

Chapter 23

Landscaping

This chapter provides performance standards for the landscaping of all development for which a discretionary permit is required, including higher density residential, mixed-use, commercial, industrial, and institutional developments.

These standards seek to:

- protect functional existing vegetation as development occurs;
- protect water quality by integrating landscaping with measures to control stormwater runoff and erosion;
- limit runoff and allow for groundwater and wetlands recharge by maintaining vegetated spaces in developing areas;
- protect urban wildlife habitat by requiring species diversity and vertical structure in most landscaped spaces;
- ensure land use compatibility by requiring effective landscaped buffers between potentially incompatible uses;
- create favorable microclimates and reduce energy consumption in developed spaces;
- complement other requirements of this bylaw, including the requirements for erosion and runoff control, watershed protection buffers, the provision of neighborhood parks, the provision of trails; and site maintenance; and
- maintain and enhance the appearance and character of individual developments and the community.

23.1 Applicability – Landscape Plans

23.1.1 Do these standards apply to my project? These standards apply to all development for which a permit is required.

23.1.2 How do these requirements interact with other requirements of this bylaw? Virtually every development in Williston is required to provide open space. Some of that open space must be left in its existing condition and some of it must be landscaped, as required by this chapter. Both types of requirements may apply to the same development. Areas in which existing vegetation generally must be retained are listed below. This chapter applies to all other open areas, including landscaped buffers and setbacks.

23.1.2.1 Open Fields and Meadows. The annual mowing of open field and meadows may be required by the DRB to preserve scenic views. Where mowing is required, the DRB may impose a requirement that mowing take place after June 15 in order to protect nesting birds.

23.1.2.2 Open Space Development.

- Residential subdivisions in the ARZD are generally (there is an exception for parcels under 10.5 acres) required to provide substantial open space, not all of which will necessarily fall into one of the other categories listed here. This required open space is generally to be left in the existing vegetation, but certain exceptions may be required or permitted by Chapter 31, which may also require the enhancement of existing vegetation.
- Residential subdivisions in the RZD and VZD may be required to provide substantial open space, not all of which will necessarily fall into one of the other categories listed here. This required open space is generally to be left in the existing vegetation, but certain exceptions may be permitted by the DRB.

23.1.2.3 Watershed Protection. Existing riparian and wetlands vegetation is to be retained within the watershed protection buffers required by Chapter 29 of this bylaw.

23.1.2.4 Wildlife Habitat. Existing vegetation is to be retained in habitat conservation areas that are protected from development.

23.1.2.5 Woodland and Forest. Existing woodland and forest vegetation must be retained outside any clearing limits imposed by the DRB.

23.1.2.6 Forest Management. None of the above preclude pruning, thinning, or the selective harvest of trees in accordance with a forest management plan.

23.1.3 *Must I submit a landscaping plan?* Yes. All applications for a discretionary permit must be accompanied by a landscaping plan, the required contents of which are listed in the *Landscaping Plan Checklist*. This requirement does not apply to proposed developments in which no new landscaping is required by this or other chapters of this bylaw.

23.2 Existing Vegetation

23.2.1 *Can I clear an entire site of existing vegetation?* The clearing of an entire site of more than one-half (1/2) acre at one time is a violation of this bylaw, subject to enforcement as provided by WDB 7.4-7.6. Vegetation must be removed from larger sites in phases. This may eventually lead to removal of vegetation from an entire site, but note that WDB 23.2.2 requires functional existing vegetation to be retained wherever possible.

23.2.2 *Can I replace all existing vegetation?* Existing vegetation that can effectively serve the landscaping functions listed in the introduction to this chapter shall be retained to the extent possible, while accommodating the permitted level of development. An application for a permit may be rejected solely on the grounds that it fails to retain existing vegetation where that vegetation can fulfill the functions listed in the introduction to this chapter.

23.2.3 *Must I protect existing vegetation during construction?* Yes. Existing vegetation that is to be retained must be protected from damage during construction, as required by the *Public Works Standards*. The landscaping plan must include a schedule showing that all measures required to protect existing vegetation will be put in place before other construction activities begin. This schedule may apply to the entire site or to sequential phases of construction.

