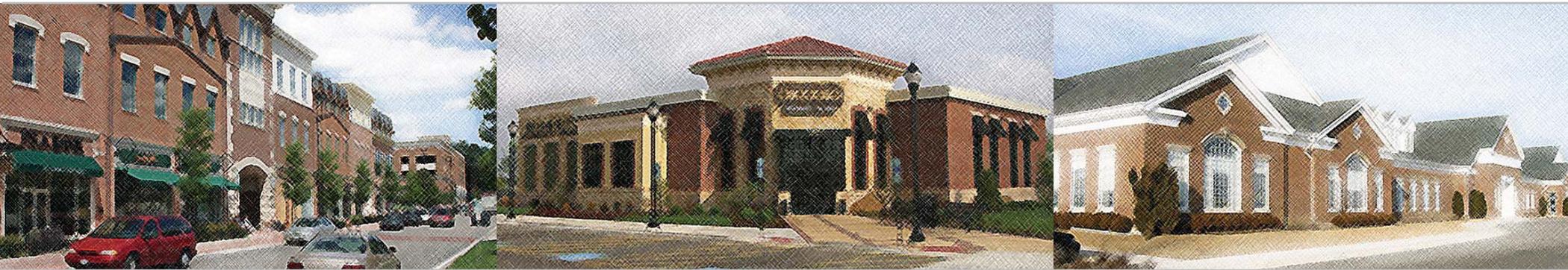


Building Design



GUIDELINES



Naperville

Table of Contents

Acknowledgements	1
Part I. Introduction	
Background	2
Goals	3
Applicability of This Document	3
Part II. Building Design Guidelines	
A Context Fit	5
B Pedestrian Friendliness	8
C Visual Attractiveness	18
D Sustainable Design	32
Appendix	
I. Public Input Process	36
II. Design Review Procedure	40
III. Design Guidelines Checklist	42
IV. Façade Renovation Toolkit	43

Acknowledgements

The Building Design Guidelines for the City of Naperville, Illinois were prepared through the help of many citizens, staff and officials of the Naperville community who participated in the planning process at stakeholder meetings, on-line surveys and open house meetings. Their involvement and insights are sincerely appreciated.

City Plan Commission

Derke Price, Chairman

Mike Brown

Ann Edmonds

Paul Hinterlong

Bill Jepson

Joe McElroy

Jeffrey Meyers

Reynold Sterlin

City Council

George Pradel, Mayor

Jim Boyajian

Bob Fieseler

Richard Furstenau

Doug Krause

Kenn Miller

John Rosanova

Darlene Senger

Grant Wehrli

City Staff

Allison Laff, AICP, Planning Services Team Leader - TED Business Group

Ying Liu, AICP, Community Planner - TED Business Group

Suzanne Thorsen, Community Planner - TED Business Group

Prepared by the City of Naperville with assistance from Lohan Anderson, LLC and A Design Consulting.

Background

From just a handful of families residing within the original settlement, Naperville has grown to a community of over 140,000 people and is now a dynamic city with both old-fashioned charm and a high-tech corporate corridor. Over the course of its development, Naperville has successfully preserved its community character and quality of life by embracing high quality building and site design principles. The resulting built environment has played an important role in fostering Naperville’s vibrant business community and economic growth today. While build-out of Naperville’s last remaining “greenfield” tracts is imminent and infill and redevelopment activity remains brisk, the community expects to continue its past success into the future by ensuring compatible, quality development and redevelopment.

Building design is a key element in the built environment that contributes to Naperville’s success as a community. In order to preserve and build on Naperville’s architectural heritage, the City has embraced design principles and guidelines in its most recent planning documents, namely the “Building Design Guidelines” contained within the Downtown Plan (2000); the “Building Design Considerations” contained within the Southwest Community Area Plan (2002); the Southwest Community Area Commercial Design Guidelines (2006); the Transitional Use District Design Guidelines (2006) and the Water Street Vision Statement (2006). In 2005, the

City Council adopted Resolution #05-020 that states:

“It is the City of Naperville’s vision and expectation that issues related to design and architecture, including building design and materials, building placement, orientation and massing, compatibility, unifying architectural elements, pedestrian environment and pedestrian circulation linkages, and location of parking ... be considered city-wide during plan review of new buildings, building additions, and redevelopment.”

While currently guided by various sub-area plans, non-residential developments in the City are not provided with comprehensive and adequate design direction that can be applied citywide. To further the City Council’s direction on design review, the purpose of the citywide building design guidelines is to convey community design values and preferences, to clearly guide the design and appearance of non-residential structures, and to identify appropriate design criteria by which building design may be evaluated and enhanced through the architectural and development review process.

Public input throughout the process of drafting the guidelines provided community design preferences and feedback on the content of the document. A summary of the public input process is included in Appendix I of this document.

Guideline Goals

The purpose of these design guidelines is to promote high-quality non-residential building design in the City of Naperville that will enhance the quality of life enjoyed by Naperville residents. The public input process has provided invaluable insight into community values and preference on building design. This document is intended to address the complexity of community design values in a format that is easily understood, and consistently interpreted and administered. The Citywide Building Design Guidelines will:

- Address all non-residential structures and mixed use buildings in the City including commercial, office, industrial, and institutional uses.
- Facilitate innovative and creative building design and development.
- Ensure that various projects are judged according to consistent criteria.
- Result in more complete applicant submissions and improved design review process.

These design guidelines are crafted to function in harmony with the City of Naperville's existing policies. Nothing in the Building Design Guidelines shall affect the applicability of the Naperville Municipal Code. Where sub-area guidelines are also applicable, the Building Design Guidelines are to be utilized in conjunction with said documents and the provisions of both shall pertain; however, when in conflict, the more specific guidelines shall prevail.

Applicability of This Document

All non-residential and mixed-use buildings that require building permits are subject to design review based on the guidelines contained within this document. Although these guidelines are intended to apply primarily to commercial, office, industrial, institutional and mixed-use structures, they may also be utilized as deemed appropriate by the Zoning Administrator.

Building Design Guidelines

This Section contains nineteen guidelines, divided into categories based on four convergent ways of looking at building design. Each guideline has an overall description and related principles that are illustrated with images. The categories are:

- A** **Context Fit** addresses aspects of building massing and location that are influenced by the context of the adjacent built environment, excluding site design elements that are addressed elsewhere in the city’s Municipal Code and sub-area studies and guidelines.
- B** **Pedestrian Friendliness** relates to design aspects of buildings and the exterior areas adjacent to buildings that affect the pedestrian experience and make spaces “pedestrian-friendly.”
- C** **Visual Attractiveness** addresses elements of architectural design that result in visually appealing buildings.
- D** **Sustainable Design** describes techniques and technologies that can be utilized to reduce the use of non-renewable resources, minimize environmental impact, and relate people to the natural environment.

Appendix I provides an overview of the public input process that was utilized in preparation of the design guidelines. **Appendix II** summarizes the review process at staff level accompanied by submittal material requirements in order for staff to determine the compliance of the project with the following design guidelines. A summary checklist of the guidelines is attached in **Appendix III: Building Design Guidelines Checklist** as a tool for applicants to use to evaluate buildings based on the guidelines. **Appendix IV** addresses opportunities for minor façade improvements to non-residential structures. **Appendix V** provides a range of resources and organizations that provide information useful in the planning and construction of environmentally-friendly buildings.

A

CONTEXT FIT

The purpose of this section is to identify existing neighborhood characteristics that should be enhanced or incorporated into the building design of new or infill development projects. In addition, this section addresses neighborhood compatibility and transitions to adjacent buildings and street frontages.

A1. Design Context

Building Design should provide contextual references to its surrounding built environment. Design context could include natural features such as a river, lake, park or open space; man-made landforms; historic and cultural contexts; and existing architecture.

A1.1

Buildings should blend with natural or man-made landforms or natural features and maximize visual access to scenic views.



Figure A1.1a: Building architecture can relate to existing or man-made features, such as this retention pond.

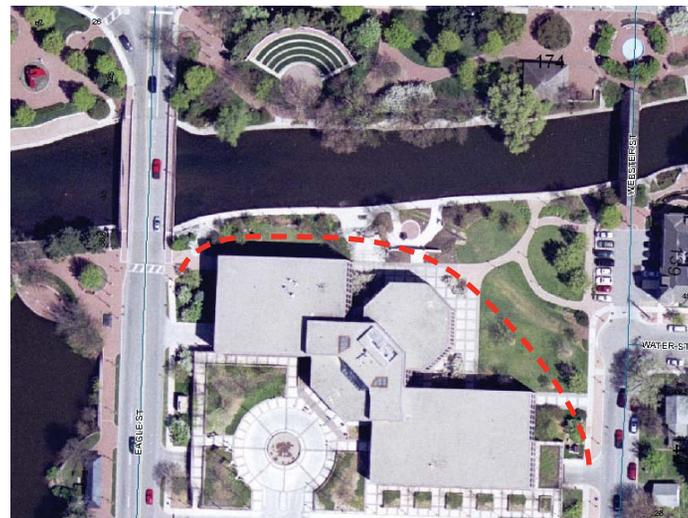


Figure A1.1b: Scenic view access is provided to the adjoining river and open space.

► A. Context Fit

A1. Design Context

A2. Building

Mass
Transition

B. Pedestrian Friendliness

C. Visual Attractiveness

D. Sustainable Design

A. Context Fit

▶ A1. Design Context

A2. Building Mass Transition

B. Pedestrian Friendliness

C. Visual Attractiveness

D. Sustainable Design

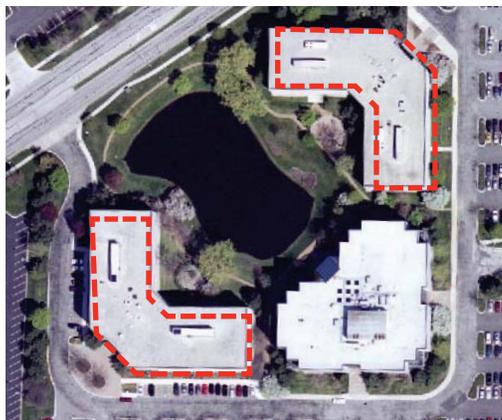


Figure A1.3: Office buildings create a sense of enclosure around a central open space amenity.

