

SITE DESIGN STANDARDS

Town of Cary
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Cary, North Carolina 27513
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Table of Contents

1. Introduction Page 1

- 1.1 Purpose and Application
- 1.2 The Seven Design Principles
- 1.3 Core Site Design Standards



2. Site Planning and Design Page 3

- 2.0 Procedures for submission

3. Vehicle Circulation Page 4

- 3.1 Street Network
- 3.2 Parking Layout



4. Building Placement Page 8

- 4.1 Building Placement
- 4.2 Entrances
- 4.3 Service / Loading
- 4.4 Outparcels



5. Pedestrian Circulation Page 12

- 5.1 Pedestrian Connectivity
- 5.2 Building Breaks

6. Community Space Page 15

- 6.1 Community Gathering Space
- 6.2 Entrances
- 6.3 Best Management Practices (BMPs)



Appendix Page 19

- Seven Design Principles
- Acknowledgements

1. Introduction

Purpose and Application

These **Site Design Standards** replace the *Design Guidelines Manual adopted in 2001*. The purpose of this project is to improve the application of the seven design principles through clearly defining usable standards, increasing consistency of staff and developer/applicant interpretations, and facilitating creation of desired results in site planning. A major focus of this project has been to develop specific and measurable, yet flexible, criteria and standards related to optimal site layout and thoughtful building placement.

The Town of Cary is well-known for its high standards for urban design and project quality. Over the years, Cary has codified a wide range of Development standards through its Community Appearance Manual. The purpose of this project is to add specific Site Design Standards for all types of new development and re-development in Cary. These Standards apply to all subdivisions and site plans submitted to the Town after July 26, 2012. These standards should consistently yield vibrant, pedestrian-friendly, well-designed places.

The Seven Design Principles

The following seven design principles apply to all types of development:

- 1. Create Human Scale:** Create a comfortable relationship between buildings and spaces that is relatable to the human form.
- 2. Create Sense of Place:** Creates an impression of the development that separates it from other developments and remains in your mind when you leave the area.
- 3. Connect Uses:** Create clear pedestrian and vehicular pathways between developments and intermingle compatible uses.
- 4. Provide Transitions:** Create effective and smooth transitions between adjacent uses.
- 5. Reduce Parking Impacts:** Design parking to reduce the “sea of parking” one commonly finds at retail centers and “garagescapes” in neighborhoods.
- 6. Plan for Pedestrians, Bicyclists, and Transit users:** Create logical connections for bike or pedestrian traffic between destinations, and provide transit stops at major developments.
- 7. Provide Open Space:** Provide outdoor space that is as integral to an overall development plan as the construction of buildings and roads.

Refer to the Appendix for additional information on the seven design principles.

Core Design Standards

Following are four design standard themes that support and strengthen the Town of Cary's seven design principles.

- **Vehicular Circulation** - *Vehicular circulation within a site is critical for usability of a place.*
- **Building Placement** - *Context, environment, and circulation contribute to optimum building placement.*
- **Pedestrian Circulation** - *Walkability is an important part of the community. Well-defined vehicular circulation routes and well-designed parking areas contribute favorably to pedestrian circulation. All types of developments must include functional and pleasant pedestrian circulation routes into and within a site.*
- **Community Spaces** - *Careful attention to the design and integration of community gathering space into a development contributes to successful placemaking. Open space for community gathering will include a combination of preserved natural areas, plazas, squares, greens, and/or playgrounds.*

Site design solutions that are different or better than what is shown in this document may be submitted to and reviewed by the Planning Director.



