

**Guidelines for Calculation and Provision of Open Space  
in Developments of Regional Impact  
Technical Bulletin 94-001, as Amended**

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## **Introduction**

The purpose of this Technical Bulletin is to provide guidance for applicants regarding conformance with the Wildlife and Plant Habitat and Open Space sections of the 2009 Regional Policy Plan (RPP). The 2009 RPP takes a more targeted approach to resource protection, while generally relaxing requirements for development that is located in Economic or Village Centers where adequate infrastructure exists. In order to realize the goals of preserving high quality open space, protecting wildlife and plant habitat, and reducing the effects of sprawl, several changes have been incorporated into the new regulations to encourage development in appropriate areas, and redirect it away from sensitive ones.

The subjects covered in this Technical Bulletin include **Site Selection** considerations, **Developing an Open Space Proposal**, project **Site Design** considerations, **Calculating the Required Open Space**, appropriate **Ownership and Permanent Restriction** of open space, **Activities Allowed** in the open space, and how **Off-Site Open Space** or a **Cash Contribution** in lieu of land may be provided in accordance with the RPP. Additional guidelines are included regarding application for and approval of **conservation restrictions**. The applicable sections of the RPP are attached as an appendix to this Technical Bulletin for reference purposes.

Mapped resources are available on the Cape Cod Commission website, [www.capecodcommission.org/GIS/regionalmaps.htm](http://www.capecodcommission.org/GIS/regionalmaps.htm) or by request.

### **1. Site Selection**

A project's location affects the quantity of open space required. Project planners should refer to the Regional Land Use Vision map (Vision map) and the Significant Natural Resource Area (SNRA) map when considering site acquisition for a project. The Vision Map employs a limited set of land use categories including areas where the RPP encourages additional growth and redevelopment, and areas where additional development is discouraged due to the sensitivity of resources present. Projects sited in Economic Centers typically require less open space than other mapped areas (see Calculating Open Space, Section 4, below). Similarly, projects located in SNRA require a greater open space requirement than projects not located in these sensitive resource areas.

Other considerations, such as whether the site is mapped for rare species habitat, or contains wetlands will affect the complexity of the review process, as well as the development potential of the property.

### **2. Developing an Open Space Proposal**

The open space requirement seeks to ensure that the most sensitive portions of a site are protected from the impacts of development. Typically, development should be sited close to existing development or roadways, and protected open space should be sited adjacent to other undeveloped areas or protected open space.

Any development proposed on land that is presently undeveloped is required to prepare a natural resources inventory (see Technical Bulletin 92-002) to evaluate the resources on

the site. Additional site evaluations that may be required for disturbance of land that is mapped as Estimated or Priority habitat for rare species (as mapped by the Natural Heritage and Endangered Species Program in the Natural Heritage Atlas) should also be prepared prior to project planning. The DRI review process allows the Commission to address habitat concerns in conjunction with other site and resource issues. *Early evaluation and accommodation of natural resources or other site constraints will save time and money during the review process.*

Several Minimum Performance Standards (MPSs) direct applicants to protect those portions of a project site with the highest natural resource values, minimize fragmentation, cluster development, and reduce the overall footprint of development. Concepts to keep in mind to ensure compliance with the MPSs include:

1. Protect areas with **high natural resource values** (as may be identified in a Natural Resources Inventory), including critical wildlife and plant habitat, lands adjacent to water resources such as lakes, rivers, aquifers, shorelands, and wetlands.
2. Protect other **sensitive resources**, including historic, cultural and archaeological areas, significant scenic roads and vistas, prime agricultural soils and existing farmlands, historic agricultural lands, and unique landforms. Reestablishing historic views to water or landscape vistas is encouraged for incorporation into the preserved open space.
3. Open space should be **contiguous** and linear areas should be wide enough to provide wildlife travel corridors, as may be recommended in a natural resources inventory or by Commission staff. Topography, existing and proposed land use, and species requirements will be considered when determining the necessary wildlife corridor width.
4. Open space is also required by the RPP to be **interconnecting** with existing protected open space where it abuts the land proposed for development.
5. Severely **degraded areas** and landscaped areas within parking lots will not be counted toward the required open space unless the Commission finds that such areas provide significant resource protection, scenic and/or recreational benefits. Where projects located on severely degraded areas such as gravel pits and landfill sites are revegetated, at the Commission's discretion, the revegetated areas may be counted toward meeting the open space requirement. These areas should be regraded consistent with the topographic context, and in such a fashion as to reduce or eliminate potential erosion.
6. **"Un-development"** of appropriate sites, where removal of the existing structures would result in reestablishing vistas, enabling wildlife corridor connections, or reducing fragmented habitat, is highly encouraged. Provided that structures are removed and the site is adequately revegetated, undeveloped sites may be used to meet the open space requirement.
7. The RPP requires that "within open space areas, the maximum amount of **natural vegetation** shall be maintained." The following guidelines should be considered in developing an open space proposal consistent with this standard:

