

Site Development Standards

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Site Development Standards

Objective

The primary objective of the site development standards is to help the built environment so as to enhance its visual character. These standards will also help in fostering sound, functional development which recognizes the residential, commercial, and industrial character of property along arterial streets in the City of Greenfield. Pertinent to the visual character of the area is site design, architectural treatment, parking and site access, landscaping, signage and lighting.

The design guidelines are just one product of a strategic planning process which itself is the product of a citizen-driven master planning process. Greenfield remained a largely rural area until after World War II. During the 1950s and 1960s the city grew substantially, primarily through the development of single-family residential subdivisions. Rather than duplicating the traditional urban development pattern, Greenfield grew via "infill" development. New subdivisions were built on vacant parcels often with little or no connection to other residential developments or neighborhoods. Commercial shopping strips subsequently developed along the city's major arterial roadways. Since then Greenfield has grown into a mature community with a mixture of residential and commercial developments but land uses retain patterns established in its early development.

Since Greenfield is completely surrounded by other cities, the finite space that is left must be thoughtfully planned, particularly the commercial areas. Furthermore, opportunities for redevelopment must be considered within the same broad parameters. That means there is no room for trial and error development or a blind dependency on the commercial / residential real estate market to build asset value into development sites.

Among the steps taken thus far to help guide and control Greenfield's economic future was to update and revise the Zoning Code and to undertake an Urban Design Assessment project. Initially Greenfield was working on this project individually and will most likely meet later with other communities to conduct an analysis of their findings. Elements to be considered will include landscaping, signage, design of buildings, and site layout. Pictures were taken of various sites and an assessment form was completed for each site by a cross-section of community volunteers. The purpose of this assessment is to help visualize how people in the community eventually want Greenfield to look.

Front yards, lot sizes, floor area ratios, and a wide variety of "normal" measurable zoning standards have been in place in American cities for most of this century. Many cities also regulate the percentage of masonry construction, clearly a measurable form of architectural control. Measurable tree preservation, site planning, and landscaping ordinances have been working in Greenfield for several years.

The Design Worksheet (See Appendix C) is a part of the site plan application package submitted along with landscaping, parking, and civil engineering drawings for review prior to building permits. Larger scale projects (i.e. buildings of more than 25,000 sq. ft.) will usually be Planned Unit Developments (PUD). More specific design information is provided in Appendix D (Design Standards / Guidelines for Large Retail Establishments)

These standards are to be used as guidelines by applicants for Planning Commission review, by the City of Greenfield Staff, and by the Planning Commission to achieve compatible and unified site development, as part of the approval process for the required plan and method of operation.

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Site Design Considerations

Site design is primarily concerned with the siting of a building on a parcel of land and the visual relationship it will have with the site and with adjacent and surrounding building sites. Site design is addressed by the following:

1. Minimum site area
2. Minimum lot size
3. Setback requirements
4. Building area and site coverage

Minimum Site Area

The site area for any development of non-residential uses should provide for adequate size to insure that a unified site development will result rather than piecemeal of land as unrelated parcels. With such unified development and adequate site area, functional and aesthetic design can be addressed for interrelated uses on the site. The minimum total site area for non-residential development approved under a plan and method of operation development shall not be less than that prescribed by city ordinance and the Planning Commission. Smaller areas may be approved where the property is entirely surrounded by existing development or lots of record.

Minimum Lot Area and Lot Width

For each building lot, a minimum lot area and lot width is required to insure that the necessary area is provided for setbacks, offsets, open space and off-street parking and loading, as well as adequate building area for permitted uses in the zoning district. More than one building lot may be located within a single parcel under an approved plan and method of operation, provided that the development of individual lots is in conformance with the overall plan. The minimum lot area and width required is prescribed by city ordinance.

Setback Requirements

Setbacks are provided on each lot from abutting street rights-of-way for both buildings and parking. The setback areas are important in allowing open space, and particularly green space along the roadways that enhance the visual character of the development. Building and parking setbacks are prescribed by city ordinance.

Setbacks for Intensive Uses

Because of their impact on adjoining residential areas, certain intensive commercial uses should have additional setback in proximity to residential uses. Intensive uses are those which have extended hours of operation, high volumes or rapid turnover of vehicular traffic, or extensive service requirements. The following are classified as intensive uses:

- Restaurant (full service, carry out or fast food)
- Automobile service, sales or repair (including car washes)
- Automobile service station or mini-mart
- Theater, dance hall or other amusement place
- Banquet facilities or convention halls
- Medical clinic providing extended hours for outpatient or emergency services
- Grocery store or convenience store
- Health clubs
- Tavern and night clubs
- Mini warehouse
- Full service department store

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- Locker and cold storage plants
- Motel, hotel or tourist home
- Animal hospitals and kennels
- Contractor shops and yards
- Manufacturing, processing or other industrial uses
- Wholesale establishments or distributors
- Uses which are similar to the above uses in having extended hours of operation, extensive service requirements, or rapid turnover of customers

For any intensive use, the minimum distance between any building and contiguous residential district is 50 feet rear, 25 feet sideyard, the optimum distance between any off-street parking, driveways, loading spaces or paved surface is 10 feet rear, 20 feet sideyard. Landscaping and berming shall be provided in areas where a commercial, light industrial, or office zone are adjacent to a residential zone and shall be maintained to a minimum height of 16 feet (including plant height and berm height). The average height of berming along a site boundary shall not be less than 4 feet and the maximum height of berming shall be not more than 6 feet. The maximum slope of any berming shall not be greater than a ratio of 3:1. The berm shall be covered with plant material, groundcover, or partially rip-rapped to prevent erosion. Landscaping in buffer zones shall consist of a combination of canopy, shade, and understory trees; evergreen trees; and shrubs to provide a continuous year round screen within the landscaped area. Appropriate ground cover and other plant material shall be in the remainder of the landscaped area.

Building Area and Site Coverage

The amount of building area and site coverage are basic design parameters which affect the density and amount of open space on a site. These parameters are determined by the following standards for Floor Area Ratio, Lot Coverage, and Landscape Surface Ratio.

A. Floor Area Ratio (F.A.R.) There are two measurements of floor area ratio, the gross floor area ratio and the net floor area ratio. The Gross Floor Area Ratio (GFAR) is the ratio derived by dividing the total gross floor area of a building or structure by the base site area. The Net Floor Area Ratio (NFAR) is the ratio derived by dividing the total gross floor area of a building or structure by the net buildable site area. The following are the respective Floor Area Ratios allowed in each district:

- 28% GFAR and 40% NFAR for C-1
- 32% GFAR and 40% NFAR for C-2
- 17% GFAR and 22% NFAR for C-3
- 38% GFAR and 51% NFAR for C-4
- 39% GFAR and 56% NFAR for C-5
- 48% GFAR and 65% NFAR for O (Office and Professional uses)
- 57% GFAR and 76% NFAR for M-1 (Light Industrial)
- 49% GFAR and 71% NFAR for BP (Business Park District)
- 53% GFAR and 71% NFAR for I (Institutional District)

B. Lot Coverage: Lot coverage is the area of a zoning lot occupied by the principal building or buildings and the accessory buildings. The following are the appropriate maximum lot coverage for each district; a lesser lot coverage may be necessary on sites or lots adjacent to residential districts or to meet other site requirements and allow for transitional offsets and buffering:

- 70% for all Commercial uses
- 80% for office uses
- 85% for light industrial
- 85% all other uses

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These requirements are to be used as guidelines only for alterations or expansions of existing structures.

C. Landscape Surface Ratio (L.S.R.): The landscape surface ratio is the ratio derived by dividing the area of landscaped surface (i.e. covered with grass, shrubs, trees and other plant material) by the base site area. The following are the appropriate minimum Landscaped Surface Ratios for each district; a greater L.S.R. may be necessary for sites or lots adjacent to residential districts to provide transitional offsets and buffering:

-30% for all areas zoned C-1, C-5, and BP (Business Park)

-20% for all areas zoned C-2 and C-3

-25% for all areas zoned C-4

-25% for O (office and professional) and M-1 (Light Manufacturing)

Fire Department Requirements

The Greenfield Fire Department has additional codes for commercial and multi-family residential development. Therefore, each developer / architect must contact the Fire Department to review those aspects in greater detail. For instance, in addition to a site plan and building plan, they will need plans for the sprinkler system and the fire protection system. They also will review hydrant locations and require a final inspection before granting occupancy.

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Architectural Design Guidelines

This section is designed to give the owner / architect / developer an idea of how the non-residential or commercial building design regulations in the Greenfield Zoning Ordinance work in practice. Included are goals and objectives, and a "worksheet" format to determine the architectural "score" of a commercial building.