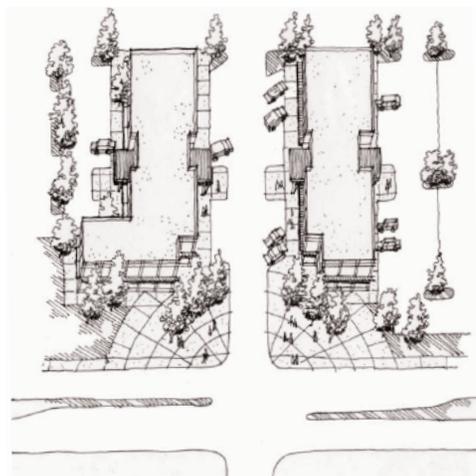


Figure A1.4: Retail buildings create a facing commercial frontage and provide visual access from the adjacent neighborhood.

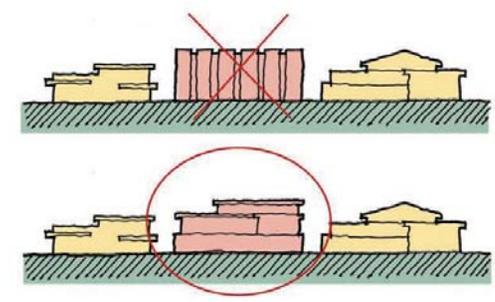


Figure A1.6: In the lower example the middle building fits better with its architectural context by use of horizontal articulation

A1.2

Buildings should be arranged to relate to each other and to create view corridors that promote visual access from the site to adjacent neighborhoods. View corridors are spaces that frame views from one location to another. Streets are one type of view corridor, pedestrian walkways are another.

A1.3

Buildings should be arranged in a manner that creates a sense of enclosure and defined space.

A1.4

A site's buildings should be arranged so that they help to frame and define the fronting and internal streets, giving deliberate form to streets and sidewalk areas.

A1.5

For infill sites, buildings should be set back from the street in accordance with the predominant line of building massing (setback) along the street in order to create a defined streetscape and sense of place.

A1.6

Buildings that have a distinctive architectural, historic or cultural context should incorporate those elements through the use of similar or compatible styles, materials, architectural detailing or other appropriate references.

A1.7

In areas where the existing context is not well-defined, new development may be recognized as a pioneer with the opportunity to establish a pattern of identity from which future development can take its cues. The site's zoning and other relevant Comprehensive Plan policies should be considered as indicators of the desired direction for the area and project.

A2. Building Mass Transition

Building mass is defined as the physical volume or bulk of a structure and can be measured by height and size of the building footprint. Building mass is an important factor that affects functional and visual compatibility between adjacent neighborhoods and different land uses. The following design guidelines promote coordination and continuity of the proposed development and the development efforts throughout the neighborhood through creation of a gradual transition between different building masses.

A2.1

Buildings at the outer edge of an activity center should be comparable in height and mass with the surrounding neighborhood.

A2.2

Adverse visual (view) impacts of a massive building should be minimized or mitigated through the use of visual buffers, neighborhood-compatible architecture and building mass and siting techniques. Large buildings should be broken into multiple buildings if possible, or into smaller building massing elements through varied rooflines, varied façade planes, upper story setback, windows on front elevation, etc. in order to reduce the apparent size of the building.

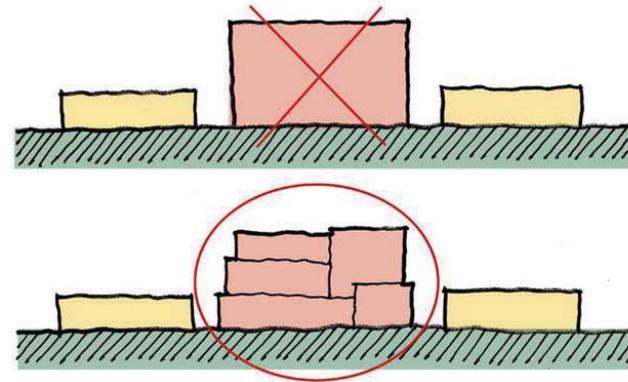


Figure A2.2a: The mass of the larger building steps down near smaller buildings and the varied roof forms reduce apparent size.



Figure A2.2b: This building uses varied roof forms and façade planes to reduce apparent size.

A. Context Fit

A1. Design
Context

► A2. Building

Mass
Transition

B. Pedestrian
Friendliness

C. Visual
Attractiveness

D. Sustainable
Design

A. Context Fit

► B. Pedestrian Friendliness

B1 Public Spaces

B2 Visual Transparency

B3 Primary Entry Identity

B4 Pedestrian Weather Protection

B5 Pedestrian-Scaled Architectural Detailing

C. Visual Attractiveness

D. Sustainable Design

B

PEDESTRIAN-FRIENDLINESS

Pedestrian-friendliness describes the quality of a built environment that attracts foot traffic and fosters a sense of safety and well-being for its users. Building design can directly impact the pedestrian-friendliness of a place by creating a setting that is comfortable for pedestrians to walk, stop and congregate. A building that attracts pedestrians may enjoy greater success for its tenants and users, whereas an unsuccessful building can create an environment that pedestrians seek to avoid. Pedestrian-friendliness is a counterpoint to the aesthetic criteria listed in the Section C.



Figure B1.1a: Shopping windows and pedestrian features activate the space between these two buildings. The structures frame a view corridor to the adjacent plaza.

B1. Public Spaces

When buildings are properly designed, they can frame special public places such as parks, open spaces, esplanades, pedestrian plazas, courtyards, outdoor seating areas, streetscape, etc, that provide safety and amenity for the development's residents, customers, employees, and for surrounding properties.

B1.1

Buildings, where feasible, should be sited or designed to create public spaces that are easily accessible from adjacent streets or sidewalks.

B1.2

Buildings should engage and define the street edge with landscaping, pedestrian walkway, and street furnishings to allow for safe and comfortable movement of pedestrians.



Figure B1.1b: Mixed-use and retail buildings frame this central courtyard feature.



Figure B1.2 a: Unified pedestrian-oriented streetscape

- i. In order to enhance pedestrian experience and to avoid the appearance of a massive parking lot between the building and the street, building setbacks to adjacent streets should be minimized wherever possible. When internal drives are utilized to organize buildings and pedestrian movement, setbacks to internal drives should be minimized wherever possible. However, where an established pattern of building setbacks exists, new buildings should be consistent with the surrounding building alignment.
- ii. Pedestrian linkage should be established among multiple building entrances and the parking lot.
- iii. All buildings should relate to street frontage through use of landscaping, pedestrian access and other public spaces. Commercial buildings are encouraged to create an active street environment and unified streetscape that encourages pedestrian activity. A combination of streetscape elements can be included: pedestrian seating, moveable tables, planters, pedestrian-scaled light fixtures (not more than 16’ tall), artwork or decorative paving, waste receptacles, bicycle racks, and other street furnishings.



Figure B1.2b: Outdoor seating and pedestrian-scaled light fixtures engage the street

- A. Context Fit
- B. Pedestrian Friendliness
 - ▶ **B1 Public Spaces**
 - B2 Visual Transparency
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
 - ▶ B1 Public Spaces
 - B2 Visual Transparency
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design

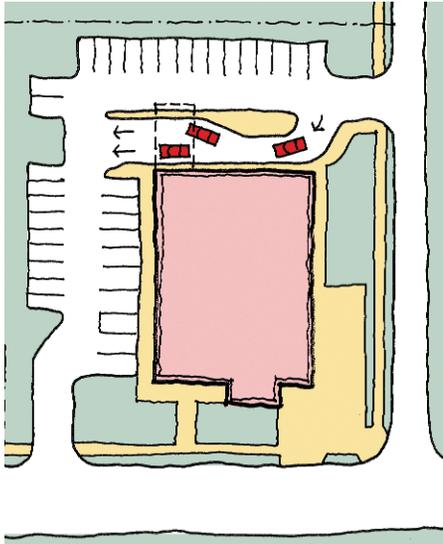


Figure B1.3:
 In these images,
 the drive-through is
 oriented away from
 the street corner, at
 the side or rear of
 the building.

B1.3

Drive-through passageways and canopies should be located to the rear or side of all buildings.

B2. Visual Transparency

Facade transparency creates a visual connection between indoor and outdoor spaces. Windows and doors narrate the uses inside the building to the observer and are a measure of how public or private these uses are intended to be. For example, storefront windows at street level are more expansive, suggesting common uses, while upper levels are smaller, indicating more private uses. The provision of windows, doors and other openings, especially at ground level, enhances the aesthetic appeal of buildings, provides visual interest and fosters a sense of security and vibrancy for pedestrians.

This guideline applies to all commercial, office and institutional uses and to façades that have street frontage or are adjacent to pedestrian access or parking areas (the red bars in the diagram below indicate the applicable façades.)

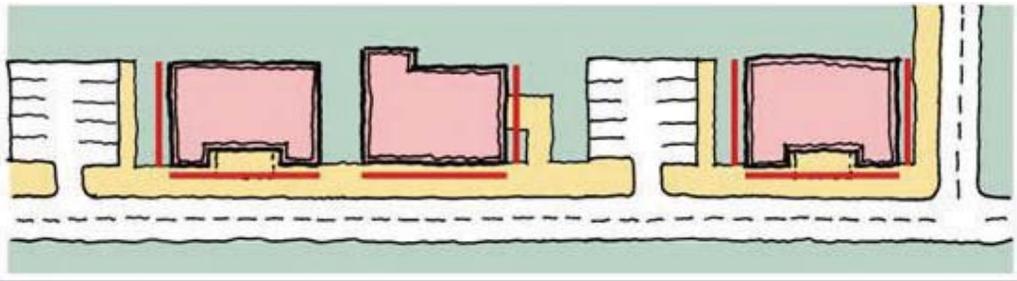


Figure B2:
Applicable façades of
the visual transparency
guideline.

B2.1

Facades of all commercial, office and institutional structures should incorporate transparent features (clear glass on windows and doors) over a minimum percentage of the surface area at ground-level. Ground level is defined as two to eight feet measured vertically at street level.

- iii. For retail uses, a minimum of 50% should be transparent.
- iv. For other uses, a minimum of 35% should be transparent.

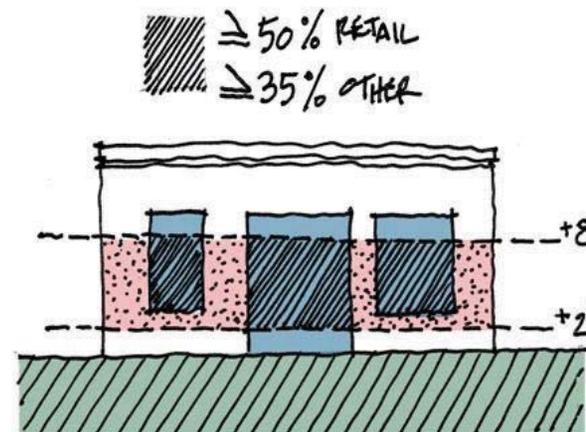


Figure B2.1: Ground-level is defined as the surface area from 2' to 8' measured vertically at street level.

