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Urban and Town Design • Regulations • Architectural Design

Design Review Standards

for the North Beach Town Center

TC Zoning Districts

MIAMIBEACH

Planning Department, November 2010

Design Review Standards for the North Beach Town Center TC Zoning Districts

Introduction

The following design review standards are supplementary to the land development regulations for the North Beach Town Center TC zoning districts, adopted by Ordinance No. ___ on __ (date) ____. These standards shall be satisfied to the greatest extent possible by all new development, rehabilitation or reuse of properties. The Planning Director or the design review board, as applicable, shall have the responsibility to enforce these standards, or to modify them only where necessary to address special conditions on an individual site while maintaining consistency with the TC district regulations and the intent of the neighborhood plan.

These design review standards are in addition to the design review criteria in section 118-251 and the review guidelines for conditional use for new structures of 50,000 square feet and over in section 118-192(b).

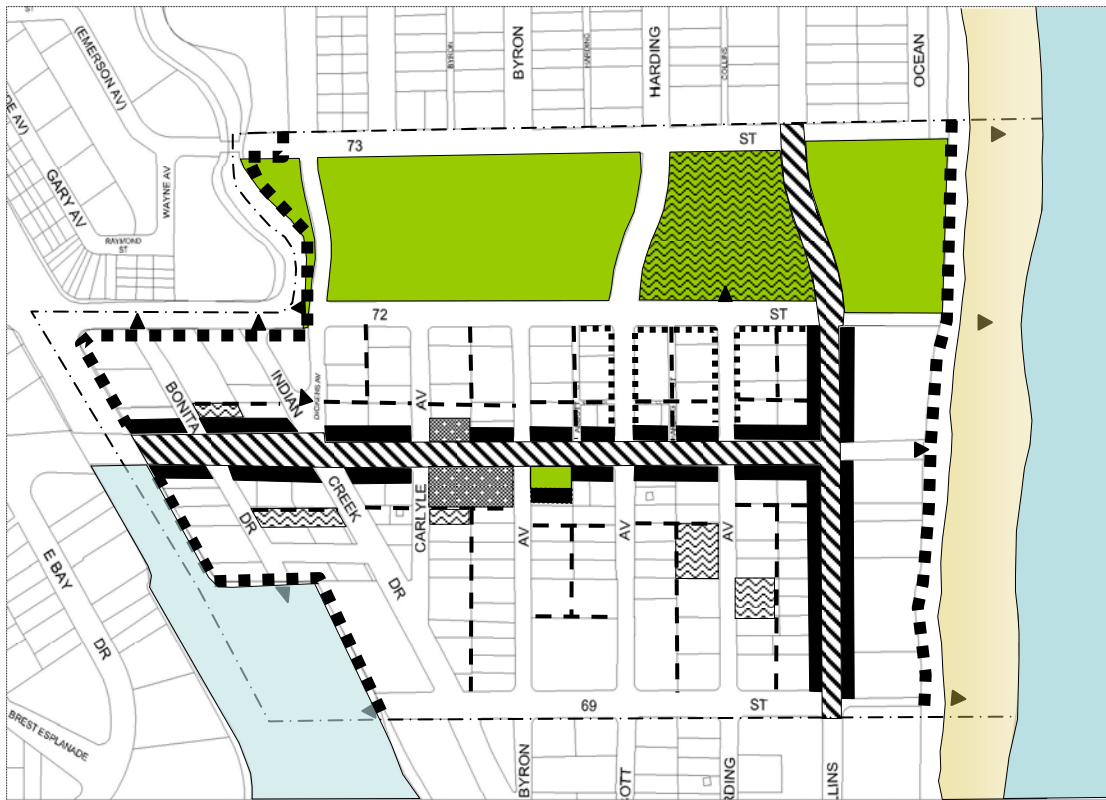
Location

The North Beach Town Center districts consist of all land bounded by 72 Street, Collins Avenue, 69 Street and Indian Creek Waterway; and consists of three districts: Town Center Core (TC-1) district, Town Center Mixed Use (TC-2) district, and Town Center Residential Office (TC-3 and TC-3(c)) district, and the RM-2 district adjoining Indian Creek


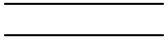

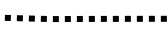








Design Review Standards

1. **Infill Regulating Plan.** All development in the North Beach Town Center should be in accord with the Infill Regulating Plan (see map inset) and applicable design standards. The Infill Regulating Plan establishes a hierarchy of circulation systems and civic infrastructure necessary to support the objectives of the district.



