structural roots.
- 3. Determine the size of the planting hole.** Measure the width and depth of the root ball and use this to determine how wide and deep to dig, keeping in mind that the flare should be at or just above grade. The hole should be 2 to 3 times as wide as the root ball. In hard, compacted soil, the hole should be closer to 3 times as wide.
- 4. Get digging!** Dig a wide hole with sloped sides. If the sides appear smooth or “glazed,” use a shovel to rough up the sides. Dig only as deep as the root flare. Periodically check your depth and width by comparing with the root ball.
- 5. Remove packaging from the root ball.** For container trees, this means removing the tree from the container. For balled and burlapped trees (B&B), this means removing the burlap and wire basket. For in-ground fabric, this means removing all of the bag. If it seems like the root ball of a B&B tree will fall apart, you may want to place the tree in the hole and then remove packaging. For all trees, remove trunk wrap and check the canopy for flagging tape, rope, or other items, and remove.



Trunk flare on mature tree



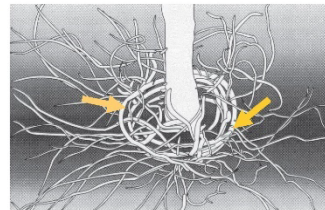
Removing excess soil from the top of the root ball using a hand cultivator



B&B trees with trunk wrap

TREE PLANTING 101

6. **Examine the roots!** For all trees, cut circling roots. For container trees, remove roots growing against the container and remove a thin layer of roots from the side and bottom. For B&B trees, straighten, cut, or remove circling roots. If you plant trees a lot, you may want to dedicate a pair of cheap hand pruners for this purpose.
7. **Place the tree in the hole.** Roll or place the tree in the center of the hole. Check the depth of the root flare and adjust hole depth, if necessary.
8. **Check the placement of the tree.** Examine the tree from two sides, 90° apart. Is the trunk straight? Are branches facing the way you want? You can backfill with a little soil to help stabilize the tree as you check the placement.
9. **Backfill and water.** Once the tree is stabilized, continue to backfill with the soil that you dug out. Halfway through the backfilling process, water the tree to help remove air pockets and reduce future settling. Continue to backfill. To aid in watering, you can build a low dirt berm around the edge to help guide water to the root ball. Water thoroughly after planting.
10. **Mulch.** Use an organic mulch in a ring around the tree. Mulch should be 2 to 4 inches high. Once mulch has settled, the depth should not be greater than 2 inches. Keep mulch 3 inches away from the trunk. Do not apply mulch against the trunk of the tree so that it appears like a volcano; this is incorrect and detrimental to the tree, though is often observed in the landscape.



Circling roots



Correct mulch technique. Wide ring, away from trunk.



Improper mulch technique

Caring for your New Tree

The next two years are critical for the successful establishment of your tree. Make sure you water your tree, but be careful not to overwater. During hot, summer months, your tree may need 10 gallons per caliper inch per week. When it is cooler, that amount may be 5 gallons per caliper inch per week. You can check the soil moisture of the root ball by probing the soil with a chaining pin or stiff wire. If the rod goes in easily, there is likely adequate moisture, but if it is difficult, that may indicate the soil is dry. As you remove the rod or chaining pin, if you notice suction has developed, that may indicate the soil is too wet; likewise, if the leaves are wilting, but you are watering regularly, you may be watering too much. Newly-planted trees typically do not need to be fertilized or pruned.

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CARING FOR NEW TREES

Congratulations! If you are reading this, it means you are caring for a newly-planted tree. Your actions over the next two to three years will help your tree become established in the landscape and survive for years to come. What should you be doing?

WATERING

New trees need water, especially during hot summer weather! Watering with a garden hose at low volume or utilizing a soaker hose is ideal since it allows water to slowly infiltrate the soil while minimizing the potential for root ball erosion. Less frequent, but thorough, watering is more beneficial to root development than more frequent, but shallow, watering. Remember that tree roots need oxygen and over-watering is just as problematic as under-watering.