Goals and Objectives

The goal of this section of the Site Development Standards is to provide a method to create designs of non-residential or commercial buildings. The ultimate design of anything is an artistic expression, and is therefore subjective in nature. Subjective factors such as color, the "look" of a building, etc. cannot be quantified or easily regulated. However, some design features with general community acceptance can be defined. With the realization that total aesthetic agreement within the community is not likely, the practical objective of this section is to encourage visual interest in a building's appearance from the street. At the same time these guidelines should be encouraging more thoughtful, aesthetically pleasing solutions. The regulatory concept is to calculate design points for five different aspects of a building's design. The five design rules, or factors, summarized below are fashioned to give a developer/architect some flexibility in achieving the minimum number of total points for a particular building. There is no minimum for any of the five factors.

Summary of Rules

The Design District Worksheet is a part of the site plan application package presented to the Planning Review Staff along with landscaping, parking, and civil engineering drawings for review prior to Planning Commission review. The scoring system is designed to achieve a simple minimum number in each of the zoning districts. This score will be calculated during the normal site plan review process. The rules are divided into five categories designed to prevent long, uninteresting façades. Points are given for changing the plane of a building façade, for providing contrast with shade, or providing interesting design features, roof slopes and/or wall openings. Since most designs would not score enough points from one category, the objective for the building designer is to gain sufficient points in several categories to achieve the minimum number for the particular zoning district. The categories are:

A. Façade Articulation Variables: This rule gives points for breaking long façades by a variation in the building's surface.

B. Vertical Departure Variables: This rule gives points for breaking walls in the vertical such as providing roof slopes.

C. Shade Coverage Variables: Points are awarded in this category for building façades that have projections or other features that provide building shadows that visually break up long flat building façades.

D. Horizontal & Diagonal Roof Planes Variables: Decorative features, roof or wall designs like parapets, ridges, eaves, etc. that provide visual interest will gain a small number of points, but can be useful to the designer as a tool to get the points needed.

E. Fenestration Variables: Doors, windows, and other framed building openings help break up the "bleak" look of a long blank wall. Points are given for the amount of openings in a building surface.

Design Guidelines Worksheet

It shall be the responsibility of the Planning/Economic Development Director or his designee to calculate

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the design score for all buildings as part of the site planning process using Subsections A through G below as a design calculation worksheet. However, the applicant, or the person submitting information on their behalf, is encouraged to review this material as the design work is being done to ensure a better understanding of its applicability.

A. Façade Articulation Variables

1. **L** = Length in feet of building perimeter visible from the street. _____ ft.
2. **F** = Length of the longest horizontal straight section of the exterior façade visible from the street. _____ ft.

In order to determine that any two horizontal straight sections of wall in the same plane are separate walls:

- a. There shall be an intervening physical separation of space or other wall sections, which separate the two subject walls by not less than three feet.
- b. The average offset distance of the intervening space and/or wall section shall be not less than one foot from the subject plane.
- c. The total perimeter beam length of the intervening space and/or wall section shall be not less than five feet.
- d. Material used within the intervening separation may not be identical to materials used in more than one of the two same plane test sections.
- e. Any two or more same-plane wall sections which do not meet all of the requirements of sections a, b, and c above shall be determined to be part of one complete wall section.

3. **A** = Articulation ratio or $L / F =$ _____
4. **Ka** = Articulation Score or $A \times 2 =$ _____

(See figures 1, 2, 3; p.10)

B. Vertical Departure Variables

1. **P** = Total surface area of a projection of all surfaces visible from the street and which are relative to the four vertical planes of an imaginary cube which would enclose the building. _____ s.f.
2. **R** = Total surface area of a projection of all sloping or vertical departure surfaces of the building relative to the four vertical planes of an imaginary cube which would enclose the building. _____ s.f.

For the purpose of calculation of **R**:

- a. Buildings with principal wall sections, which are generally rectangular, must be aligned so that principal wall sections are parallel to a face of the test cube.

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b. Only those surfaces which slope at an angle of not less than 15 degrees nor more than 75 degrees from the vertical plane may be included in this area calculation.

c. Circular, convex, or concave regular surfaces which are offset at the central point of the curve by not less than one foot from the vertical surface and have a central angle of not less than 60 degrees may also be included.

d. **Q** = Number of test cube vertical surface projections (1, 2, 3, or 4) visible from the street. _____

3. **V** = Vertical departure ratio or **R / P** = _____

4. **Kv** = Vertical Departure Score or **10 x V** = _____

(See figures 4 & 5; p.12)

C. Shade Coverage Variables

1. **S** = Total covered but unenclosed structural exterior area attached to the building as measured in square feet on a horizontal plane. _____ s.f.

a. The floor area of covered exterior balconies may be included. Attached canopies, porches, verandas, and other shade oriented structural design features may also be included.

b. Each vertical opening into the shaded area must be framed on the top and sides of structural building materials with a cross sectional area parallel to the face of the opening which is equal in the aggregate to not less than 20 percent of the surface area of the opening.

c. The area under detached canopies shall be excluded.

2. **G** = Total area of the interior ground floor of the building. _____ s.f.

3. **C** = Shade coverage ratio of **S / G** = _____

4. **Kc** = Shade Score **100 x C** = _____

(See figure 6; below)

D. Horizontal and Diagonal Roof Planes Variables

1. **F** = "F" as previously calculated in subsection A(2) above _____
5% of F = _____

2. **E** = Total visible horizontal and diagonal eave planes, ridge planes, and/or parapet top planes on the building. _____

For the purpose of this section:

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- a. Two eaves in the same horizontal plane but which are separated by not less than 5 percent of **F** shall be considered separate planes.
 - b. Two parapets in the same horizontal plane but which are separated by not less than 5 percent of **F** shall be considered separate planes.
 - c. A parapet with a wall length of less than 5 percent of **F** shall be considered a crenellation and shall not be counted as a parapet.
 - d. For every five crenellations, regardless of elevation, one equivalent plane may be added to the calculation of the total planes. In like manner, one crenellation shall equal 0.2 horizontal/diagonal planes.
 - e. For an eave, canopy, or mansard, which overhangs the vertical surface of the building by not less than 18 inches, one plane shall be counted for the outer edge of the eave and one plane shall be counted at the intersection of the eave and the wall.
 - f. One plane shall be counted for each diagonal ridge or edge of a sloped roof and, if the edge is also an eave which overhangs the wall by not less than 18 inches it shall be counted as two planes.
 - g. For mansards, which wrap around a building corner, planes shall not be counted as separate unless those are actual changes in elevation.
 - h. Two parapet tops, which intersect at 90 degrees in the same horizontal plane, shall be counted as separate planes.
3. **Q** = Total number of test cube surfaces visible from the street as identified in subsection B(2)(d) above. _____
 4. **H** = Horizontal/Diagonal Planes Ratio or **E / Q** = _____
 5. **Kh** = Horizontal/Diagonal Planes Score = **H** if total floor area is less than 50,000 s.f. For floor area greater than or equal to 50,000 s.f., **Kh** shall be not more than 10 points _____

(See figure 7; below)

E. Fenestration Variables

1. **W** = Total number of windows, doors, and other openings into the structure through which light may pass. _____

For the purposes of this section each opening must be framed on the sides, top, and/or bottom by structural building materials with a surface area equal in the aggregate to not less than 50 percent of the surface area of the opening.

2. **Q** = As previously calculated in subsection B(2)(d) above _____
3. **N** = Fenestration Ratio **W / Q** = _____

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4. **Kn** = Fenestration Score = **N** if total floor area is less than 50,000 s.f. For floor area greater than or equal to 50,000 s.f., **Kn** shall be not more than 10 points _____

F. Total Design Score

$K_a + K_v + K_c + K_h + K_n = K_t =$ _____ (See Appendix C for sample applications and sample scorings for recent projects.)

G. Minimum Design Scores (Kt) by Zoning District

Zone:	C-1, 2, 3	C-4, 5, BP, O	M-1	PUD
Score:	15	20	10	(PC Determination)

H. An applicant for a permit to construct a building that does not meet the minimum design score in Subsection G above, may present an appeal of the building design to the Planning Commission. The Planning/Economic Development Director or his designee may also present an appeal of a proposed design to the Planning Commission or request an interpretation of a particular design guideline. Following a review of an alternate design the Planning Commission shall have the authority to find that the façade, horizontal/diagonal planes, fenestration, vertical departures, and shade oriented design features of the alternate design meet the intent of the Architectural Design guidelines. The decision of the Planning Commission shall be a recommendation to the City Council as part of the building, site, and landscaping approval action(s).