2. Site Planning and Design

The process of site planning and design is a multi-disciplinary problem-solving operation often involving planners, landscape architects, engineers, architects, as well as community members. This process requires a logical approach as well as the ability to make subjective design interpretations. The table below shows the five steps of the site planning and design process with descriptions of each step and applicable Town of Cary reference documents.

| Step | Description | Reference Documents |
|-----------------------------------|--|---|
| <i>Site Analysis</i> | Determine developable area | Developer-driven and Site Design Standards |
| <i>Programming</i> | Goals, objectives, and elements | Developer-driven |
| <i>Conceptual Design</i> | Circulation, major access points, building placement | Site Design Standards |
| <i>Design Development</i> | Form, dimension, indication of materials | Land Development Ordinance (LDO), Community Appearance Manual (CAM), and Site Design Standards |
| <i>Construction Documentation</i> | Final drawings and specifications | Land Development Ordinance (LDO), Community Appearance Manual (CAM), and Town of Cary Standard Specifications and Details |

Site analysis is typically the first step in the Site Planning and Design Process, and is an important step for all types of development and redevelopment. The main function of a site analysis is to identify developable areas. During the site analysis process, identifying unique features of a site, including contextual patterns, is an important task. This unique feature often leads to creative ideas for site design and has the potential to contribute to a development's sense of place. One of the most effective ways to meet the Site Design Standards is to design with a site's context in mind.

3. Vehicular Circulation

Vehicular circulation within a site is critical for usability of a place. When laying out vehicular circulation, the following standards must be met.

3.1 ORGANIZED STREET NETWORK

- Create an organized street network emphasizing connectivity.
- Provide a hierarchy of a street network within the site
- On small sites, roughly five acres or less, a complete street network may not be possible and/or may be completed through connections with adjacent development.
- Limit dead end streets in non-residential developments.
- Limit cul-de-sacs in residential development.



MAJOR STREETS ARE CONNECTED WITH AN INTERNAL STREET (SHOWN IN YELLOW).