It is hard to say exactly how much to water your tree. Natural rainfall and specific soil conditions can vary, but newly-planted trees need approximately 1.5 inches of rain per week. This translates to about 10 gallons per caliper inch, per week, from spring through autumn.

An Easy Watering Technique

Using 10 one-gallon plastic jugs, carefully perforate the bottom of the jugs and place them around the base of the tree tied together and then fill them with water. This will allow the water to slowly seep out and water the tree.

You can also purchase watering bags that you fill, using a hose to allow for a slow soaking.



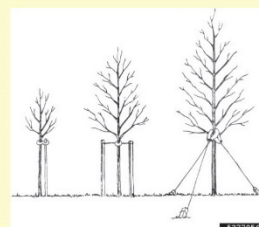
Watering technique using one-gallon jugs



Watering bag

TREE STABILIZATION

Tree stabilization may be necessary in areas with high winds, where mower or string trimmer damage is likely, for high-traffic areas, or for trees that do not have an adequate root system. Tree stabilization may consist of stakes, guys, and other materials. Here we describe a method using stakes, but there are a variety of systems out there, with varying costs and amounts of labor required. If you are using stakes, use 2 to 3 stakes, placed just inside the edge of the mulch ring and wide nylon or canvas straps, tied loosely around the trunk. For an unstable root ball, use 1-3 stakes attached low on the trunk. Remove after 1 year.



Staking techniques, ISA, bugwood.org

TRUNK GUARDS

If winter damage to the trunk by rodents is a concern, install a trunk guard made of plastic tubing, hardware cloth, or wire fencing. Allow 1-4 inches of space around the trunk and ensure it is tall enough to protect in snow. Remove in the spring.



Massachusetts Urban & Community Forestry Program

CARING FOR NEW TREES

MULCHING

Mulch is any woody or herbaceous material applied over the root zone that improves tree health by replicating the forest floor. Mulch can be aged wood chips, shredded bark, pine needles, composted leaves, composted grass clippings, and other organic material.

Why mulch? Mulching your new tree is important and serves more than just an aesthetic function. Mulch reduces the shortcomings of urban sites by replicating natural processes occurring in the forest. Mulch increases available nutrients and water retention, buffers soil temperatures, and provides root protection. Mulch also reduces root-zone erosion potential, soil compaction, and weed growth, and prevents lawnmower and other machinery damage.

How to use mulch. Place mulch in a ring at least 3 inches away from the tree trunk, at a depth of 2-4 inches, and ideally out to the tree crown. Raking away old mulch before applying new mulch helps maintain correct mulch depth. Occasionally, you may need to pull mulch away from the trunk of the tree as the mulch settles around.



—Root Zone—
Correct mulch technique



Improper mulch technique—piled on trunk and does not cover whole root zone

FERTILIZING

Fertilizer should only be used if a soil test indicates a deficiency. New trees typically do not require fertilization. For information on testing your soil, contact the UMass Soil and Plant Nutrient Testing Lab, <https://soiltest.umass.edu/> or 413-545-2311. Improper use of fertilizer can damage your tree.

PRUNING AND PERIODIC INSPECTION

Prune dead and broken branches at planting. After 2 years, you may begin structural pruning. Your tree will likely require pruning every 1-2 years to establish and maintain proper structure. If your tree is within 10 feet of utility lines, or you need to use a ladder or chainsaw, contact an arborist. For guidance on tools, techniques, and safety, see *The Tree Owner's Manual*, pages 18-23. Periodically, inspect the tree for insect and disease problems. Protect the tree from human activities such as construction, soil compaction, and road salt.