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - ▶ B2 Visual Transparency
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - ▶ **B2 Visual Transparency**
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design



Figure B2.2: Clear glass allows visual access to the retail storefront display.



Figure B2.3: This grocery store incorporates ground-level mosaics in lieu of storefront windows.



Figure B2.4: Appropriately-sized clear glass windows are encouraged on upper stories.

B2.2

Glass at the ground level should be clear and unobstructed to allow visual access to the building's active interior uses such as retail display, product production or office space that create interest for pedestrians walking by to look at. Mirrored glass and dark tinted glass are not acceptable.

B2.3

Where appropriate, a ground-level façade may employ sculptural, mosaic, or relief artwork or other design features over 50% of the ground-level surface area in lieu of clear glass. Large blank walls are to be avoided on all four sides of the exterior.

B2.4

On upper levels, use of appropriately-sized clear glass windows is encouraged to create visual connection between interior building spaces and the surrounding site context. When necessary, tinted glass may be allowed to provide privacy while aesthetically and functionally serving the building. Mirrored glass is discouraged.

B3. Primary Entry Identity

An obvious and welcoming building entry can be an important architectural feature that defines the visual character of a building and improves the pedestrian environment by enhancing the user's experience.

B3.1

Primary building entrances should be oriented to a public street or a prominent public area

B3.2

Each primary building on a site, regardless of its size, should have clearly-defined, highly-visible primary entrance featuring at least two (2) of the following:

- v. Unique architectural feature (i.e. prominent tower feature or peaked roof form and/or variation in building color/material);
- vi. Recess or projection;
- vii. Pedestrian weather protection (i.e. canopy, overhang, or arcade).
- viii. Architectural detail such as raised corniced parapets over the door, arches, lattice or tile work and moldings integrated into the building structure and design;
- ix. Streetscape including outdoor patio, integral planters or wing walls that incorporate landscaped areas and/or places for sitting.

B3.3

The building entry should incorporate architectural details to form an effective transition from the size of the overall building to the scale of pedestrians.

B3.4

Glass doors and sidelights should be provided unless the design context defines other forms of entry.



Figure B3.2: Entry is clearly marked by a tower feature, variation in color and material, canopy, and recess/projection.



Figure B3.3: Arched entry with pedestrian lighting transitions the overall building to pedestrian scale.

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - B2 Visual Transparency
 - ▶ B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design

A. Context Fit

B. Pedestrian Friendliness

B1 Public Spaces

B2 Visual Transparency

B3 Primary Entry Identity

▶ B4 Pedestrian Weather Protection

B5 Pedestrian-Scaled Architectural Detailing

C. Visual Attractiveness

D. Sustainable Design

B4. Pedestrian Weather Protection

Exterior weather protection can enhance pedestrian safety and comfort and is most often provided in the form of overhead protection from rain, sun and wind such as awnings, overhangs, and arcades.

Awnings are elements added to the face of a building made of semi-permanent materials such as canvas or similar lightweight material along with metal support framework.

Overhangs are permanent structures supported from buildings to provide weather protection for building entry and pedestrian walkways

Arcades are similar to overhangs except that arcades are supported by columns in the walkway, in addition to the building face.

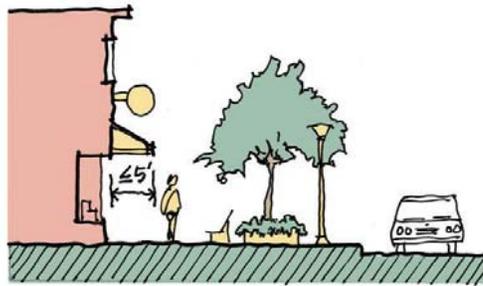


Figure B4.2a: Exterior weather protection generally should not overhang for more than 5 feet from the building.

B4.1

Exterior weather protection is encouraged for building facades adjacent to sidewalks or pedestrian areas.

B4.2

Exterior weather protection generally should not overhang from the building for more than 5 feet unless it incorporates transparent material to allow the ground level exterior to be illuminated by natural light. Arcades may be extended for more than 5 feet in depth if the ceiling is more than one story in height.



Figure B4.2b: Arcade feature provides pedestrian comfort.

B4.3

Awnings should be designed to project over individual window and door openings (i.e., mounted in the reveals of openings). Awnings that are a continuous feature, extending over several windows, doors, masonry piers, or arches, are strongly discouraged.

B4.4

Fabric awnings are encouraged; canvas awnings with a matte finish are preferred. Metal or glass awnings that are compatible with building design may be acceptable outside the downtown area. Awnings with high gloss finish and illuminated, plastic awnings are discouraged.

B4.5

Awning colors should be compatible with the overall color scheme of the façade. Solid colors or subtle striped patterns are preferred.



Figure B4.3 *AVOID* awnings extending over several windows and doors.

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - B2 Visual Transparency
 - B3 Primary Entry Identity
 - ▶ **B4 Pedestrian Weather Protection**
 - B5 Pedestrian-Scaled Architectural Detailing
- C. Visual Attractiveness
- D. Sustainable Design



Figure B4.4a: Canvas shed awnings and glass canopies enhance pedestrian character



Figure B4.4b: Acceptable use of metal awnings

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - B2 Visual Transparency
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - ▶ **B5 Pedestrian-Scaled Architectural Detailing**
- C. Visual Attractiveness
- D. Sustainable Design

B5. Pedestrian-Scaled Architectural Detailing

Pedestrian-scaled architectural details enhance the appearance of a building at the street level and are usually positioned on the first two floors the exterior. Buildings should possess a tangible and distinct design quality not only at a distance but also up close. These details enhance the pedestrian's sense of well being by allowing one to judge the size of a space, indicate design and structural quality, and provide human scale and intimacy.



Figure B5.1 and 5.2: This building incorporates masonry knee wall and decorative cornice elements

B5.1

Knee walls: A two- to three-foot masonry or concrete knee wall should be provided around the base of the building where appropriate (see Guideline C4). The use of glass curtain wall systems, particularly on pedestrian storefront facades, should be minimized.

B5.2

Cornices: Provide ornamental molding, entablature, frieze, or other roofline treatments.

B5.3

Windows and Doors: Detailed treatment of windows and doors should be provided at the ground level for facades oriented toward a public street or a pedestrian area. Such details may include decorative lintels, sills, door design, molding or framing details. The character of windows should be expressed in the window frames or special shapes such as arches, or in mullions that divide the window into smaller panes. The character of the windows should be consistent with the overall building character.

B5.4

Lighting: Distinctive wall-mounted light fixtures, such as lights with decorative shade or mounting, should be provided on the first floor of all sides facing points of public access.

B5.5

Others: In addition to the above, at least one of the following architectural elements should be provided on the building façade:

- i. Decorative surfaces such as patterned concrete masonry, stone, or brick work.
- ii. Horizontal stone or masonry banding.
- iii. Sculptures, mosaics and other artwork



Figure B5.4: Patterned masonry detail and light fixtures enhance pedestrian character.

- A. Context Fit
- B. Pedestrian Friendliness
 - B1 Public Spaces
 - B2 Visual Transparency
 - B3 Primary Entry Identity
 - B4 Pedestrian Weather Protection
 - ▶ **B5 Pedestrian-Scaled Architectural Detailing**
- C. Visual Attractiveness
- D. Sustainable Design

A. Context Fit

B. Pedestrian
Friendliness

► C. Visual
Attractiveness

C1 Architectural
Composition

C2 Articulation
& Modulation

C3 Proportions
& Rhythm

C4 Building
Base, Middle
& Cap

C5 Materials

C6 Color
Scheme

C7 Secondary
Building
Faces

C8 Service Area
Screening

C9 Exterior
Building
Signage

D. Sustainable
Design



VISUAL ATTRACTIVENESS

Many architectural design aspects combine to create visual attractiveness. The whole in successful architecture is more than the sum of the building parts. A building's attractiveness may be judged from several perspectives, from the vehicular realm at a distance to the pedestrian realm, up close. The interplay of the following nine factors significantly impacts the visual attractiveness of not only individual structures, but ultimately the character of entire blocks and sub-areas.

C1. Architectural Composition

Composition is the organization of the whole out of its parts—the conception of single elements, the interrelating of these elements, and the relating of them to the total form. Architectural composition is the art of arranging and combining distinct parts or elements of a building to form an ordered expression of architectural form.



Figure C1.1a: Building materials and massing unify the structure as a whole.

C1.1

Connectivity: The arrangement and visual flow of surface materials such as brick or stone horizontally and vertically should tie together the building as a whole. Buildings should avoid radical breaks in the elevations and massing that reduce connectivity.



Figure C1.1b: AVOID radical breaks in building materials.

C1.2

Symmetry/Balance: Symmetry is when wings of a building are matched in size and fenestration layout about a center point (often the primary entrance) in order to create visual harmony. Buildings that are not symmetrical should be massed to create visual balance between components relative to the primary entry location.



Figure C1.2a: Symmetry is duplication of elements about a centerline.



Figure C1.2b: Balance is created by tower on the left side offsetting the longer section to the right.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - ▶ **C1 Architectural Composition**
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - ▶ C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

C2. Articulation and Modulation

Building articulation and modulation help to create an intermediate level framework on the exterior of buildings, providing visual relief for large wall areas.

Horizontal articulation is created by use of materials such as stone or special masonry patterns (e.g. soldier coursing) that run along the façade of a building and tie the building together. Cornices and parapets play special roles in visually unifying the top of a building.

Vertical articulation is created by regular spacing of vertical elements such as piers, pilasters, columns and/or fenestration at regular intervals to visually transfer building weight to the ground and tie the base of a building to its top.

Building modulation is a measured and proportioned inflection or setback in a building's face. Modulation may be achieved through recessed or projecting wall offsets, entryways, porch or canopy structures, columns, piers or other features.



C2.1

All building walls should have consistent horizontal and vertical articulation to form a grid framework on four sides of the building exterior. This framework should serve to break down the overall scale of a building into intermediate scale parts. Building walls should include materials and design characteristics consistent with those on the front. The effect of a single, long or massive wall with no relation to human scale is not acceptable.

Figure C2.1a: Vertical brick articulation combines with horizontal stone/ precast concrete banding to form overall grid frameworks. Cornices unify the top of the building.

