

Southern Orange County Government Services Campus Design Guidelines

SITE PLANNING

GENERAL

The design intent is to create a campus approach for the design of future buildings and development areas. Buildings will be sited to create strong relationships between existing and future buildings on the site and the related pedestrian, bicycle, and vehicular access. Pedestrian access to all new buildings and throughout the campus must be carefully designed with attention to adjacent landscaping to promote walking. Development will follow the natural contours of the site where possible. Preserving significant trees has been a key element of all prior planning efforts on the site, and this Concept Plan reinforces that effort by designating specific areas for tree protection.

New facilities will be oriented with consideration of sun, wind, and microclimate factors, especially the possible use of daylighting to offset the use of artificial lighting in occupied spaces.

Future site designs will follow various elements of the 2020 Chapel Hill Comprehensive Plan:

- 1) A vibrant center of activity and services
- 2) A compact community where larger existing areas are left undisturbed
- 3) Promotion of alternate modes of transportation (environmentally friendly)
- 4) Green connections to adjacent properties
- 5) Preserve areas on site and within the developed areas
- 6) Protect natural resources with effective on site stormwater management and preservation areas

All plans for new projects at this site will be developed using the Town of Chapel Hill's Design Guidelines as well as the High Performance Guidelines: Triangle Region Public Facilities. All new development will include detailed plans which will be approved prior to issuance of a Zoning Compliance Permit.

INDIVIDUAL BUILDING PLANS

Individual Building Plans will be approved as part of the Town of Chapel Hill's Zoning Compliance Permit process required for all new development. The upcoming Special Use Permit Modification application for this site will outline a process that calls for individual building plans, following Town approval of the Special Use Permit Modification, to be submitted to/approved by Town Staff, after a finding of compliance with the Special Use Permit provisions, with building elevations subject to review and approval by the Community Design Commission. Future plans for the site will meet the following guidelines:

- (1) All vehicular parking layouts will comply with Town of Chapel Hill Standards Lot Layout Schedule Plan.
- (2) All vehicular pavements will meet minimum town standards for asphalt paving sections.
- (3) Bicycle parking will comply with all Town of Chapel Hill standards.

- (4) Roadway sections will include curb and gutter sections with sidewalks on at least one side. A minimum of two travel lanes and bike lanes. Additional turn lanes will be added as needed for intersections. See illustrated streetscape.
- (5) Roadway designs will comply with all requirements of AASHTO and The Town of Chapel Hill.
- (6) Bus stops will be provided as necessary and conform to the latest Town of Chapel Hill Standards.
- (7) Pedestrian walkways will be a minimum of five feet wide and meet Town of Chapel Hill Standards, while using existing topography and natural constraints. Pedestrians will have priority over vehicles in all roadway and parking area crossings. Raised crosswalks will be provided in roadway and parking lot areas for significant pedestrian movements.
- (8) All concrete curb and gutter will comply with the applicable Town of Chapel Hill Standards.
- (9) Accessible ramps will be provided at all street intersections and driveway crossings. Ramps will conform to the Town of Chapel Hill Standards and ADA requirements.
- (10) Sight distance triangles shall be provided at all roadway intersections. A minimum 10'X70' sight triangle will be provided. No plantings will be allowed in the sight triangle.
- (11) A typical roadway section is provided to show the locations of all utilities in the streets. This section will include street lights which will be located per Town of Chapel Hill standards.
- (12) All new work to be done on the site will require clearing limits which will be shown on the plans along with the tree protection fencing. All tree protection fencing will comply with the Town of Chapel Hill standards and details. No work can take place until the tree fencing is in place and reviewed and approved by the Town's Urban Forester.
- (13) Traffic calming areas, if provided, will comply with the latest Town of Chapel Hill Standard details and signage. Pedestrian crossing will be provided on raised crosswalks and so will comply with all Town Standards.

The following statement about street cross-section describes the intent for future streets identified on the Concept Plan map: All shall include a minimum of two travel lanes, bike lanes, and sidewalk on a minimum of one side of the street.