REFERENCES: *Tree Owner's Manual*, www.treeownersmanual.info ♦ *Tree Planting Best Management Practices*. 2014. 2nd ed. Champaign, IL: International Society of Arboriculture ♦ *New Tree Planting*. 2011. International Society of Arboriculture, www.treesaregood.com/treecare/resources/new_treeplanting.pdf

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Massachusetts Urban & Community Forestry Program

PROTECTING OUR COMMUNITY TREES

In Massachusetts, we are lucky to have state laws that govern and protect our public roadside trees. The best way to learn about these laws is to read them in full. You can do this by visiting your local library or the Massachusetts State website at www.malegislature.gov/Laws/GeneralLaws/. This Fact Sheet attempts to summarize these laws.

Which Laws Govern Public Trees in Massachusetts?

- Massachusetts General Law, Chapter 87 is the most important law governing public shade trees. It outlines the powers of the Tree Warden, procedures for removing shade trees, procedures for planting public trees, and penalties for violating provisions of the law.
- Massachusetts General Law, Chapter 40, Section 15C augments Chapter 87 with additional requirements concerning the removal of trees on Scenic Roads.
- Some communities also have additional local ordinances governing the protection of both public and private community trees. For example, Wellesley recently passed an ordinance that provides protection to trees during construction, and Springfield has a law that provides protection for all trees over 36 inches in diameter.



What are the Key Elements of Chapter 87?

- All trees within the public way are defined as public shade trees.
- The Tree Warden is responsible for the care, control, protection, and maintenance of all public shade trees, except those within a state highway, and shall enforce all the provisions of law for the preservation of such trees.
- No other person may plant, trim, cut, or remove a public shade tree without permission of the Tree Warden.
- No person, including the Tree Warden, may cut, trim, or remove any tree, greater than one and one-half inches in diameter, without a public hearing.
- Public notice of such a hearing must be posted, at least seven days prior to the hearing, on the trees in question, in two or more public places in town, and in a newspaper of general circulation for the town in each of two successive weeks.
- The Tree Warden shall not cut or remove a public shade tree if, at or before the public hearing, objection is made in writing by one or more persons, unless such cutting or removal is approved by the selectmen or by the mayor.
- Any person injured in his property by the trimming, cutting, removal, or retention of any such tree may recover the damages, if any, from the town under Chapter 79.
- Utilities may, or at the request of the Tree Warden must, file an annual vegetation management plan and or hazard tree removal plan with communities.
- **Finally**, nothing contained in chapter 87 shall prevent the trimming, cutting, or removal of any tree which endangers persons traveling on a highway, or the removal of any tree, if so ordered by the proper officers, for the purpose of widening the highway.



Massachusetts Urban & Community Forestry Program

PROTECTING OUR COMMUNITY TREES

What if a Tree is Located on a Designated Scenic Road?

- No public shade tree may be cut, trimmed, or removed from along a designated scenic road, for the purposes of road repair, maintenance, reconstruction or paving work, without the prior written consent of the Planning Board after a public hearing.
- The public hearing regarding the cutting or removal of trees along scenic roads shall be consolidated into a single public hearing before the Tree Warden and the Planning Board, and notice of such consolidated public hearing shall be given by the Tree Warden as provided for in Chapter 87.

What if a Tree is Located on a Numbered State Highway?

- The Massachusetts Department of Transportation shall have the care and control of all trees within state highways, and may trim, cut, or remove such trees.
- No public hearing is required.

What Should a Citizen do if He or She Feels These Laws are not being Enforced?

- First contact your Tree Warden to discuss the issue with him or her and make sure that he or she is aware of the issues involved and these regulations.
- You may also want to share this Fact Sheet with the Tree Warden, Select Board, Planning Board, and other town officials.
- Please also contact us if we can be of assistance in any way regarding community trees or forests.
- Finally, consider advocating for the creation of a Tree Board or Committee in your community. Many communities have found that such committees can work effectively with their Tree Wardens to improve the management, maintenance, and public support for community trees and forests.