- A. Dedicated open space should consist of undisturbed woodlands and other natural areas, or existing disturbed areas that are revegetated to a natural state pursuant to an approved revegetation plan (not landscaped areas).
  - B. For projects in Growth Incentive Zones or in “Economic Centers”, “Industrial and Service Trade Areas,” and “Villages” which are also located in SNRA, a minimum of half of the required open space should consist of natural areas; for projects located outside of SNRA, open space in these mapped areas may include “pocket parks” that offer a significant amenity, or naturalized revegetation of disturbed areas, at the Commission’s discretion.
  - C. Development in “Resource Protection Areas” and “Other” areas should maximize the provision of open space in natural habitat or areas restored to provide natural habitats, and address the protection of underlying mapped resources (e.g. Zone 2s, flood zones, etc.), to the extent possible.
  - D. Areas that may not qualify as dedicated open space include landscaped islands in parking lots, narrow buffers between development, and isolated fragments of open space that are less than half an acre in size.
  - E. In order to further Best Development Practice OS2.2 in the RPP, applicants are also encouraged to provide areas that will be an amenity to residents and visitors such as parks, walking paths, and connections to adjacent parcels containing protected open space.
8. The open space proposed to meet the requirement must be **upland areas** where permanent restrictions may be placed on the future use of the property. Wetlands and waterbodies may also be included within the restricted or donated area, but the area of these features does not count toward the required open space acreage.
  9. Open space that was donated or restricted prior to the referral date cannot be counted toward the RPP requirements in accordance with MPS OS1.3.

### **3. Site design**

Site designers should demonstrate consideration for the natural resources on the site. Applicants are encouraged to review the Commission’s Design Guidelines: Designing the Future to Honor the Past, and the Design Addendum (yet to be titled), which provide extensive guidance on developing a site plan that is sensitive to natural and community character resources.

#### **Protect Sensitive or Unusual Natural Features**

The RPP requires the preparation of a Natural Resources Inventory (NRI) for any development on naturally vegetated, or “greenfield” sites. The NRI will highlight any natural features that deserve consideration or protection, including significant habitats, wildlife corridors, or specimen trees. Site design should reflect consideration of the natural features on a property, locating development away from unusual habitats or wildlife corridors, preserving specimen trees, locating development away from Significant Natural Resource Areas (SNRA), consistent with the requirements of MPSs WPH1.2, OS1.1, OS1.3 and OS1.4 and the SNRA map. Where the site is fairly uniform, and habitats or corridors do not create constraints, the project should typically locate the

development at the front of the lot, or adjacent to other development on neighboring properties (see MPSs WPH1.2, WPH1.3, and OS1.5). The construction envelope should be limited to the greatest extent feasible, both to preserve existing habitats and pervious areas on a site, and to limit the open space mitigation required for a project (see below).

**Parking**

Providing some or all of a development’s parking requirements under buildings or in parking structures reduces the development footprint on a site, thereby reducing the open space requirement as well. MPS OS1.8 allows an applicant to reduce the open space requirement equivalent to the square foot area of structured or multilevel parking. As an example, a project with a development area of 2 acres (including buildings, parking, stormwater, other site disturbance) located in a Significant Natural Resource Area would be required to provide 4 acres of open space. If the proponent is able to construct structured parking and reduce the development area by half an acre, the open space requirement would be 3 acres.

**Low Impact Design**

Proponents are also encouraged to incorporate Low Impact Design (LID) whenever possible when designing stormwater systems. Stormwater infrastructure consistent with Water Resource standards for biofiltration (MPS WR7.4) may be used as open space provided they are located in wellhead protection areas.

**4. Calculating Required Open Space**

**Requirements based on Location**

The amount of open space that a DRI applicant will be required to provide for compliance with MPS OS1.3 is based on several factors:

- The project’s location with regard to the approved Regional Land Use Vision Map, see Site Selection, above,
- The project’s location with regard to the Cape Cod Significant Natural Resource Area Map, and
- The size of the development area, as defined and discussed below.

The following table summarizes the RPP open space requirements using a proportional method:

Development Area to Permanently Protected Open Space:

<b>Proportion Required</b>	<b>Location of Development</b>
2:1	Development in Growth Incentive Zones or Economic Centers
1:2	Development in Significant Natural Resource Areas (SNRA)
1:1	Development in all other areas

As an example, development that results in 2 acres of disturbed area in an Economic Center requires the permanent protection of 1 acre of open space.