23.3 Landscaped Buffers

23.3.1 *Must a development provide landscaped buffers for adjoining uses?* Table 23.A shows where landscaped buffers are required. It also summarizes the principal standards for the design of those buffers, which are set forth in detail below.

23.3.2 *How wide must the required landscaped buffers be?* Table 23.A establishes a minimum width for landscaped buffers of different types in different situations. This minimum width may, in some cases, be reduced by the inclusion of an earthen berm or screening fence, as provided by WDB 23.3.3. The types of landscaped buffers are described below. The landscaping plan must show the dimensions of the proposed buffer/s, including all crossings and inclusions; a planting design and schedule appropriate for the proposed buffer type; and one or more typical cross-sections. Plant selection is subject to the requirements of WDB 23.7.

23.3.2.1 Watershed Protection Buffers. A watershed protection buffer required by Chapter 29 may be used as a landscaped buffer required by Table 23.A. Where the watershed protection buffer consists primarily of marsh or open water, it shall be supplemented by a Type III or IV landscaped buffer, whichever is most appropriate to the context, of at least eight (8) feet in width.

DRB Discretion. ‘Context’ simply means the surroundings. Determining what type of landscaped buffer will be appropriate in a particular context is an important exercise of discretion for the DRB, with the advice of the advisory boards. The DRB and the advisory boards also have the discretion to determine whether or not a berm and/or a screening fence are needed in a landscaped buffer, and to review the design of berms and fences.

23.3.2.2 Type I - Existing Vegetation. A landscaped buffer composed primarily of existing woodland or forest that must be of sufficient height and density to provide an effective visual buffer. Where this type of buffer is proposed, the landscaping plan shall include photographic documentation of the buffer’s effectiveness. The landscaping plan shall also propose supplemental new plantings where the existing vegetation is too thin to be an effective visual buffer. This type of buffer must be relatively wide to sustain its habitat value and to function as a woodland or forest that needs only minimal maintenance. Other types of buffers may be narrower, but are assumed to require regular maintenance.

23.3.2.3 Type II - Dense Plantings. A Type II landscaped buffer must be composed primarily of continuous dense screening vegetation that will grow to at least six (6) feet in height. The screening vegetation or hedge must be supplemented, on the exterior side, by a Type III or IV landscaped buffer, whichever is most appropriate to the context, of at least (8) feet in width. This type of buffer is most appropriate in re-development projects where space is limited. The buffer width reduction provided for in WDB 23.3.3 shall be given where the DRB requires a berm or fence.

23.3.2.4 Type III – Informal Plantings. A Type III landscaped buffer must be composed of a planted area that includes a ground cover, a partial understory of shrubs and small trees, and major trees. The minimum density of planting per 100 feet of buffer shall be a full ground cover, two major trees, three ornamental or understory trees, and any combination of shrubbery or flower beds that occupies at least 50% of the area at the time of planting. This type of buffer can be used in many circumstances. The DRB may require an earthen berm, a screening fence or wall, and/or additional plant materials where the uses being separated are

substantially different in intensity. The buffer width reduction provided for in WDB 23.3.3 shall be given where the DRB requires a berm or fence.

23.3.2.5 Type IV – Formal Plantings. A Type IV landscaped buffer is a park-like landscaped area that includes a ground cover of turf and major trees. It may also include ornamental trees, shrubs, flowers, and planters. Plantings are usually evenly distributed, although an artistic departure from pattern may be permitted. The minimum density of planting per 100 feet of buffer shall be: a full ground cover of turf and three major trees. This type of buffer is most appropriate between uses of similar intensity or along public ways. It does not include a berm or a fence.

23.3.3 Will screening berms or fences be required? Can a screening berm or fence be used to reduce the width of a required buffer? In some cases.

23.3.3.1 Earthen Berms. An earthen berm may be required to increase the effectiveness of a landscaped buffer for outdoor storage and/or work areas, including areas where trucks or heavy machinery will be parked. The landscaping plan shall show the contours of the proposed berm and one or more cross-sections detailing its construction. The required buffer width may be reduced by the height of the berm, but not by more than 25%.