Further Architectural Treatments: The following terms describe other design related issues not covered in the above standards:

- 1. Appearance** - No building shall be permitted, the design or exterior appearance of which is of such unorthodox or abnormal appearance in relation to its surroundings as to be unsightly or offensive to generally accepted taste and community standards.
- 2. Monotony** - No building shall be permitted, the design or exterior appearance of which is so identical with those adjoining as to create excessive monotony or drabness.
- 3. Building Scale and Mass** - The relative proportion of a building to its neighboring existing buildings, to pedestrians or observers, or to other existing buildings shall be maintained or enhanced when new buildings are remodeled or altered.
- 4. Materials** - Material selection for architectural design shall be based upon the prevailing material already used on existing buildings in the area. The texture of buildings shall be based upon the prevailing texture already used on existing buildings in the area. No building or addition to a building shall be permitted where any exposed façade is constructed or faced with a finished material that is aesthetically incompatible with other building façades in the area and which presents an unattractive appearance to the public and surrounding properties. Primary exterior building materials should include brick, wood, glass, and/or stone. Secondary materials include drivet, split-face block, textured concrete panels, and rib-faced concrete masonry units. Pre-fab steel panels are not allowed. At least 70% of the surface of the building must be covered with primary exterior building materials.
- 5. No Overhead Dock Door** - No overhead dock door on a business, industrial, institutional, or park building shall face a public street. The Planning Commission may permit overhead doors (not including

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docks) to face a public street when it has made a finding that there is no feasible alternative location for such doors.

6. Heating, Air Conditioning and Ventilating Equipment - All heating, air conditioning, and ventilating equipment shall be located in a manner to be unobtrusive or screened from view.

7. Colors - Since the selection of colors for building façades and roofing materials has a significant aesthetic and visual impact upon the public and neighboring properties, color shall be selected in general harmony with the existing neighborhood buildings. Earth tones are preferred.

8. Building Locations - No building or structure shall be permitted to be sited in a manner which would unnecessarily destroy or substantially damage the beauty of the area, particularly insofar as it would adversely affect values incident to ownership of land in the area; or which would unnecessarily have an adverse effect on the beauty and general enjoyment of existing structures or signs on adjoining properties.

9. Building Groupings - Where more than one building is located on a lot, the minimum distance between the two buildings should be equal to the combined height of the two buildings. Where two or more buildings are connected by a unifying architectural element, such as walls, canopies, or arches from an enclosed pedestrian space, the minimum spacing between buildings on the same lot could be reduced to a distance equivalent to the height of the taller structure.

10. Roofs – Roofs are elements of buildings which significantly affect the architectural character. The roof is vital to the overall design theme of a building since it is related to its mass, scale, form, and proportion.

A. Use a roof form and shape similar to those of adjacent buildings. Appropriate roof styles are:

- Flat roof with visible roof form at perimeter
- Hip roof
- Gabled roof
- Other specifically approved forms

B. Avoid using large roof overhangs which dominate the building.

C. Roof forms should be visible with a minimum 3/12 slope, 4/12 or greater preferred.

D. Rooflines should complement the horizontal elements of the building façade to relate to the human scale. For large buildings or a group of closely related buildings, utilize layers of interconnected roofs.

E. Where a long expanse of roofline is required, utilize dormers, gables, and other variations in the roof shapes which are compatible with the basic façade elements and add interest and scale to the building.

F. Primary roofing materials should be standing-seam metal, slate, cedar, or high quality asphalt shingles. Roofing materials should be compatible with the architectural style of the building and with the surrounding buildings.

Other Architectural Standards - Other architectural standards deemed appropriate in the City of Greenfield or in the vicinity of the project may be imposed by the Planning Commission.

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Design of Service and Utility Areas

Buildings require mechanical equipment and service areas that are normally unsightly and sometimes noisy. Utilities can be a visually dominant element in the landscape. These areas include, but are not limited to, loading docks, exterior storage areas, dumpsters, and mechanical equipment such as plumbing vent stacks, HVAC transformers, fans, and cooling towers. Visible utility infrastructure should be treated so as to lessen their negative visual impacts. The following address the treatment of service and utility areas in order to reduce the negative visual impact of such areas

- A. Locate all service and utility areas away from the street and concealed from building entrances, pedestrian areas, and adjacent residential structures
- B. Provide adequate spaces for the intended use of service areas with necessary access and egress.
- C. When appropriate, consider joint use of service areas for multiple buildings on a site.
- D. Where possible, utilize building forms and other integral design techniques to conceal service areas from view. Locate trash receptacles and dumpsters adjacent to truck loading areas and screen with walls that are coordinated with the building's architecture.
- E. Where dumpsters are not incorporated within the overall building envelope, apply the following standards:
 - 1. For dumpsters not located next to the building, use wall, fence, or gating on all four sides, with the open (or gated) side facing away from the view of streets or adjacent residential areas. Additional landscape areas are encouraged adjacent to dumpster locations.
 - 2. Locate dumpsters at edges of specific use areas rather than in the middle of an open space, parking lot, or along streets.
- F. Utility service areas should be screened from public view with architectural materials and colors that are harmonious with the building; and/or with landscape plantings that can be incorporated as a part of a visual screen.
- G. Locate all above grade utility connections, vents, and other projections through exterior walls away from high visibility areas, such as front façades or pedestrian areas, preferably in the service area of the building. Do not locate any utility projections or equipment, such as air conditioning units or air exchangers, on the street side of the building.
- H. Rooftop mechanical equipment shall not be mounted on the buildings unless the roof itself acts as a screen, or other integral architectural treatment is provided to screen such equipment from view.

Planning

The design of utility systems often ignores the aesthetic in favor of the purely functional. Advance planning can provide for treatments that can mitigate the negative visual impacts of utility systems.

- A. Maintain functional relationships which promote efficiency in the use of energy and cost of providing required services. Avoid scattered development of facilities that have similar utility requirements.

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- B. Provide for long-term expansion and potential utility requirements. Anticipate future expansion needs and incorporate into site planning development. Coordinate planning and construction of new facilities with demolition of existing facilities.
- C. Locate utilities underground wherever possible and remove above ground utility lines.
- D. Locate future land use areas to accommodate phased development of facilities and support services.
- E. Design and locate utility systems as an integral component of the site planning and design process. Take into account ease of maintenance and repair.
- F. Design above ground systems to be inconspicuous as possible.
- G. Minimize the adverse visual and environmental impacts of utility systems.

Layout/Location

The elements that make up utility systems such as telephone poles and transformer substations have a strong impact on the visual quality of an area. Utility lines and structures should be located with consideration given to their visual impact.

- A. Whenever possible, direct bury overhead utilities to eliminate visual clutter. Utilize conduit and manholes to ease repair.
- B. When direct bury is not possible, avoid placing utility lines along primary circulation routes or other high visibility areas. Place overhead utility lines at the rear of buildings and within service areas. Utilize site features such as vegetation, topography, existing structures, walls and fences as buffers to reduce the negative visual and environmental impacts.
- C. Avoid aligning overhead utility lines with direct primary views. In natural areas, integrate the alignment of the overhead utility easement with existing topography and vegetation. Avoid cutting long, straight swales through vegetated areas. Utility lines should not be placed along ridge lines where they are difficult to hide.
- D. Where utility easements cross roadways in wooded areas, the easement should jog to block the view of the clear-cut corridor.
- E. Easements should not be totally cleared edge to edge, but along an irregular line to preserve trees and reduce maintenance. Place utility lines away from major roadways and against a backdrop of trees to reduce the silhouette of poles against the skyline.
- F. When overhead utility lines are necessary, place these at the periphery of building groups or defined land use areas. Avoid bisecting these areas with utility lines. Reduce the negative visual impact of existing lines by planting trees and shrubs as visual buffers and visual relief. Utility system components should be coordinated with site furnishings wherever possible.
- G. Minimize the visual impact of utility structures such as telephone poles, power stations, pump houses, transformer substations and storage tanks. Carefully site such structures within areas of low visibility; utilize existing vegetation, topography, and structures as buffers. Enhance these existing buffers with additional vegetation, walls and screens as necessary. If possible, locate utility structures within compatible land use areas such as an industrial area.

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Parking / Site Access

Parking and site access are major concerns in the development of a well-designed site. Parking facilities and site access that are designed and located with a good relationship to the building entrance provide a positive image to the site user. Parking and site access are addressed by the following:

1. Parking Location
2. Parking Layout/Surface Treatment

Parking Location

The locations of parking lots are important to the functional and aesthetic aspects of the buildings they serve. Most people using a building arrive by auto. Thus, their first visual impression will be shaped by the sequence from the street to the door.