C2.2

Vertical Articulation/modulation - A horizontal wall should not extend for a distance greater than 30 feet without visually established vertical articulation and/or modulation.



Figure C2.2: Combined vertical articulation and modulation minimize the appearance of a long, massive wall.

C2.3

Vertical articulation and modulation should be carried from the base to the rooftop to visually transfer building weight to the ground.



Figure C2.3: Effective use of modulation and horizontal articulation to minimize the appearance of bulk.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - ▶ C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - ▶ **C3 Proportions & Rhythm**
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

C3. Proportions and Rhythm

Proportion is the relationship between the height and width of a rectangle. In architecture, this can refer to the overall building mass as well as openings for windows and doors within it. Some commonly used proportions that have been found to be pleasing to the eye. The most famous is the “golden section” which is a roughly 8:5 proportion. Other common proportions are 2:1, 1.5:1 and 1:1 (Figure C3). These proportions can be used for window openings and for visually established architectural elements. Repetitive use of similar proportions creates regular rhythm that helps tie a building together.

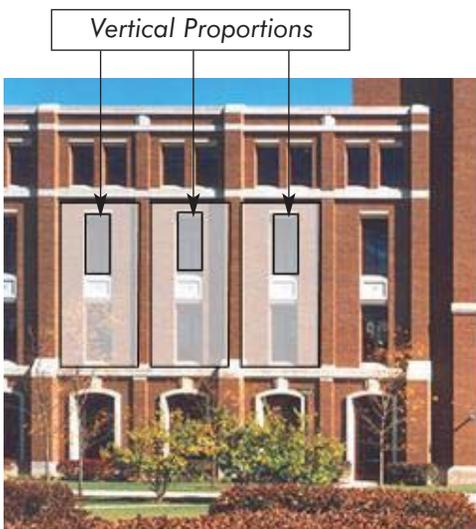


Figure C3.1 and C3.2: Articulation grid framework repeats vertical proportions.

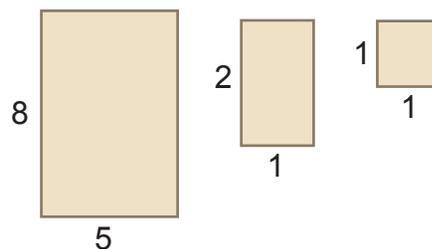


Figure C3: Common proportions for building openings and massing elements.

C3.1

Architectural articulation or modulation can be used to organize the perceived mass of larger buildings. Building features such as columns, piers, rooflines and brick patterns can divide and create orientation on a large surface. Preferred orientations are vertical. Once these proportions have been established windows and doors should reinforce the vertical orientation of the composition.

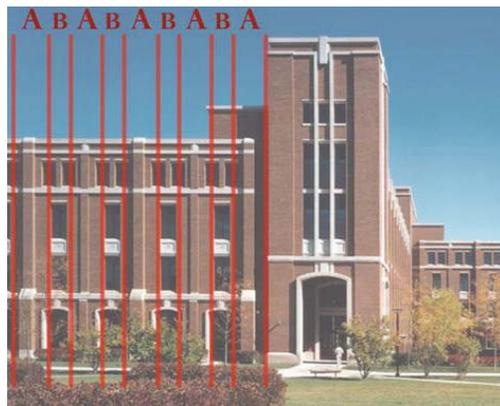
C3.2

The proportion of openings or other visually established architectural elements should be generally consistent throughout a development to create a sense of unity on building façades.

C3.3

Syncopation of Elements - Rhythm can be created by regular repetition of window openings and/or building articulation/modulation. Analogous to symphonic music, rhythm can be more complex and interesting than rote repetition of elements. Patterns such as A-B-A-B or A-B-B-A-B-B can add interest to a building elevation.

Figure C3.3: Syncopation of façade elements



C4. Building Base, Middle and Cap

Many successful buildings use an ancient formula for building design that incorporates clear identification of building base, body and cap. The origin of the formula relates to the human feet, torso and head.

C4.1

Base - A building base should be established through the use of stone, concrete or masonry materials that has a heavier appearance and makes firm contact with the earth. For one story buildings, a knee wall base should be established.

C4.2

Cap - The building cap incorporates the roof parapet or roofline and is where the building meets the sky. Because of the high visibility of the “sky line,” the appearance of a “false roof” is not acceptable.

- Building roof forms should appear integral to the building’s design on all sides of the structure and should be capped with cornice moldings. Secondary building faces on flat-roofed buildings should have a parapet height that is consistent with the primary face. The vertical façade of a building face should not be extended above the actual parapet or roofline to give the appearance of a false front (See also C7.1)
- When sections of a building face are raised to create varied rooflines, the raised sections should have substantial depth to reflect the form of an actual building.
- The rear of parapet features should be treated to the same level of detail as the front.
- Rooftop mechanicals, including condensers, vents and pipes are to be screened to their full height by parapet walls on all sides of a building. Metal screening systems are not acceptable for new construction projects and may be considered on a case-by-case basis for other projects in which the installation of a parapet is infeasible.

C4.3

Middle - The building body connects the base and cap and typically appears repetitive from floor to floor, creating a vertical proportion to the exterior. The building body is to make up the majority of the building height and should not be overwhelmed by massive roof area.

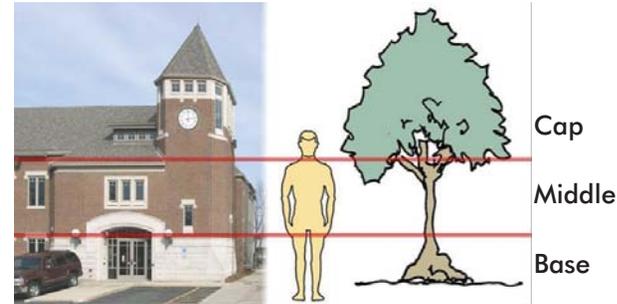


Figure C4: Diagram illustrates the vertical definition of base, middle and cap, similar to the human form and/or a tree



Figure C4.2a: AVOID extending vertical façade of a building face above the actual parapet or roofline to give the appearance of a false front. AVOID unscreened rooftop mechanical units.

Figure C4.2b: Raised parapet with substantial depth creates varied rooflines. Rooftop mechanicals are completely screened by the parapet.



- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - ▶ C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - ▶ C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

Materials

The choice of materials and texture has great visual significance and can affect the long-term appearance and maintenance of the built environment. Exterior building material is directly related to the durability of the building against weathering and damage from natural forces. Building material can be classified based on its application as:

Primary Material - The dominant material of a building's exterior walls. A primary material will typically comprise 75% to 90% of each exterior building face excluding windows and doors; however, architectural style and detailing of the building should dictate the appropriate composition of primary material.

Accent Material - A material utilized to provide architectural interest and variety on a building. Accent materials will typically comprise 10% to 25% of each building face excluding windows and doors, depending on architectural style and context. Accent materials are not to be utilized as a primary building material.

C5.1

Choose high-quality and long-lasting materials that offer texture and avoid monotonous surfaces. The look and dimension of material elements should relate to human scale. Earth tone building materials that have a pleasing visual texture, such as brick and stone, are strongly preferred.

C5.2

The type and detailing of building materials should be consistent on all sides of a structure. Materials used on primary facades, if not used for the entire building, should return along secondary sides a minimum distance based on visibility be utilized on secondary sides to maintain visual consistency.

C5.3

The following is a general guide to the acceptable use of exterior building materials. Use of alternate materials or the extent of material usage may be reviewed on a case-by-case basis, taking into consideration such factors as context and architectural style. Additional guidelines related to specific materials are provided below.



Figure C5.3.iva:
Surface texture and detailing used to reduce building massing

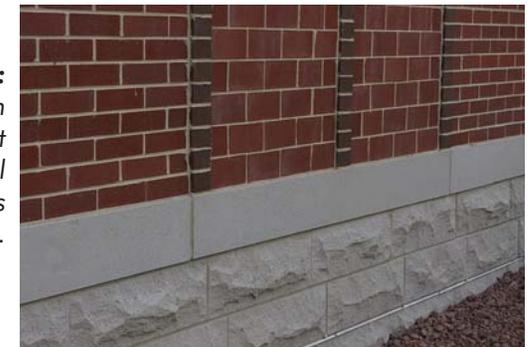


Figure C5.3.ivb:
Brick veneer is in laid in pre-cast panels. Vertical articulation features mask the joint lines.

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> i. Brick and Stone - Brick and stone convey permanence and are preferred primary and accent building materials for all building types. ii. Glass - The use of glass as a primary exterior building material may be appropriate within its surrounding context such as the I-88 Office/Industrial corridor. Where used, transparent types of glass are preferred and mirror/dark tinted glass is discouraged. iii. Cast-in-place Concrete - Cast-in-place concrete may be appropriate for industrial buildings or secondary facades if sufficient articulation and detail is provided to diminish the appearance of a large, blank wall and provide a high-quality architectural finish. Cast-in-place concrete is acceptable as an accent material; its appropriateness for primary material applications will be reviewed within the context of the design intent and surrounding character of development. iv. Pre-cast Concrete - Pre-cast is acknowledged as a durable and quality material. Concrete panels should incorporate architectural finishes that comply with the architectural articulation (Guideline C2) and detailing (Guideline B5) design guidelines. The appearance of panel joints should be minimized. On building faces adjacent to a public right-of-way or pedestrian area where the appearance of masonry is to be conveyed, masonry inlays are generally preferred to coated or painted formliner applications which simulate the look of brick or stone; however, the appropriateness of either will be reviewed based upon the context of the design intent and the surrounding character of development. v. Architectural Metal Cladding - Smooth metal panels with sufficient metal thickness to prevent “oil canning” or deterioration of the surface and promote durability are acceptable. The use of metal should account for the design intent of the building and surrounding character of development. | <ul style="list-style-type: none"> vi. Concrete Masonry Units - Concrete masonry unit (CMU) is acceptable as an accent. Split face CMU may be used as a base material in lieu of limestone. vii. Wood - Wood may be appropriate in specific historical or cultural context. viii. Fiber Cement - The use of fiber cement materials should be limited to accent applications only, except where utilized in a downtown or historic context as a substitute for wood. Fiber cement product will not be considered acceptable in fulfillment of masonry requirements. ix. Stucco - The use of stucco is acceptable for accent applications. x. EIFS - EIFS or Dryvit material is not to be used as a primary material. Where it is to be used, EIFS should be appropriate based upon the design intent of the building and limited to accent applications above the pedestrian level (approximately 10' above ground). xi. Siding - Horizontal aluminum and vinyl sidings should not be utilized for non-residential applications. xii. Other - Contemporary or specialized building materials not addressed herein will be reviewed on a case-by-case basis and will be evaluated based upon such factors as durability, quality, maintenance, architectural intent, compatibility with the provisions of these design guidelines, and environmental context. | <ul style="list-style-type: none"> A. Context Fit B. Pedestrian Friendliness C. Visual Attractiveness <ul style="list-style-type: none"> C1 Architectural Composition C2 Articulation & Modulation C3 Proportions & Rhythm C4 Building Base, Middle & Cap ► C5 Materials C6 Color Scheme C7 Secondary Building Faces C8 Service Area Screening C9 Exterior Building Signage D. Sustainable Design |
|--|---|---|

A. Context Fit

B. Pedestrian
FriendlinessC. Visual
AttractivenessC1 Architectural
CompositionC2 Articulation
& ModulationC3 Proportions
& RhythmC4 Building
Base, Middle
& Cap

C5 Materials

▶ C6 Color
SchemeC7 Secondary
Building
FacesC8 Service Area
ScreeningC9 Exterior
Building
SignageD. Sustainable
Design

C6. Color Scheme

The color scheme for a building should unify the building image and complement the building context.