- Berms should not ordinarily be more than six feet in height. The DRB may, however, permit a higher berm where physical characteristics of the site, like grade changes, warrant it.
- No berm shall have a slope greater than 3:1, except where a retaining wall is used.
- Retaining walls shall be constructed of, or faced with timber, native or cast stone, or masonry that matches or complements buildings on the site.
- Retaining walls should ordinarily face inward, away from public ways. The DRB may, however, permit an exception where an outward-facing retaining wall results in less grading.
- Plans calling for retaining walls that are four feet or more in height shall be accompanied by engineering specifications demonstrating that the proposed retaining walls are capable of bearing the anticipated load.

23.3.3.2 Screening Fences. An opaque fence may be required to increase the effectiveness of a landscaped buffer for outdoor storage and/or work areas, including areas where trucks or heavy machinery will be parked. The landscaping plan shall show the location of the screening fence and provide one or more elevations detailing its construction. The buffer's width may be reduced by the height of the fence, but not by more than 25%. The height and design of a screening fence is subject to design review and approval by the DRB. Fence materials, patterns, and colors should match or complement the materials, architectural details, and colors used on buildings on the site.

23.3.4 Are any impervious surfaces permitted in landscaped buffers? Yes.

23.3.4.1 Crossings. Landscaped buffers may be crossed by driveways, roads, sidewalks, trails, and utility lines, including necessary risers and boxes, serving the development. The width of these crossings will necessarily vary with the scale and nature of the development, but should be minimized.

23.3.4.2 Sidewalks/Trails. Sidewalks and trails may run within and parallel to a landscaped buffer. The width of the sidewalk or trail shall not, however, be counted as part of the width of the buffer.

23.3.4.3 Light Standards. The bases of standards for approved outdoor lighting may be placed in a landscaped buffer.

23.3.4.4 Miscellaneous. The base of a permitted free-standing or directional sign may be placed in a landscaped buffer. Landscaped buffers may also include retaining walls, planters, minor impervious surfaces that are part of runoff and erosion control works; and sculptures or other works of art.

23.3.5 Do landscaped buffer requirements eliminate setback requirements? Where they are required, they eliminate side and rear setbacks, but do not eliminate front setbacks. Landscaped buffers replace rear and side yard requirements for uses other than one and two family dwellings. Front setback requirements vary with the type of street and may be found in the chapters establishing the individual zoning districts.

23.3.6 Should landscaped buffers be used as part of development's stormwater management system? Required landscaped buffers must function as part of the development's stormwater management system wherever feasible. See WDB 29.5 and other provisions of Chapter 29 of this bylaw concerning the role of vegetation in stormwater management.

23.4 Landscaped Screening Utility installations, mechanical equipment, solid waste containers, and the like must be fully screened from view from neighboring properties and public ways.

23.4.1. How should screening be provided? Screening for utility installations, mechanical equipment, solid waste containers, and the like must include a dense evergreen hedge and other plant materials that are at least five (5) feet deep. The DRB may permit an exception to this standard where space constraints prevent provision of an adequate hedge. Where such an exception is made, screening must be accomplished using a fence or wall that complies with WDB 23.4.2.

23.4.2 Will more screening ever be required? Possibly. The DRB may require that a berm, fence, or wall be used supplement the landscaped screening. Fence or wall materials, patterns, and colors must match or complement the materials, architectural details, and colors used on buildings on the site.