**To contact the South Hadley Tree
Warden, call the Department of Public
Works:**

413-538-5033 x 6500

Bureau of Forestry
Urban & Community Forestry Program
Massachusetts Department of Conservation and Recreation
251 Causeway Street, Suite 600, Boston, MA 02114
www.mass.gov/dcr/urban-and-community-forestry

In Partnership with:
USDA Forest Service and
the Massachusetts Tree Wardens' &
Foresters' Association



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TREES AND ROADS WORKING TOGETHER

Trees are an important part of a community’s infrastructure that can sometimes be damaged during municipal construction and maintenance activities, leading to hazardous conditions and increased costs. Tree Wardens and Public Works staff can work together to protect trees and minimize costs to the community.

Roadside community trees are a vital public utility.

Just as roads perform a necessary transportation function, wires conduct electricity, and pipes move water, roadside trees provide a host of community benefits. Community trees help reduce storm-water flows and mitigate flooding, filter the air, reduce heating and cooling costs, contribute to property values, add to community character, and beautify the landscape – strengthening the social and economic vitality of our towns and cities.

Community trees are under the control of the Tree Warden.

Under Massachusetts General Law Chapter 87:

- All trees within the public way are defined as public shade trees.
- The Tree Warden is responsible for the care, control, protection, and maintenance of all public shade trees, and shall enforce the provisions of law for protecting these trees.
- No other person may plant, trim, cut, or remove a public shade tree without permission of the Tree Warden. *This includes the cutting of roots during construction.*
- **No person, including the Tree Warden, may remove any healthy tree, greater than one and one half inches in diameter, without a public hearing.**



The importance of roots and bark

Roots and bark are two vital organs for trees. Roots take up water, oxygen and nutrients, and provide stability. Bark transports water, food, and nutrients to the rest of the tree. If these are damaged, a tree will decline and may die.

- 90% of tree roots are in the top two feet of soil.
- 60% of the roots are outside the “dripline” of the tree.
- The inner bark serves as part of the vascular system for the tree.
- Roots are rarely observed under existing paved roads.

Some suggested guidelines for protecting trees

Prior to construction or road improvement activities:

- Be involved early. The Tree Warden should have a process for being informed of upcoming construction activities early in the planning stages.
- The Tree Warden and Public Works staff should meet on site to discuss the type of work to be completed and collaboratively develop strategies for protecting desirable trees and groupings of trees.



Massachusetts Urban & Community Forestry Program

TREES AND ROADS WORKING TOGETHER

Protect roots:

- Ideally, steps should be taken to protect the “critical root zones” of desirable trees.
- The radius of the “critical root zone” is determined by multiplying the diameter of a tree in inches, by feet. In other words, a 10-inch diameter tree will have a 10-foot radius “critical root zone.” Do not just protect to the “dripline” of the tree.
- Roots are rarely observed to travel under existing paved roads.
- The “critical root zone” should be protected by placing hard fencing around the zone. Snow fencing is often moved.
- Within this protected zone, there should be no activity, storage, or soil compaction.
- Avoid any kind of trenching or soil disturbance close to the trunk of the tree.
- It may not always make sense to protect the full “critical root zone,” especially for roadside trees. In these cases, the Tree Warden and Highway staff should work together to establish a “zone of tree protection” that makes sense.

Protect the bark:

- If the “critical root zone” is protected, then the bark should be protected. However, sometimes bark stills gets damaged during construction and maintenance activities.
- Work with staff and contractors to be sure everyone understands the importance of bark and the need to protect bark from nicks, scrapes, and gouges.
- Fences and well-defined tree protection zones can help protect bark.
- You may want to additionally mark or flag trees that could be in danger of injury from equipment, including trees that may be damaged during routine snow removal.

Protect against changes in grade:

- Changes in grade can be as damaging to tree roots as cutting, trenching, or soil compaction, and may eventually lead to tree decline and death.
- Make sure that the grade is not changed within the identified tree protection zone.
- You may want to inspect and restore changes in grade that result from normal road maintenance activities, such as snow removal and road re-grading.