SOLID WASTE PLAN

A Solid Waste Plan will be approved prior to issuance of a Zoning Compliance Permit and will address the following:

- (1) New buildings will be required to comply with all applicable Town Standards for Solid Waste Management. Screen walls and concrete pads will be compatible with adjacent buildings on the site and comply with minimum Town of Chapel Hill Standards.
- (2) Dumpster pads will be constructed of concrete pavement with a minimum compression strength of 4000 psi and sized in accordance with the number of dumpsters needed. The pads will be a minimum of 20 feet deep. All dumpster pad areas shall be designed to accommodate the Town's front loading refuse truck and have an inside turning radius of 40 feet. Backing movements needed to access the pads shall not exceed 100 feet. Heavy duty pavements shall be provided along the access route from the primary roadways to any dumpster area. Recycling roll cart areas shall be provided in all dumpster layouts, and shall conform to all applicable Town Standards.

CONSTRUCTION MANAGEMENT PLAN

A Construction Management Plan will be approved prior to issuance of a Zoning Compliance Permit.

A construction staging and access plan shall be required for all new construction on the site. These plans shall indicate routes for the material deliveries as well as construction staging and fencing areas. All traffic control construction plans shall conform to the latest NCDOT Manual on Uniform Traffic Control Devices.

STEEP SLOPE PLAN

A Steep Slope Plan will be approved prior to issuance of a Zoning Compliance Permit, and shall address the following guidelines.

- (1) A Steep Slope Plan will be provided which designates the slopes by 0-10%, 10-15%, 15-25%, and 25% or greater.
- (2) Each slope area will show all clearing limits and the distribution for that slope category on the grading plan.
- (3) No work will be done on slopes greater than 25% without prior approval of the Town. Specialized site construction techniques will be approved by the Town of Chapel Hill for work in any of these areas.

GRADING PLAN

An approved Grading Plan is required prior to issuance of a Zoning Compliance Permit.

A Grading Plan will be prepared for all new work with new and existing contours at two foot intervals, limits of disturbance, and tree protection fencing locations. The Plan will denote the total perimeter of disturbed areas, as well as existing and proposed impervious surface totals for the property.

LANDSCAPE PROTECTION PLAN

A Landscape Protection Plan shall be approved prior to issuance of a Zoning Compliance Permit.

A Landscape Protection Plan will be proposed for any new work at the site. The plan will show all existing rare and specimen trees per the Town of Chapel Hill Standards. These trees will be drawn showing their critical root zones. All trees to be removed shall be noted. A clearing limit with the new tree protection fencing shown will be required. A pre-construction/demolition conference will be conducted with the Town of Chapel Hill's Urban Forester to discuss the Landscape Protection Plan. The plan shall comply with all applicable patterns of the Town's Tree Protection Ordinance. The tree canopy coverage calculations will be shown on the plan.

PLANTING PLAN

An approved Planting Plan is required prior to the issuance of a Zoning Compliance Permit.

A Planting Plan will be provided which labels all landscape buffer yards and screens. All existing easements shall be shown on the planting plan. New landscape buffers and parking lot plantings shall be shown along with the calculations for a 35% shading requirement. All new grading and utilities shall be shown on this plan.

INFRASTRUCTURE

WATER AND SEWER

All water and sewer layouts will conform to the latest OWASA Standards and Specifications. Fire hydrant layout will be provided around the primary road system and comply with all requirements of the Town of Chapel Hill Fire Department. All utilities will be located underground. All water and sewer lines will require a dedicated OWASA easement. All utilities will be located under paved areas where possible with appropriate easements. Stormwater piping and structures will be installed per Town of Chapel Hill Standards. A 20 foot minimum dedicated easement will be provided over all lines and structures for the Town of Chapel Hill. No plantings will be allowed over the utility easements.