3. Vehicular Circulation



PROVIDE AN ORGANIZED STREET NETWORK.
DEFINE STREET FRONT WITH SIGNATURE BUILDINGS



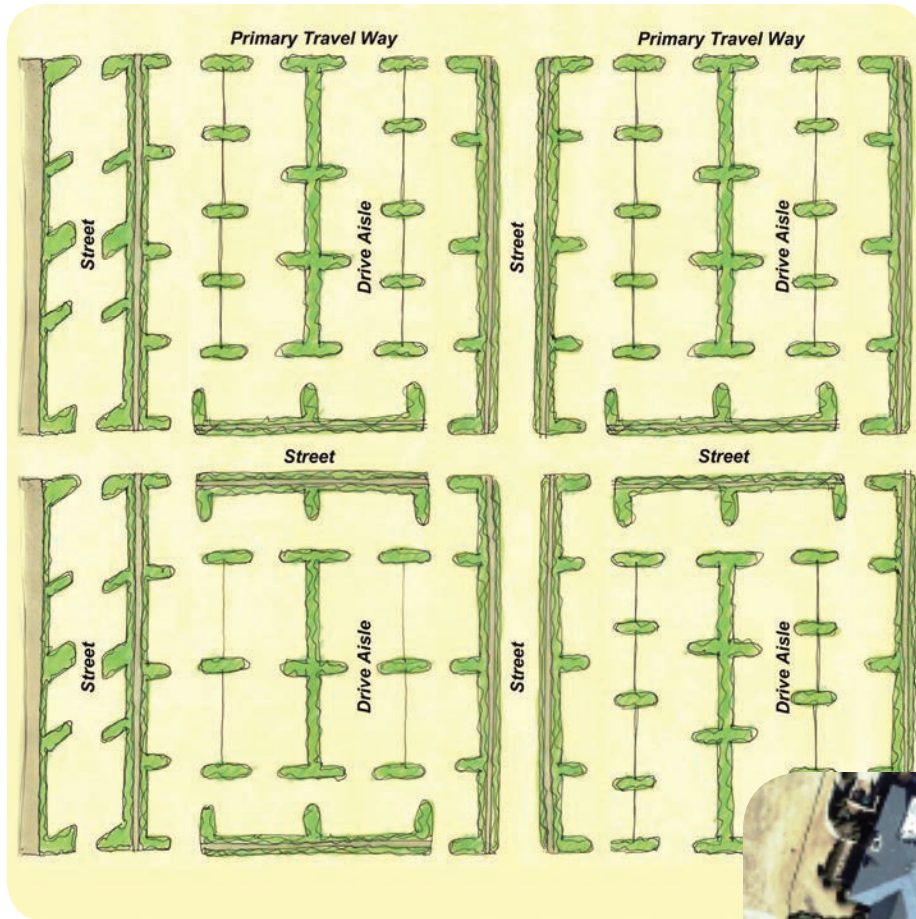
STREET STUBS AT THIS PROJECT'S EDGE IDENTIFY CONNECTIONS TO FUTURE DEVELOPMENT

IN THE ILLUSTRATION ABOVE, THIS CONVENTIONAL CENTER COULD BE IMPROVED BY CREATING AN ORGANIZED STREET NETWORK WITHIN THE SITE. THE WIDER DASHED LINE SHOWS HOW AN INTERNAL STREET COULD CONNECT THE MAJOR STREETS ON THE PERIPHERY OF THIS DEVELOPMENT. THE NARROW DASHED LINES SHOW WHERE ADDITIONAL INTERNAL STREETS COULD BE PLACED.

3. Vehicular Circulation

3.2 PARKING LAYOUT

- When designing a parking area, use a primary travel way to link a street to a drive aisle.
- Parking pods, up to 200 spaces each, will be separated by streets and/or pedestrian plazas.
- Place at least 30% of parking surface area to the rear of side of buildings and / or away from public streets.



PARKING POD DIAGRAM



DEFINING PARKING WITH PERIMETER LANDSCAPING AND INTERNAL LANDSCAPING TO DEFINE PARKING PODS

3. Vehicular Circulation



THE PARKING LOT ON THE LEFT HAS BEEN DIVIDED INTO TWO PODS BY ADDING A STREET. THIS ELIMINATES THE "SEA OF PARKING" PERCEPTION.

4. Building Placement

Context, environment, and circulation contribute to optimum building placement. When considering building placement, the following criteria must be met.

4.1 BUILDING PLACEMENT

- All buildings must front a public or private street. Arrange buildings to orient to and help define the street, to frame corners, to encourage pedestrian traffic, and define a space.
- Within Mixed Use Overlay Districts, building entrances must address major streets and/or intersection corners.
- Canopy drive-thrus shall not be oriented to thoroughfare or collector roadways in Mixed Use Overlay Districts.



COMMERCIAL / RETAIL SITED TO FRONT A MAJOR STREET



RETAIL / OFFICE DEFINING THE EDGE OF A PUBLIC STREET.



BUILDINGS SITED ADJACENT TO A MAJOR STREET WITH ONE DOUBLE-LOADED BAY OF PARKING IS ACCEPTABLE BUT NOT PREFERRED



BUILDING ENTRANCE FACING A STREET

4. Building Placement

4.2 ENTRANCES

- Buildings shall have entrances on adjacent streets.
- A building break and/or a pedestrian plaza may function as access to an entrance
- Building facades, with an entrance or treated architecturally as an entrance, are required when sited adjacent to thoroughfare or collector roadways.
- All building facades facing thoroughfare or collector roadways must meet transparency requirements.
- Public art easements or integrated public art features may be included to define building entrances.



BUILDING ENTRANCE FACING A PUBLIC STREET



MULTIFAMILY ENTRANCES ALONG A STREET



OFFICE BUILDING ENTRANCE LOCATED ON INTERNAL STREET



BUILDING ENTRANCE DEFINED AT CORNER AND FACING THE STREET

4. Building Placement

4.3. SERVICE / LOADING

- When siting a building or buildings, consider the best placement for loading facilities, trash enclosures, and other similarly items so they may be screened from public view. Such facilities should also be screened from and sited away from any nearby residential areas. Service and loading areas shall not face a thoroughfare or collector street.
- Service areas, electrical boxes, and similar, must be screened from public view. Provide a continuous evergreen hedge minimum six (6') feet high at maturity and /or a six (6') foot wall construction of architecturally compatible materials.