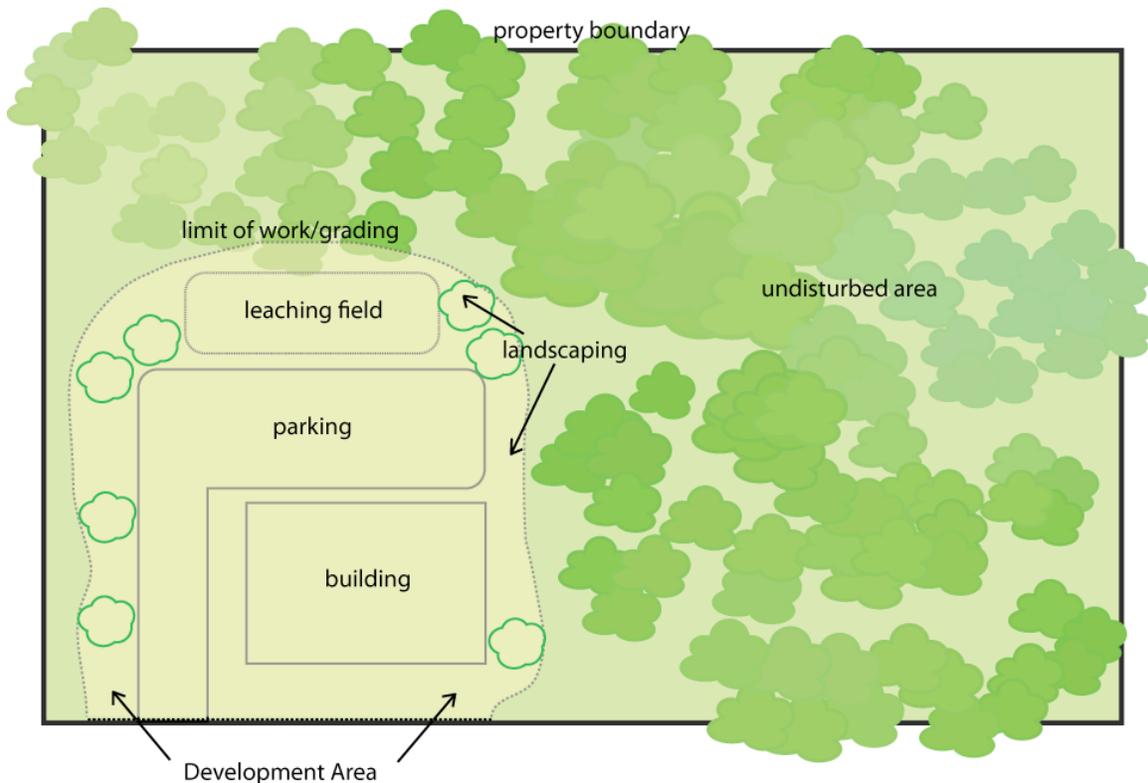
As noted above, siting a project outside of SNRA will significantly lessen the open space requirement. Projects that are outside of SNRA and are also located in an Economic Center will further benefit from reduced open space requirements. Due to the overlap of some Economic Centers with SNRA (primarily due to the presence of public water supply protection areas), some greenfield projects in Economic Centers will be required to comply with the higher open space requirements for projects located in SNRA.

The 2:1 open space requirement for projects in Economic Centers does not apply to projects in towns without a Land Use Vision Map.

For projects that are located in more than one area (Significant Natural Resource Area, Economic Center, Growth Incentive Zone, Other Area), the open space calculation should be performed separately based on the size of the development area that is within each area, with the final amount based on a sum of these individual areas.

### Development Area

For the purposes of calculating the open space requirement, the Development Area of a project is any upland area affected by development. Development Area may include, but is not limited to, “any building, construction, mining, extraction, dredging, filling, excavation, or drilling activity or operation; the division of land into parcels; the clearing of land as an adjunct of construction; or the deposit of refuse, solid or liquid waste, or fill on a parcel of land...” (see appendix for full definition).



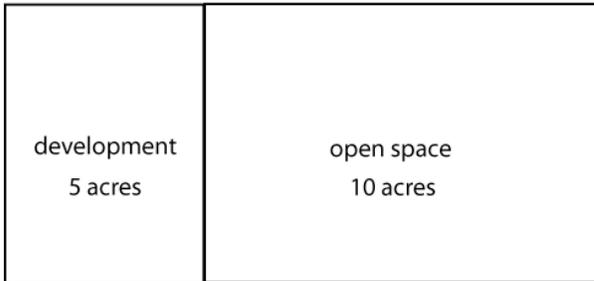
On redevelopment sites, the development area should be calculated for areas where new clearing or construction is proposed, consistent with the definition above. The Commission may use discretion in defining a reasonable development envelope around

the existing development; e.g. existing landscaped areas adjacent to existing buildings or parking may be excluded from the “greenfield,” or development area.

Where land is being subdivided for the purpose of residential lot development, the Developed Area includes the total upland area of the lots, road layouts, stormwater systems, etc. (exclusive of the open space lot as may be provided to meet the requirement). Where land is being subdivided solely for the purpose of industrial or commercial lot development, the Developed Area includes the total upland area of these lots, road layouts, stormwater systems, etc., (again, exclusive of an open space lot).

As an example, a large commercial building proposed on a ten acre parcel in a Significant Natural Resource Area, which results in grading and/or clearing of five (5) acres for the building, site drive, parking, stormwater and septic facilities, landscaped areas, etc., should calculate the 1:2 development to open space requirement as 5 acres x 2 = 10 acres open space.