STORMWATER

- (1) A Stormwater Impact Statement will be prepared for any proposed improvement to the site. The Stormwater Impact Statement will include the following information:
 - a) Written narrative describing existing and proposed conditions, anticipated stormwater impacts and management structures and strategies to mitigate impacts
 - b) Description of land uses and area (in square footage)
 - c) Existing and proposed impervious surface area in square feet for all subareas and project area
 - d) Ground cover and uses information
 - e) Soil information (classification, infiltration rates, depth to groundwater and bedrock)
 - f) Tim of concentration calculations and assumptions
 - g) Topography (2-foot contours)
 - h) Pertinent on-site and off-site drainage conditions
 - i) Upstream and/or downstream volumes
 - j) Discharges and velocities
 - k) Backwater elevations and effects on existing drainage conveyance facilities
 - l) Location of jurisdictional wetlands and regulatory FEMA Special Flood Hazard Areas
 - m) Water quality volume calculations
 - n) Drainage areas and sub-areas delineated
 - o) Peak discharge calculations and rates (1, 2, and 25-year storms)
 - p) Hydrographs for pre-and post-development without mitigation, post –development with mitigation
 - q) Volume calculations and documentation of retention for 2-year storms)
 - r) 85% total suspended solids (TSS) removal for post-development stormwater run-off
 - s) Nutrient loading calculations
 - t) Stormwater best management practice (BMP) sizing calculations
 - u) Pipe sizing calculations and schedule (include hydraulic grade line and energy grade line calculations and profiles)

- (2) A Stormwater Management Plan is required for all new work at the site. The plan will included proposed and existing contours at a 2 foot intervals. All existing drainage conditions, features and stormwater piping and structures shall be shown on the plan. All Resource Conservation District (RCD) areas on the site shall be noted with delineated boundaries. All proposed stormwater systems and drainage conditions must be shown. A piping system for the new stormwater system shall be shown with the associated schedule. New roof drains from all

buildings shall be shown to their terminations. All proposed stormwater easements shall be labeled and provide a 20 foot width at a minimum. All proposed best management practices shall be shown on the plan with associated details and sections. New plantings and stabilization techniques shall be noted on this plan. A Stormwater Management Plan will include compliance with the latest Town of Chapel Hill requirements as well as Jordan Lake Rules, and shall be approved prior to issuance of a Zoning Compliance Permit.

LIGHTING/STREET AND PARKING LOTS

All street and parking lighting plans will be approved by the Town of Chapel Hill Community Design Commission (CDC) prior to issuance of a Zoning Compliance Permit.

UNDISTURBED AREAS

Future building plans will identify areas where land disturbance activities will not occur.

- (1) No work is allowed in designated undisturbed areas, except for connections of pedestrian paths and greenways.
- (2) Tree protection fencing is to be provided during construction activities to delineate the amount of clearing in the area.
- (3) Areas shall be walked for best route and flagged prior to installation of fencing by designer and Urban Forester.
- (4) Designated disturbed areas are portions of the site needed to support the development area, and may include buildings, parking, stormwater facilities, landscaping, roads, sidewalks and trails, and bike paths. They may also include undisturbed areas identified at the building plan development stage of planning and design.
- (5) Building plans shall show all clearing limits and tree protection fencing.

SUSTAINABILITY

All new projects at the site will be done following the Town of Chapel Hill Design Guidelines as well as the High Performance Guidelines: Triangle Region Public Facilities prepared by the Triangle J Council of Governments.

Balancing the fulfillment of our current needs without compromising the ability of future generations to meet their needs is the essence of sustainability. Orange County, as an early proponent of sustainable design, will be seek to apply design solutions used on recently completed facilities as well as new technologies and designs where feasible on this site.

ORIENTATION

The natural setting of the site, its contours and vegetation, shall be viewed as assets to be preserved and woven into the design as much as possible. For the Chapel Hill climate, buildings oriented with the longitudinal axis of the building in the east/west direction will typically have lower energy costs than buildings oriented with the longitudinal axis of the building in the north/south direction.

DAYLIGHT

Using daylight from windows, clerestories, skylights, atriums, etc, is encouraged to reduce artificial lighting and increase user satisfaction. Skylights and atriums should allow narrow building footprints to be naturally lit. Windows close to the ceiling are encouraged to allow greater penetration of daylight. Interior offices should incorporate transoms and vision lights to allow light infiltration into deeper spaces.