Table 23.A - Landscaped Buffer Matrix

| use providing buffer | adjoining use | ----- Minimum Buffer Width ----- | | | |
|---|----------------------------------|--|---------------|-------------|---------------|
| | | Type I(1) | Type II(2) | Type III(3) | Type IV(3) |
| open space residential, ARZD | Any other use | <i>Open space developments must provide ample buffers. See Chapters 31 and 39 of this bylaw.</i> | | | |
| other residential subdivisions, one and two family dwellings | agriculture/conserved lands | 50 feet | not permitted | 36 feet | not permitted |
| | open space residential | 50 feet | not permitted | 9 feet | not permitted |
| | other residential subdivisions | 50 feet | not permitted | 9 feet | 9 feet |
| | higher density residential | 50 feet | 13 feet | 23 feet | 23 feet |
| | mixed use, including residential | 50 feet | 13 feet | 23 feet | 27 feet |
| | retail/service commercial | 50 feet | 13 feet | 27 feet | 36 feet |
| | heavy commercial/industrial (4) | 50 feet | 13 feet | 36 feet | not permitted |
| | public ways | <i>See the dimensional standards for your zoning district. See also Chapter 26 - Street Trees.</i> | | | |
| higher density residential in the MDRZD or VZD | agriculture/conserved lands | 50 feet | not permitted | 36 feet | not permitted |
| | open space residential | 50 feet | not permitted | 9 feet | not permitted |
| | other residential subdivisions | 50 feet | 13 feet | 23 feet | 27 feet |
| | higher density residential | 50 feet | 13 feet | 9 feet | 23 feet |
| | mixed use, including residential | 50 feet | 13 feet | 9 feet | 23 feet |
| | retail/service commercial | 50 feet | 13 feet | 23 feet | 27 feet |
| | heavy commercial/industrial (4) | 50 feet | 13 feet | 36 feet | 36 feet |
| | public way | <i>See the dimensional standards for your zoning district. See also Chapter 26 - Street Trees.</i> | | | |
| mixed use including residential | agriculture/conserved lands | 50 feet | not permitted | 36 feet | not permitted |
| | open space residential | 50 feet | not permitted | 23 feet | not permitted |
| | other residential subdivisions | 50 feet | 13 feet | 23 feet | 27 feet |
| | higher density residential | 50 feet | 13 feet | 9 feet | 23 feet |
| | mixed use, including residential | 50 feet | 13 feet | 9 feet | 23 feet |

Table 23.A, continued

| | | ----- Minimum Buffer Width ----- | | | |
|-----------------------------|----------------------------------|--|---------------|-------------|---------------|
| | neighbor | Type I(1) | Type II(2) | Type III(3) | Type IV(3) |
| | retail/service commercial | 50 feet | 13 feet | 23 feet | 27 feet |
| | heavy commercial/industrial (4) | 50 feet | 13 feet | 27 feet | 36 feet |
| | public way | <i>See the dimensional standards for your zoning district. See also Chapter 26 - Street Trees.</i> | | | |
| retail/service commercial | Agriculture/conserved lands | 50 feet | not permitted | 36 feet | not permitted |
| | open space residential | 50 feet | not permitted | 23 feet | not permitted |
| | other residential subdivisions | 50 feet | 13 feet | 27 feet | 36 feet |
| | higher density residential | 50 feet | 13 feet | 23 feet | 27 feet |
| | mixed use, including residential | 50 feet | 13 feet | 23 feet | 27 feet |
| | retail/service commercial | 50 feet | 13 feet | 9 feet | 23 feet |
| | heavy commercial/industrial (4) | 50 feet | 13 feet | 23 feet | 27 feet |
| | public way | <i>See the dimensional standards for your zoning district. See also Chapter 26 - Street Trees.</i> | | | |
| heavy commercial/industrial | Agriculture/conserved lands | 50 feet | not permitted | 36 feet | not permitted |
| | open space residential | <i>Open space developments must provide ample buffers. See Chapters 31 and 39 of this bylaw.</i> | | | |
| | other residential subdivisions | 50 feet | 23 feet | 36 feet | 48 feet |
| | higher density residential | 50 feet | 23 feet | 27 feet | 36 feet |
| | mixed use, including residential | 50 feet | 23 feet | 27 feet | 36 feet |
| | retail/service commercial | 50 feet | 13 feet | 23 feet | 27 feet |
| | heavy commercial/industrial (4) | 50 feet | 13 feet | 9 feet | 23 feet |
| | public way | <i>See the dimensional standards for your zoning district. See also Chapter 26 - Street Trees.</i> | | | |

- (1) Minimum 50 feet width for Type I is based on typical tree height and reflects the protection of habitat values and low maintenance needs of remnant woodland or forest.
- (2) Type II buffer heights are based on the width of a hedge plus an 8-foot planting strip. Type II is permitted only where space limitations preclude use of the other types.
- (3) Type III and IV buffer heights are based on the maximum building height, or fractions thereof.
- (4) All outdoor storage and work areas are to be treated as heavy commercial/industrial.