Legend:

-  Primary Street Grid
-  Secondary Street Grid
-  Required Storefront Frontage
-  Recommended Storefront Frontage
-  Recommended Terminated Vista
-  Recommended Alley or Service Corridor
-  Recommended Waterfront Walkway
-  CP – Civic Parking Reserve
-  CB – Civic Building Reserve
-  CS – Civic Space Reserve

Primary and Secondary Street Grid designations appearing on the Infill Regulating Plan distinguish the most important streets where an active retail shopping environment is to be protected and enhanced. The intent is to weave together a cohesive commercial district with a continuous pedestrian experience, while acknowledging that some street frontages must be sacrificed to functions that are intrinsically pedestrian-hostile.

2. *Motor vehicle parking and service access* The Primary and Secondary Street Grid designated on the Infill Regulating Plan shall determine where motor vehicle access, service and deliveries are permitted in order to reduce vehicular/pedestrian conflicts and to promote an active retail shopping environment.

- 2.1. Driveways, curb cuts, garbage pickup, deliveries and other types of service access for motor vehicles shall not be permitted from the Primary Street Grid, which is 71 Street and Collins Avenue, unless there is no means of access available from an alley or from the Secondary Street Grid. In such cases, the width of any curb cut shall be a maximum of 12 feet for one way and 22 feet for two-way drives, and a plan for garbage pickup and deliveries shall be reviewed to ensure that service vehicles will not contribute to traffic congestion or conflicts with pedestrians, bicycles or transit stops.
- 2.2. Motor vehicle parking and service access shall be from an existing or future alley wherever feasible. If alley access cannot be provided at the time of plan approval, then parking and service entrances shall be located on the Secondary Street Grid, as designated on the Infill Regulating Plan.
- 2.3. Development on the Secondary Street Grid should be consistent with the Building Disposition standards herein. Open parking lots, unlined parking garages, drive-throughs, blank walls, and other automobile-oriented features are strongly discouraged.
- 2.4. Curb cuts on the Secondary Street Grid shall be minimized as much as possible.
- 2.5. Where feasible, buildings and site plans should be designed to facilitate a retrofit for alley access at a future date.

3. *Alleys and service corridors*

- 3.1. *Alleys* or service corridors shall be provided to benefit property owners and the general public by providing parking, service and delivery access to the rear of

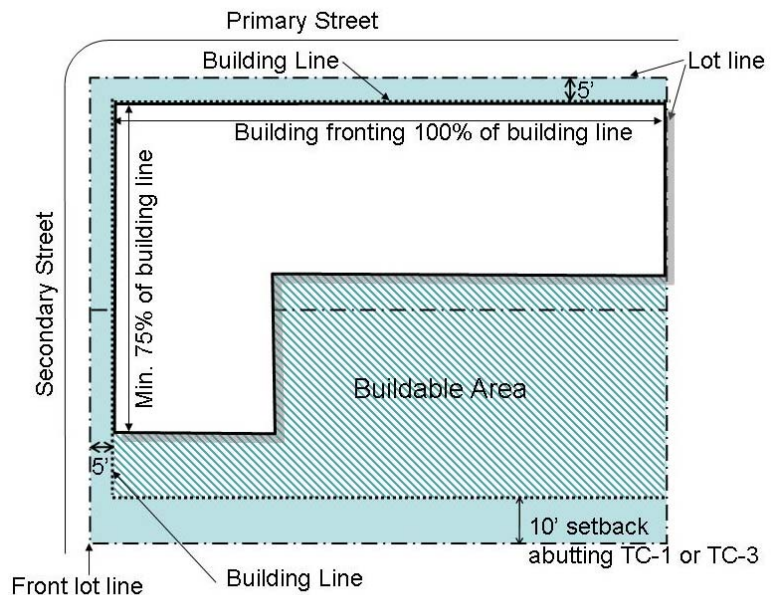
all lots. This improves traffic flow on busy streets and enhances the pedestrian environment by eliminating vehicular driveways from the sidewalk.

- 3.2. Alley or service corridor construction is required as part of the redevelopment of any property, unless an alley already exists. The recommended location is within the minimum rear or side setback area for each lot, as shown on the Infill Regulating Plan. The location of a proposed alley or service corridor may be adjusted to improve functionality due to the configuration of assembled parcels of land within a block, with the approval of the Planning Director; provided that there is a feasible long term plan to provide rear service access to all lots within the block.
- 3.3. Where an alley or service corridor does not exist and is not feasible to construct at the time of redevelopment of any property, the developer shall dedicate an alley right-of-way or access easement within the setback to the City, and maintain the area within the setback until the City builds the alley.