Significant Natural Resource Area Ratio 1:2



Not SNRA Ratio 1:1



### Redevelopment Requirements

Under the 2009 RPP, redevelopment of existing developed properties does not require the provision of open space. A redevelopment project’s expansion into “greenfield,” or undisturbed sites is further encouraged in Economic Centers; open space is required only after the greenfield expansion portion of a redevelopment project exceeds 50% of the existing developed area on a site (MPS OS1.3). For example, an existing development with a development area of 1 acre may expand to a total development area of 1.5 acres with no open space required in Economic Centers. Outside of Economic Centers, greenfield development associated with a redevelopment project is expected to meet the same open space requirements as any other greenfield, or new development.

### Previously Permitted DRIs

If a project, previously permitted through the DRI process and required to provide open space, returns for additional DRI review (expansion or redevelopment), only the area of the expansion or new disturbance should be used to calculate any additional open space requirements. The Commission may allow for a credit for open space provided for projects permitted, constructed, and in compliance with the requirements of the 1996 RPP (65% of a project property for SNRA, and 50% of a property for projects outside of SNRA).

## **5. Ownership and Restriction of Open Space**

### **Ownership**

Open space is defined in the RPP as “upland set aside and permanently restricted for conservation, agriculture or passive recreation purposes.” Land set aside to meet the minimum performance standards should be either:

- 1) donated to a town;
- 2) donated to a nonprofit (IRS Sec. 501(c)(3)) conservation organization or qualified land trust;
- 3) held by the homeowners association; or
- 4) held by an individual or corporation (including the owner).

### **Donation in Fee**

In developing an open space proposal, applicants should consider donation to the town or land trust. Donating in fee a property for conservation purposes is typically simpler and faster than establishing a conservation restriction. Not every open space proposal will be configured in such a way as to be conducive to donation, but where possible, donation may be the most efficient means for meeting the open space requirement. Donations made to a town should be placed under the care, custody and control of a conservation commission pursuant to MGL, Ch. 40, Sec. 8C, or a park and recreation commission under MGL Ch. 45, Sec. 3 or Sec. 15. Donations may also be made to a nonprofit conservation organization/trust.

### **Conservation Restrictions**

Where ownership is retained by an individual, corporation, or association, a perpetual conservation restriction (CR)<sup>1</sup> must be placed on the open space to ensure its permanence in accordance with RPP MPS OS1.2. Conservation restrictions are authorized by MGL, Ch. 184, Sections 31-33. “Covenants” and “deed restrictions” have a limited duration and require re-recording, therefore they do not satisfy the requirement for permanent open space in the RPP. Similarly, open space set aside through the special permit process also does not meet this requirement. In limited situations, for example where LID stormwater systems are incorporated, and in some redevelopment projects, deed restrictions may be an appropriate tool to meet the open space requirement.

Conservation restrictions must be approved by the holder of the restriction (grantee), as well as locally (by the Board of Selectmen/Town Council and Conservation Commission). The applicant should provide evidence of having located a willing grantee and a town’s willingness to accept the CR prior to a decision on the project. CRs must also be approved by the Secretary of Environmental Affairs and recorded at the Registry of Deeds or Land Court. If there is a mortgage on the property, the lender must subordinate the mortgage to the conservation restriction or provide a partial release for the land under conservation restriction. These requirements must be met before a Certificate of Compliance will be issued by the Cape Cod Commission and may be

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<sup>1</sup> In appropriate instances an agricultural preservation restriction may also be acceptable.

required earlier in the process for some types of projects as a result of permit conditions. It is advisable to submit a draft of the conservation restriction for state review prior to proceeding with local approvals of the conservation restriction. *Applicants are advised that the approval process for conservation restrictions may take several months, and consequently are advised to begin drafting the conservation restriction well in advance of seeking compliance with this requirement.*

### **Public Benefit**

A conservation restriction should confer a public benefit in order for the Secretary of Environmental Affairs to make a finding of “public interest” in approving the restriction. Such public benefits include the protection of archeological or historic resources or sites, minimization of “damage to the environment” as defined in M.G.L. Ch. 30 Sec. 61, the protection of beautiful scenery visible from a public road or waterway, the protection of public drinking water sources, the preservation of the historic rural or cultural character of the municipality, the maintenance of critical wildlife habitat or wetlands or other important ecosystems, the preservation and conservation of farm, forest, or grazing lands and/or public use and public access to the restricted site. It should also be noted that the Secretary will generally not accept landscaped yards, driveways, roads, private tennis courts, pools, etc. for inclusion in lands subject to conservation restriction. However, golf courses, recreation fields, etc. may be included when a public benefit can be demonstrated. The public benefit provided by the conservation restriction must be specified in the restriction.

### **Permanence**

Conservation restrictions should be considered permanent. Once a conservation restriction is placed on a parcel it can only be released after a public hearing and vote by the Selectmen or Town Council, and with approval by the holder (the conservation commission, land trust, etc.), the Town through town meeting, the Secretary of Environmental Affairs and the Massachusetts Legislature.