- A. Coordinate parking and circulation systems to relate to building groups on the site.
- B. Parking lots and buildings should be located to encourage joint use parking facilities where peak-hour use patterns do not conflict.
- C. Locate parking lots convenient to building entrances but try to avoid locations that block views of buildings.
- D. Do not place parking lots immediately adjacent to buildings. Separate parking lots from the front and/or side of buildings with a 10 foot wide space which accommodates elevated landscape plantings, planters, and pedestrian circulation.
- E. Minimize disruption to natural site features. If possible, incorporate existing vegetation as visual highlights or screens. New parking lots should be sited on level ground to avoid excessive grading and erosion.

Parking Layout/Surface Treatment

The efficiency and safety of off-street parking lots can be improved by providing functional layouts and appropriate surface treatment with clear and direct circulation. Well designed parking lots have a strong, positive impact on the visual quality of an area

- A. Parking lots are to be developed as permanent facilities with the required hard surface paving.
- B. Integrated concrete curb along perimeter of parking areas, parking lot islands, directional signing, night lighting and perimeter screening should be provided.
- C. The parking layout should utilize 90 degree stalls with two-way traffic aisles.

With limited area or a high turnover rate, 60 degree or 45 degree stalls with one-way traffic aisles may be appropriate.

- D. The dimensions of parking stalls and aisles should be:

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- For 90 degree parking layout stalls of 20 feet by 9 feet with minimum 24 foot wide aisles.
- For 45 degree parking layout stalls of 19 feet by 12 feet 9 inches with 15 foot wide aisles; where interior back to back stalls are used, the combined stall length may be 32 feet.

E. To reduce pedestrian-vehicular conflicts, orient aisles perpendicular to building entrances. If this is not feasible due to size or space requirements, internal walkways delineated by islands should be used.

F. In order to reduce the visual impact of parking areas and define vehicular circulation, locate no more than 20 spaces between islands. The intermediate islands should be a minimum of 9 feet wide, with end caps a minimum 6 feet wide. Such islands should be used to define internal pedestrian and vehicular circulation patterns.

G. All off-street parking areas should be properly designed to handle storm runoff by utilizing options such as: curb, gutter, catch basins, and/or retention/detention basin(s).

Site Access

The guidelines for site access reflect both the need for convenient access to individual sites and the need to provide for safe and efficient traffic movement along arterial routes.

A. Access driveways from arterial streets to individual sites or lots should be spaced a minimum of 100 feet apart (or as designated by access control easements).

B. Unless required to safely provide for ingress and egress, no site or lot with less than 300 feet of frontage on an arterial street should have more than one access driveway to an arterial street, or more than one additional driveway for each 300 feet of additional frontage. Driveways should be spaced a minimum of 200 feet apart.

C. A minimum stacking distance of 50 feet should be provided at each access drive.

D. Major access driveways should provide for one inbound and two outbound lanes and should be a street return type of driveway.

Appropriate traffic controls, stop signs, crosswalks, etc., should be provided at all access driveways.

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Landscaping

Landscape plantings have architectural, engineering, climatic, and aesthetic uses that significantly affect the visual character and environmental quality of an area by performing a variety of functions in the design of the environment. Landscaping addresses the following:

1. Street trees
2. Buffer strips
3. Parking lots
4. Site/building entrances and service/utility yards
5. Preservation of natural features
6. Plant material selection
7. Overall Design

Street Trees

Street tree plantings are a vital part of the street's character that sets the visual image of an area. Trees have the greatest potential to improve perception of previously developed parts of an area. Street trees provide shade and a sense of scale, define the traffic corridor and can direct or restrict views of unsightly facilities or areas. Street tree selection is based on the City of Greenfield's master street tree plan and should be planted according to adopted street tree specifications.

A. Large trees, whose broad spreading canopies create a sense of enclosure, make the best street trees. Small or columnar types of trees should be utilized as street trees only where specific site limitations mandate, such as under large power lines or in a narrow space against a building. The trees should have a minimum trunk diameter of 2 ½ ".

B. Specific tree species selection criteria should not only include the visual characteristics of mature height, spread, shape, texture and mass, but also the soil and light requirements and pollution tolerance. Some variety in street tree species is recommended to avoid the problems of a monoculture.

C. Street trees should normally be planted with regular spacing of 30 to 50 feet with 20 feet from street lighting. Gaps in the plantings, caused by the removal of dead or damaged trees, should be replanted with the same variety and as close to the same size as the tree that was removed. The spacing of trees should be coordinated with driveways, walks, site furnishings, and street lighting. Street trees should not be planted closer than 15 feet to a building.

D. Deciduous and evergreen trees and shrubs should be utilized along roadways and parking lots to control glare and reflection from automobiles and pavement surfaces, soften vehicular noise, screen objectionable views and define, unify, and enhance circulation routes.

- Arterial roadways, being the most prominent circulation route, would have the highest concentration of deciduous and evergreen plant material.

- Secondary and local roadways should incorporate landscape plantings to a lesser degree.

Buffer Strips

Site Development Standards

Buffer strips of landscape plantings should be utilized along main roads to screen parking lots. In addition, trees and shrubs should be incorporated as perimeter plantings around the remainder of a site.

- A. The minimum total height for a buffer zone is 16 feet (i.e. berms & trees), including berm. Average height of the berm should not be less than 4 feet.
- B. A landscape (buffer) strip should provide year round screening and be aesthetically pleasing.
- C. Plant selection should be appropriate to site, soil and light conditions.
- D. A landscape (buffer) strip located adjacent to the street right-of-way and covering the whole length of the required parking setback should be provided.
- E. Two minimum shade trees (2 ½" – 3" caliper) or 2 ornamental trees/evergreen trees (5' – 6' high) and 5 shrubs (36" planting height) should be required for every 35 linear feet of buffer strip.
- F. A perimeter landscape strip with a minimum width of 5 feet should be provided for all rear and side yards, with additional landscape buffers for setbacks adjacent to residential districts. Extensive landscaping screen should be provided if parking is located adjacent to a residential district and where parking is located in a required side or rear yard setback. These requirements are provided with Chapter 21.06.0300 of the zoning code. Maintain a naturalistic appearance, but not necessarily a full landscape screen if parking is not located in a required offset adjacent to a residential district.

Parking Lots

Landscape plantings in parking lots provide screening and shade, subdivide the space, and reduce glare from the parking lot's surface. Plantings for parking lots must be selected, located and planted properly to achieve these objectives.

- A. Smaller shrubs, in combination with trees, provide screening within and around parking lots. Smaller trees help to subdivide the overall parking lot area into small, less visually dominant, paved areas. Larger trees provide shade and break up the visual expanses of the parking lot.
- B. Parking lots should use trees and shrubs to screen views while reducing glare and reflected radiation from large paved surfaces.
- C. For all non-residential uses, a minimum of 300 square feet in planting islands is required per 15 required off-street parking spaces or fraction thereof.
- D. At least one shade tree should be provided for every 300 square feet of interior landscape space within a parking lot.
- E. Planting islands must be of adequate size to support vegetation. A 9 foot minimum width for islands located within parking areas is recommended. A minimum 5' width should be provided for single vehicle overhang and 8' for double vehicle overhang. All planting islands will be defined and protected with a barrier-type curb.
- F. If pedestrian traffic crosses the planting area, the design should provide for a barrier to direct people around the island or a defined paved walkway through it.

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- G. Tree species selected should be relatively litter free with minimal sap droppings.
- H. Species should be appropriate for conditions (salt tolerance, snow loads, heat).

Site/Building Entrance and Service/Utility Yards

Plant materials have both functional and aesthetic properties. Their use on a site is such that they can emphasize an area through their aesthetic characteristics and screen an area from site by their functional capabilities.

- A. Utilize landscape treatments to emphasize the principal building or site entrance. Ornamental trees and shrubs are highly suitable for this purpose.
- B. Utilize shrubs to screen views of both utility and mechanical areas. Evergreens would be most beneficial since they provide year-round color and screening.
- C. Use plant materials in mass to provide for a strong effect and to delineate and separate areas.

Preservation of Natural Features

The most significant features of a site can include tree cover and the varied topography on the site. These, and other natural features, provide potential assets for development of high quality, provided that consideration is given to protection of the site's natural character.