Figure C6.1: A coordinated palette of colors including one primary color



Figure C6.2: Two primary colors coordinated with trim accent color.

C6.1

Coordinated Palette of Colors - A coordinated palette of colors should be created for each development that includes one primary color with up to three major accent colors and a range of minor accent colors.

C6.2

Primary Base Color - The primary color of the buildings should be compatible with adjacent buildings. Use of a single primary color will serve to tie the building together. The use of two primary colors should be limited to mixed-use or multi-story buildings where the two colors are coordinated.

C6.3

Earth Tones - Natural stone and unglazed brick represent the range of earth tones. Earth tones are preferred as the primary base color.

C6.4

Accent Colors - Accent colors should complement the selected primary base color. Accent color intensity should be related to the amount of accent color proposed, with brighter colors having less accent area.

C6.5

Bright colors - Bright colors include red, yellow, emerald green, bright blue and other colors with intense hue. These colors can detract from the overall building design and context, and should be used sparingly as accents that visually activate pedestrian areas or convey information as part of a sign.

C7. Secondary Building Faces

Secondary building faces are oriented away from pedestrian and vehicular traffic areas. Recognizing that internal building function may require the use of solid wall for some commercial structures, the following guidelines are intended to promote an aesthetic design that is consistent with the quality and appearance of primary building faces.

C7.1

Parapets - Secondary building faces on flat-roofed buildings should have a parapet height that is consistent with the primary face. Roofs that flow over the top of the wall face are not acceptable.

C7.2

Four-sided Architecture - Blank, massive building faces are to be avoided. Secondary building façades should employ massing variation, modulation and façade articulation, and architectural detailing to create four-sided architecture and to be consistent with the primary building faces.

C7.3

Drive-through - Drive-through facilities should be designed as an integral part of the building and should be constructed of the same material, style, and level of architectural detailing as the main building.

C7.4

Screening - Pursuant to the provisions of Section 5-10 (Landscaping) of the Municipal Code, landscaping and/or fences should be installed to screen the secondary building faces from adjacent residential uses.



Figure C7.2: Secondary façade treated details and articulation that are consistent with the primary building faces.



Figure C7.3: Secondary façade enhanced by use of varied rooflines, architectural detail that is consistent with front façade.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - ▶ C7 Secondary Building Faces
 - C8 Service Area Screening
 - C9 Exterior Building Signage
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness

- C1 Architectural Composition
- C2 Articulation & Modulation
- C3 Proportions & Rhythm
- C4 Building Base, Middle & Cap
- C5 Materials
- C6 Color Scheme
- C7 Secondary Building Faces

- ▶ C8 Service Area Screening
- C9 Exterior Building Signage
- D. Sustainable Design

C8. Service Area Screening

Non-residential building design should incorporate measures that effectively and attractively screen utility and refuse functions. Refer to Section 5-10 of the Municipal Code for landscaping and screening standards.



Figure C8.1: Appearance of service areas is enhanced by use of awnings, planters.

C8.1

Service Doors - Service doors should be inset in the secondary building faces to allow shadow lines. Vehicle service areas should not be visible from public rights-of-way. Where service doors will be visible from an internal roadway (i.e., on an outlot structure), service areas should incorporate some decorative features to enhance the four-sided design of the building.

C8.2

Truck Unloading - The use of internal loading areas or screen walls is preferred. Where such measures are not possible, loading should be fully screened from adjacent uses.

C8.3

Refuse Screening - Internal refuse enclosures are preferred. Where refuse cannot be located internally, enclosures should be discreetly located and constructed of a masonry material that is consistent with the primary structure. Wood, chain link, and cyclone fence refuse screening are not acceptable for new buildings.



Figure C8.2a: Internal loading area.



Figure C8.2b: Effective use of a screen wall to conceal loading functions



Figure C8.3: Refuse screening is discreet and consistent with the building

C9. Building Signage

Well-placed and appropriately-sized signs reinforce building identity and enhance functionality. Throughout the city, business signs play a significant role in creating either a positive or negative visual image. The following are guidelines for signage design. For sign regulations, please refer to Section 5-4 of the Naperville Municipal Code.

C9.1

Compatibility with Building Elements: Signs should serve to identify a business while contributing to the attractiveness and pedestrian-friendly orientation of the street.

- xiii. Signage should be anticipated and incorporated into the building's architecture. Signs should be compatible with building design in terms of relative scale, materials, and colors.
- xiv. The scale and size of signage should be appropriate for the building upon which it is located. Small storefronts should have smaller signs than larger storefronts. Signs should not dominate a building façade.
- xv. Signs should not cover or interrupt the architectural detail or ornamentation of a building's façade. Signs should not project above the edge of rooflines.
- xvi. Signs in multiple-tenant buildings should complement or enhance each other. Multiple-tenant sites should have coordinated signage.
- xvii. Customer entrances should be identified with pedestrian-oriented signs that allow pedestrians to easily and comfortably read the sign as they stand adjacent to the business.



Figure C9.1a: Scale of signage is appropriate for building. Multiple signs are displayed in a consistent manner.

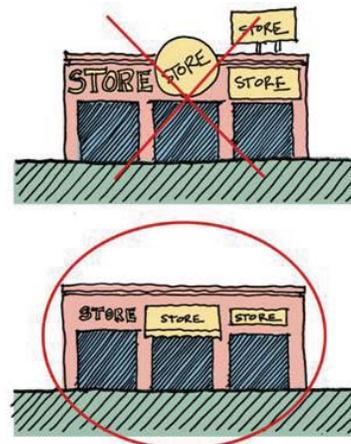


Figure C9.1b: Multiple-tenant signage should be coordinated in scale and style.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - ▶ C9 Exterior Building Signage
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - ▶ **C9 Exterior Building Signage**
- D. Sustainable Design



Figure C9.2: Coordinated retail signage relates to both the pedestrian and vehicular realms.

C9.2

Signage Materials and Style:

- i. Signs should be constructed of weather retardant and high-quality durable materials. If wood is to be used, it should be properly sealed to prevent moisture from soaking into the wood and causing the lettering to deteriorate.
- ii. Retail signs may be located on awnings over the entry and/or windows of the establishment. The shape, design and color of awnings should be coordinated with the architectural style of the building. Where multiple awnings are used, the design and color of all awnings should be coordinated.
- iii. Letter-type signs with individual letters that are affixed to the building exterior are preferred.
- iv. Internally-lit box signs with lettering printed on a translucent face are discouraged.
- v. Window lettering, either vinyl applied or painted, is acceptable to add interest to storefronts. Temporary pin-ups and flyers that cover ground-level windows should be avoided.
- vi. Decorative overhanging or blade signs may be appropriate in a coordinated retail setting where the size is controlled and coordinated with a building's façade design. Decorative overhanging or blade signs should not exceed six square feet in size with a maximum height of three feet and should be placed at a minimum ten feet above the sidewalk. They should extend no more than two feet from the face of the building.
- vii. Large signs that project from buildings are to be avoided.

C9.3**Legibility:**

- i. Sign lettering should be highly legible. Crowded lettering or typefaces that are difficult to read should be avoided.
- ii. No more than two lettering styles should be used for small signs; not more than three for larger signs.
- iii. Signs with poor contrast are difficult to read. Lettering should contrast with the sign background for maximum aesthetic and effective graphics.

C9.4**Sign Lighting:**

- iv. Direct lighting of wall-mounted signage by exterior mounted light fixtures is strongly encouraged, as such lighting allows signs to appear as an integral part of the building's façade.
- v. Individually illuminated letters (either internal or backlit) are preferred over internally illuminated box signs.
- vi. Signage lighting should not spill over into adjacent residential areas or public rights-of-way.
- vii. Electric raceways, conduits and junction boxes should be concealed from public view.

C9.5

Colors: Excessive and uncoordinated use of sign colors is to be avoided. Colors should be limited to not more than three on a single sign. Garish or fluorescent colors are discouraged.



Figure C9.4: Pedestrian-oriented building signage with exterior mounted lighting

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
 - C1 Architectural Composition
 - C2 Articulation & Modulation
 - C3 Proportions & Rhythm
 - C4 Building Base, Middle & Cap
 - C5 Materials
 - C6 Color Scheme
 - C7 Secondary Building Faces
 - C8 Service Area Screening
 - ▶ **C9 Exterior Building Signage**
- D. Sustainable Design

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness



► D. Sustainable Design

- D1 Winter City Design and Solar Access
- D2 Daylighting
- D3 Building Material & Color
- D4 Landscaping & Exterior Design
- D5 Adapted Reuse of the Buildings

SUSTAINABLE DESIGN

Sustainable or “Green” building design sets new design priorities that expand and complement the classical building design concerns of economy, utility, durability, and pleasure. Sustainable building design, construction and renovation can help to create healthier environments; reduce operating costs and conserve energy and resources. The need to address environmental sustainability in the design, construction and renovation of buildings is underscored by the following facts:

- Americans spend approximately 90% of their time indoors
- Buildings consume 65% of U.S. electricity
- Approximately 136 million tons of construction and demolition (C&D) waste is generated every year

Sustainable buildings can provide key economic, environmental and social cost benefits. Economic benefits include a reduction in operating costs (i.e., energy and water efficiency, waste management, repair and improvement) and optimization of life cycle economic performance. Environmental benefits include conservation of natural resources, increased use of renewable energy sources, improvements in air and water quality and a reduction of solid waste generation. Socially, improved health and comfort are most benefited by green building design along with a reduction of local resource impacts and infrastructure.