### **Additional Information**

Additional information about conservation restrictions, including model language for developing conservation restrictions is contained in the [Model Conservation Restriction](#), available through the Executive Office of Energy and Environmental Affairs, Division of Conservation Services. See also:

[www.mass.gov/?pageID=eoeesubtopic&L=4&L0=Home&L1=Grants+%26+Technical+Assistance&L2=Grant+%26+Loan+Programs&L3=Division+of+Conservation+Services+\(DCS\)&sid=Eoeea](http://www.mass.gov/?pageID=eoeesubtopic&L=4&L0=Home&L1=Grants+%26+Technical+Assistance&L2=Grant+%26+Loan+Programs&L3=Division+of+Conservation+Services+(DCS)&sid=Eoeea)

Names of municipal and land trust open space contacts are available from the Cape Cod Commission and may also be found on the Commission’s Web site at:

[www.capecodcommission.org/landbank](http://www.capecodcommission.org/landbank).

## **6. Activities in the Open Space**

According to the open space definition in the RPP, “As appropriate to the site, open space may include woodlands, pasture, passive recreation areas, walking and riding trails, and similar areas, but shall not include structures such as tennis courts, buildings, swimming

pools or other impervious areas. Open space may be open for public use or access may be restricted.” In general, the use of the open space should be governed by the resources present on the site. The following activities are generally not permitted in open space: drainage structures/detention basins, roadway layouts or easements, septic systems, unpaved parking, commercial uses, and construction of proposed utilities. In addition, in sensitive wildlife habitat areas (such as rare species habitat), dunes, or other ecologically valuable areas, it may be necessary to restrict public access and use of the open space.

### **Passive Recreation**

The RPP defines Passive Recreation as “recreation that involves the use of existing natural resources and does not require any development or alteration of existing topography or use of motorized vehicles. Certain kinds of passive recreation may necessitate minimal alteration of existing vegetation for trail creation, maintenance, and other management activities.”

In addition, applicants should work closely with the intended owner of the open space and/or holder of the conservation restriction when designating and determining the use of the open space. In general, it is easier to find an organization that will own land or hold a conservation restriction on a large unfragmented parcel of open space than on a number of smaller parcels.

### **Agricultural Activities**

In appropriate circumstances, agricultural or active recreational activities (playing fields) may be allowed uses on land set aside for open space. Instances where agriculture will not adversely impact rare species or their habitats, or adversely impact wetlands or water quality, may be included as allowed uses in a conservation restriction. Possible language within the reserved rights section of a CR may include allowances for agricultural activities such as pasture lands, crop lands, and lands accessory to agriculture. Where land is being donated to meet the open space requirement, land in active agricultural or recreational use, or planned for those uses, may be accepted. These lands typically should not contain structures. However, small structures that are integral to the agricultural operation (e.g. small sheep shelter within a field, pump house for cranberry bogs) or the recreational activity (seating, lights) may be considered by the Commission as allowable within the open space.

## **7. Provision of Off-Site Open Space**

In appropriate circumstances, the RPP allows for the provision of upland open space off-site within the same town. The determination of appropriateness is made by the Commission in consultation with the towns based upon factors relating both to the proposed development site as well as the proposed off-site location. The Commission will consider information contained in the Open Space element of certified Local Comprehensive Plans (where available) or in municipal Open Space and Recreation plans in making this decision. The provision of off-site open space is likely to be more applicable to development and redevelopment within existing town centers and villages, including Economic Centers, than to development within Significant Natural Resource Areas.

## **Quality**

The provision of off-site open space should be shown to be equal to or more beneficial from an ecological or recreational perspective than providing the open space on the site. To assist the Commission in its decision, a Natural Resource Inventory may be required for both the development site (if currently undeveloped) and the off-site parcel(s). The applicant may also be asked to demonstrate the relative ecological and recreational values of both sites.

## **Quantity**

Regardless of whether the open space requirement is satisfied on-site, off-site or in combination, the amount of open space required is based upon the calculation performed for the original development project.

## **Permanence**

Off-site open space may meet any of the ownership requirements described in Section 5, with the provision that development rights on the property are permanently extinguished and the land may not be used toward the calculation of densities for future development on the subject parcel or any other parcels.

## **8. Provision of Open Space on Individual Residential Lots**

### **Estate Lots**

MPS OS1.3 of the RPP provides that “no credit may be obtained for land that is dedicated on a residential lot on which a dwelling exists or may be built unless that lot is at least 3 acres in size.” Where lots of at least three acres are provided, open space may be provided through recording of a permanent conservation restriction on no less than two acres of each residential lot.

The intent of this provision is to allow estate-lot type residential development where the open space is clearly distinguishable from the portions of the lot to be developed for residential purposes. Some physical separation of the immediate yard area from the open space, such as a low fence or hedgerow or permanent bounds may be required, as may be the designation of a building envelope on the lot to encompass all developed areas.

### **Locate Conservation Restriction Grantee Early**

Applicants considering the provision of “on lot” open space in accordance with the provisions above should consult early on with the proposed holder of the conservation restriction. Many land conservation trusts and other organizations may not want to hold such restrictions due to the difficulties with enforcement of conservation restrictions on a large number of individual lots.

