



Metropolitan Area Planning Council

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MEMORANDUM

TO: Carole Hamilton, Planning Director, Town of Wilmington
FROM: Christine Wallace, P.E., Senior Regional Planner, MAPC
DATE: June 30, 2009
RE: Low Impact Development Evaluation: Suggested Revisions to Existing Bylaws and Regulations

As the final component of MAPC's stormwater technical assistance project funded by MET, this memorandum evaluates the town of Wilmington's existing local bylaws and regulations to assess their consistency with Low Impact Development (LID) principles. This review is intended to identify areas of the town's local codes that could be modified to promote stormwater management that encourages recharge and employs techniques such as LID. In addition, this memorandum also provides recommendations on how to modify existing codes in the event that design standards or criteria conflict with the recently adopted Stormwater Management Bylaw.

MAPC has reviewed the following Town of Wilmington Bylaws and Regulations for this memorandum:

- Town of Wilmington Zoning Bylaw, last revised May 2, 2009
- Town of Wilmington Planning Board Site Plan Review Rules and Regulations, last revised August 1, 2004
- Rules and Regulations Governing the Subdivision of Land in the Town of Wilmington, Massachusetts
- Town of Wilmington Wetlands Enforcement Bylaw, last revised March 8, 2008 and Conservation Commission Wetland Policies, last revised December 1999
- Town of Wilmington Massachusetts Board of Health Code of Regulations, last revised October 7, 2008

The Subdivision Rules and Regulations and the Zoning Bylaw would benefit from modifications designed to promote the use of lower impact site design and stormwater management techniques. In general such modifications would reduce impervious area, incorporate more LID stormwater practices (such as bioretention, infiltration, vegetated swales, and filter strips), and better preserve open space. The Conservation Subdivision Design (CSD) allowed in the Town's Zoning follows many LID principles, but these principles are not required for subdivisions if CSD is not chosen by the developer. The review also found that the Zoning Bylaw, Subdivision Rules and Regulations, and Wetland Policies have statements that do not necessarily conflict with the new Stormwater Bylaw, but do not reflect the fact that the stormwater bylaw exists.

Table 1 below provides more specific recommendations on how to further promote LID in the town of Wilmington. Please note that the order of the list is based on general categories and not necessarily the order in the codes.

Table 1: Suggested Revisions to Wilmington’s Bylaws and Regulations to Further Promote Low-Impact Development Principles

Reference	Topic	Existing Requirement	Recommendations
Subdivision – Section V.B.2.	Street Design: Width	Major streets and streets not in a residential subdivision requirement are 42-48 feet, Secondary streets are 32-42 feet wide, and Minor streets are 32 feet wide.	Residential road widths should be minimized as much as possible. Low-density residential should be 18-22 feet wide. Allow narrow widths where there are no houses, buildings, intersections, or where on-street parking is not anticipated.
Subdivision – Section V.E.	Street Design: Edge Treatment	Bituminous or vertical granite curb are required on all roads.	Curb and gutters should not be required for residential streets. If protection of the roadway edge is a concern, permit alternate methods such as perforated curbs, flush curbs, or other mechanisms.
Subdivision – Section IV.A.3.a.	Street Design: ROW Width	Major Streets ROW requirement is 60-80 feet, Secondary streets are 50-70 feet wide, and minor streets are 50 feet wide.	Consider reducing ROW width to 50 feet for all streets. Utilities should be allowed underneath the pavement.
Subdivision – Section IV.A.5.b.	Street Design: Cul-de-Sacs	Minimum paved diameter width required is 100 feet.	Minimum diameter should ideally be 70 feet, but up to 90 feet is also acceptable.
Subdivision – Section IV.A.5.b.	Street Design: Cul-de-Sacs	Landscaped island allowed, but cul-de-sac diameter must be 120 feet, and dead end street can never be extended.	A landscaped island inside should be permitted for all cul-de-sacs, and should allow for vegetated stormwater management in the island.
Subdivision – Section IV.A.5	Street Design: Cul-de-Sacs	No current provisions for alternate layouts	Alternative layouts, such as hammerheads or one-way loop streets, should be allowed on short streets in low-density residential areas.
Subdivision – Section V.B.3.d	Street Design: Stormwater Management	Catch basins, manholes, and piping required for conveyance	Alternate, open-section drainage methods should be allowed. Design criteria should be established for swales alongside the road for stormwater treatment.
Subdivision – Section V.D.2	Sidewalks: Width	Minimum width of 5 feet	Minimum sidewalk width should be 4 feet or less.
Subdivision – Section V.D.2.	Sidewalks: Layout	Sidewalks required on both sides of the street	Sidewalks should not be required on both sides of the street.
Subdivision – Section V.F.1	Sidewalks: Design	Grass strip required between pavement and sidewalk on each side	Consider removing this requirement to reduce ROW width and to allow for alternate drainage options.
Subdivision – Section IV.K.- Bikeways and Walkways	Sidewalks: Layout	Bikeways and Walkways may be required, with a minimum pavement width of 10 feet.	Alternate pedestrian networks should be allowed to substitute for sidewalks, with a minimum paved width of 4 feet.
Subdivision – Section V.D.	Sidewalks: Materials	No current provisions for permeable sidewalk materials	Permit use of permeable surfaces for sidewalks.