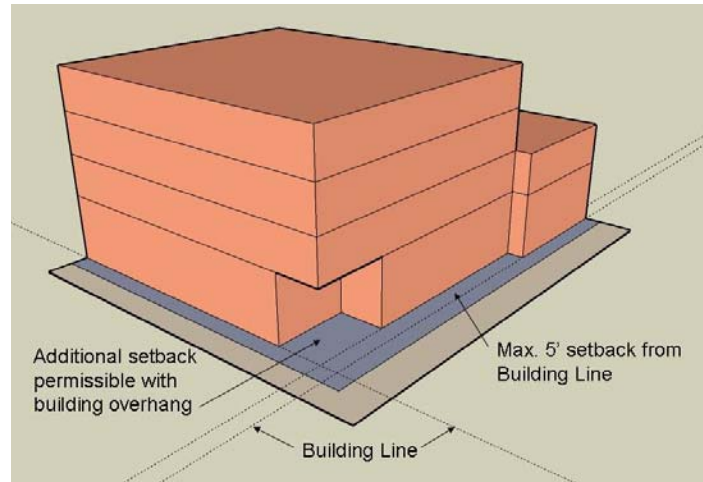
4. Building Disposition Buildings shall be located within the Buildable Area of the lot so as to ensure a continuous enclosure of the street space. *Building Line* means a line that coincides with the minimum setback lines adjacent to all streets. It is the line to which the building shall be built along all streets, otherwise known as a "build-to" line. Its function is to ensure a continuous enclosure of the street space.

4.1. Buildings fronting on the Primary Street Grid shall occupy the entire length of the Building Line at ground level, unless otherwise determined by the design review board.

4.2. Buildings fronting on the Secondary Street Grid shall be built to not less than 75 percent of the Building Line at ground level, unless otherwise determined by the design review board.



- 4.3. The street façade shall be no more than 5 feet behind the Building Line at ground level, except where approved by the design review board for an Urban Plaza or for recessed ground floor space where the upper floors of the building provide the required street enclosure along the Building Line.



- 4.4. All off-street parking spaces must be located to the rear of the principal building or if within a structure, street level parking must be separated from the façade by another permitted use.
- 4.5. Mechanical and electrical equipment including, but not limited to, air compressors, pumps, exterior water heaters, water softeners, private garbage cans (not including public sidewalk waste bins), and storage tanks may not be stored or located within any street or required yard area adjacent to a street.

5. Retail, restaurant and cultural uses are mandatory fronting on the Primary Street Grid and are strongly recommended at other locations indicated as "Recommended Storefront Frontage" on the Infill Regulating Plan. Where required, retail uses, personal services, eating and drinking establishments or cultural uses shall occupy a minimum depth of 25 feet from the street façade along a minimum of 75 percent of the building frontage, which shall have glass storefronts. The remaining frontage may be used for lobby and access for upper story uses. Offices and residential uses are prohibited on the ground story street frontage of the Primary Street Grid unless the use is located on a mezzanine or at least 25 feet back from the street façade.

6. Building/store entrances. In the TC-1 and TC-2 districts, the ground floor shall have entrances directly from the sidewalk level adjoining streets. There shall be no steps or ramps on the exterior of the building. Flood-proofing may be achieved by the use of flood panels. Alternatively, the ground floor may be elevated to flood level, provided that required stairs and ramping are located within the structure and are perpendicular to the storefront glass.

7. Canopies, awnings and eyebrows.

- 7.1. In the TC-1 and TC-2 districts, continuous projections designed to provide sun and rain protection for pedestrians at street level shall be provided along all street facades at a minimum height of 8 feet above sidewalk level. Projections shall be self-supporting eyebrows, awnings or similar features which shall extend from the building façade to the lot line. Signs may be placed below the projection with a minimum clearance of 7.5 feet above sidewalk level. Canvas awnings are not recommended in the required yard due to possible damage from street tree limbs.