## **9. Cash Contribution in Lieu of Open Space**

### **Cash Contribution Mechanism**

The RPP states that in lieu of provision of open space on-site or off-site, a cash contribution of funds may be made to a town Open Space or Community Preservation Act fund (preferred) or to a nonprofit land trust for open space acquisition. The

Commission will take into consideration a Town's preferences with regard to the proposed open space contribution, as well as the natural and recreational resource values of the land proposed for development.

### **Calculation**

The method of calculating the cash contribution is specified in MPS OS1.3: On an annual basis, Commission staff will calculate the per acre cash equivalent for open space for each town based on current town assessor's data. Staff will extract all residentially zoned developable parcels in excess of two acres, determine the per acre value for each of these properties, sort by value, remove the top and bottom 10 percent of properties, and average the remaining properties to calculate the per acre open space value for each town.

### **Inflation Factor**

The per-acre open space value may be adjusted by a reasonable inflation factor for years where current assessor's data is not available.

## **Appendix**

### **Regional Policy Plan Definitions, Goals and Standards**

(from Barnstable County Ordinance 08-14, approved by the Assembly of Delegates 12/17/08)

#### **Definition**

**Development** – Any of the following undertaken by any person provided it is a Development of Regional Impact pursuant to Section 2 of the Cape Cod Commission Enabling Regulations Governing Review of Developments of Regional Impact, Barnstable County Ordinance 90-12: any building, construction, renovation, mining, extraction, dredging, filling, excavation, or drilling activity or operation; any material change in the use or appearance of any structure or in the land itself; the division of land into parcels; any change in the intensity of use of land, such as an increase in the number of dwelling units in a structure or a change to a commercial or industrial use from a less intensive use; any activity which alters a shore, beach, seacoast, river, stream, lake, pond, canal, marsh, dune area, woodland, wetland, endangered species habitat, aquifer, or other resource area, including coastal construction or other activity in Barnstable County within the jurisdictional limits of Barnstable County; demolition of a structure; the clearing of land as an adjunct of construction; or the deposit of refuse, solid or liquid waste or fill on a parcel of land or in any water area.

#### **Wildlife and Plant Habitat (WPH)**

##### **Wildlife and Plant Habitat Goal – WPH1:**

Prevent Loss, Minimize Adverse Impact, and Maintain Diversity

To prevent loss or degradation of critical wildlife and plant habitat, to minimize the adverse impact of new development on wildlife and plant habitat, and to maintain existing populations and species diversity.

#### **Minimum Performance Standards**

##### **WPH1.1 Natural Resources Inventory**

Applications for Developments of Regional Impact that propose to alter undeveloped areas shall contain a natural resources inventory. Such inventory shall identify the presence and location of wildlife and plant habitat, including vernal pools, and serve as a guide for the layout of the development. Developments shall be planned to minimize adverse impacts to wildlife and plant habitat. Guidance on preparation of natural resources inventories can be found in Development of Regional Impact Guidelines for Natural Resources Inventory (Plant and Wildlife Habitat Assessment), Technical Bulletin 92-002, as amended.

##### **WPH1.2 Clearing and Grading**

Clearing of vegetation and alteration of natural topography shall be minimized, with native vegetation planted as needed to enhance or restore wildlife habitat. Standing specimen trees shall be protected. The Commission may require designation of building envelopes (for structures, driveways, lawns, etc.), where appropriate, to limit removal of vegetation.

##### **WPH1.3 Wildlife and Plant Habitat**

Fragmentation of wildlife and plant habitat shall be minimized by the establishment of greenways and wildlife corridors of sufficient width to protect not only edge species but also species that inhabit the interior forest, as well as by the protection of large unfragmented areas, and the use of open space or cluster development. Wildlife shall be provided with opportunities for passage

under or across roads and through developments where such opportunities will maintain the integrity of wildlife corridors. Fencing shall not be constructed so as to interfere with identified wildlife migration corridors.

#### **WPH1.4 Rare Species**

DRIs within critical wildlife and plant habitat areas shall submit the development proposal to the Massachusetts Natural Heritage Program for review and comment. DRIs that would adversely affect habitat of local populations of rare wildlife and plants shall not be permitted. Development may be permitted where the proponent can demonstrate that such development will not adversely affect such habitat. A wildlife and plant habitat management plan may be required as a condition of approval when development or redevelopment is permitted in critical wildlife and plant habitat areas.

#### **WPH1.5 Vernal Pools**

Where a project site is located adjacent to a vernal pool (as defined herein), development shall be prohibited within a 350-foot undisturbed buffer around these resources. New stormwater discharges shall be located a minimum of 100 feet from vernal pools.

#### **WPH1.6 Invasive Species**

Development on sites where a natural resources inventory identifies the presence of invasive plant species shall provide and implement a management and restoration plan detailing the management of, and where possible, the eradication of the invasive species present, and for revegetating the site with native species. A current listing of invasive species can be found on the web at [www.massnrc.org/mipag/](http://www.massnrc.org/mipag/).