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Information on Sourcing Plants

Many of the species on the **Recommended Plant List** in this guide are available in plant nurseries. Others may be more difficult to procure. Given increased demand for native plant species, it is recommended that plants are pre-ordered (e.g., during late fall/early winter) prior to the start of the planting season (in spring). Several organizations maintain lists of nurseries that specialize in native plants, such as:

- Grow Native Massachusetts: <https://grownativemass.org/Great-Resources/nurseries-seed>
- Wild Seed Project: <https://wildseedproject.net/blog/where-to-buy-native-plants>

The list below draws from these and other resources.

Note that some nurseries are wholesale, some are retail, and some are both: wholesale-only nurseries often only sell to landscape professionals/contractors, and prices tend to be lower as businesses often purchase large quantities. Retail nurseries sell to the general public, and prices tend to be higher. The list below includes nurseries in Massachusetts, southern Vermont and New Hampshire, northern Connecticut, and upstate New York. It is not comprehensive and website links are subject to change. Several of these nurseries also engage in **contract growing**: for large orders and/or species difficult to find in the trade, these nurseries may be able to grow the desired, pre-ordered quantities.

Hiring a landscape professional to help with planting selection and sourcing can help to maximize the success of your project. These professionals may additionally look into where nurseries obtain their plants (e.g., trees and shrubs grown in the southeast U.S. may not fare as well in Massachusetts as those grown in similar climates). These professionals may also consider the value of plants grown from seed or propagated vegetatively (e.g., from plant divisions or cuttings). Growing plants from locally collected seeds (i.e., local ecotypes) supports genetic diversity; these plants may also tolerate local conditions better than those propagated vegetatively and those grown in other regions.

Nursery Name and Location	Retail (R) Wholesale (W) Both (RW)
Western Massachusetts	
Checkerspot Farm, Colrain http://www.checkerspotfarm.com/	R
That's a Plenty Farm, Hadley http://www.thatsaplentyfarm.com/	R
Helia Native Nursery, West Stockbridge https://www.helianativenursery.com/	R
Native Plant Trust NASAMI Farm, Whately (Also see location in Framingham) http://www.nativeplanttrust.org/for-your-garden/buy-native-plants/	RW
New England Wetland Plants, South Hadley	W

https://newp.com/	
Sudbury Nurseries West, Gill https://sudburynurserieswest.com/	W
Wing and a Prayer Nursery, Cummington https://www.wingandaprayernursery.com/	R
Central/Eastern Massachusetts	
Bigelow Nurseries, Northboro https://bigelownurseries.com/	RW
Blue Stem Natives, Norwell https://www.bluestemnatives.com/	R
Butterfly Effect Farm, Westport https://www.butterflyeffectfarm.com/	R
City Native, Mattapan https://thetrustees.org/place/city-natives/	R
Dragonfly Natives, South Dartmouth https://dragonflynatives.com/pages/about	W
Hilltop Natives, Norwood https://www.facebook.com/profile.php?id=61563103137966	R
King's Tree Farm & Nursery, Boxford http://www.kingstreefarmandnursery.com/	R
Lady Fern Farm, Worcester https://ladyfernfarm.com/	R
Natural Companions, Harvard https://naturalcompanions.wixsite.com/natural-companions	R
Oakhaven Sanctuary, North Reading https://www.facebook.com/people/Oakhaven-Sanctuary/100069720394436/	R
Red Trillium Gardens, Lunenburg https://redtrilliumgardens.com/	R
Russell's Garden Center, Wayland https://www.russellsgardencenter.com/	R
Salem Native Nursery, Salem https://salemnativenursery.wordpress.com/	R
Swampdog Farm Native Plants, Dudley https://www.facebook.com/profile.php?id=61555663114448	R
Sylvan Nursery, Westport https://sylvannurseries.com/	RW
The Monarch Gardener, Topsfield http://www.themonarchgardener.com/home.html	R
Tree Talk Natives, Rochester https://www.treetalknatives.com/	R
Weston Nurseries, Hopkinton and Chelmsford https://www.westonnurseries.com/natives/	RW