8. Waterfront Pedestrian Walkways

- 8.1. Waterfront lots are encouraged to provide a publicly accessible Waterfront Pedestrian Walkway along the entire length of the shoreline within the required waterfront setback. If a Waterfront Pedestrian Walkway is provided, the public access area shall be a minimum of 10 feet in width with a paved walkway not less than 7 feet wide. A covenant confirming public access between sunrise and sunset, subject to the review and approval by the City Attorney, shall be recorded before the issuance of any permits for the redevelopment project.
- 8.2. General principles
- 8.2.1. Waterfront walkways shall be designed, constructed and maintained along the entire length of shoreline according to section 142-738(b)(4) of the city code.
- 8.2.2. Waterfront walkways should remain open to public access at all times, but at a minimum, shall remain open to the public between sunrise and one-half hour after sunset.
- 8.2.3. Waterfront walkways shall be designed so that they appear to be open and inviting to the public. Signage shall clearly establish the public's right to use the walkway. Wayfinding signs shall be provided direct pedestrian access from the adjacent roadway.
- 8.2.4. Waterfront walkways shall connect to abutting public sidewalks, neighboring walkways and open space at a consistent Americans with Disabilities Act (A.D.A.) compliant width and grade to allow clear pedestrian circulation along the water's edge.

8.2.5. Waterfront walkways shall provide visual access to the water. All landscaping, furniture, lighting and planters should enhance visibility to the water.

8.2.6. Parking and service areas are not recommended to be located immediately adjacent to a waterfront walkway. For those parking and service areas that may be visible, adequate screening shall be required.

8.2.7. The minimum setback for any building is 15 feet from the bulkhead line, but the waterfront area that must be open to the public has a minimum width of 10 feet, as set forth in section 142-738(b)(4)b. Therefore, the developer is encouraged to open a wider area to public access wherever possible, depending upon the uses in the ground floor of the building. For example, commercial uses at the ground level should be compatible with a wider public access corridor.

8.2.8. All streets that dead-end at the ocean or inland waterways shall be improved for public pedestrian use with landscaping, lighting and street furniture.

8.3. Bulkheads or seawalls

8.3.1. The top of the bulkhead or seawall shall be at a constant elevation for the length of the waterfront. It shall be 18 to 24 inches wide at the top.

8.3.2. Safety ladders of stainless steel or galvanized steel shall be placed a maximum of 100 feet apart along the face of the seawall or bulkhead at a sufficient depth to allow for climbing out of the water at low tide.

8.3.3. The top of the seawall/bulkhead shall be a minimum of 6 inches and a maximum of 16 inches higher than the surface of the adjacent waterfront walkway.

8.3.4. The inside edge of the seawall/bulkhead shall be beveled.

8.4. Landscaping

8.4.1. Waterfront walkways shall be landscaped with native or proven hardy, salt tolerant plant materials.

8.4.2. Palms or shade trees shall be planted in a continuous row along the inside edge of the bulkhead/seawall to provide shade along the walkway. Coconut palms or sabal palms are recommended to be

planted along the seawall at approximately 18 feet on center in tree pits no less than 5 feet x 5 feet interior dimension.

8.4.3. Shrubs and groundcovers, not to exceed 24 inches in height, should be planted at the base of trees and palms to enhance waterfront walkway aesthetics, provided that they do not impede the minimum walkway width.

8.5. Circulation zone

8.5.1. A minimum 7 feet wide unobstructed linear pedestrian walkway shall be provided throughout the entire length of the waterfront. Wherever possible, this walkway should be 10 feet or more in width.

8.5.2. Paving materials should be consistent throughout and must be approved by the Planning Department.

8.5.3. Wherever tree planters encroach into the circulation zone, they shall be flush with the grade and covered with an ADA compliant surface.

9. Urban Plazas

9.1. Small urban plazas shall be provided on development sites over 20,000 square feet in the TC-1 and TC-2 districts in accord with the minimum open space requirement in Sec. 142-737(d) of the zoning code. On smaller sites, urban plazas are recommended to be developed at intervals of approximately 600 – 1,000 linear feet along 71 Street. Such Urban Plazas shall be designed and operated according to the following guidelines

9.1.1. Use and concept - Its primary functions are to encourage a diversity of opportunities for social interaction and activities, to provide relief and relaxation, to expand and reinforce the public realm, and to contribute to the livability and general amenity of the city. A successful plaza requires a program of use and a strong concept. Therefore, careful thought should be given to a plaza's principal functions and to its relationship with the adjacent public realm.

9.1.2. Light and air – A plaza shall be an outdoor space, open to the sky, except for incidental awnings or canopies that may provide rain protection.