#### **Best Development Practices**

##### **WPH1.7 Habitat Restoration**

Measures to restore altered or degraded upland habitat areas are encouraged where ecologically appropriate (for example, sandplain grasslands, pine barrens, etc.).

##### **WPH1.8 Un-development**

In redevelopment projects in sensitive or significant habitats, including mapped estimated or priority habitat as identified by the Natural Heritage Program, efforts to remove existing development from sensitive or significant habitat areas are encouraged.

### **Open Space Protection and Recreation**

#### **Open Space Protection and Recreation Goal – OS1:**

Open Space and Natural Resources

To preserve and enhance the availability of open space that provides wildlife habitat and recreational opportunities, and protects the region's natural resources and character, Barnstable County shall strive to protect remaining developable land.

#### **Minimum Performance Standards**

##### **OS1.1 Clustering of Development**

Development or redevelopment within Significant Natural Resource Areas, as illustrated on the Cape Cod Significant Natural Resource Area (SNRA) Map, as amended, shall be clustered away from sensitive resources and maintain a continuous corridor to preserve interior wildlife habitat.

Where a property straddles the boundary of an area shown on the SNRA map, development shall be clustered outside the boundary.

**OS1.2 Open Space Connections**

Preserved open space within proposed developments shall be designed to be contiguous and interconnecting with adjacent open space, and shall be subject to permanent protection under Article 97 of the Massachusetts state constitution, or similar conservation mechanism. Additional guidance on dedication of open space for Developments of Regional Impact can be found in the Guidelines for Calculation and Provision of Open Space in Developments of Regional Impact, Technical Bulletin 94-001, as amended.

**OS1.3 Open Space Requirements**

All development, excepting municipal projects serving municipal purposes, that qualifies as a DRI shall provide permanently restricted upland open space in accordance with the proportional calculation described below:

**Total Development Area to Total Open Space Provided**

Proportion Required	Location of Development
2:1	Development in Growth Incentive Zones/Economic Centers
1:2	Development in Significant Natural Resource Areas
1:1	Development in all other areas

For towns without designated Economic Centers, a DRI shall comply with the open space requirements based on its location relative to SNRA.

**Calculation Based on Development Area**

A project’s open space requirement is calculated in direct proportion to the project’s development area. For the purposes of calculating the open space requirement, the development area for new development and redevelopment is any previously undisturbed upland area (including upland areas that are functioning as habitat) affected by “development” as defined in the Definitions section of this document. Additional guidance can be found in Guidelines for Calculation and Provision of Open Space in DRIs, Technical Bulletin 94-001, as amended.

**Protection of Areas with Highest Natural Resource Values**

Open space shall be designed to protect those portions of the site with the highest natural resource values as identified by a natural resources inventory. Within open space areas, the maximum amount of natural vegetation shall be maintained. Where development is located in more than one area as identified in the chart above, open space totals shall be determined for each area and added together. Where new development is proposed within Significant Natural Resource Areas, open space shall be provided within these areas. The requirements for Significant Natural Resource Areas shall apply to projects located in Growth Incentive Zones/Economic Centers that are located within a Significant Natural Resource Area, with exceptions as noted in Minimum Performance Standard OS1.7.

**Provision of Off-Site Open Space**

Where appropriate and at the Cape Cod Commission’s discretion, credit may be obtained for set aside of off-site open space or a contribution of funds may be made to the town, state, land trust, or the Compact of Cape Cod Conservation Trusts’ Land Fund for open space acquisition at a rate

determined by the calculation specified below and to be updated annually per town in the Guidelines for Calculation and Provision of Open Space in Developments of Regional Impact, Technical Bulletin 94-001, as amended. The Commission shall give priority to towns when determining the recipient of off-site open space donations or cash contributions. Off-site open space shall be provided in the town where development is proposed, unless the Commission finds, in consultation with the relevant towns, that the provision of off-site open space in an adjacent community on Cape Cod is appropriate.

### **Calculation of Cash Mitigation Open Space Option**

On an annual basis, Commission staff shall calculate the per acre cash equivalent for open space for each town based on the following formula: Select all residentially zoned developable parcels in excess of two acres from town assessor's data. Determine per acre value for each of these properties, sort by value, remove top and bottom 10 percent of properties. The average of the remaining properties is the per acre open space value for that town for current assessor's data.

The per-acre open space value may be adjusted by a reasonable inflation factor for years where current assessor's data is not available.

### **Credit for Stormwater Low Impact Development**

In public water supply Wellhead Protection Areas, stormwater management structures may be counted toward meeting the open space requirement where Low Impact Development (LID) Best Management Practices are used for stormwater infiltration (for example, vegetated swales, rain gardens and bio-retention areas).

### **Restrictions on Open Space Credit**

No credit may be obtained for land that is set aside as open space on a residential lot on which a dwelling exists or may be built, unless the lot is at least three acres in size. No credit may be obtained for areas that have been dedicated as open space prior to the date of a DRI application.