Where consistent with the city’s design policies; innovation in design, construction and operations using new and developing technologies and practices is encouraged. The following guidelines describe desired performance outcomes and strategies for obtaining them. Although the feasibility of implementing sustainable design guidelines should be evaluated on a case-by-case basis, a focus on human exposure to daylight, conservation of raw materials, regional product selection, energy efficiency and indigenous landscaping are increasingly important issues of concern for the City of Naperville .

In addition to the guidelines contained in this document, additional information about sustainable building and site design can be obtained from the U.S. Green Building Council, a coalition of leaders from the building industry who promote buildings that are environmentally responsible, profitable and healthy places to live and work. The organization also develops and administers the LEED (Leadership in Energy and Environmental Design) Building Rating System. LEED is recognized as a national standard in the rating and certification of high performance “green” buildings. Further details are available online at, www.usgbc.org.



- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
- D. Sustainable Design
 - ▶ D1 Winter City Design and Solar Access
 - D2 Daylighting
 - D3 Building Material & Color
 - D4 Landscaping & Exterior Design
 - D5 Adapted Reuse of the Buildings

D1. Winter City Design and Solar Access

Building design can harness sunlight to provide ample heat, light, and shade in the winter and induce summertime ventilation. Passive solar design reduces heating and cooling energy bills, increases spatial vitality, and improves comfort. As an added benefit, passive solar design principles typically accrue energy benefits with low maintenance risks over the life of the building and reduce operational and maintenance costs.

Winter City Design is building layout and design that reduces impact of cold weather and takes advantage of solar access to provide warming.

D1.1
 Building massing should consider “Winter City Design” by locating entrances facing south towards the sun, and configuring the building to block the north and west winds.

D1.2
 Buildings should be oriented to maximize passive solar heating and daylighting through south window exposure. Incorporation of passive solar heating can reduce building auxiliary heating requirements by up to 75% compared to a typical structure while remaining cost-effective on a life-cycle basis.

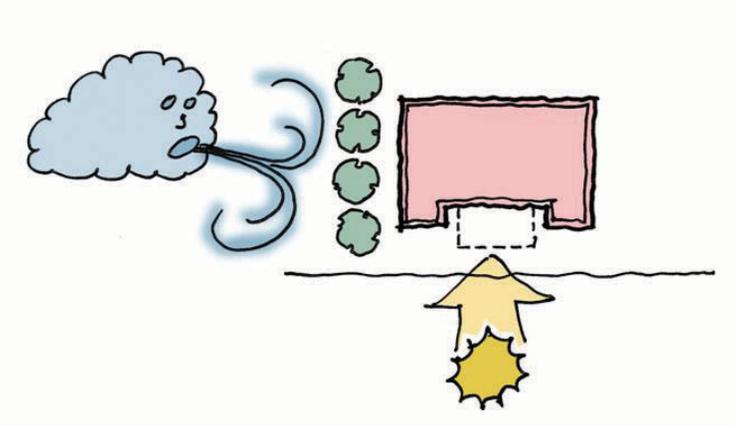


Figure D1.1: Winter City Design utilizes the sun’s energy and blocks the winter wind.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
- D. Sustainable Design
 - D1 Winter City Design and Solar Access
 - D2 Daylighting
 - D3 Building Material & Color
 - D4 Landscaping & Exterior Design
 - D5 Adapted Reuse of the Buildings

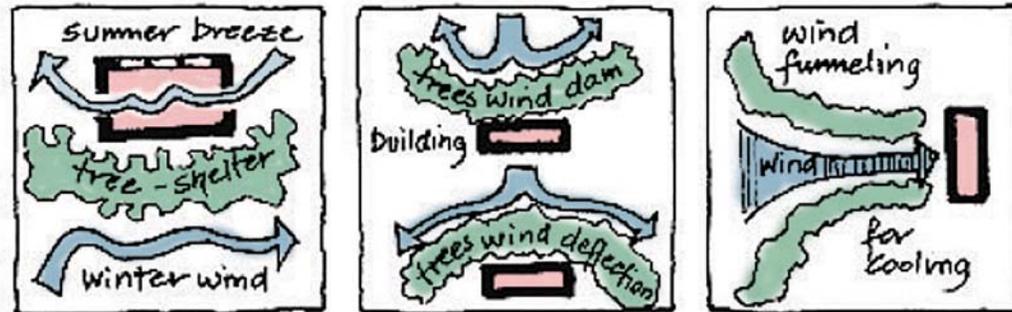
D1.3

Utilize vegetation as a wind break to reduce excessive wind speeds while allowing air flow through external spaces. Dense planting around narrow openings between structures mitigates wind-tunnel effects, impedes the movement of dust and improves thermal comfort within surrounding buildings.

D1.4

Passive solar design is most effective if the site is laid out and planted to provide shelter from the excesses of the climate. Pergolas, trees and vines can offer shade in summer but allow the sun's warmth in winter. In the warmer months, the use of roof overhangs, awnings, porches and landscape plantings can block the afternoon western sun, thereby enhancing energy efficiency and reducing glare.

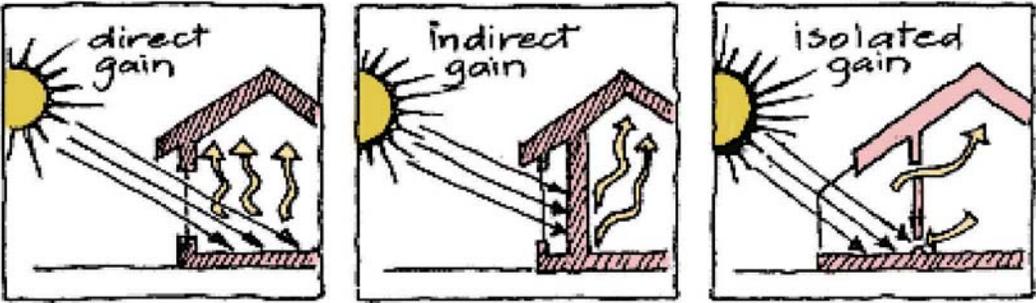
Figure D1.4: Landscaping and building placement play important roles in maximizing the benefits of wind and reducing negative impacts.



D2. Daylighting

The provision of adequate natural light can reduce the need for electrical lighting and reduce energy consumption. Daylighting is the careful balancing of heat gain and loss, glare control, and variations in daylight availability. For example, successful daylighting designs will invariably incorporate the use of shading devices to reduce glare and excess contrast in the workspace. Additionally, window size and spacing, glass selection, the reflectance of interior finishes and the location of any interior partitions must all be evaluated. Passive heating strategies use direct daylight to heat a building whereas; daylight used for lighting uses indirect lighting.

Daylighting features that may be integrated in building design include skylights, lightshelves, lightwells and windows, which may be direct or indirect depending on the desired effect or function of the space.



The following strategies should be incorporated into the design process:

D2.1
Increase perimeter daylight zones

D2.2
Allow daylight penetration high in a space. Windows located high in a wall or in roof monitors and clerestories will result in deeper light penetration and reduce the likelihood of excessive brightness due to excessive direct daylight

D2.3
Reflect daylight within a space to increase room brightness. A light shelf, if properly designed, has the potential to increase room brightness and decrease window brightness. High gloss white interior paint helps distribute reflected light - a component of indirect daylight.

D2.4
Slope ceilings to direct more light into a space. Sloping the ceiling away from the fenestration area will help increase the surface brightness of the ceiling further into a space.

D2.5
Avoid direct beam daylight on critical visual tasks. Poor visibility and discomfort (glare) will result if excessive brightness differences occur in the vicinity of critical visual tasks.

D2.6
Filter daylight. The harshness of direct light can be filtered with vegetation, curtains, louvers, or the like, and will help distribute light.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
- D. Sustainable Design
 - D1 Winter City Design and Solar Access
 - **D2 Daylighting**
 - D3 Building Material & Color
 - D4 Landscaping & Exterior Design
 - D5 Adapted Reuse of the Buildings

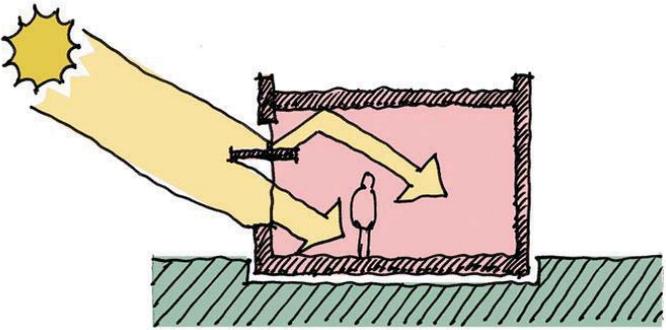


Figure D2.3: Building orientation and the use of windows can maximize winter sun and provide passive heating. Lightshelves and canopies can block summer sun.

- A. Context Fit
- B. Pedestrian Friendliness
- C. Visual Attractiveness
- D. Sustainable Design
 - D1 Winter City Design and Solar Access
 - D2 Daylighting
 - ▶ **D3 Building Material & Color**
 - D4 Landscaping & Exterior Design
 - D5 Adapted Reuse of the Buildings

D3. Building Materials and Color

D3.1

The use of locally-produced building materials can serve to preserve regional identity, bolster the local economy, and reduce pollution associated with long-distance transport.

Indigenous stone includes a range of materials, from the upper Midwest granite and stone to southern Wisconsin's Chilton slates and limestone and sandstone. It may be cut in quarries or removed from the surface of the ground (flag and fieldstone). Ideally, stone from the building site can be used as a landscape feature.

Local brick is brick manufactured throughout the Chicagoland area. Most brick plants are located near the city of Chicago. Also consider using reclaimed brick from various demolition projects in the region.

D3.2

Natural materials are encouraged to be utilized whenever possible, as they are less energy intensive to produce, have lower toxicity levels, and contribute less pollution to the environment.

D3.3

The durability of building materials should be considered - materials that do not need high maintenance or frequent placement are preferred.

D3.4

The use of materials that emit harmful or toxic chemicals should be avoided.

D3.5

The color of the building's exterior surface is an important factor in heat gain. In cooler climates, dark colored, absorptive materials are preferable.

D3.6

On flat-roofed buildings, consider utilizing "cool roof systems" which are typically light in color and reduce solar heat gain using a combination of strategies, including "cool roof" surfaces, insulation, and radiant barriers. A "cool roof" utilizes high solar reflectance and high emissivity to reflect radiation and reduce heat absorption on the roof surface. Optimal roofing materials are described below:

- White elastomeric coatings have a high reflectance (0.65- 0.78) and high emittance
- White single-ply membranes have a high reflectance (0.69- 0.81) and high emittance
- Other coated white roofing systems (such as white metal roof and painted concrete) have high reflectance (0.67- 0.85)

D4. Landscaping and Exterior Design

D4.1

Landscape materials that are tolerant of local climate, soils and natural water availability should be utilized. Where appropriate, indigenous materials are preferred.