- 9.1.3. Visibility – All portions of a plaza shall be visible from the street to signify that it is a public space; to permit plaza users to watch street activity and to make the space safer.
- 9.1.4. Dimensions – Plazas shall be of sufficient size and shape to delineate a space that is apart from the public sidewalk. Generally, plazas should have a minimum average depth of 20 feet from the lot line adjoining the street. The required building setback area may be counted in the minimum open space square footage.
- 9.1.5. Linkages – A plaza shall be linked to the public sidewalk as well as to interior spaces, such as lobbies and store entrances, to create a dynamic pedestrian network.
- 9.1.6. Safety – Plazas shall be designed using principles of defensive space such as clear sightlines, good lighting and provision of alternate “escape” paths.
- 9.1.7. Environmentally sensitive design – Plazas shall provide areas with shade and rain protection. Permeable surfaces should be used wherever possible. Use of drought-resistant plants will lessen the use of irrigation and use of native or proven hardy species will reduce the need for chemical fertilizers and insecticides. Consider the use of plantings that provide habitat for birds and butterflies.
- 9.1.8. Seating – Plazas shall have a variety of comfortable seating with variety in location and in the types of seating (chairs, benches, walls, steps, lawns, fixed and movable, groups/couples/single, disabled accessible, etc)
- 9.1.9. Activity generators – Plazas shall have at least one, preferably several, activity generators. These may include, but are not limited to food and retail outlets, fountains, children’s play sculptures, game tables, changeable exhibits, performance spaces, etc. At least one side of the plaza shall be lined with active commercial uses.
- 9.1.10. Amenities – Plazas shall have a variety of features to enhance the public experience of the space. Amenities may include, but are not limited to public art, bike racks, drinking fountains, waste receptacles, infrastructure for events (e.g. electrical outlets, water supply and lighting) and community information kiosk.

10. Signs

- 10.1. Signs shall be reviewed for conformance with the intent to encourage high quality, creative, graphic signage design in order to promote redevelopment of a lively retail and cultural district.
- 10.2. Canopy trees that are required to be planted along all street frontages will eventually grow to hide flat wall signs mounted above the eyebrow and signs located on the valance of an awning or outside edge of an eyebrow. Therefore, wherever feasible, main business signs shall be placed under the eyebrow, either on the window or directly above the window.



11. Terminated Vistas

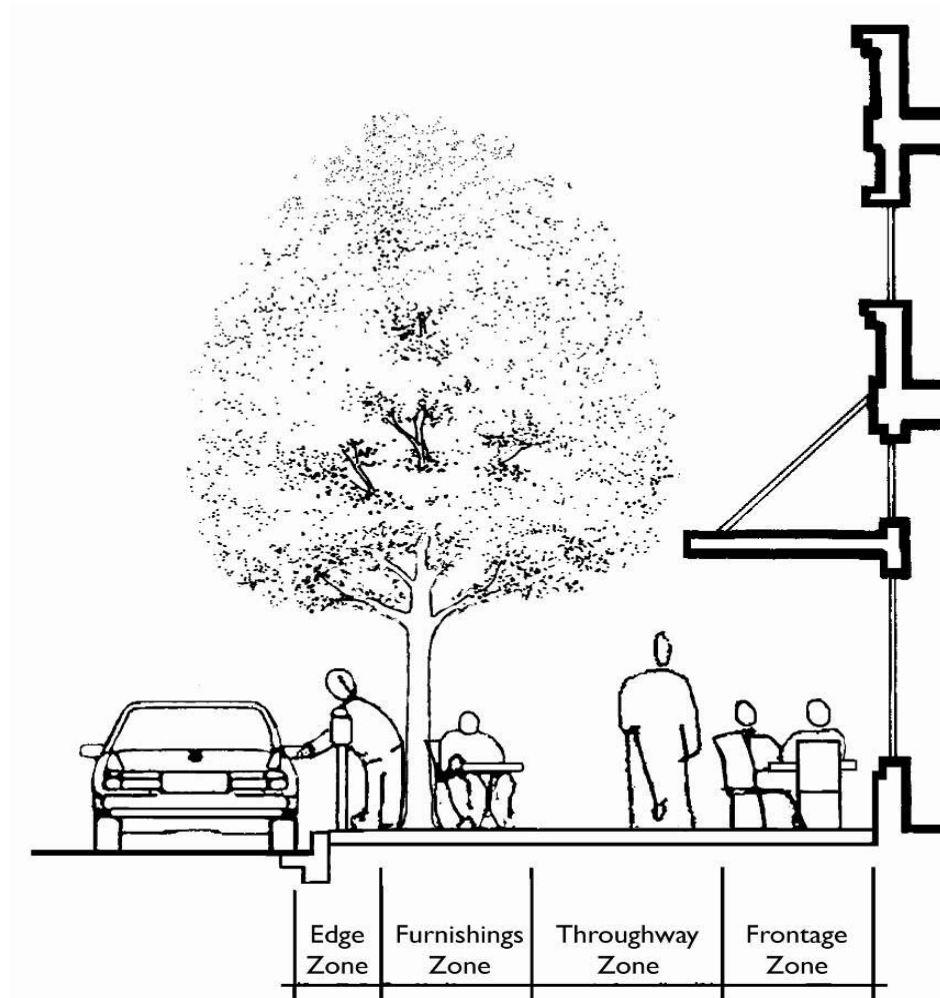
- 11.1. Terminated vistas are places where an important sight line along a street has an end point that should be enhanced. The appropriate treatment for terminated vistas should be determined on a case-by case basis. Generally, waterfront vistas should be opened up to a clearer and wider view of the water with landscaping that frames the view. Recommended locations for terminated vistas are shown on the Infill Regulating Plan.