UTILITY AND LOADING AREA SCREENED BY MASONRY WALLS



LANDSCAPE SCREENED UTILITY AND LOADING AREA



LANDSCAPED DUMPSTER ENCLOSURE



INTERIOR SERVICE AND LOADING AREA

4. Building Placement

4.4 OUTPARCELS

- If two or more outparcel sites are located adjacent to one another, then the buildings shall also be located adjacent to one another in groups of two or more.
- Grouped outparcel buildings must be sited no more than 100' apart.
- Include a pedestrian connection and/or landscape corridor between outparcel buildings.



TWO OUTPARCELS SITED ADJACENT TO EACH OTHER TO FORM A STREET FACADE



LANDSCAPE CORRIDOR BETWEEN TWO OUTPARCELS TO HELP DEFINE BUILDING EDGE



TWO BUILDINGS SHOWING A PEDESTRIAN AREA BETWEEN BUILDINGS



LANDSCAPE BETWEEN TWO OUTPARCELS

5. Pedestrian Circulation

Walkability is an important part of the community. Well-defined vehicular circulation routes and well-designed parking areas contribute favorably to pedestrian circulation. All types of developments must include functional and pleasant pedestrian circulation routes into and within a site, and the pedestrian circulation plan, required as part of site and sketch plan submittal, can be used to illustrate these routes.

5.1 PEDESTRIAN CONNECTIVITY

Provide defined pedestrian circulation routes into and within a site. Multiple pedestrian routes may be required based on the size of a site and/or other conditions.

Standards:

- Sidewalks shall be installed on both sides of thoroughfare and collector streets. In non-residential development and mixed use centers, sidewalks shall be provided on both sides of local and private streets as well as along one (1) side of all primary travel ways.
- Provide a continuous connection to all buildings with a sidewalk, greenway, or multi-purpose trail. Greenways and multi-use trails are to be considered as a part of A site's pedestrian circulation network.
- Minimize crossings of vehicular travel ways
- Include sidewalks on linear islands. Linear islands must include a sidewalk aligned with a main or secondary entrance for buildings 25,000 square feet or larger.
- Align pedestrian pathways to building entrances.
- Outparcels require direct pedestrian connections to any adjacent public sidewalks streets and to other adjacent buildings.
- Sidewalks are required at vehicular access points into a development, unless an alternative location can be provided, which provides the same function and connectivity.
- Provide a pedestrian connection from transit stops into any adjacent developments.