Northern Connecticut	
Earth Tones Native Plants, Woodbury http://www.earthtonesnatives.com/	R
Planter's Choice Nursery, Watertown https://planterschoice.com/	W
Rewild Native Plant Nursery, Canton https://www.rewildct.com/	R
Southern New Hampshire	
Bagley Pond Perennials, Warner https://bagleypondperennials.com/	R
State Forest Nursery, Boscawen https://buynhseedlings.com/	R
Van Berkum Nursery, Deerfield http://www.vanberkumnursery.com/	W
Southern Vermont	
Shinleaf Native Plants, Westminster West https://www.shinleafnativeplants.com/	R
Northern Hudson Valley New York	
Capitol Native Plants, Troy https://capitalnativeplants.com/	R
Catskill Native Nursery, Kerhonson https://www.catskillnativenursery.com/	R

(Hyperlinks directing to external organizations are subject to change.)

Climate-Smart Gardening 2.0

Plants to Promote Climate Adaptation

Summary

Gardening with native plants that are suited to both current and future climates supports native wildlife¹, increases climate resilience, and reduces the risk of introducing future invasive species. Plant hardiness zones are shifting as temperatures warm (Fig. 1), and many native plants are not keeping pace². Planting native species and near-native species from nearby ecologically similar regions can help them move in response to warming conditions (Fig. 2). Therefore, **gardening with native and near-native plants can support the future biodiversity and resilience of your garden and nearby ecosystems**. Here, we provide updated and expanded state lists of “climate-smart” commercially available native and near-native plants that are expected to grow in the Northeast with continued climate change.

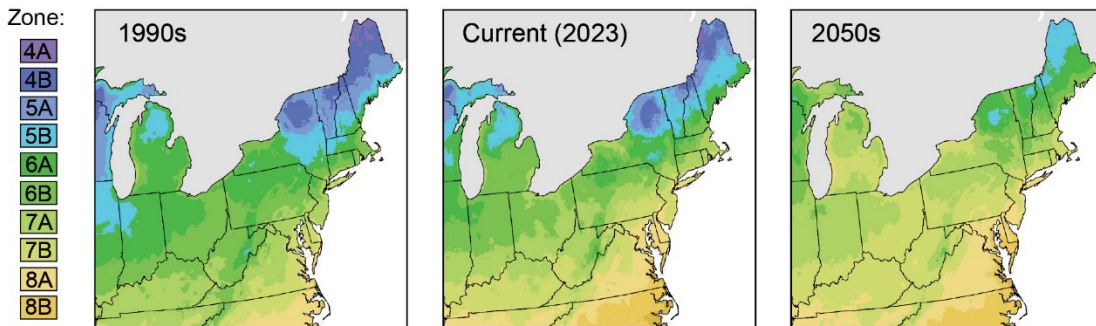


Figure 1. Plant hardiness zones (based on minimum temperatures where plants can grow) in the Northeast over time.