12. Streetscape Standards

- 12.1. *Purpose.* The outdoor space enclosed by building facades on each side of a street is one of the most important elements in a defining the character of a neighborhood. This space includes the public street right-of-way and the street frontage setback area on private property. As such, great emphasis shall be placed on the quality and consistency of the design of this space, especially as it relates to creating an environment conducive to walking, bicycling, transit ridership and community social interaction.

12.2. Minimum Standards

12.2.1. *Sidewalks.* The sidewalks in TC-1 and TC-2 districts shall consist of four distinct functional zones as illustrated below. The sidewalk space includes both public right-of-way and the setback area on private property.



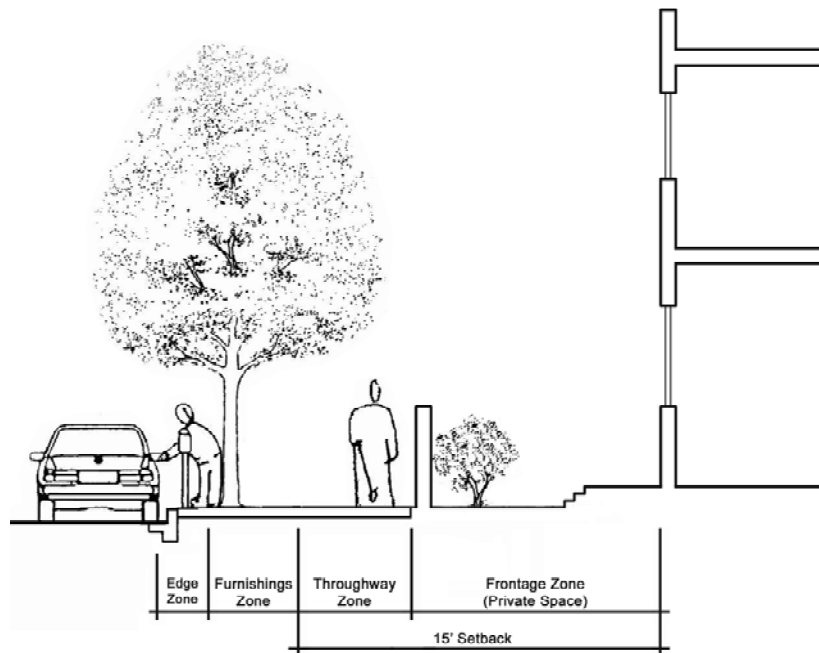
12.2.2. *Edge Zone* – the area between the face of curb and the furnishing zone, an area of required clearance between parked vehicles or traveled way and appurtenances or landscaping. This area shall be a minimum of 1.5 feet in width.

12.2.3. *Furnishing Zone* – the area of the sidewalk that provides a buffer between pedestrians and vehicles, which contains landscaping, public street furniture, transit stops, public signage, light poles, sidewalk cafes etc. This area should be a minimum of 3.5 feet in width.

12.2.4. Throughway Zone – the walking zone that must remain clear, both horizontally and vertically, to 7.5 feet above the sidewalk, for the movement of pedestrians. This area shall be a minimum of 5 feet in width on all streets. The recommended width is 8 feet on 71 Street and Collins Avenue. The Throughway Zone may include public or private property.

12.2.5. Frontage Zone – a distance between the Throughway Zone and the building façade that is used to buffer pedestrians from window shoppers, appurtenances and doorways. It also can be used for sidewalk cafes. A frontage zone is recommended adjacent to commercial uses and should generally be 2 feet in width adjacent to retail storefronts, or more where there is a sidewalk café.

12.3. Sidewalks in the TC-3 Residential Office district shall be developed in the same way as the commercial districts, except that the Frontage Zone may be used as private space where there are residential units with no ground floor retail uses. A wall, fence or hedge up to a maximum height of 5 feet, may separate the private space from the Throughway Zone in the front yard setback area; however, sight distance triangles shall be observed at street corners and driveway entrances.