INTERNAL PEDESTRIAN CONNECTION
BETWEEN MULTI-TENANT BUILDINGS



DEFINED PEDESTRIAN ROUTE WITHIN A SITE

5. Pedestrian Circulation



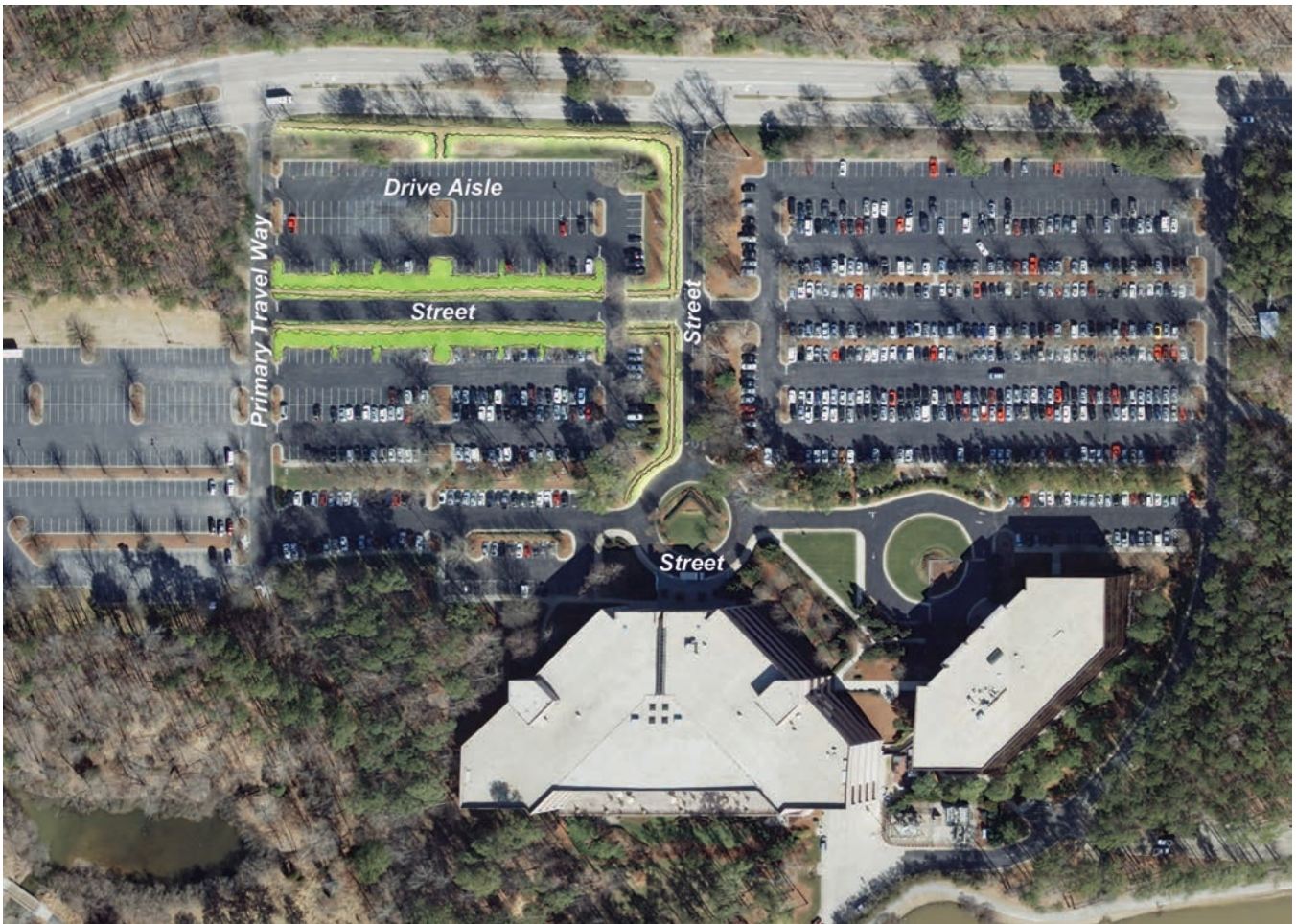
ALIGN PEDESTRIAN PATHWAYS TO BUILDING ENTRANCE OR DEFINED SPACE



PEDESTRIAN CONNECTION TO APARTMENT ENTRANCE



SIDEWALKS INSTALLED ALONG BOTH SIDES OF MAJOR STREETS



THE "SKETCHED IN" SIDEWALK BEGINS TO COMPLETE THE PEDESTRIAN CIRCULATION NETWORK FOR THIS DEVELOPMENT. IT ALSO ILLUSTRATES A PEDESTRIAN PATH ALIGNED TO A BUILDING ENTRANCE.

5. Pedestrian Circulation

5.2 BUILDING BREAKS

Multi-tenant buildings must provide a break, or pedestrian pass-through, for every 600' of building frontage. The purpose of a pedestrian pass-through is to provide connections to parking, adjacent development, or similar uses.