23.5 Landscaping Parking Lots Parking lots are subject to the same buffering requirements as the uses they serve. These standards call for additional landscaping within larger parking lots.

23.5.1 Is landscaping required within parking areas? Yes.

23.5.1.1 5% Landscaping. Parking areas that include more than 24 spaces shall be broken up by landscaped islands or medians that occupy a minimum of five percent (5%) of the parking area.

23.5.1.2 Rank Length No single rank of parking spaces shall include more than 24 spaces without being broken up by one or more landscaped islands or medians.

23.5.1.3 Shade Trees. Parking lot landscaping shall include large high branching deciduous shade trees that will help keep paved surfaces cool by creating a canopy that is as continuous as possible over the parking area.

23.5.1.4 Soil Volume. Landscaped islands and medians must have an uncompacted soil volume sufficient to support long-term health of the proposed plant materials. The DRB may require the use of porous pavement and/or structural soils to help ensure the success of plantings.

23.5.2 Should parking lot landscaping be integrated into the stormwater system? Yes. Wherever feasible, parking lot landscaping should be designed to function as part of the stormwater management system required by Chapter 29 of this bylaw.

23.5.3 What about snow storage and landscaping? Aren't they incompatible? Landscaping and snow storage can co-exist. Salt-tolerant plant materials must be used in and around parking areas and in the snow storage areas required by WDB 16.6. Plant materials selected for these areas must also have a growth form that is not subject to, or that resists, the physical damage that can be caused by snow moving equipment and the stacking of snow. See WDB 16.6 for more on snow storage.

23.6 Landscaping Setbacks from Roads

23.6.1 Is landscaping required along public and private roads? Almost always. Chapter 26 of this bylaw requires street trees along both sides of new roads, public or private, and along the existing road frontage of redevelopment projects. A landscaped front setback area is also required in most zoning districts.

23.6.2 Are there additional landscaping requirements in the VZD? Landscaping must be consistent with the historic character of the Village. See Chapter 42 of this bylaw.

23.7 Plant Materials

23.7.1 What criteria should be used in selecting plant materials? Plant materials should include a variety of species (see WDB 23.7.3), that are:

- native to Vermont, where possible;
- exhibit Vermont fall foliage, where possible;

- well-adapted (hardy) for the site;
- suitable for the functions the landscaping must perform; and
- that provide color throughout the growing season and into winter.
- Salt-tolerant species must be used near roads, parking areas, and pedestrian ways.

Which tree should I use? A useful guide to the selection of trees that appropriate for different functions and sites is the *Vermont Tree Selection Guide*, a copy of which is available for review at Williston Planning.

23.7.2 Are the plants that may be used limited? Yes. The species listed in Table 23.B must not be used.

Table 23.B – Prohibited Species

| Common Name(s) | Scientific Name |
|------------------------------------|-------------------------------|
| TREES | |
| Norway Maple | <i>Acer platanoides</i> |
| Amur Maple | <i>Acer ginnala</i> |
| Tree of Heaven | <i>Ailanthus altissima</i> |
| Black Locust | <i>Robinia pseudoacacia</i> |
| SHRUBS | |
| Japanese barberry | <i>Berberis thunbergii</i> |
| Common Barberry | <i>Berberis vulgaris</i> |
| Bush Honeysuckles (many varieties) | <i>Lonicera, spp.</i> |
| Russian Olive | <i>Elaeagnus angustifolia</i> |
| Autumn Olive | <i>Elaeagnus umbellate</i> |
| Multiflora Rose | <i>Rosa multiflora</i> |
| Common Buckthorn | <i>Rhamnus cathartica</i> |
| Glossy Buckthorn | <i>Rhamnus frangula</i> |
| Burning Bush | <i>Euonymous alata</i> |
| HERBACEOUS | |
| Celandine | <i>Chelidonium majus</i> |
| Oriental Bittersweet | <i>Celastrus orbiculatus</i> |
| Flowering Rush | <i>Butomus umbellatus</i> |
| Common Reed | <i>Phragmites australis</i> |
| Goutweed | <i>Aegopodium podagraria</i> |
| Garlic Mustard | <i>Allaria petiolata</i> |
| Purple Loosestrife | <i>Lythrum salicaria</i> |
| Pale Swallow-wort | <i>Vincetoxicum hirsutum</i> |
| Japanese knotweed | <i>Polygonum cuspidatum</i> |
| Wild Chervil | <i>Anthriscus sylvestris</i> |
| Yellow-flag iris | <i>Iris pseudacorus</i> |