12.4. *Materials and Configurations*

12.4.1. Streetscape elements, such as concrete, pavers, benches and waste-bins, throughout the North Beach Town Center shall be consistent within

a project and should be consistent from project to project within the Town Center

12.4.2. Pavement in the public sidewalk area and required yards adjacent to streets shall match the existing pavement materials, colors and patterns in the North Shore Streetscape project.

12.4.3. At the time of development, the developer is required to install sidewalks in the public right-of-way and on the Throughway Zone that may include the building setback area. In addition, a "Frontage Zone" of at least 2 feet in width is recommended adjacent to the building face wherever there are retail/commercial storefronts. A variety of paving materials, textures and colors may be used in the Frontage Zone, subject to design review. All paving materials shall be compliant with ADA accessibility guidelines. Consistency of paving design is recommended.

12.4.4. The ground surface level elevation between the face of curb and the face of buildings shall be level, except for the pitch required for proper drainage.

12.4.5. Curb return radii on all block corners shall be 10-15 feet, where possible.

12.5. *On-Street Parking.*

12.5.1. Parallel on-street parking shall be provided abutting all sidewalks in accord with sight triangle and safety standards, except where traffic volumes necessitate an additional travel lane or turning lane. Parallel parking spaces shall be a minimum of 7 feet wide. Motorcycle or bicycle parking spaces may be provided in the curbside parking lane where appropriate.

12.6. Curb extensions shall be incorporated into the sidewalk wherever feasible at street corners and driveway entrances. Where space permits, curb extensions shall include planters for accent palms or shade trees. Such curb extensions may also include street furniture or understory plantings up to two feet in height.

12.7. *Landscaping.* Street trees are part of an overall streetscape plan designed to give special character to each street and coherence to each area, as well as to provide shade that promotes energy conservation, walking and bicycling.

- 12.7.1. Each street shall have street trees which shall be canopy shade trees unless an exemption is granted through the design review process to substitute palms for shade trees. The Planning Department, in consultation with the City's urban forester, shall determine the placement of the street trees on a case by case basis. Generally street trees shall be planted between 2 feet and 4 feet from the edge of curb depending upon the size of the root structure and required setback from the street. Generally spacing shall be between 15 to 25 feet on center, depending upon the expected mature size of the species of tree, overhead utility wires and other physical conditions. Where necessary, spacing allowances may be made to accommodate curb cuts, fire hydrants and other infrastructure elements.
- 12.7.2. Along 71 Street and Collins Avenue, Royal Palms may be planted between the shade trees at intervals of 50 to 75 feet.
- 12.7.3. Species shall be selected from the North Beach Town Center Street Tree List. Consult the Planning Department for the designated tree species for a particular street.
- 12.7.4. The underground tree planter pit shall be not less than 60 square feet (with a minimum of 5 feet in any direction) per isolated tree, and connected (tree strip) planting areas shall be provided wherever feasible. Structural soil is required to be installed under any impervious surface covering the tree planter pit unless the surface covering is supported in such a way that the underlying planting soil is not compacted.
- 12.7.5. The surface of tree planters shall be paved with a bonded aggregate with a tree fertilization grate system surrounding the tree planter. Tree planters in predominantly residential sections of the Secondary Street Grid may be planted with groundcover or flowering vegetation, subject to design review.
- 12.7.6. At planting, tree trunks shall be at least 2.5 inches in caliper (4 feet above grade) and at least 12 feet in overall height.



- 12.7.7. Street Trees shall be "limbed up" so as to not interfere with pedestrian or auto/truck travel.
- 12.7.8. Generally, any landscaping in required yards adjacent to streets in the TC-1 and TC-2 districts requires administrative design approval.
- 12.7.9. All plant material shall conform to the standards of the American Association of Nurserymen and shall be certified Florida No. 1 or better.
- 12.7.10. Invasive exotic species (prohibited by Miami-Dade County or City of Miami Beach Tree Ordinances) found anywhere on the lot shall be removed.