D4.2

Site construction plans should preserve topsoil and established vegetation.

D4.3

Preserve and enhance existing natural areas such as prairie, wetland, floodplain and woodland areas as an essential component of site planning

D4.4

Encourage the utilization of natural drainage approaches such as swales and vegetated filter strips on private properties instead of storm sewers.

D4.5

Encourage water efficiency in order to reduce irrigation demand, recapture storm water, and reduce building water consumption. Encourage the utilization of drought tolerant plants, drip irrigation, stormwater storage system, green roofs, pervious pavement, etc.

D5. Adaptive Reuse of the Buildings

While buildings design primarily serves the practical and functional purposes of the current owner or tenant, they should also consider the adaptability of the building to other uses. Corporate prototype designs are discouraged if they are unable to be converted for adaptive reuse of future businesses. They should be modified to be consistent with the historical and architectural context of the surrounding buildings and Naperville's design standards.

A. Context Fit

B. Pedestrian Friendliness

C. Visual Attractiveness

D. Sustainable Design

D1 Winter City Design and Solar Access

D2 Daylighting

D3 Building Material & Color

► D4 Landscaping & Exterior Design

D5 Adapted Reuse of the Buildings

Appendix I. Public Input Process

Input on community design preferences was obtained through a stakeholders' workshop and web-based visual preference survey. The stakeholders' workshop was conducted on December 18, 2006 and included diverse participants in the development process, including attorneys, developers, architects, city staff and residents. The resulting information formed the basis of the building design guidelines as they relate to the following design elements:

1. Composition, Rhythm and Proportions
2. Transparency, Entry and Detailing
3. Materials
4. Exterior Lighting
5. Exterior Signs

Stakeholders agreed that there is a need to better define acceptable design guidelines. Through discussion of specific building images there was clear feedback about acceptable design for Naperville and design that needs improvement.

An online visual preference survey was made available to city residents from December 27, 2006 to January 14, 2007. A total of 127 completed responses were received. Survey respondents were asked to rate their preferences for the images with respect to various topics.

The community values expressed through the survey was similar to those obtained at the stakeholders' meeting. Table 1 summarizes the design preferences by Section.

The stakeholder group met again to discuss the first draft of the design guidelines on March 8, 2007. The group commented on submittal requirements and procedural issues related to the design guidelines. After several revisions to address the stakeholder group's comments, staff posted the draft document on the city's website in April, 2007 and also conducted a public open house on May 22, 2007 to receive community input. An updated draft was also sent to stakeholders on May 17, 2007. One resident responded to the draft with suggestions to improve Section D (Sustainable Design), and one person attended to the open house. No further comments were received.

Staff made additional revisions based on public comments received and forwarded the final draft to the Plan Commission for consideration during their July 25, August 8, and September 19, 2007 meetings. A total of two persons spoke at these meetings. Based on the input from the two speakers as well as input from the Plan Commission, staff revised the draft document with respect to building material, visual transparency, and public spaces guidelines.

Table 1. Community Design Preference Summary

Section 1: Composition, Rhythm and Proportions

Preferred Image Characteristics	NOT Preferred Image Characteristics
Composition that ties together the building as an identifiable whole	Discontinuity of building elements
Building faces that use a regular repetition of elements to create a harmonious rhythm	Many different sizes of forms that are proportionally dissident
Buildings faces that are organized with attractive proportions	Unusual building forms that seek to draw attention to themselves
Smooth transition between differing materials	
Large building mass broken down into multiple façade elements with interesting roof lines - particularly for large one-story buildings	
Buildings with clearly discernable base, middle and building cap	
Parking garages that attractively screen the cars from the exterior	

Section 2: Transparency, Entry and Detailing

Preferred Image Characteristics	NOT Preferred Image Characteristics
Building entries that are clearly identified by the architecture	Canopies that overhang too far in front of the building entries and make them dark
Glassy entries that have canopy or awning weather protection	Lack of pedestrian-scaled architectural detailing
Use of pedestrian arcades that allow natural light to the building face	Massive buildings with little architectural relief
Buildings with architectural details that are of a size and character that nearby pedestrians can easily see and enjoy	Buildings with hard to find entries
Pedestrian outdoor seating	
Pedestrian lighting	

Table 1. Community Design Preference Summary (cont.)

Section 3: Materials

Preferred Image Characteristics	NOT Preferred Image Characteristics
Buildings that use brick and stone in traditional architectural forms	Precast concrete panels with no detailing
Buildings that use metal panels and glass window walls with a more modern character	Building faces with different materials that are not well integrated
Building faces with adjacent landscaped planters and plantings	Buildings faced with EIFS and corrugated metal panel
	Buildings with too many colors

Section 4: Exterior Lighting

Preferred Image Characteristics	NOT Preferred Image Characteristics
Buildings with ground level glass and interior lighting of active uses	Building windows that are interior lit but lack visible active uses
Unique elements of buildings with special highlighting	
Back-lit exterior signage elements that complement the building elevations	
Pedestrian-level lighting	

Section 5: Exterior Signs

Preferred Image Characteristics	NOT Preferred Image Characteristics
Back lit exterior signs that fit with building composition	Exterior box signs
Signs scaled for pedestrians near sidewalks	Signs not easily visible to pedestrians on the sidewalk

Appendix II: Design Review Procedure

Preliminary Staff Review

A key objective of this document is to improve the design review process and to facilitate applicants to obtain design approval. Currently, applicants may initiate the review process through formal design review submittals that do not fully comply with the design guidelines. Given the quantity and quality of materials required for formal review, it may prove costly and time-consuming to begin the design review process without a full understanding of the City's design expectations. Therefore, preliminary staff review of building design concepts prior to formal submittal of project materials is required for all projects in order to evaluate the applicant's conceptual design approach and assist the applicant in understanding the City's design guidelines and related policies.

It is important to note that completion of a preliminary staff review shall not constitute endorsement or approval of building plans or elevations. However, a preliminary staff review is expected to result in higher quality submittal of materials for formal review that would more likely meet design guidelines contained within this document.

The following materials should be submitted for a preliminary staff review:

- Statement of design concept
- Preliminary building elevation drawing or sketch
- Building material samples as appropriate

Formal Design Review Submittals

Subsequent to the preliminary staff review and as part of the building permit or development approval process, applicants will be required to submit materials for formal design review. Finalized materials may ultimately be forwarded to the Plan Commission and/or City Council for consideration as part of a development proposal. Based upon specific project components, applicants *may be requested* to submit some or all of the following materials:

1. **Statement of Design Intent** - A brief written description, prepared by the architect or designer, of the project design intent. A discussion of how the proposed building complies with the Building Design Guidelines may also be appropriate.
2. **Building Elevations** - Realistic, colored building elevations of all building faces, as well as black and white line drawings will be required. Building elevations should be legible and scaled, with all exterior materials and colors identified and keyed on the elevation drawing. Include information on façade finishes, windows, trim, doors, architectural elements, roofing, mechanical screening and other elements as appropriate. For larger buildings, a keyed illustration of the building footprint may also be appropriate.
3. **Perspective Illustration** - Realistic perspective drawing of the building, which may also indicate the outline of adjacent improvements as appropriate.
4. **Material Samples** - Physical samples may be submitted for all proposed exterior materials. Product brochures, specification sheets, and photos may be submitted. Materials and colors must be labeled and keyed to the elevation drawings.
5. **Photos** - Eye-level photographs of the subject property and features surrounding the site, which should be labeled indicating the location and direction of photos. Applicable images may include existing adjacent structures, vegetation and other significant features.
6. The following materials are required if not otherwise provided as part of the engineering plan or landscape plan submittal:

Site Plan - A contextual site plan of the proposed project illustrating the perimeter footprint of adjacent buildings, roadways, parking, landscaping and other key features.

Streetscape Documents - Illustration of pedestrian-oriented streetscape features, including catalog cuts of street furnishings, light fixtures, and proposed plant materials.

Appendix III. Building Design Guidelines Checklist

The following checklist will be used to evaluate the project’s compliance with the building design guidelines. A copy of the checklist will be provided to applicants for their review in preparing building plans and will be utilized by staff in the formal design review process. The categories in the checklist correspond to the building design guidelines in Section III of this document. There are three options for each category: “Conform”, “Not Conform”, or “Not Applicable (N/A)”.

“Yes” means the project meets design expectation for a particular guideline.

“No” means that the project does not meet the design expectation for a particular guideline and revisions are required.

“Not Applicable (N/A)” means that the particular guidelines are not applicable (N/A) for specific projects. Refer to Section III Design Guidelines for specifics on applicability.

A. Context Fit

- A1. Design Context
- A2. Building Mass Transition

YES	NO	N/A	COMMENTS

B. Pedestrian-Friendliness

- B1. Public Spaces
- B2. Visual Transparency
- B3. Primary Entry Identity
- B4. Pedestrian Weather Protection
- B5. Pedestrian-Scaled Architectural Detailing

YES NO N/A COMMENTS

C. Visual Attractiveness

C1. Architectural Composition

C2. Horizontal and Vertical Articulation

C3. Proportions and Rhythm

C4. Building Base, Middle and Cap

C5. Materials

C6. Secondary Building Faces

C7. Service Area Screening

C8. Color Scheme

C9. Exterior Building Signage

YES	NO	N/A	COMMENTS

D. Sustainable Design

D1. Winter City Design and Solar Access

D2. Daylighting

D3. Building Material & Color

D4. Landscaping & Exterior Design

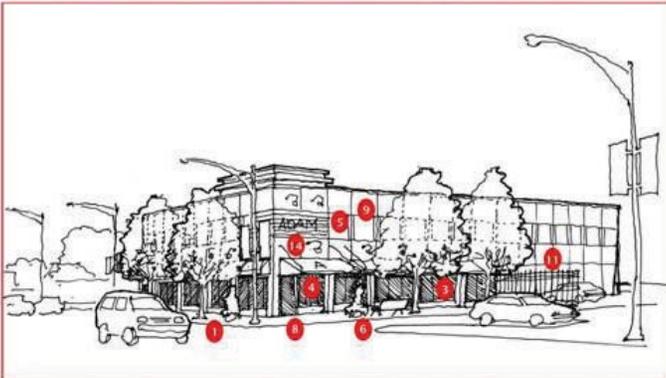
D5. Adapted Reuse of the Buildings

SUMMARY EVALUATION

--	--

Appendix IV. Façade Renovation Toolkit

The following methods may be utilized for retail commercial building owners/tenants to make improvements that are consistent with the intent of the Building Design Guidelines. These tools are intended to encourage façade renovations that will improve the value and appearance of existing older buildings through minor façade changes. Major rebuilding/renovation projects are subject to separate review and are subject to the building permit and design review process.