- Provide logical building breaks.
- Align with central pedestrian corridor if available.
- The minimum width is 15' between buildings. Larger building breaks may serve as a pedestrian plaza with appropriate sizing and seating opportunities.
- Direct pedestrian access is required to connect parking located on opposite sides of a building.
- If a sidewalk between buildings is provided, a minimum width is five (5') feet must remain as landscape area.



BUILDING BREAK WITH SIDEWALK AND LANDSCAPING



BUILDING BREAK WITH CAFE SEATING

6. Community Spaces

Careful attention to the design and integration of community gathering space into a development contributes to successful placemaking. Following are standards for community gathering space and the appearance of Best Management Practices (BMP's).

6.1 COMMUNITY GATHERING SPACE

- Provide at least one pedestrian plaza or park-like space for new development and redevelopment sites that are two acres or greater in size. Minimum sizes for the community gathering space are as follows:
 - 2 to 5 acre site - 600 square feet
 - 5.1 to 10 acre site - 1,200 square feet
 - 10.1 to 15 acre site - 2,400 square feet
 - 15.1 to 20 acre site - 4,000 square feet
 - Greater than 20.1 acre site - 5,000 square feet
- The space shall be publicly accessible but privately owned and maintained and be centrally located at the intersection of streets, between buildings along a street or sidewalk, and/or connecting pedestrian circulation routes.
- The space should include elements such as trees, shrubs, and ground cover, as well as decorative paving and site furnishings.
- For any multi-family projects requiring 500 square feet of open space per unit, 50% of this space must be for community gathering, either informally or formally programmed.
- For multi-tenant retail development and projects in Mixed Use Overlay Districts, create a plaza environment along store fronts with sidewalks greater than six feet in width that include at least two types of textures in the pavement (for example, plain concrete and brick or plain concrete and stamped concrete).
- Public art easements or integrated public art features may be included.

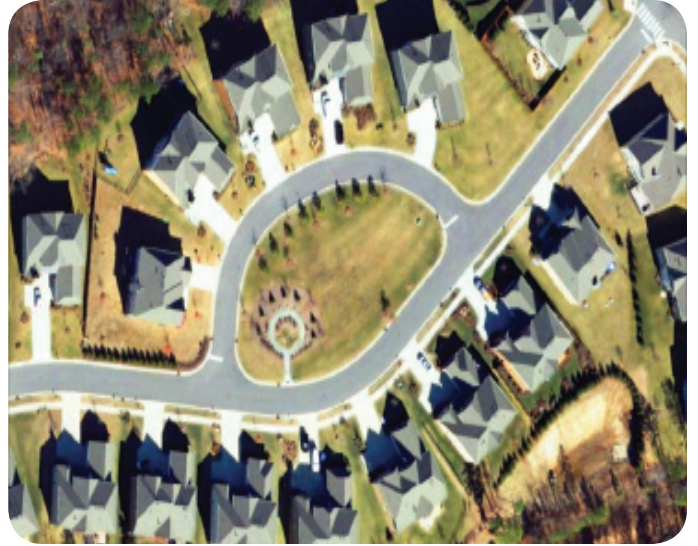


COMMUNITY GATHERING SPACE AND PLAZA ENVIRONMENT
ALONG STORE FRONTS AT THE ARBORETUM



GATHERING SPACE AT CENTREGREEN OFFICE PARK

6. Community Spaces



EXAMPLES OF COMMUNITY SPACE



6. Community Spaces

6.2 ENTRANCES

Entrances to both residential and non-residential developments should contribute to a sense of place and be a part of or compliment community gathering spaces. Major and junior commercial anchors should also incorporate special design features to easily identify entrances.

- Incorporate special treatment such as unique paving patterns, landscaped areas, landmark features, and/or similar to address major entrances as focal points.
- Public art easements and/or integrated public art features may be included at main entrances to developments and are recommended at major intersections of public streets.