- A. Preserve existing vegetation whenever possible by protecting and enhancing buffers and saving trees in the proposed development areas.
- B. The natural vegetation cover should be preserved on all portions of the site outside designated construction zone for buildings, parking lots, driveways, utility service and other site features. The designated construction zones should be carefully drawn to encompass the minimum area necessary for efficient construction of the building of site improvements and excessive clear cutting should be avoided.
- C. The existing basic topographic pattern on a site including the overall rise or fall and direction of slope should be maintained except where modification is necessary to improve a buildable area or where the modification will contribute to a specific aesthetic enhancement.
- D. All on-site improvements including access roads, parking areas and building sites should be designated to minimize alterations to the vegetation and topography at the perimeter of each individual parcel so that continuity of site features is maintained from one parcel to the next.
- E. The design should adhere to the provisions required by the City's "Tree Preservation Policy."

Plant Material Selection

Trees, shrubs, ground covers, vines, and grasses comprise the plant materials that are available for use. Plantings for a site should be chosen for specific site conditions and design requirements. This will make each area unique, while the use of a limited plant palette will visually relate different sites to one another.

Site Development Standards

- A. Meeting the landscape objectives for improving the visual environment is dependent on the selection of landscape material. It is desirable to create a unified composition by limiting the varieties of plants in order to reduce clutter, clashing forms, colors and textures. Consistent use of plant material, with occasional contrast for accent, will help to meet these objectives.
- B. Plant materials selected for use in the area include deciduous and evergreen trees, deciduous and evergreen shrubs, ground covers and vines. Recommended plant materials are listed in Appendix A and B of the Site Development Standards.
- C. The plant material selected should be suitable for low maintenance design. Native plant material or plant material naturalized to the area should be chosen for its hardiness and its ability to maintain a desired shape without much maintenance.
- D. The plant material selected should also meet the requirements and objectives of the planting design.
- E. Trees should be used more extensively than shrubs to maximize the effectiveness of landscape materials with the lowest maintenance responsibility.
- F. All site landscaping should be maintained on an annual basis.
- G. Plant material should be suitable for hardiness, soil, light and moisture requirements of the site.
- H. Year round interest should be a consideration of design.
- I. Evergreens will provide greenery all throughout the year while deciduous trees and shrubs provide for seasonal changes, flowers, fruit, color, and texture of bark.
- J. Erosion controls should be implemented. Ground covers can be effective in stabilizing slopes and reducing maintenance in smaller high visibility landscape areas, such as planting bays in parking lots. Where slope stabilization is a priority, consider terracing the slope and then plant with ground covers.
- K. Plant material should have the following minimum dimensions at the time of planting:
- Deciduous trees (including street trees and understory trees):
2 ½ - 3 inch caliper
 - Evergreen trees: 5 to 6 foot height
 - Shrubs (deciduous or evergreen): 2 feet height
 - Ground Cover: 2 1/2 inch pot

Larger, more mature trees, shrubs, and plantings are recommended.

Overall Design

Site Development Standards

- A. The landscape design should be suitable for low maintenance.
- B. The scale of plant material should accurately represent the scale of the design.
- C. The design should be a unified concept that is appropriate to the site and the community standards.
- D. A certified landscape architect should inspect the planting as designed and after the planting is completed. After three (3) years and before the landscaping cash deposit or letter of credit is returned, the City Forester should re-inspect the property to make sure the plantings have been maintained adequately and are still all in place.

Site Development Standards

Signage

Signage should be presented so as to express information as clearly and concisely as possible. It should not be used as advertising. In addition to the need for concise communications the signage should be attractive, well coordinated, and harmonious with the surrounding environment. Signage requirements for type of sign, size, height, lighting and location permitted in each district are contained in Chapter 19 of the Municipal Code. The requirements contained in Chapter 19 of the Municipal Code are maximum size and height requirements. Smaller, more architecturally oriented signage is strongly encouraged. The following additional standards address the relationship of signs to adjacent residential uses and the design of signage as part of a unified site development.

- A. Free standing signs should not be located within 1/2 the minimum zoned width of adjacent residentially zoned property.
- B. Where free standing signs are permitted, and where lot width and setback areas provide adequate sight distance, monument signs with a horizontal orientation should be used rather than pole signs, in order to complement the architectural treatment of buildings on the site.
- C. The location and design of free-standing signs within a setback area should be coordinated with the landscape treatment.
- D. Landscaping, including low growing shrubs, flowers and ground cover is to be provided at the base of such signs. A minimum area of 250 square feet for such landscaping is recommended.
- E. The color and materials used in structural elements of signage (not including the message area) should be consistent with and related to building facade materials on the site. The colors used in message areas for all signage on a site should be similar or complementary to create a unified and coordinated appearance.
- F. The preference is for a sign with a darker background which is also non-illuminated. The desired intent is to use one primary color (i.e. blue, red, green, yellow) and a compatible neutral color in the sign color combination.
- G. Exposed or unique illumination-type signs will require special Plan Commission consideration.

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Lighting

Lighting is a functional requirement that impacts the visual environment with the primary purpose of providing a safe and secure environment. The property owners recognize that inappropriate and poorly designed or installed outdoor lighting causes unsafe and unpleasant conditions. On the other hand, it is also recognized that some outdoor lighting is appropriate. To ensure appropriate lighting while minimizing its undesirable side effects, the following regulations should be followed.

- A. Utilize lighting to channel, direct, and orient site users at night.
- B. Provide a well designed lighting system that exposes traffic conditions and provides visual orientation that would allow you to notice details such as road alignment, traffic control devices, intersections, converging and diverging traffic lanes, and pedestrian crossings.
- C. Pedestrian lighting should illuminate obstructions to travel as well as provide a secure feeling by minimizing dark shadows along walkways.
- D. Proper lighting of buildings, monuments, fountains, and other structures serve as orientation landmarks for night time drivers.
- E. Integrate lighting systems with site systems and furnishings and supply power by underground lines wherever feasible to reduce streetscape clutter.
- F. Relate the lines and planes of the light fixture to surrounding buildings. The pole (vertical) size and aim (horizontal) size should relate to the surrounding facilities. Light fixtures, where possible, should blend into the background.
- G. Levels of illumination should vary with the activities performed in the area. Wherever practicable, lighting installations should include timers, dimmers, and/or sensors to reduce overall energy consumption and eliminate unneeded lighting.
- H. All lighting on a parcel shall be located or shielded to avoid casting any direct rays of light on adjoining parcels.
- I. At the time any exterior light is installed or substantially modified, whenever a Site Plan Review application is made, an exterior lighting plan shall be submitted to the City to determine whether the requirements of the Zoning Code have been met and that adjoining property will not be adversely impacted by the proposed lighting. (Refer to SECTION 21.06.0400 of the Greenfield Zoning Code for specific lighting requirements.)
 - When the outdoor lighting installation or replacement is part of a development proposal for which site plan approval is required under these regulations, the Planning Commission shall review and approve the lighting installation as part of its site plan approval.
- J. All commercial and industrial uses and institutional conditional uses (such as churches and schools) shall supply a photometric plot plan for electrical review of exterior lighting. The lighting plan shall include at least the following:
 - A site plan, drawn to a scale of one inch equaling no more than twenty (20) feet, showing buildings, landscaping, parking areas, and all proposed exterior lighting fixtures

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- Specifications for all proposed lighting fixtures including photometric data, designation as IESNA "cut-off" fixtures, Color Rendering Index (CRI) of all lamps, and other descriptive information on the fixtures
- A graphic depiction of the luminaire lamp (or bulb) concealment and light cut-off angles
- Proposed mounting height of all exterior lighting fixtures
- Analyses and illuminance level diagrams showing that the proposed installation conforms to the lighting level standards in this section
- Drawings of all relevant building elevations showing the fixtures, the portions of the walls to be illuminated, the illuminance levels of the walls, and the aiming points for any remote light fixtures.

K. The mounting height of a lighting fixture shall be defined as the vertical distance from the grade elevation of the surface being illuminated to the top of the lighting fixture (i.e. luminaire). The concrete support base for the pole(s) shall not be higher than 6" above grade. Any deviation will need Plan Commission approval.

L. Proposed lighting installations that are not covered in the Site Development Standards may be approved only if the Planning Commission finds that they are designed to minimize glare, do not direct light beyond the boundaries of the area being illuminated or onto adjacent properties or streets, and do not result in excessive lighting levels.

M. Holiday lighting during the months of November, December, and January shall be exempt from the provisions of this section, provided that such lighting does not create dangerous glare on adjacent streets or properties.

