

323000 Site Improvements

Sections Included In This Standard:

- 1.1 Bicycle Facilities
- 1.2 Guardrails
- 1.3 Parking Bumpers
- 1.4 Traffic Signage
- 1.5 Traffic Signals
- 1.6 Traffic Impact Studies
- 1.7 Vision Triangle
- 1.8 Bus Stop Shelters

1.1 BICYCLE FACILITIES

- A. **DESIGN GUIDE FOR BICYCLE FACILITIES:** Bicycle facilities should be designed in accord with the "Florida Bicycle Facilities Planning and Design Manual," issued by the Florida Department of Transportation (FDOT) and the "Guide for the Development of Bicycle Facilities" published by the American Association of State Highway Officials (AASHTO).
- B. **REQUIREMENT FOR PROVIDING BICYCLE LANES AND PATHS:** The requirement for providing lighted bicycle lanes and paths with all new road construction, and major reconstruction of existing roads, is given in Section 02500.
- C. **BICYCLE PARKING:** Areas designated for bicycle parking should be adequately lit. Consult with the Physical Plant Division, A/E Department and Section 16500 within these Standards regarding lighting design.
- D. **BICYCLE PARKING QUANTITIES:** Provisions for bicycle access to facilities and on-site storage of bicycles shall be addressed for all campus projects. Accommodations must be made, when applicable, for employees, visitors and office bicycles. The University of Florida has developed standards for the number of bicycle parking spaces to be provided for a facility based upon a building's usage, number of employees and visitors, and relative location to an existing auto-free zone, central parking facility, and other campus buildings. These standards are:

NUMBER OF BICYCLE PARKING SPACES TO BE PROVIDED	
BUILDING USE	NUMBER OF PARKING SPACES
Single Residential (Dorms, Sororities, Fraternities)	1 space per 1.5 beds
Family Residential	1 space per bedroom, plus 1 guest space per each 6 bedrooms
Food Service	1 space per 20 seats, plus 1 space per each 15 employees on largest shift
Retail Sales	1 space for each 1500 gross sq. ft.
Lecture Hall, Theater, Auditorium, Stadium	1 space per each 40 seats, or 1 space for each 500 sq. ft., whichever is greater
Recreation Center or Gymnasium	1 space for each 2000 gross sq. ft.
Public Use Outdoor Recreation, not adjacent to any residential facility	1 space for each 1500 gross sq. ft. of field or court facility
Academic Building	1 space per each 5 seats in a classroom or 1 space for each 250 gross sq. ft. of public space, whichever is greater, plus 1 space per each 10 employees
Library	10% of the average daily number of student users, plus 1 space per each 10 employees
Administration/Offices	1 space for each 10 employees
Infirmary/Medical	1 space for each 20 patient beds
Museum or Art Gallery	1 space per each 40 seats (with auditorium), 1 space for each 1000 public sq. ft.

E. BICYCLE RACKS

1. The standard parking structure used by the University of Florida for supporting and securing a bicycle is the black "inverted U" style bicycle rack. This rack is made of 40 gauge-galvanized steel covered with white PVC material. Other style racks may be acceptable for specific locations with approval to be obtained by the Project Manager prior to installation through submission of a Standards Project Deviation Request Form. Alternate rack styles shall be considered acceptable only if they meet each of the following criteria:
 - a. Constructed of durable materials with no moving parts;
 - b. Able to accommodate various styles of bicycles and locks (including narrow U-locks);
 - c. Able to support the bicycle by the frame;
 - d. Enable the bicycle to be secured at multiple points including both wheels and the frame;
 - e. Designed with a profile that has no protruding parts, and will not create a trip hazard to pedestrians; and
 - f. Design so that the proper method of use is obvious, and that improper parking will not decrease rack capacity.
2. Refer to Drawing **02840-A** at the end of this section for illustration of "inverted U" style bike rack.
3. Bicycle parking displaced by construction shall be relocated with a temporary rack.
4. Dimensions and locations (or as-built drawings) of new bicycle parking facilities should be given to the PPD A/E Department for updating of Campus maps.

F. PLACEMENT AND ARRANGEMENT OF BICYCLE RACKS

1. The "inverted U" rack is designed to secure two bicycles fastened to vertical supports by a "U lock" or cable. Most bicycles are approximately 68 inches in length. When properly secured to the "inverted U" style rack, a back wheel of the bike projects out about 3-4 feet from the vertical support of the rack.
2. Rows of "U" racks should be arranged to allow for ample maneuvering on a concrete pad. The edge of the concrete pad perpendicular to the direction of bike parking is to be at least 6 feet wide to ensure the rear tire of a secured bike does not rest on the ground or lawn and that there is ample walk space behind the bicycles.
3. Refer to Drawings **02840-B** and **02840-C** at the end of this section for two variations (freestanding rows, against a wall) of the above-described bicycle rack layout. Bicycle rack installations should be designed accordingly.
4. Bicycle rack installations shall provide maximum visibility utilizing principles of Crime Prevention Through Environmental Design (CPTED), located in active public areas, lit in accordance with the requirements of Division 26 of these Standards, with adjacent landscape material that preserves a clear view between three and seven feet from ground level.