Uncontrolled use of daylight can lead to user discomfort and increase mechanical cooling requirements. Buildings should incorporate appropriate shading devices over windows and entryways. Roof overhangs, recessed windows, sunshades, and arcades are all devices which can be used to create shade on the face of a building. Automated, motion-sensor or user-controlled interior lighting, either natural or artificial, should be provided to maintain user comfort and reduce energy costs.

SHADING

Passive solar shading is useful for conserving energy, animates buildings and public spaces, and creates additional design opportunities (e.g., a deep-set window shaded by the building frame or by the addition of sunscreens), and will be considered as designs for future buildings on the site are developed.

WATER EFFICIENCY

Water use reduction and irrigation efficiency measures limit or eliminate the use of potable water for landscape irrigation. Designs should reduce the volume and slow the flow of storm water runoff through the landscape with vegetated swales and sequences of check dams and catchments, cisterns and water collection points in parking lots. Rainwater collection is widely used in existing Orange County facilities and should be considered for toilet flushing and irrigation.

LANDSCAPING

Reduce site disturbance and/or restore damaged areas. Choose landscaping which reduces the heat island effect and that is native to North Carolina.

MATERIALS

Where possible, use durable, recyclable materials made from recycled content that are locally produced.

ENERGY MANAGEMENT PLAN

The design of future buildings and its systems shall provide energy efficiency of 20 percent above what is required by ASHRAE Standards. The use of sustainable forms of energy (such as solar, wind, geothermal and biofuels) shall be utilized where possible.

Any proposed efforts to increase energy efficiency will include investigation of possible participation in the NC Green Power Program or similar programs. Projects shall be monitored over time to help evaluate achievement of goals related to energy efficiency, reduction of carbon footprints, and reduction of single automobile trips.

BUILDINGS

BUILDING FLEXIBILITY

Flexible building design that accommodates change is very important and is a proven way to respond to programmatic needs that evolve over time. Initial building phases should be designed as a first step in a larger collection of integrated buildings. To accomplish this, consider the following:

- (1) **Simple Forms:** Simple rectilinear forms are preferred because these forms are more easily adaptable to change than buildings with complicated forms. Individual forms should be designed to complement one another as well as their surroundings.
- (2) **Planned Expansion (Additions and Renovations):** As site permits, each future building should allow for growth.
- (3) **Massing:** Buildings shall be set back off all internal streets and driveways in a consistent manner to produce visual unity.

BUILDING ENTRY

An Entrance is a primary building design feature and should be well defined and easily recognizable as a point of entry, regardless of the size of the building. Building entrances provide links between individual building design and site design and should be well defined. At ground level, building design should focus on the pedestrian. Building entrances should be oriented to pedestrian plazas and entry courts and should be open and inviting.

PEDESTRIAN SCALE

At building entrances and on streetscape facades, elements that relate buildings to the size of humans are important. While buildings may be up to 60 feet high, these larger masses can be broken into smaller visual elements through sensitive use of building materials, window articulation and building massing.

BUILDING HEIGHT/ ROOF FORM

Building heights and their roof forms can be used to promote an overall sense of cohesiveness and offers an opportunity to focus attention to certain key buildings or areas.

- a. **Building Height:** The maximum allowable height for buildings is 60 feet above ground, as measured from the average grade of the site. The maximum height could reach four stories. Floors below grade are permitted. The floor levels of new buildings should match the floor levels of the adjacent existing buildings. Established vertical heights should be maintained to continue the vertical campus grid and allow upper levels of buildings to be connected by bridges.
- b. **Roof-Mounted Infrastructure Screening:** Roof parapets should be used to screen roof-mounted equipment. Roof-mounted mechanical equipment and vent stack pipes should be grouped together and screened from all views on campus. Taller equipment should be enclosed by walls or grills that are in harmony with the design of the building and provide for the required air circulation needs of the equipment. Satellite dishes and antennas must be fully concealed if located on a building. Roof drains shall direct water underground and divert water from structures and paved surfaces to prevent erosion or ponding.

AESTHETICS

Future designs should maintain a uniform architectural style within the development area being proposed. In general, future architectural styles should be compatible with existing architectural styles and should express an image of governmental facilities. Forms and shapes are to be simple, yet creative and appealing and should relate to nearby forms.