Parking Lot Lighting Requirements

Parking lot lighting shall be designed to provide minimum lighting necessary to ensure adequate vision and comfort in parking areas. Illumination of off-street parking areas shall be arranged so as not to reflect direct rays of light onto adjacent streets or properties. Lighting shall be considered as restricted to the parking lot if such lighting is so oriented as to direct no more than 1/2 of each fixture's maximum luminous intensity, measured in foot candles, outside the exterior limits of the parking lot, unless the illumination level, in foot-candles at such exterior limits measured at plane, is less than .5 foot-candles. The total illumination level produced at the exterior limits of the parking lot from all lighting shall not exceed 5 foot-candles measured in any plane except entrances and exits. In addition:

- Special Plan Commission consideration is needed for any individual light which is proposed to exceed 500 watts.
- The height of light fixtures shall not exceed the roofline of the building or 20 feet, whichever is less (measured from the ground level) .
- Any light source within fifty (50) feet of a residential district shall not exceed twelve (12) feet in height.
- Non-residential private roadway lighting shall not exceed a maximum of 30 feet.
- All pole heights shall be brought into conformity when 50% or more of the poles are changed or replaced on a premises.
- High intensity discharge fixtures mounted on building walls and under canopies shall be shielded so that the refractor shall be invisible from a horizontal plane to neighboring residences and streets.

Lighting of Gasoline Station/Convenience Store Aprons and Canopies

Lighting levels on gasoline station/convenience store aprons and under canopies shall be adequate to facilitate the activities taking place in such locations. Lighting of such areas shall not be used to attract attention to the business.

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- Areas on the apron away from the gasoline pump islands used for parking or vehicle storage shall be illuminated in accordance with the requirements for parking areas set forth elsewhere. If no gasoline pumps are provided, the entire apron shall be treated as a parking area.
- The off-street parking and fueling area may be illuminated. The cut-off light should be at an angle of less than 90 degrees. Maximum foot-candle levels should be four (4.0) foot-candles as measured at the property line and one (1.0) foot-candles as measured at the property line abutting a residential district.
- Light fixtures mounted on canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface (ceiling) of the canopy and/or shielded by the fixture or the edge of the canopy so that light is restrained to no more than 85 degrees from vertical.
- As an alternative (or supplement) to recessed ceiling lights, indirect lighting may be used where light is beamed upward and then reflected down from the underside of the canopy. In this case, light fixtures must be shielded so that direct illumination is focused exclusively on the underside of the canopy.
- Lights shall not be mounted on the top or sides (fascias) of the canopy, and the sides (fascias) of the canopy shall not be illuminated.

Lighting of Outdoor Recreation Facilities (i.e. ball diamonds, playing fields, tennis courts, etc.)

Outdoor nighttime performance events have unique lighting needs. Illumination levels vary, depending on the nature of the event. The regulations in this section are intended to allow adequate lighting for such events while minimizing skyglow, reducing glare and unwanted illumination of surrounding streets and properties, and reducing energy consumption.

- The main lighting of the event shall be turned off no more than forty-five (45) minutes after the end of the event. A low level lighting system should be installed to facilitate patrons leaving the facility, cleanup, nighttime maintenance, etc. The low level lighting system should provide an average horizontal illumination level, at grade level, of no more than three (3.0) foot-candles.
- Where playing fields or other special activity areas are to be illuminated, lighting fixtures shall be specified, mounted, and aimed so that their beams fall within the primary playing area and immediate surroundings, and so that no direct illumination is directed off the site.
- Areas intended solely for pedestrian circulation shall be provided with a minimum level of illumination of no less than 0.1 foot-candles and no more than 0.2 foot-candles.
- Any exterior light sources falling under the scope of this section shall not exceed the maximum permitted post height of fifty (50) feet.

Lighting of Building Façades and Landscaping

With the exception of structures having exceptional symbolic (i.e. churches and/or public buildings) or historic significance to the community, exterior building façades shall not be illuminated unless approved by the Planning Commission. The following provisions should be followed when lighting the façade of a symbolic or historic building:

- The maximum illumination on any vertical surface or angular roof surface shall not exceed five (5.0) foot-candles.
- Lighting fixtures shall be carefully located, aimed, and shielded so that light is directed only onto the building façade. Lighting fixtures shall not be directed toward adjacent streets or roads.
- Lighting fixtures mounted on the building and designed to "wash" the façade with subtle, lower intensive lighting are preferred.
- To the extent practicable, lighting fixtures shall be directed downward (i.e. below the horizontal) rather than upward.
- When landscaping is to be illuminated, the Planning Commission shall first approve a landscape lighting plan that presents the purpose and objective of the lighting, shows the location of all lighting fixtures and

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what landscaping each is to illuminate, and demonstrates that the installation will not generate excessive light levels, cause glare, or direct light beyond the landscaping into the night sky.

Sign Illumination

Signs may be illuminated only during those hours that the business being advertised is open for business. It is the intent of this section to allow illuminated signs but to ensure that they do not create glare or unduly illuminate the surrounding area.

A. Externally Illuminated Signs

- The average level of illumination on the vertical surface of the sign shall not exceed three (3) foot-candles.
- Lighting fixtures illuminating signs shall be carefully located, aimed, and shielded so that light is directed only onto the sign façade.
- To the extent practicable, fixtures used to illuminate signs shall be top mounted and directed downwards.

B. Internally Illuminated Signs

- It is the intent of this section that internally illuminated signs consist of light colored lettering or symbols on a dark background.
- The lettering or symbols shall constitute no more than forty (40) percent of the surface area of the sign.

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Appendix A: Recommended Plant Materials

Recommended Plant Materials for Locations Along Roadways

Street Trees

Acer plantanoides – Norway Maple

Acer rubrum – Red Maple

Fraxinus pennsylvanica – Green Ash

Tilia cordata – Littleleaf Linden

Gleditsia tricanthos – Honey Locust

Tilia americana – American Linden

Understory Trees

Cornus mas – Cornelian Cherry

Pyrus calleryana "Bradford" – Bradford Pear

Malus cultivars – Crabapples

Crataegus phaenopyrum – Washington Hawthorn

Shrubs

Berberis thunbergii – Japanese Barberry

Euonymus alatus – Winged Euonymus

Juniper chinensis "Pfitzeriana" – Pfitzer Juniper

Lonicera tatarica – Tatarian Honeysuckle

Philadelphus coronarius – Common Mockorange

Potentilla fruticosa – Bush Cinquefoil

Rhodotypos scandens – Black Jetbead

Taxus cuspidata intermedia – Border Forsythia

Spirea vanhouttei – Vanhoutte Spirea

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Symphoricarpos obiculatus – Coralberry

Ground Cover

Eunoymuws fortunei – Wintercreeper

Hedera helix – English Ivy

Hemerocallis sp. – Daylily

Liriope spicata – Lilyturf

Lonicera japonica "Halleana" – Halls Japanese Honeysuckle

Polygonum reyoutria – Fleeceflower

Sedum acre – Goldmoss Stonecrop

Vinca minor – Periwinkle

Large Deciduous Trees – (taller than 60')

Acer plantanoides – Norway Maple

Fraxinus americana – White Ash

Gledisia tricanthos – Honeylocust

Quercus borealis – Northern Red Oak

Sophora japonica – Japanese Pagoda Tree

Tilia americana – American Linden

Medium Deciduous Trees – (30' – 60')

Aesculus glabra – Ohio Buckeye

Aesculus hippocastanum – Common Horse Chestnut

Catalpa speciosa – Northern Catalpa

Ginkgo biloba – Ginkgo

Morus alba – White Mulberry

Phellodendron amurense – Amur Cork-Tree

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Small Deciduous Trees (under 30')

Acer ginnala – Amur Maple

Crataegus phaenopyrum – Washington Hawthorn

Crataegus oxyacantha "Paulii" – Paul's Scarlet Hawthorn

Koelreuteria paniculata – Golden Rain Tree

Magnolia soulangeana – Saucer Magnolia

Magnolia stellata – Star Magnolia

Malus species – Crabapple

Evergreen Trees (heights vary)

Abies concolor – White Fir

Picea glauca densata – Black Hills Spruce

Pinus nigra – Austrian Pine

Taxus cuspidata – Japanese Yew

Tsuga canadensis – Common Hemlock

Large Deciduous Shrubs (taller than 12')

Caraganea aborescense – Siberian Peashrub

Hamamelis virginiana – Common Witchhazel

Rhus typhina – Staghorn Sumac

Syringa amurensis japonica – Japanese Tree Lilac

Syringa vulgaris – Common Lilac

Viburnum lantana – Wayfaring-Tree Viburnum

Viburnum lentago – Nannyberry Viburnum

Viburnum triloba – Highbush Cranberry Viburnum

Medium Deciduous Shrubs (6' to 12')

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Aronia arbutifolia – Red Chokeberry