### **Redevelopment within Growth Incentive Zones/Economic Centers**

As an incentive for infill and redevelopment in appropriate locations, redevelopment within Growth Incentive Zones/Economic Centers is not required to provide open space. For the purposes of this exception only, redevelopment shall include projects expanding into greenfields, not to exceed 50 percent of the pre-existing development area on the site. Requirements for the protection of rare species, wetlands and vernal pool buffers shall continue to be met, if relevant. For towns without designated Economic Centers, this provision shall not apply.

### **Protection of Farmland**

In the design of developments, and in the consideration of on-site or off-site open space, agricultural soils and agricultural uses shall be protected. In suitable locations and where conflicts with sensitive habitats and/or state law do not arise, conservation restrictions may reserve the right to farm.

### **OS1.4 Sensitive Natural Resources**

In the design of developments, significant natural and fragile areas including critical wildlife and plant habitat, significant natural communities, water resources such as ponds and lakes, rivers, aquifers, shore lands, and wetlands; 100-foot buffers to wetlands; historic, cultural, and archaeological areas; significant scenic roads and views; and significant landforms shall be protected. Development should be located outside of 300-foot buffers to ponds and lakes and 200-foot buffers to rivers to the greatest extent feasible, and consistent with state law.

### **OS1.5 Residential Cluster**

All residential subdivisions of five or more lots and all commercial subdivisions of land shall cluster the proposed development unless inconsistent with local bylaws. Cluster plans shall use site designs that maximize contiguous open space, respect the natural topography and character of the site, and employ wastewater treatment alternatives to allow more compact development.

### **OS1.6 Sensitive Open Space Resources**

Where development is proposed adjacent to land held for conservation and preservation purposes, or adjacent to rural landscapes or lands in active agricultural production, the development shall be configured so as to prevent adverse impacts to these lands and in a manner that maximizes contiguous open space. Additional vegetated buffers may be required where necessary to screen or separate uses.

### **OS1.7 Open Space in GIZ/Economic Centers**

Notwithstanding Significant Natural Resource Area designation, where development is proposed in Growth Incentive Zones/Economic Centers, the open space requirement shall be reduced to the proportion required for Growth Incentive Zones/Economic Centers where a natural resources inventory demonstrates that there are no wetlands, surface water bodies, vernal pools, estimated rare species habitat, agricultural soils, priority natural communities, critical upland areas, public water supply Wellhead Protection Areas, or other unique or fragile habitat within 100 feet of the site boundary.

### **OS1.8 Open Space Requirements and Parking Garages**

As an incentive toward minimizing impervious areas, protecting open space, and maintaining or improving community character, projects meeting parking requirements under proposed buildings or as a multi-storied parking garage may reduce their open space requirement by an amount equivalent to the square footage of garaged parking. Open space credit as provided by this MPS may not be obtained for parking spaces provided in excess of the minimum number of spaces required by local zoning.

### **Best Development Practices**

#### **OS1.9 Location of Open Space**

Wherever possible, off-site open space provided through MPS OS1.3 is encouraged within or contiguous to Cape Cod Significant Natural Resource Areas or in the areas identified in MPS OS1.4.

#### **OS1.10 Open Space Credits**

As an incentive for the increased protection of sensitive or significant natural resources, and at the discretion of the Commission, the open space requirement may be reduced by 20 percent where (1) high quality, naturally vegetated open space is provided in a Significant Natural Resource Area contiguous to existing permanently protected open space and is made permanently accessible for use by the public, or (2) all development provides a 350-foot undisturbed buffer from the mean annual high water line of pond or lake, or (3) all development provides a 200-foot undisturbed buffer from the mean annual high water line of a river, as determined by the local Conservation Commission consistent with the Rivers Protection Act (310 CMR 10.58), or (4) all development provides a 500-foot undisturbed buffer from a vernal pool, or (5) the protected open space provides significant vistas of the natural Cape Cod landscape. A developed shoreline refers to structures, roads, driveways, parking areas, cultivated lawns, and other uses within 300 feet of the mean annual high water line that cause the relative long-term alteration of the shoreline. No more than 20 percent of the open space requirement may be reduced for any one project.

## **Open Space Protection and Recreation Goal – OS2:**

### **Passive/Active Recreation**

To preserve and enhance opportunities for passive and active recreation in the natural environment to meet the needs of both residents and visitors.

### **Best Development Practices**

#### **OS2.1 Recreation Needs**

Recreational needs as identified in the 2000 Statewide Comprehensive Outdoor Recreation Plan, Local Comprehensive Plans, and local and regional open space plans should be addressed in the development of projects on Cape Cod. Such needs include opportunities for wildlife study, expansion of trail corridors, protection of scenic roadways, development and expansion of access for the disabled, additional public beaches, and water-based recreational opportunities with associated parking facilities to the extent these minimize alteration of natural shorelines and do not harm wildlife habitat.

#### **OS2.2 Provision of Recreation Areas**

New development should provide suitable recreation and play areas to meet the needs of the residents of that development such as playing fields, playgrounds, basketball courts, or bicycle and walking paths.