

## APPENDIX 9: COMMERCIAL /INDUSTRIAL DEVELOPMENT PERFORMANCE STANDARDS



*Downtown Palmer*

### **What are the objectives of commercial / industrial performance standards?**

To control potential adverse impacts of new commercial or industrial development on traffic safety, existing residential neighborhoods, community character and the environment.

### **Why do we need commercial / industrial performance standards?**

Uncontrolled commercial or industrial development can create traffic congestion problems on local roads and traffic safety hazards due to poor access layout or inadequate parking. Community character and adjacent

property values can be degraded by poor design, lack of landscaping, uncontrolled signage or lighting. Environmental degradation, such as water pollution by toxic chemicals, soil erosion and flooding due to uncontrolled stormwater runoff can also occur without proper controls.

### **How do commercial / industrial performance standards work?**

Commercial and industrial performance standards establish specific standards in several categories. These are essentially “good neighbor” standards because they minimize adverse impacts on surrounding properties and the community. Standards for “access and traffic impacts” are designed to minimize traffic and safety impacts on highways and roads by minimizing curb cuts, encouraging shared access, requiring all driveways to have safe sight distances for exiting motorists, and providing sidewalks and safe internal circulation plans. Parking standards encourage parking areas located to the rear or side of buildings, and shared parking areas between businesses. Landscaping standards require a landscaped buffer strip along all public road frontage, landscaped islands in large parking lots, and screening of storage, machinery or service areas. Appearance and architectural design standards require that commercial and industrial building designs be compatible with the rural and historic character and scale of existing buildings in the neighborhood and the community. Stormwater runoff and erosion control standards ensure that runoff from commercial and industrial properties will not result in water pollution or flooding. Water quality standards are established for outdoor storage of hazardous materials. Lighting standards limit the height of light poles and require shielding of outdoor light fixtures to reduce light pollution.

### **MODEL COMMERCIAL PERFORMANCE STANDARDS**

#### **DID YOU KNOW...**

With conventional suburban parking ratios of five spaces per 1,000 square feet of building space, at least 50% more square footage will be devoted to parking than to space under roof. (*Making Smart Growth Work, Urban Land Institute, 2002*)

# MODEL BYLAW FOR COMMERCIAL AND INDUSTRIAL DEVELOPMENT AND PERFORMANCE STANDARDS

*Prepared by Pioneer Valley Planning Commission*

## 1.0 COMMERCIAL AND INDUSTRIAL DEVELOPMENT AND PERFORMANCE STANDARDS

### 1.1 Commercial and Industrial Development and Performance Standards

#### 1.11 Purpose

The purpose of these Commercial and Industrial Development and Performance Standards is to promote well-designed commercial and industrial developments and to minimize the adverse impacts of such development on community character, traffic safety, environmental quality and neighboring properties.

#### 1.12 General Application

All projects or uses requiring Special Permit, Special Permit with Site Plan Approval, or Site Plan Review - Administrative Review must demonstrate compliance with the commercial performance standards herein.

##### a. Access and Traffic Impacts

Applicants must demonstrate that the project will minimize traffic and safety impacts on roadways.

- i. The number of curb cuts on town roads shall be minimized. To the extent feasible access to businesses shall be provided via one of the following:
  - 1) Access via existing side street.
  - 2) Access via a cul-de-sac or loop road shared by adjacent lots or premises.
- ii. One driveway per business shall be permitted as a matter of right. Where deemed necessary by the special permit granting authority, two driveways may be permitted as part of the Site Plan Approval process, which shall be clearly marked "entrance" and "exit".
- iii. Curb cuts shall be limited to the minimum width for safe entering and exiting, and shall in no case exceed 24 feet in width.
- iv. No new curb cut shall be allowed that is closer to any existing curb cut than 200 linear feet. In addition, new curb cuts on state and local roads shall be discouraged and developers shall be encouraged to seek access via a common driveway serving an adjacent lot or premises.
- v. Driveways and Circulation
  - 1) Driveways shall be no greater than sixteen (16) feet in width.
  - 2) Aisles shall be not less than twenty (20) feet in width.
  - 3) No portion of an entrance or exit driveway shall be closer than fifty (50) feet to the curb line of any intersecting street, nor closer than fifty (50) feet to any portion of an existing driveway on the same or adjacent lot.
  - 4) Pedestrian walkways shall be integrated into the design of the lot. Where a walkway crosses a vehicular path, the walkway shall be defined through the use of a different paving material or painted lines.