G. OTHER BICYCLE AMENITIES

1. An effort is to be made to locate bicycle parking as close to the principal entrance to a building as feasible in order to enhance security of the bicycle and the cyclist and also as a means of encouraging bike usage through convenience, efficiency and the provision of superior facilities. When a building is located close to a parking garage and/or open lot, racks may be located at the parking facility closest to the building entrance in lieu of installation near the building entrance. Bike racks shall be located within 200 yards of a building entrance and in proximity to a changing/shower facility.
2. Whenever possible, bicycle parking should be covered particularly for long-term bicycle parking such as locations near residence halls and graduate family housing. Covered bicycle parking may be accomplished utilizing building overhangs or by construction of a free standing, lighted cover.
3. Bicycle parking is to be provided in conjunction with parking garages and lots. There is no fixed recommendation on the number of racks or location of racks within these facilities. A rule-of-thumb is to provide bike parking for one-third the number of automobile spaces when it is likely that there shall be significant transfer activity from one mode of travel to the other.
4. Guidance for bicycle paths, signage, bridges and other appurtenances can be found in Section 321000 and in the references cited in this section.

1.2 **GUARDRAILS**

Guardrails shall meet Florida Department of Transportation standards.

1.3 **PARKING BUMPERS**

Parking bumpers shall meet Florida Department of Transportation standards or be an approved equal.

1.4 **TRAFFIC SIGNAGE**

- A. **STREET NAME SIGNS:** Street name signs (orange lettering on blue background) for University of Florida roads and drives are made and installed by the Physical Plant Division. Consult with the Project Manager concerning the need for such signage and financial responsibility.
- B. **PARKING SIGNS:** Parking signs for University of Florida parking are made and installed by the Physical Plant Division. Consult with the Project Manager concerning the need for such signage and financial responsibility.
- C. **TRAFFIC SIGNS:**
 1. Traffic signs for placement along University of Florida roads and drives are made and installed by the Physical Plant Division. Consult with the Project Manager concerning the need for such signage and financial responsibility.
 2. Traffic signage shall be designed in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," U.S. Department of Transportation.

1.5 TRAFFIC SIGNALS

Traffic signals shall be designed in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," U.S. Department of Transportation. Consult with the Project Manager concerning the need for signalization and financial responsibility.

1.6 TRAFFIC IMPACT STUDIES

Traffic impact studies shall be conducted for all parking structures, and may be required for other types of construction deemed to have the potential of impacting transportation facilities in the vicinity. When required, such studies shall be coordinated with the Director of Transportation and Parking Services and the planner responsible for the campus Comprehensive Master Plan. The first step in the process is approval of the study area, which shall be not less than ¼ mile area around the site. Second, study parameters shall be approved including traffic count procedures. The trip generation and trip distribution parameters shall also be approved prior to the final analysis. Intersection level of service shall be analyzed using the Highway Capacity Software (2000 or latest version). Results of the traffic impact study shall address peak hour conditions and include roadway capacity, intersection level of service, and access for bicycles, pedestrians and transit. The results shall include recommendations for any necessary modifications to traffic signals and other transportation system management techniques.

1.7 VISION TRIANGLE

The vision triangle is a portion of land on the corner of intersecting roads and/or driveways where nothing is permitted to be built, placed, or grown that would limit or obstruct the sight distance of motorist entering or leaving the intersection. The purpose of the vision triangle is to ensure that there is adequate and safe visibility at intersections. The American Association of State Highway and Transportation Officials (AASHTO) Standards (most recent version) shall govern the vision triangle definition. The university shall prohibit the construction, erection, placement, growth, maintenance or allowance of any building, structure, fence, wall, sign, canopy, vegetation, or obstruction of any kind within the vision triangle that impede views in the vertical plane between two-feet from ground level and eight-feet from the ground level. Diagrams of vision triangle dimensions can be found in the AASHTO Standards and also in the Florida Department of Transportation (FDOT) Roadway and Traffic Design Standards, 2000 Edition, Standards Index 546.

1.8 BUS STOP SHELTERS

The University of Florida has adopted a bus stop shelter standard. Contact the Director of Transportation and Parking Services for specifications.

- INSERT BIKE RACK DETAIL (Dwg. 02840-A) ILLUSTRATION HERE -

- INSERT FIRST BIKE RACK LAYOUT (Dwg. 02840-B) ILLUSTRATION HERE -

- INSERT SECOND BIKE RACK LAYOUT (Dwg. 02840-C) ILLUSTRATION HERE -

END OF SECTION