Cornus alba – Siberian Dogwood

Cornus racemosa – Gray Dogwood

Cornus stolonifera – Redosier Dogwood

Eunonymus alatus – Winged Euonymus

Forsythia intermedia – Border Forsythia

Hydrangea paniculata – Peegee Hydrangea

Ligustrum amurense – Amur Privet

Ligustrum vulgare – European Privet

Philadelphus coronarias – Common Mockorange

Philadelphus virginalis – Virginal Mockorange

Rhus aromatica – Fragrant Sumac

Spirea vanhouttei – Bridalwreath Spirea

Viburnum dentatum – Arrowhead Viburnum

Viburnum opulus – Snowball Viburnum

Small Deciduous Shrubs (under 6')

Chaenomeles lagenaria – Common Flowering Quince

Euonymus alatus compacta – Dwarf Winged Euonymus

Kerria japonica – Double Japanese Kerria

Lonicera nana – Clavey's Honeysuckle

Myrica pennsylvanica – Bayberry

Potentilla fruticosa – Bush Cinquefoil

Rhototypos scandens – Black Jetbead

Ribes alpinum – Alpine Currant

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Spirea bumalda – Anthony Waterer’s Spirea

Evergreen Shrubs (heights vary)

Juniperus chinensis "pfitzeriana" – Pfitzer Juniper

Taxus cuspidata varieties – Spreading Japanese Yew

Taxus media varieties – Anglojap Yew

Recommended Plants for Softening and Screening Parking Lots

Source: Sharon Morrissey – Home Horticultural Agent

University of Wisconsin-Extension in Milwaukee County

Selection Criteria:

- dry soil
- compacted soil
- reflected heat
- de-icing salt spray and snowmelt
- suckering, spreading habit acceptable since plantings are usually restricted by paved surfaces
- mature height, *without pruning*, should be tall enough to screen view into lot, but low enough for traffic circulation in and around lot

Plant List (alphabetical order)

Caragana aurantica – Dwarf Peashrub

Caragana maximowicziana – Maximowicz Peashrub

Caragana pygmaea – Pygmy Peashrub

Cotoneaster lucidus – Hedge Cotoneaster

Diervilla lonicera – Dwarf Bush-Honeysuckle

Diervilla sessilifolia – Southern Bush-Honeysuckle

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Forsythia – Arnold Dwarf

Forsythia ovata – Tetragold

Forsythia ovata – Ottawa

Forsythia viridissima – Bronxensis

Forsythia – Sunrise

Physocarpus opulifolius var. intermedius – Low-growing Ninebark

Physocarpus opulifolius var. nanus – Dwarf Ninebark

Potentilla fruticosa

Rhus aromatica – Gro-Low

Posa rugosa

- Rugosa Rose

- Saltspray Rose

"Albo-plena"

"Belle Poitevine"

"Blanc Double de Coubert"

"Frau Dagmar Hastrup"

Other Roses

- Meidiland Group

"Carefree Beauty"

"Pink Meidiland"

"White Meidiland"

"Champlain"

- Explorer Series

Spirea x Bumalda

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- Anthony Waterer

- Froebelii

- Goldflame

- Norman

Spirea japonica var alpina (nana)

- Little Princess

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Appendix B: Master Tree List

Category I – Trees and Curbs and Sidewalks

1. Acer campstre

- Hedge Maple

2. Acer plantanoides

- Norway Maple

Cleveland

Columnar

Columnar compact

Emeral Queen

Royal Red

Schwedleri

3. Acer x freemania

- Freeman Maple

Scarlet Sentinal

4. Aesculus hippocastanum

- Horsechestnut

Baumanii

5. Celtis occidentalis

- Hackberry

Prairie Pride

6. Fraxinus americana

- White Ash

Autumn Applause

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Autumn Purple

Skyline

7. Fraxinus excelsior

- Hessei Ash

8. Fraxinus pennsylvanica

- Green Ash

Marshall Seedless

Patmore

Summit

9. Ginkgo biloba

- Ginkgo

Fastigiata Sentry

10. Gleditsia triacanthos

- Honeylocust

Imperial

Shademaster

Shyline

11. Quercus robur

- English Oak

Fastigiata Columnare

12. Syringa reticulata

- Japanese Tree Lilac

Ivory Silk

Summer Snow

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13. *Tilia cordata*

- Littleleaf Linden

Greenspire

Shamrock

14. *Tilia tomentosa*

- Silver Linden

Category II – Trees for Curbs – no Sidewalks

Category I Trees plus:

1. *Acer ginnala*

- Amur Maple

2. *Amelanchier*

- Serviceberry

Autumn Brilliance

Robin Hill Pink

3. *Cercis canadensis*

- Eastern Redbud

4. *Crataegus*

- Hawthorn

5. *Gymnocladus dioica*

- Kentucky Coffeetree

6. *Malus*

- Flowering Crabapples

7. *Phellodendron amurense*

- Amur Corktree

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8. Prunus

- Flowering Cherries

9. Pyrus calleryana

- Callery Pear

Autumn Blaze

Chanticleer

10. Ulnus x

- Hybrid Elm

Regal

Category III – Median Strips

All trees from Category I and II

Category IV – Public Buildings and Parks

All trees from Category I and II plus:

1. Picea glauca densata

- Black Hills Spruce

2. Picea pungens

- Blue Colorado Spruce

3. Pinus nigra

- Austrian Pine

4. Pinus strobus

- Eastern White Pine

5. Pinus sylvestris

- Scotch Pine

Site Development Standards

Appendix D: Design Guidelines for Large Retail Establishments

Large retail developments depend on high visibility from major public streets. In turn, their design determines much of the character and attractiveness of major streetscapes in the city. The marketing interests of many corporations, even with strong image-making design by professional designers, can be potentially detrimental to community aspirations and sense of place when they result in massive individual developments that do not contribute to or integrate with the city in a positive way. In this context, "large" retail establishments are defined to mean a "retail establishment or any combination of retail/commercial/office establishments in a single building, occupying more than 25,000 gross square feet of area," or an addition to an existing larger retail establishment that would increase the gross square fleet of floor area by 50 percent.

The purpose of these standards and guidelines is to give specific interpretations that apply to the design of large retail store developments. These standards and guidelines require a basic level of architectural variety, compatible scale, pedestrian and bicycle access, and mitigation of negative impacts. The standards are by no means intended to limit creativity; it is the City's hope that they will serve as a useful tool for design professionals engaged in site specific design in context. The following requirements are listed as guidelines and standards. The standards are mandatory, whereas the guidelines are used to educate planners, design consultants, developers and City Staff about the design objectives.

A. Aesthetic Character

1. Façades and Exterior Walls:

GUIDELINE: Façades should be articulated to reduce the massive scale and the uniform, impersonal appearances of large retail buildings and provide visual interest that will be consistent with the community's identity, character, and scale. All façades of a building which are visible from adjoining properties and/or public streets should contribute to the pleasing scale features of the building and encourage community integration by featuring characteristics similar to the front façade.

STANDARDS:

a.) Façades greater than 100 feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least 3% of the length of the façade and extending at least 20 percent of the length of the façade. No uninterrupted length of any façade shall exceed 100 horizontal feet.

b.) Ground floor façades that face public streets shall have arcades, display windows, entry areas, awnings, or other such features along no less than 60 percent of their horizontal length.

(See figures 1 and 2; p. 50)

Figure 1

Figure 2

2. Smaller Retail Stores:

GUIDELINES: The presence of smaller retail stores gives a center a "friendlier" appearance by creating variety, breaking up large expanses, and expanding the range of the site's activities. Windows and window displays of such

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stores should be used to contribute to the visual interest of exterior façades. The standards presented in this section are directed toward those situations where additional, smaller stores, with separate, exterior customer entrances are located in principal buildings.

STANDARDS: Where principal buildings contain additional, separately owned stores which occupy less than twenty five thousand (25,000) square feet of gross floor area, with separate, exterior customer entrances:

- a.) The street level façade of such stores shall be transparent between the height of three feet and eight feet above the walkway grade for no less than 60 percent of the horizontal length of the building façade of such additional stores.
- b.) Windows shall be recessed and should include visually prominent sills, shutters, or other such forms of framing.

3. Detail Features:

GUIDELINE: Buildings should have architectural features and patterns that provide visual interest at the scale of the pedestrian, reduce massive aesthetic effects, and recognize local character. The elements in the following standard should be integral parts of the building fabric, and not superficially applied trim, graphics, or paint.

STANDARDS: Building façades must include a repeating pattern that shall include no less than three of the elements listed below. At least one of these elements shall repeat horizontally. All elements shall repeat at intervals of no more than thirty (30) feet, either horizontally or vertically.

- Color change
- Texture change
- Material module change

Expression of architectural or structural bay through a change in plane no less than 12 inches in width, such as an offset, reveal, or projecting rib must also be included.