- 5) All driveways shall be designed to afford motorist exiting to roadways with a safe sight distance.
- vi. The proposed development shall provide safe interior circulation within its site by separating pedestrian and vehicular traffic.
- vii. In each case where a new building(s) or a new use of more than 3,000 square feet total floor area is proposed, or where any proposed enlargement of a building would result in a building having more than 3,000 square feet total floor area, a traffic impact statement shall be prepared. The traffic impact statement shall contain:
  - 1) A detailed assessment of the traffic safety impacts of the proposed project or use on the carrying capacity of any adjacent roads, including the projected number of motor vehicle trips to enter or depart from the site estimated for daily hour and peak hour traffic levels, road capacities and impacts on intersections.
  - 2) Existing and proposed traffic flow patterns at the site including entrances and egresses, loading and unloading areas, and curb cuts on site and within one hundred (100) feet of the site.
  - 3) An interior traffic and pedestrian circulation plan designed to minimize conflicts and safety problems.
- viii. Adequate pedestrian and bicycle access shall be provided as follows:
  - 1) Sidewalks shall be provided to provide access to adjacent properties and between individual businesses within a development
  - 2) If the property directly abuts a bikeway right-of-way, a paved access route to the bikeway shall be provided.
  - 3) Adequate parking for bicycles.
- ix. The Planning Board may require the following additional information for projects proposing over ten thousand (10,000) square feet of buildings and structures:
  - 1) A plan to minimize traffic and safety impacts through such means as physical design and layout concepts, staggered employee work schedules, promoting use of public transit or carpooling, the preparation of a trip reduction plan, or other appropriate means.
  - 2) An interior traffic and pedestrian circulation plan designed to minimize conflicts and safety problems.

**b. Parking**

Proposed projects or uses must comply with Parking and Off-street Loading requirements and the following standards:

- i. To the extent feasible, parking areas shall be located to the side or rear of the structure, and be shared with adjacent businesses.
- ii. Parking areas shall be located to the side or rear of the structure. No parking shall be permitted within the required front setback of the structure.
- iii. All off-street spaces shall have bumper and wheel guards where needed to protect abutting structures, properties or plantings. Parking areas shall be designed so that parked vehicles do not extend over pedestrian walkways or sidewalks.
- iv. Whenever feasible, pedestrian walkways shall be integrated into the design of the lot. Where a walkway crosses a vehicular path, the walkway shall be defined through the use of a different paving material or painted lines.

v. Parking and Loading Area Screening and Buffering

- 1) Vegetative or structural screens shall be established on the perimeter of all parking and loading areas to prevent direct views of parked vehicles from streets and sidewalks, avoid spill-over light, glare, noise, or exhaust fumes onto adjacent properties and to provide the parking area with a reasonable measure of shade when trees reach maturity.
- 2) Vegetative or structural screens shall be no less than five (5) feet high and shall be visually impervious throughout the year. Screens may be a hedge, wall, fence, or combination of these choices. A land berm may be used to provide up to fifty (50) percent of the required height. The height of any screen shall decrease where driveways approach sidewalks, walking paths, and streets in order to provide adequate visibility of pedestrians from motor vehicles and to maintain a clear line of sight for vehicles entering the roadway.

vi. Parking Area Landscaping

- 1) No less than fifteen (15) percent of the area of a parking lot, not including the perimeter area, shall be permanently landscaped using planting strips, planting diamonds, hedges, bushes, groundcovers, trees, and other vegetation. Buffer and screen plantings shall only count toward the required landscaping when they occur in areas other than the perimeter of the parking lot.
- 2) The applicant shall plant and maintain a minimum of one (1) deciduous tree per eight (8) parking spaces constructed. Trees shall have a minimum size of three (3) inch caliper at the time of planting.
- 3) Plant materials used to meet the requirements of this Bylaw shall be of specimen quality and conform to the American Standard For Nursery Stock, American Standards Institute, Inc., 230 Southern Building, Washington, DC 20005 and shall be planted according to accepted horticultural standards.
- 4) Planting strips shall be at least six (6) feet in width and shall respond to the needs of storing snow, locating light poles, and providing safe pedestrian access.
- 5) Evergreen trees shall be a minimum of four (4) feet tall at the time of planting.
- 6) Every effort shall be made to integrate existing mature trees on the site into the proposed landscape plan. Existing trees which are used to meet the requirements of this section shall be protected during construction using the following standards:
  - (a) Fencing or other protective barrier shall be used around trees on construction sites.
  - (b) Changes in the normal drainage patterns shall be avoided and appropriate protection shall be provided for trees if a grade change is necessary in the surrounding area.
  - (c) Vehicular (including construction machinery) and pedestrian traffic shall be kept away from trees to prevent soil compaction and destruction of the root system.
  - (d) If a tree is damaged during construction the applicant shall file a revised landscape plan with the Planning Board detailing an alternative planting schedule which shall meet the standards for landscaping set forth in this Bylaw.