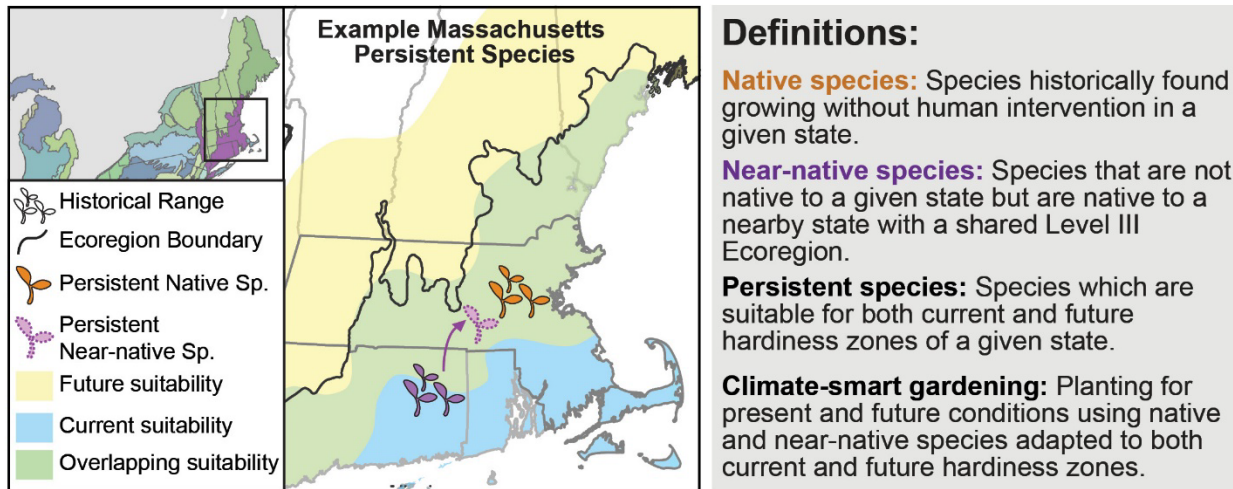


Figure 2. Both persistent native and near-native species are suited for current & future climates. Unlike native species, near-native species don’t have historical ranges in the focal state. Suitability represents the range of hardiness zones a species can tolerate. Ecoregions are areas of ecological similarity³.

Climate-Smart Ornamental State Plant Lists

We assembled a database of ~900 regionally native plant species sold by nurseries in the Northeast, including species from the Ecoregional Revegetation Application (ERA)⁴. After standardizing taxonomy⁵, we added horticultural information^{4,6,7,8,9} (Fig. 3) and historical native status in each state¹⁰. We then investigated whether each species' hardiness zones would persist in each state under likely mid-century climate conditions¹¹ and classified them accordingly (Fig. 4). Species that are rare or endangered within a given state were removed. Botanical, horticultural, and ecological experts also screened state lists.

















Growth		Aesthetic		Ecology	
	Habit		Bloom period		Bird benefits
	Sun level		Color		Mammal benefits
	Moisture level		Interesting foliage		Insect benefits
	Soil type		Showy		Reptile/Amphibian benefits
	Propagation information		Height		Pollinators
	Aggressiveness				

Figure 3. Horticultural and ecological information included for each plant species.

Species	Native to state?	Native to shared ecoregion?	Survive current hardiness zones?	Survive future hardiness zones?	Category
 <i>I. opaca</i>	✓	✓	✓	✓	Persistent Native
 <i>R. arborescens</i>	✗	✓	✓	✓	Persistent Near-native

Figure 4. Example classification of climate-smart species in Massachusetts. Persistent natives and persistent near-natives already being sold in a state make good climate-smart species. Native species which are not persistent are excluded from each state list.



Proceed With Caution

Persistent near-natives aren't historically native to the focal state. These species need to move, but moving plants outside of their current range could result in unintended impacts. To minimize risk, we only included near-natives on state lists if their native range shared a Level III ecoregion with that state.

Buy native plants from reputable sources, and do not collect wild plants. Pay close attention to nursery labels and consult with state botanical societies and local/regional floras before planting subspecies, varieties, and cultivars.

Download State Lists

References: ¹Tartaglia & Aronson 2024. *Urb. Ecosyst.*; ²Bradley et al. 2024. *Annu. Rev. Ecol. Evol. Syst.*; ³Omerik 1987. *Ann. Assoc. Am. Geo.*; ⁴USDoT ERA: nativerevegetation.org/era; ⁵WFO: worldfloraonline.org/; ⁶MoBot: missouribotanicalgarden.org/plantfinder/plantfindersearch; ⁷LBJ: wildflower.org/plants-main; ⁸Brickell & Cathey 2004. *AZ Enc. Gard. Plnts.*; ⁹Dirr 1998. *Man. Wdy. Lndscp. Plnts.*; ¹⁰Govaerts 2023: sfto.kew.org/pub/data-repositories/WCV ¹¹Matthews et al. 2018: hardinesszones.daveyinstitute.com