"ARTS ALFRESCO" AT CHAPEL HILL AND MAYNARD ROADS IDENTIFIES A PEDESTRIAN ENTRANCE INTO A DEVELOPMENT



"DANCING BEAMS" IDENTIFIES A MAJOR ENTRANCE INTO THE REGENCY OFFICE PARK



"WINDPLOW" DESIGNATES A MAJOR INTERNAL CIRCULATION JUNCTION AT STONE CREEK VILLAGE

6. Community Spaces

6.3 BEST MANAGEMENT PRACTICES (BMP)

Cary has detailed BMP inspections and maintenance programs in place to keep BMPs functioning at the highest possible level. Following are standards that facilitate the creation of Best Management Practices (BMP) as site amenities.

- Provide a landscape transition from the BMP that blends with the natural landscape.
- Any hardscape and/or fencing materials used with a BMP must coordinate with the architecture of the site and/or blend into the natural environment.
- Screen rip rap and flared end sections, or similar, with evergreen landscaping.
- Interpretive elements may be included.
- Public art elements may also be included.



EXAMPLES OF NATURAL LANDSCAPE TRANSITIONS IN BMPs



Appendix

DESIGN PRINCIPLES FOR DEVELOPMENT IN CARY

Seven design principles are distilled in the Cary Land Use Plan. They form the basis of the recommendation to provide the development in the Town of Cary

SEVEN DESIGN PRINCIPLES

1. Create Human Scale
2. Create a Sense of Place
3. Connect Uses
4. Provide Transitions
5. Reduce parking impacts
6. Plan for Pedestrian, Bicyclists, and Transit Users
7. Provide Open Space

CREATE HUMAN SCALE

- A. The dimensions of building height, width, street width, streetscape elements, building setback, and other elements are combined so that they establish a comfortable realm for people to move around in and interact. The dimensions of human interaction govern the design rather than the dimensions of vehicular circulation and conveniences.
- B. Buildings are arranged to enclose and define space. This may include locating building(s) close to a sidewalk, creating spatial definition
- C. Buildings have limited height at pedestrian paths and sidewalks. Taller buildings which have upper stories that are set back. There is a gradual transition of heights and mass, with the greatest concentration in the center of activity centers.
- D. Building articulation and design details reduce the perceived mass of large buildings. Elements such as openings at street level decorative elements that make floor heights, such as cornices, porches and awnings are used to break the building down to human dimensions.
- E. Residential forms and proportions are used on commercial and office buildings next to residential areas.
- F. Street trees with large canopies enclose and define the streetscape.
- G. Street widths are limited when possible, bulb-outs are used at crosswalks and medians are used to break the street into dimensions comfortable for pedestrians
- H. Streetscape elements such as sidewalks wide enough for comfortable pedestrian movement, distinctive sidewalk paving, pedestrian scale street light and other fixtures are used to relate to the human dimension.

CREATE A SENSE OF PLACE

- A. Civic open spaces may be located in central parts of a development
- B. Amenities such as fountains, clocks or seating areas are provided.
- C. Gateways into an area are marked with signature architecture, public art, and/or landscaping
- D. A landscaping and/or streetscape theme is used to define the area of the inherent features of a place.
- F. The architecture relates to human scale, is pedestrian friendly and is harmonious with neighboring buildings and the setting
- G. Outdoor spaces are defined by buildings arrangement, landscaping and/or site amenities such as decorative fences or walls.
- H. A materials palette or architectural themes may be establish for specific areas
- I. Spacial features and buildings may be used to terminate vista.
- J. While an architectural style or landscape theme may create a unified design, some variety and individual expression within the project provide vitality to an area.

CONNECT USES

A community is made up of both social and physical connections. Connecting uses means making clear pedestrian and vehicular pathways between developments. It provides means to intermingle compatible uses. A strong sense of community the highly valued “small-town atmosphere” depends on having such convenient and easy access to a variety of activities and uses.

This connection of uses is very important to the function of a viable, pedestrian oriented community such Town of Cary desires. Because many polices of recent decades have resulted in or even required the separation of projects and uses, this important design principal perhaps will required the greatest adjustment in how development occurs.