c. Landscaping

- i. A landscaped buffer strip at least 20 ft. wide, continuous except for approved driveways, shall be established adjacent to any public road to visually separate parking and other uses from the road. The buffer strip shall be planted with grass, medium height shrubs, and shade trees (minimum 3-inch caliper, planted at least every 50 feet along the road frontage). At all street or driveway intersections, trees or shrubs shall be set back a sufficient distance from such intersection so that they do not present a traffic visibility hazard.
- ii. Exposed storage areas, machinery, service areas, truck loading areas, utility buildings and structures and other unsightly uses shall be screened from view from neighboring properties and streets using

dense, hardy evergreen plantings, or earthen berms or wall or tight fence complemented by evergreen plantings.

- iii. All landscaped areas shall be properly maintained. Shrubs or trees which die shall be replaced within one growing season.
- iv. Landscaping shall be in conformance with existing town bylaws.
- v. Completion of the landscaping requirements may be postponed due to seasonal weather conditions for a period not to exceed six (6) months from the time of project completion.

**d. Appearance/Architectural Design**

Architectural design shall be compatible with the rural/historic character and scale of building in the neighborhood and the Town of \_through the use of appropriate building materials, screening, breaks in roof and wall lines and other architectural techniques. Variation in detail, form and siting shall be used to provide visual interest and avoid monotony. Proposed buildings shall relate harmoniously to each other with adequate light, air circulation, and separation between buildings. In making its decision, the Planning Board may consider whether the building design is compatible with the following design guidelines: 1) exterior facades are faced with wood, metal or vinyl clapboards, or stone, or brick; 2) exterior façade treatment is compatible on all four sides; 3) rooflines are peaked.

**e. Storm Water Management**

- i. The rate of surface run-off from a site shall not be increased after construction. If needed to meet this requirement and to maximize groundwater recharge, increased run-off from impervious surfaces shall be recharged on site by being diverted to vegetated swales, infiltration areas, or detention basins. Dry wells shall be used only where other methods are infeasible and shall require oil, grease, and sediment traps to facilitate removal of contaminants.
- ii. Neighboring properties shall not be adversely affected by flooding from excessive run-off. Run-off shall not result in pollution of streams, water bodies or groundwater.
- iii. The use of proven, alternative paving systems, such as porous paving, is highly encouraged to reduce the amount of impervious surface on developed sites.
- iv. The use of shared stormwater management structures and facilities is highly encouraged.

**f. Erosion Control**

Erosion of soil and sedimentation of streams and water bodies shall be minimized by using the following erosion control practices:

- i. Exposed or disturbed areas due to stripping of vegetation, soil removal, and regrading shall be permanently stabilized within six months of occupancy of a structure.
- ii. During construction, temporary vegetation and/or mulching shall be used to protect exposed areas from erosion. Until a disturbed area is permanently stabilized, sediment in run-off water shall be trapped by using siltation fencing, staked hay bales, stone check dams or sedimentation traps.
- iii. Permanent erosion control and vegetative measures shall be in accordance with the erosion/sedimentation/vegetative practices recommended by the Natural Resources Conservation Service (NRCS).
- iv. All slopes exceeding 15% resulting from site grading shall be covered with four (4) inches of topsoil and planted with a vegetative cover sufficient to prevent erosion, or stabilized by a retaining wall.

- v. Dust control shall be used during grading operations if the grading is to occur within 200 feet of an occupied residence or place or business. Dust control methods may consist of grading fine soils on calm days only or damping the ground with water.

**g. Water Quality**

All outside storage facilities for fuel, hazardous materials or waste, and potentially harmful raw materials shall be located within an impervious, diked containment area adequate to hold one hundred ten (110 %) percent of the total volume of liquid kept within the storage area.