23.7.3 What does a ‘variety’ of species mean? Species diversity must be maintained to ensure that landscaping continues to function when one or more plant species are affected by a pest or disease. No more than 15% of the plants (excepting turf grass and other ground covers) used on a site may be from the same genus.

23.7.3.1 Green Ash. The use of green ash - which currently accounts for over 40% of all new tree plantings in Williston – in required plantings is banned. The DRB may permit an exception to this prohibition to support a particular landscape design concept.

23.7.3.2 Departures. The DRB may approve departures from this standard to support a particular landscape design concept.

23.7.4 Are there specifications for plant materials and their installation? Yes.

23.7.4.1 American Standard. Plant materials shall conform to ANSI Z60.1 the *American Standard for Nursery Stock*.

23.7.4.2 Size of Materials. The minimum size of new plant materials installed in required plantings shall be as follows:

- large trees – 2 ½ inch caliper
- medium and small trees – 2 inch caliper
- shrubs, ornamentals – 2 gallon

Departures from these standards may be proposed, and approved by the DRB, for mass plantings.

23.7.4.3. Soil Volume. The landscaping plan must demonstrate that there is an un-compacted soil volume sufficient to support the long-term health of all plant materials. This standard is especially important in urban parks and plazas, and in narrow planting strips. The DRB may require the use of porous pavement and/or structural soils under adjoining paved surfaces to help ensure the success of plantings.

Soil Volume? Recommended un-compacted soil volumes for trees are listed in *Recommended Trees for Vermont Communities*.

Structural Soil? Structural soil is designed to provide adequate support for paved surfaces like parking lots and sidewalks, while also serving as a suitable medium, for tree growth and health. Specifications for structural soil are included in the *Public Works Standards*. For more information about structural soil, visit the Cornell University web site: <http://www.hort.cornell.edu/department/faculty/bassuk/uh/>

23.7.4.4 In Snow Storage Areas. Salt-tolerant plant materials must used in and around paved areas and in the snow storage areas required by WDB 16.6. Plant materials selected for these areas must also have a growth form that is not subject to, or that resists, the physical damage that can be caused by snow moving equipment and the stacking of snow.

23.8 Landscaping Installation and Maintenance

23.8.1 *Are there requirements for the installation of landscaping?* Yes

23.8.1.1 Supervision. Installation of landscaping in development containing more than 20,000 square feet of landscaping must be supervised by a landscape architect, a certified arborist, or a certified horticulturist.

23.8.1.2 ANSI Standard. Trees and shrubs shall be installed in compliance with the current edition of *ANSI A290 – Best Management Practices – Tree Planting*,

23.8.1.3 Distance from Curb. No tree may be planted closer to any curb or sidewalk than the following: small trees – 3 feet; medium trees – 4 feet; large trees – 5 feet (tree species are identified as small, medium or large in *Recommended Trees for Vermont Communities*).

23.8.1.4 Other Utilities. Tree location must be coordinated with the location of light standards and other overhead utilities.

23.8.1.5 Inspection. Landscaping is subject to the inspection requirements of WDB 7.1.7.

23.8.2 *Are there landscaping maintenance requirements?* Yes. Landscaping is a ‘required improvement,’ as defined in Chapter 7 of this bylaw, subject to all requirements that chapter imposes. See also the maintenance requirements of WDB 16.3.1.

23.8.3 *Must new landscaping be watered?* Landscaping plans required by WDB 23.1.3 shall include provisions for the timely irrigation whenever it will be necessary to support newly-installed plant materials. ‘Timely’ irrigation is once a week in any week during the growing season when natural precipitation has totaled less than one (1) inch.

23.8.4 *Must a maintenance manual be provided?* Where there will be more than 20,000 square feet of landscaping, the landscaping plan shall include a maintenance manual.