- A. Individual development are joined together with roads continuous sidewalks and paths versus a connection of separate development pods. Within a development, easy to use internal circulation is provided not only for cars but for pedestrians and bicyclists between all buildings and spaces.
- B. Street stubs to adjacent developable sites are provided in existing developments for future connections between new project and current uses.
- C. Common streetscape elements, materials and design are used to visually link different areas.
- D. Buildings are oriented to roads and sidewalks with orientation to parking areas being secondary. Buildings and whole development are not isolated from one another with extensive buffers.
- E. Pedestrian and vehicular links are provided to parks, schools, and other public destinations.

PROVIDE TRANSITIONS

- A. Complementary architectural design including building height, style, color materials, mass footprint and decoration is used to make a transition between diverse land uses.
- B. Manipulation of massing is used to buffer abrupt changes of scale. For instance, the mass of a multi-story development can be stepped back from the street when adjacent to smaller scale development.
- C. Transitions between residential and larger commercial areas are created with mid-sized developments that may include higher density residential, mall office and /or retail uses.
- D. Primary building elevations that are visible from the street or neighboring developments generally are not devoted to service functions such as delivery loading docks, maintenance ares, utility equipment, etc.

-
- E. Planned buffer or fences and wall are used between architectural transition would not be sufficient to reduce negative impact such as rear service entries.
 - F. Parks and open spaces can be transition zones between residential and commercial uses.

REDUCE PARKING IMPACTS

- A. A portion of parking is placed to the rear or sides of commercial buildings that face a street. Overflow parking used during limited times of the year should be located to the rear of buildings.
- B. Buildings should be more prominent than parking lots.
- C. On-Street parking is to be provided when feasible to reduce the area of parking lots.
- D. Parking is shared between complementary uses such as churches, office and mixed use.
- E. Plantings and pedestrian paths are used to divide large lots into smaller lots.
- F. Parking lots are screened with low walls and/or year-round plantings,
- G. Parking lots are well shaded with trees in order to create more desirable parking area.
- H. Garages do not dominate the residential street view. In some cases, access and parking are provided at the of some residential units.
- I. Structured parking is used in high-density commercial/office/mixed use area to reduce the area of necessary surface parking.

PLAN FOR PEDESTRIANS, BICYCLISTS, and TRANSIT USERS

- A. Overall, sidewalks, path and greenway are connectors between communities, between and within neighborhood blocks to public and at mid blocks to schools and other high volume pedestrian destinations.
- B. Sidewalls are continuous along public streets.
- C, Sidewalks connect buildings to the public sidewalk and to each other
- D. A system of bicycle and pedestrian paths is provided town-wide.
- E. Sidewalks are designed to match the future volume of pedestrian traffic.
- F. Safe and frequent crossing are provided for pedestrians
- H. Amenities such as street furniture, shade, and shelter are provided for pedestrians when there is a high volume usage.
- I. Sites for transit stops are reserved at locations appropriate for commuter and activity center users.
- J. Bicycle storage is provided at appropriate locations, includes parks, focus area and office parks.

PROVIDE OPEN SPACE

Even as the amount of land consumed generally is outstripped due to raw population growth, newer development needs to provide spaces for recreation, social gathering, and preservation of natural areas. This design principle calls for outdoor space to be just as integral to overall development plan as the construction of buildings, road and other structures. A wide range of open spaces are possible; public gathering areas in activity centers and office parks, common play areas and mini parks shared by nearby residences and natural preserves.

Setting aside well designed open areas make the immediate environment pleasant and fulfilling, to

citizens for a outlet for recreation and socialization and doing much to make continued development sustainable in the long run.

- A. Open space is provided in central, pedestrian oriented ares in activity centers neighborhoods and in large office, industrial parks.
- B. Scenic views, mature woods or specimen trees, and riparian area are reserved in new development.
- C. Residential area have recreation areas within a five minute walk of each home.

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