12.8. *Street Furniture*

- 12.8.1. Benches – In the TC-1 and TC-2 districts, a minimum of one (1) bench shall be provided for every 100 linear feet of street frontage. Benches in the TC-3 district will be determined by design review. The current standard bench for the North Beach Town Center is the Victor Stanley "Steelsites" model # R-B 28 or equivalent.
- 12.8.2. Waste Bins - At a minimum, one (1) waste bin shall be provided at each block corner and at intervals of no more than 300 feet . The standard waste bin for the North Beach Town Center is the Victor Stanley "Steelsites" model # R-B 36 or equivalent.
- 12.8.3. Bike Racks – Bicycle parking shall be provided by each development in accord with Sec.143-739(b) of the zoning code. The standard bike rack to be used in public rights-of-way in the City of Miami Beach is an inverted "U" in stainless steel, in accord with the Public Works Manual.
- 12.8.4. Transit Stops – Where bus stops exist or are proposed, the developer shall coordinate with the Public Works Department and the local transit agency to design a suitable space for a bus shelter in the public right-of-way, with appropriate setbacks for the building façade and entrance doors to facilitate pedestrian circulation and safety around the bus stop.
- 12.8.5. Placement and model/type of all street furniture and fixtures, if different than the current standard, shall be reviewed by the Planning Department.

- 12.9. *Lighting* The exterior of buildings shall be lighted from dusk to dawn, especially the yard areas adjoining public streets, alleys, and waterfront walkways. This will contribute to the safety of the Town Center and encourage pedestrian activity at night. Exterior lighting shall be shielded to prevent inappropriate glare on adjacent buildings and shall conform to the Illumination Engineering Society (IES) lighting guidelines.
- 12.10. *Public Art* is encouraged to be provided wherever feasible in coordination with the Miami Beach Art in Public Places Committee.

- 13. North Beach Town Center Street Tree List.** The following list contains all species approved for use along public streets in the North Beach Town Center. It contains native and acceptable adapted species. Native trees and plants contribute to privacy, noise reduction, maintenance of the natural habitat, and conservation of water. Furthermore, they require less maintenance than imported or exotic species. Other species may be used for planting within a lot. Invasive exotic species may not be used anywhere. Consult the Planning Department for the designated tree species for a particular street. At the recommendation of the Planning Department in coordination with the City's urban forester, modifications to this list may be made at a future date.

North Beach Town Center STREET TREE LIST

Street Trees 15-ft sidewalk					
<i>Common name</i>	<i>Botanical Name</i>	<i>Height</i>	<i>Spread/Shape</i>	<i>Character</i>	<i>Size</i>
Bridalveil Tree	Caesalpinia granadillo	30-40 feet	25' – 30' Vase-shaped	Yellow flowers, Interesting bark, low salt tolerance	Medium
Gumbo Limbo	Bursera simaruba	40-50 feet	35' – 50' Rounded	Native; reddish peeling bark	Large
Live Oak	Quercus virginiana ("Highrise" only)	40-50 feet	<u>Highrise</u> : 25' – 30' upright	Native	Large
Queen's Crape Myrtle	Lagerstroemia speciosa	30-45 feet	25' – 35', variable, round to vase-shaped	Pink/lavender flowers, not salt-tolerant, pH <7.7	Med/large
Sabicu	Lysiloma sabicu	25 feet	25' – 30', vase-shaped, weeping	Smaller, open canopy	Small/med
Tamarind	Tamarindus indica	40-50 feet	35' – 50', rounded to vase-shaped		Large

Avenue Trees 10-ft sidewalk					
<i>Common name</i>	<i>Botanical Name</i>	<i>Height</i>	<i>Spread/Shape</i>	<i>Character</i>	<i>Size</i>
Dahoon Holly	Ilex cassine	20-30 feet	10' – 20', oval to pyramidal	Native, red berries, pH < 7.7	medium
Japanese Fern Tree	Filicium decipiens	20-30 feet	20' 25', oval to rounded	pH < 7.7	medium
Pigeon Plum	Coccoloba diversifolia	15-25 feet	15' – 25', rounded to vase-shaped	Native	small
Pitch-apple	Clusia rosea	25-30 feet	15' – 25', rounded, spreading		medium
Sabicu	Lysiloma sabicu	25 feet	25' – 30', vase-shaped		small/med
Satinleaf	Chrysophyllum oliviforme	20-30 feet	15' – 25', oval		small/med
Vera wood	Bulnesia arborea	25-30 feet	15' – 35', round, spreading		medium

Accent Palms					
<i>Common name</i>	<i>Botanical Name</i>	<i>Height</i>	<i>Spread/Shape</i>	<i>Character</i>	<i>Size</i>
Royal Palm	Roystonea elata	50-60 feet		Native	
Teddy bear Palm	Dypsis leptocheilos	20-30 feet		Long fronds (shade) similar to coconut palm	
Winin palm	Veitchia winin	50 feet			
Wild date palm	Phoenix sylvestris	40 feet		Similar to Medjool palm	

Trees with soil pH preference of <7.7 may not do well in structural soil (pH ~ 8.2)