(See figure 3 below)

Figure 3

4. Roofs:

GUIDELINE: Variations in roof lines should be used to add interest to, and reduce the massive scale of, large buildings. Roof features should complement the character of adjoining neighborhoods.

STANDARDS: Roofs shall have no less than two of the following features:

- a.) Parapets concealing flat roofs and rooftop equipment such as HVAC units from public view. The average height of such parapets shall not exceed 15% of the height of the supporting wall and such parapets shall not at any point exceed one-third of the height of the supporting wall. Such parapets shall feature three dimensional cornice treatment.
- b.) Overhanging eaves, extending no less than 3 feet past the supporting walls.

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c.) Sloping roofs that do not exceed the average height of the supporting walls, with an average slope greater than or equal to 1 foot of vertical rise for every 3 feet of horizontal run and less than or equal to 1 foot of vertical rise for every 1 foot of horizontal run.

d.) Three or more roof slope planes.

(See figure 4 below)

Figure 4

5. Materials and Colors:

GUIDELINE: Exterior building materials and colors comprise a significant part of the visual impact of a building. Therefore, they should be aesthetically pleasing and compatible with materials and colors used in adjoining neighborhoods.

STANDARDS:

a.) Predominant exterior building materials shall be high quality materials.

These include, without limitation:

- Brick
- Wood
- Sandstone
- Other native stone
- Tinted, textured, concrete masonry units

b.) Façade colors shall be low reflectance, subtle, neutral or earth tone colors. The use of high intensity colors, metallic colors, black or fluorescent colors are prohibited.

c.) Building trim and accent areas may feature brighter colors, including primary colors, but neon tubing shall not be an acceptable feature for building trim or accent areas.

d.) Predominant exterior building materials should not include the following:

- Smooth-faced concrete block
- Tilt-up concrete panels
- Pre-fabricated steel panels

6. Entryways:

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GUIDELINE: Entryway design elements and variations should give orientation and aesthetically pleasing character to the building. The standards identify desirable entryway design features.

STANDARDS: Each principal building on a site shall have clearly defined, highly visible customer entrances featuring no less than three of the following

- a.) canopies or porticos
- b.) overhangs
- c.) recesses/projections
- d.) arcades
- e.) raised corniced parapets over the door
- f.) peaked roof forms
- g.) arches
- h.) outdoor patios
- i.) display windows
- j.) architectural details such as tile work and moldings which are integrated into the building structure and design
- k.) integral planters or wing walls that incorporate landscaped areas and/or places for sitting

Where additional stores will be located in the principal building, each such store shall have at least one exterior customer entrance, which shall conform to the above requirements.

B. Site Design and Relationship to the Surrounding Community

1. Entrances:

GUIDELINE: Large retail buildings should feature multiple entrances. Multiple building entrances reduce walking distances from cars, facilitate pedestrian and bicycle access from public sidewalks, and provide convenience where certain entrances offer access to individual stores, or identified departments of a store. Multiple entrances also mitigate the effect of the unbroken walls and neglected areas that often characterize building façades that face bordering land uses.

STANDARD: All sides of a principal building that directly face an abutting public street shall feature at least one customer entrance. Where a principal building directly faces more than two abutting streets, this requirement shall apply only to two sides of the building, including the side of the building facing the primary street, and another side of the building facing a second street.

(See figure 5 below)

Figure 5

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2. Parking Lot Orientation:

GUIDELINE: Parking areas should provide safe, convenient, and efficient access. They should be distributed around large buildings in order to shorten the distance to other buildings and public sidewalks and to reduce the overall scale of the paved surface. If buildings are located closer to streets, the scale of the complex is reduced, pedestrian traffic is encouraged, and architectural details take on added importance.

STANDARD: No more than fifty (50) percent of the off-street parking area for the entire property shall be located between the front façade of the principal building (s) and the primary abutting street. (Also see section on Parking/Site Access.)

3. Trash Collection and Loading Areas:

GUIDELINE: Loading areas and trash collection exert visual and noise impacts on surrounding neighborhoods. These areas, when visible from adjoining properties and/or public streets, should be screened, recessed, or enclosed. (See Section 21.06.0205 and 21.06.0206 of the Zoning Code for further details on Loading Areas) While screens and recesses can effectively mitigate these impacts, the selection of inappropriate screening materials can exacerbate the problem. Appropriate locations for loading areas include areas between buildings, where more than one building is located on a site and such buildings are not more than 40 feet apart, or on those sides of the buildings that do not have customer entrances.

STANDARDS:

- a.) Areas for truck parking, trash collections or compaction, loading, or other such uses shall not be visible from abutting streets or residential districts.
- b.) No areas for outdoor storage, trash collection or compaction, loading, or other such uses shall be located within 20 feet of any public street, public sidewalk, or internal pedestrian way. No permitted or required loading space shall be within forty (40) feet of the nearest point of intersection of any two streets.
- c.) Loading docks, truck parking, utility meters, HVAC equipment, trash collection or compaction, and other service functions shall be incorporated into the overall design of the building and the landscaping so that the visual and acoustic impacts of these functions are fully contained and out of view from adjacent properties and public streets, and no attention is attracted to the functions by the use of screening materials that are different from or inferior to the principal materials of the building and landscape. (Also see section on Service and Utility Areas.)
- d.) Areas for the sale of seasonal inventory shall be permanently defined and accessory to the principal building. Materials, colors, and design of walls and the cover shall conform to those used as predominant materials and colors on the building. If such areas are to be covered, then the covering shall conform to those used as predominant materials and colors on the building.

4. Pedestrian Flows:

GUIDELINE: Pedestrian accessibility opens auto-oriented developments to the neighborhood, thereby reducing traffic impacts and enabling the development to project a friendlier, more inviting image. This section sets forth standards for public sidewalks and internal pedestrian circulation systems that can provide user-friendly pedestrian access as well as pedestrian safety, shelter, and convenience within the center grounds.

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STANDARDS:

- a.) Sidewalks at least 8 feet in width shall be provided along all sides of the lot that abut a public street.
- b.) Continuous internal pedestrian walkways, no less than 8 feet in width, shall be provided from the public sidewalk or right-of-way to the principal customer entrance of all principal buildings on the site. At a minimum, walkways shall connect focal points of pedestrian activity such as, but not limited to, transit stops, street crossings, building and store entry points, and shall feature adjoining landscaped areas that include trees, shrubs, benches, flower beds, ground covers, or other such materials for no less than 50 percent of its length.
- c.) Sidewalks no less than 8 feet in width, shall be provided along the full length of the building along any façade featuring a customer entrance, and along any façade abutting public parking areas. Such sidewalks shall be located at least six feet from the façade of the building to provide planting beds for foundation landscaping, except where features such as arcades or entryways are part of the façade.
- d.) Internal pedestrian walkways provided in conformance with part (b) above shall provide weather protection features such as awnings or arcades with 30 feet of all customer entrances.
- e.) All internal pedestrian walkways shall be distinguished from driving surfaces through the use of durable, low maintenance surface materials such as pavers, bricks, or scored concrete to enhance pedestrian safety and comfort, as well as the attractiveness of the walkways.

5. Central Features and Community Spaces:

GUIDELINE: Buildings should offer attractive and inviting pedestrian scale features, spaces, and amenities. Entrances and parking lots should be configured to be functional and inviting with walkways conveniently tied to logical destinations. Bus stops and drop-off/pick-up points should be considered as integral parts of the configuration. Pedestrian ways should be anchored by special design features such as towers, arcades, porticos, pedestrian light fixtures, bollards, planter walls, and other architectural elements that define circulation ways and outdoor spaces. Examples of outdoor spaces are plazas, patios, courtyards, and window shopping areas. The features and spaces should enhance the building and the center as integral parts of the community fabric.

STANDARD: Each retail establishment subject to these standards shall contribute to the establishment or enhancement of community and public spaces by providing at least two of the following: patio/seating area, pedestrian plaza with benches, transportation center, window shopping walkway, outdoor playground area, kiosk area, water feature, clock tower, or other such deliberately shaped area and/or a focal feature or amenity that, in the judgment of the Planning Commission, adequately enhances such community and public spaces. Any such areas shall have direct access to the public sidewalk network and such features shall not be constructed of materials that are inferior to the principal materials of the building and landscape.

(See figure 6 below)

6. Delivery / Loading Operations:

GUIDELINE: Delivery and loading operations should not disturb adjoining neighborhoods, or other uses.

STANDARD: No delivery, loading, trash removal or compaction, or other such operations shall be permitted between the hours of 10:00 PM and 7:00 AM unless the applicant submits evidence that sound barriers between all areas for such operations effectively reduce noise emissions to a level of 45 db, as measured at the lot line of any adjoining property.