1. Add landscaping materials at the base and perimeter of the building to enhance building appearance and provide weather protection.
2. Replace mirror/dark tinted storefront glazing with transparent glass to promote pedestrian comfort and activity. Consider the overall building composition and design in selecting replacement windows.
3. Activate ground level windows with attractive product displays or active working space.
4. Add awnings to the façade that improve the appearance of the building and provide pedestrian weather protection.
5. Replace or add building signage to identify the building entry and complement with the architecture of the façade.
6. Add pedestrian amenities, such as seating, tables, planters, waste receptacles etc., to outdoor pedestrian areas
7. Add pedestrian lighting along walkways.
8. Replace existing entry doors with updated or decorative doors. New door openings should complement existing building proportions and be compatible with exterior detailing.
9. Upgrade the existing façade design to provide visual balance and vertical or horizontal articulation elements.
10. Upgrade secondary building faces by adding parapets and providing layers of landscaping or fencing to screen utility areas.
11. Enclose service areas to reduce visibility to neighboring uses.
12. Replace existing EIFS material with upgraded exterior building materials or accents, such as brick or stone.
13. Simplify the building color palette to include one primary earth tone color and several accent colors.
14. Highlight attractive portions of the façade with night lighting feature that does not have spill-over glare.
15. Select new signage that is integrated with the façade or renovation improvements, taking into consideration color, scale and style.
16. Replace internally lit box-style sign with wall mounted letter or painted sign on the face of the building. Light the new sign with surface lighting.

Appendix V: Sustainable Design Resources

The following section provides a list of several resources that provide information, leading edge building technology research, local/regional information. Although not exhaustive, these resources may assist in planning and construction of a green building.

Associations and Non-profit Organizations

US Green Building Council

The U.S. Green Building Council (www.usgbc.org) is a non-profit organization comprised of leaders from every sector of the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. The more than 10,500 member organization and its network of 75 regional chapters are united to advance our mission of transforming the building industry to sustainability. There are currently Two chapters serving the state of Illinois. They are:

Central Illinois Chapter

201 W Springfield Ave
Champaign, IL 61820
217-355-5399

Chicago Chapter

Chicago Center for Green Technology, 2nd Floor
445 N. Sacramento Boulevard
Chicago, Illinois 60612
773-265-5911

Sustainable Buildings Industry Council (SBIC)

The SBIC (www.sbicouncil.org) has been a national leader in defining the 'whole building approach to design' since its inception in 1980. This approach—which results in high performance buildings—favors sustainability as a prominent design objective. In addition to sustainability, buildings must maintain the proper balance of seven other attributes: aesthetics, accessibility, cost effectiveness, flexibility, productivity, safety and security. In addition to Green Building Guidelines, the SBIC offers the seasoned Green Team various tools and programs to help push the Green building even Greener.

New Buildings Institute (NBI)

The NBI (www.newbuildings.org) works with national, regional, state and utility groups to promote improved energy performance in commercial new construction. The New Buildings Institute manages projects involving building research, design guidelines and code activities to ensure all elements of this chain are available for use by energy efficiency programs throughout the United States. Additionally, NBI serves as a carrier of ideas between states and regions, researchers and the market.

American Council for an Energy-Efficient Economy (ACEEE)

The council (www.aceee.org) publishes books and papers on industrial, commercial, and residential energy-efficiency. In addition, it provides information on Federal and state incentives for energy efficiency measures.

American Institute of Architects, Committee on the Environment (AIA COTE)

The Committee on the Environment (www.aia.org/cote) is a professional interest area (PIA) of the AIA. The committee

works to create sustainable buildings and communities by advancing, disseminating, and advocating environmental knowledge and values to the profession, industry, and the public.

Alliance to Save Energy (ASE)

The Alliance to Save Energy (www.ase.org) strives to be the world's premier organization promoting energy efficiency to achieve a healthier economy, a cleaner environment and greater energy security. The ASE is celebrated for its wealth of information on home energy rating systems, building codes, and efficient new construction and design. The organization's website at [ase.org](http://www.ase.org) has an excellent energy efficiency clearing-house providing commercial and industrial leading edge information on new technologies and sources for financial support.

American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. (ASHRAE)

ASHRAE (www.ashrae.org) is the preeminent professional organization for HVAC&R professionals. Their mission is to advance the arts and sciences of heating, ventilation, air conditioning, refrigeration and related human factors to solve the evolving needs of the public. They are responsible for publishing numerous books and publications, including the monthly ASRAE Journal. Their recently released "Green Guide" is intended to help HVAC&R designers in producing green buildings.

National Association of Home Builders (NAHB)

The NAHB (www.nahb.org) exists to represent the building industry by serving its members and local builders associations so that they may promote safe and reliable housing. NAHB also provides its members with resources on Green Homebuilding, materials and the national green building program to provide a template for voluntary, market-driven green building developed in cooperation with the International Codes Council (www.iccsafe.org) and is based on the NAHB's Model Green Home Building Guidelines.

Urban Land Institute

As the preeminent, multidisciplinary real estate forum, ULI facilitates the open exchange of ideas, information and experience among local, national and international industry leaders and policy makers dedicated to creating better places. The Urban Land Institute (www.uli.org) provides leadership in the responsible use of land and in creating and sustaining thriving communities worldwide and is an excellent source of smart growth case studies.

There are many other Associations and organizations not listed here however, we suggest seeking out the increasing number of professionals that specialize in Green Building Design and Engineering who can also provide specific information as to your design and construction goals.

Building Materials Guides Technical Resources

Advanced Buildings, Technology & Practice

(<http://www.advancedbuildings.org/>)
Provides information about technologies and practices that improve the energy and resource efficiency of commercial and multi-unit residential buildings

Daylighting Collaborative (<http://www.daylighting.org/>)

The Daylighting Collaborative provides information and

resources to design professionals to assist in efforts to incorporate daylighting into mainstream design and construction.

Environmental Protection Agency Comprehensive Procurement Guidelines

(<http://www.epa.gov/cpg/products.htm>)
Provides the EPA's list of designated products and the accompanying recycled-content recommendations.

Federal Energy Management Program – Buying Energy-Efficient Products

(<http://www1.eere.energy.gov/femp/procurement/>)
Provides product specifications, interactive energy cost calculators, model procurement language, and other resources to help in the purchasing of energy-efficient products.

Green Seal (<http://www.green Seal.org/>)

Green Seal provides science-based environmental certification standards to help manufacturers, purchasers, and end users alike make responsible choices that positively impact business behavior and improve quality of life.

Greenguard Environmental Institute (www.greenguard.org)

Greenguard Environmental Institute (GEI) is an industry-independent, non-profit organization that oversees the GREEN-GUARD Certification Program. As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments, and buildings.

Sustainable Building Sourcebook

(<http://www.greenbuilder.com/sourcebook/>)
Presents specific and general recommendations for homes and commercial development that can be considered environmentally friendly. The Sourcebook is directed to those with knowledge of the building trades and building terminology, but contains useful information for interested and motivated lay persons.

Whole Building Design Guide (<http://www.wbdg.org/>)

The WBDG provides one-stop access to up-to-date information on a wide range of building-related guidance, criteria and technology from a 'whole buildings' perspective. The WBDG web site is offered as an assistance to building professionals by the National Institute of Building Sciences (NIBS).

Financing, Grants, Rebates, Incentives

Tax Incentives Assistance Project

(<http://www.energytaxincentives.org/>)
Provides information necessary to make use of the federal income tax incentives for energy efficient products and technologies passed by Congress as part of the Energy Policy Act of 2005.

Database of State Incentives for Renewables and Efficiency (DSIRE)

(<http://www.dsireusa.org/>)
DSIRE is a comprehensive source of information on state, local, utility, and federal incentives that promote renewable energy and energy efficiency.

City of Naperville Renewable Energy Program

(<http://www.naperville.il.us/renewable.aspx>)
Provides information about an optional program to allow property owners to purchase renewable energy

Council of Development Finance Agencies

(<http://www.cdfa.net/>)
The CDFA is a national agency dedicated to the advancement of development finance concerns and interests and represents over 200 private, public and non-profit development entities.

Delta Institute (<http://www.delta-institute.org/>)

The Delta Institute was formed in 1998 to develop and test fresh ideas for bringing about sustainable communities. In addition to advocating for policies that promote conservation and enhancement of resources, the organization provides collaborative, financing and training to advance its mission.

ShoreBank (www.shorebankcorp.com)

ShoreBank Corporation is a community development and environmental bank holding company that invests in people and their communities to create economic equity and a healthy environment. ShoreBank makes conservation loans to customers who are making changes to improve their use of key resources like energy, water, materials and land. These loans help them reduce operating costs by using resources more efficiently, lessen solid waste and improve air and water quality.

Government Resources and Data

Illinois Waste Management and Research Center

(<http://www.wmrc.uiuc.edu/>)
The WMRC Green Development and Construction Program offers environmental assistance and education to Illinois developers and builders of residential, commercial, and industrial facilities. The following services are offered:

- Green Building: assist in the consideration of sustainable building alternatives that can be considered along with the reuse of demolition material.
- Waste Management Planning: identify the components of jobsite waste streams, understand the conditions affecting waste management decisions, and establish plans to reduce, recycle or reuse construction and demolition waste.
- Construction and Demolition Waste: help find viable sources for recycling construction waste, establishing job-site recycling programs or finding waste recycling firms that offer unique construction contracts.
- Sustainable Energy: conduct an energy assessment to focus on reducing energy usage and developing methods to monitor, measure, report, and manage building energy consumption.
- Regulatory Issues: assist to ensure that all environmental requirements are met including air, water and land permits and waste management planning.

Department of Energy Building Technologies Program

(<http://www.eere.energy.gov/buildings/>)
Works in partnership with states, industry, and manufacturers to advance the research and development of energy-efficient building technologies and practices both new and existing buildings; improve building codes, and guidelines for efficient energy use; and educate homeowners, builders, and developers about the significant returns they can achieve by adopting energy-efficient technologies and practices.



City of Naperville
400 South Eagle Street
Naperville, IL 60540