Reference	Topic	Existing Requirement	Recommendations
Subdivision – Section IV.B.1	Driveways: Width	Driveways in 1- and 2-family dwellings must be 10 feet wide and 16-feet wide at the curb	Minimum driveway width should be 9 feet.
Subdivision – Section IV.B.1	Driveways: Width	Driveways in multiple dwellings and non-residential must be 24 feet wide and 30 feet wide at the curb	Minimum driveway width should be 9 feet for one-way and 18 feet for two-way.
Subdivision – Section IV.B	Driveways: Materials	No current provisions for pervious materials	Pervious materials should be allowed for single-family home driveways.
Subdivision – Section IV.B	Driveways: Materials	No current provisions for two-track driveways	Two-track driveways should be allowed for single-family driveways.
Subdivision – Section IV.B	Driveways: Shared	No current provisions for shared driveways	Shared driveways should be allowed in residential developments.
Subdivision – Section IV.D.	Open Space	Park required - at least one acre per 20 units, 3 times the area for multi-family units, or 10% of non-residential subdivisions.	Add language such as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the open space area and count towards the requirement.”
Subdivision – Section III.C.2.g.	Stormwater Management	“Drainage Calculations Shall be submitted...”	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Subdivision – Section IV.F. – Lot Drainage	Stormwater Management	“Storm Drainage shall be designed in accord with the specifications of the Planning Board.”	Add the language: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Subdivision – Section IV.F. – Lot Drainage	Stormwater Management	No current provisions for rooftop runoff to vegetated areas	Rooftop runoff should be allowed to discharge to lawn areas and buffers, provided that it ultimately infiltrates.
Zoning – Section 6.2.4.4	Parking Lot Driveways: Width	Minimum 22 feet wide for parking lot driveway, maximum 30 feet. Interior driveways may be no less than 20 feet for 2-way and 14 feet for 1-way.	Minimum driveway width should be 9 ft. for 1-way and 18 ft for 2-way.
Zoning – Section 6.4.1.1	Parking Design: Ratios	1 space per 300 SF of gross floor area of business and professional office	For professional office, minimum should be 1 space per 333 SF of gross floor area (or 3 spaces per 1000 SF)
Zoning – Section 6.4.1	Parking Design: Ratios	Required spaces are minimums.	Consider having parking ratios be a maximum rather than a minimum.
Zoning – Section 6.4	Parking Design: Ratios	No provision for reduction if near mass transit for standard subdivisions	Ratio should be reduced if mass transit nearby
Zoning – Section 6.4.2	Parking Design: Stall dimensions	Minimum stall dimensions are 9’x18’	The size is appropriate, but it should be set at a maximum rather than a minimum.