**h. Explosive Materials**

- i. No highly flammable or explosive liquids, solids or gases shall be stored in bulk above ground, unless prior written approval of the Fire Chief has been obtained by the applicant. The project shall also meet any relevant federal and state regulations.
- ii. Propane gas tanks in 250 pound cylinders (or smaller) shall be exempt from these safety regulations.

**i. Lighting**

- i. Any outdoor lighting fixture newly installed or replaced shall be shielded so that it does not produce a strong, direct light beyond the property boundaries.
- ii. No light post shall be taller than sixteen (16) feet, except that the Planning Board may waive this requirement upon finding that the use of taller light standards – up to twenty-five (25) feet in height – results in a more functional site figuration.

**j. Noise**

- i. No person owning, leasing or controlling the operation of any source of sound shall willfully, negligently or through failure to provide necessary equipment or to take necessary precautions, cause unnecessary emissions from said source of sound that may cause noise pollution, in accordance with Massachusetts Department of Environmental Protection regulations 310 CMR 7.10.
- ii. Noise pollution shall be defined as any sound which exceeds the ambient noise level designated for the receiving land use category, when measured at or within the property boundary for the receiving land use, plus any sound which:
  - (a) Endangers the safety of, or could cause injury to the health of humans or animals;
  - (b) Annoys or disturbs a reasonable person of normal sensitivities;
  - (c) Endangers or injures personal or real property.
- iii. Sound Level Limits by Receiving Land Use
  - (a) Except as provided in (c) below, no person shall operate or cause to be operated any source of sound in a manner that creates a sound level which exceeds the ambient noise level set forth for the receiving land use category in the following table when measured at or within the property boundary of the receiving land use.

Table 1-1. Sound Level Limits

Receiving Land Use Category	Item	Sound Level Limit (DBA)
Residential A, B and C	Daytime	60
Open Space	All Other Times	50
Business	At All Times	65
Commercial	At All Times	70

Notes for Table One:

DAYTIME – The time between the hours of seven ante meridian (7:00 A.M.) and six post meridian (6:00 P.M.) each week excepting Sunday in accordance with the time system locally in effect.

DECIBEL (DB) – The unit by which the sound level is measured.

SOUND LEVEL – The weighted sound level obtained by the use of a sound level meter and frequency weighting network such as A, B, or C as specified in the American National Standards Institute specifications for sound level meters. (ANSI.)

iv. Restrictions on Noise Emitted from Construction Sites

- (a) No person shall engage in or cause very loud construction activities on a site abutting residential use between the hours of 9 P.M. of one and 7 A.M. of the following day.
- (b) It shall be unlawful of any person to operate any construction device on any construction site if the operation of that device emits noise measured at the lot line of the affected property in excess of the following values:

Table Two. Construction Site Noise Limits

Use of Affected Property	L 10 Level	Maximum Noise Level
Residential A, B and C	75 DBA	86 DBA
Business	80 DBA	-
Commercial	85 DBA	-
Public Way	85 DBA	-

Notes for Table Two:

A-WEIGHTED SOUND LEVEL – The sound pressure measured on a sound level meter using the A-weighting network. The level read is designated DB(A) or DBA.

L-10 - The A-weighted sound level exceeded 10% of the time.

- (c) The L 10 level shall be determined by making 100 observations on the A-weighted network with the sound level meter at slow response at ten (10) second intervals. During any of these observations if a measurement is substantially affected by a source outside of the construction site, these measurements will not be considered. Observations will be continued until 100 valid observations have been recorded. The L 10 level will be equivalent to the tenth highest level recorded.
- (d) If the person taking measurements estimates that outside noise sources contribute greatly to the noise of the construction site, the aforementioned procedure shall be repeated when construction is inactive in order to correctly determine the L 10 level. The L 10 level during construction must be greater than the background L 10 level by at least 5 DBA to be considered in violation of the provisions of this regulation.

k. Utilities

Electric, telecommunications, and other such utilities shall be underground where physically and environmentally feasible.

l. Dust and Odors

No person having control of any dust or odor generating operators or construction or demolition shall permit emissions of dust or odor which cause or contribute to a condition of air pollution, in accordance with Massachusetts Department of Environmental Protection regulations 310 CMR 7.09.

m. Heat, glare, vibration and radiation

No heat, glare, or vibration shall be discernible from the outside of any structure, and all radiation shall be contained within a structure.

**n. Storage**

All materials, supplies and equipment shall be stored in accordance with Fire Prevention Standards of the National Board of Fire Underwriters and shall be screened from view from public ways or abutting properties.