Reference	Topic	Existing Requirement	Recommendations
Zoning – Section 6.4.4	Parking Design: Pervious Materials	No current provisions for pervious parking lot materials	Pervious materials should be allowed for stalls and spillover areas. Add language such as: “Pervious materials such as porous pavers, paving stones, reinforced grass, and pervious pavement may be allowed in lower volume stalls or overflow parking areas.”
Zoning – Section 6.4.2.5	Parking Lot Design: Landscaping	“All parking and loading facilities shall be suitably landscaped...”	Stormwater practices in islands, landscaped areas and setbacks should be allowed or required. Add language such to this section as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the landscaped areas and count towards the requirement.”
Zoning Table II – Standard Dimensional Regulations / Section 5 Dimensional Regulations	Lot Layout: Setbacks and Frontages	Standard dimensional requirements for varying zoning districts. Conservation Subdivision Design (Zoning Section 8) does allow reduced setbacks and frontages.	For standard subdivisions and some commercial areas, minimize setback distances in order to increase flexibility for building location and permit reduction in frontage where appropriate (such as OSRD, around cul-de-sacs, at outside sideline of curved streets) to reduce road length and paved areas, and increase open space.
Zoning Table II – Standard Dimensional Regulations / Section 5 Dimensional Regulations	Lot Layout: Lawn Requirements	No current provisions for lawn extent limits	Establish limits of extent of lawn area on residential lots, either by area or by percentage of lots.
Zoning Table II – Standard Dimensional Regulations / Section 5 Dimensional Regulations	Lot Layout: Impervious Area Limits	No current provisions for impervious limits in low-density areas	In low-density areas, consider establishing limits on impervious lot coverage (i.e. 15 %). (Not appropriate for town centers or moderate density neighborhoods where compact development should be encouraged).
Zoning – Section 6.4.2.4	Lot Layout: Setbacks and Frontages	“No parking space or other paved surface...”	Permit the location LID practices in setback areas and buffer strips. Add language to this section such as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within setback or buffer strips and count towards the requirement.”
Zoning – Section 8.3	Open Space: Clustering	Conservation Subdivision Design (CSD) is allowed, but is not by right, is by special permit.	Should be a by-right form of development (no special permit required).

Reference	Topic	Existing Requirement	Recommendations
Zoning – Section 6.4.4.2.b	Open Space: Landscaping Requirements	“Landscaping Requirements...”	Allow stormwater practices to count towards fulfillment of landscaping/open space requirements Add language to this section such as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the open space area and/or landscaping area and count towards the requirement.”
Zoning – Section 5.2.6 and 5.2.6.1	Open Space, Landscaping, and Landscape Buffer	“Residential Landscape Buffer...”	Add language to this section such as: “Low impact stormwater management techniques such as bioretention areas, rain gardens, vegetated swales, and filter strips may be located within the open space / buffer area and count towards the requirement.”
Zoning – Section 8.9.1.5	Open Space: in Conservation Subdivision Design	“Wastewater disposal facilities and stormwater management systems may be located within the open space. However, these systems shall not qualify towards the minimum open space required.”	Allow wastewater and stormwater facilities to count towards open space requirements. Revise the second sentence to say “These systems may qualify...”
Zoning	Conservation: Incentives	No current provisions of conservation incentives	Should be incentives to developers or landowners to conserve non-regulated land (i.e. open space design, density bonuses, stormwater credits, lower property tax rates)
Zoning – Section 6.4.4.2 – Site Design and Construction Standards	Stormwater Management	Grading, Pavement, and Stormwater Runoff requirements	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Zoning 6.6.6.11 – Drainage within Groundwater Protection District	Stormwater Management	“All runoff from impervious surfaces....”	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Zoning – Section 6.6.7.7 Special Permit Uses	Stormwater Management	“Any use that will render...”	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Zoning – Section 8.10.2.7	Stormwater Management	“Drainage and Stormwater Management”	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”

Reference	Topic	Existing Requirement	Recommendations
Zoning – Section 9.9	Stormwater Management	“The development shall meet...”	Add the language to this section: “Stormwater Management criteria and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”
Conservation Commission Policies – No. 8	Stormwater Management: Rooftop Runoff	Infiltration required for residential roof areas in 100 feet of a wetland or within a wetland resource area.	Add the language: “All rooftop runoff infiltration requirements and design standards shall also be in accordance with the Town of Wilmington Stormwater Management Bylaw where applicable.”