Miami River Commission
Meeting Minutes
September 9, 2019

The Miami River Commission (MRC) public meeting convened at noon, September 9, 2019, 1407 NW 7 ST.

Miami River Commission (MRC) Policy Committee Members and/or Designees attending:
Horacio Stuart Aguirre, MRC Chairman, Appointed by Governor Scott
Frank Balzebre, MRC Vice Chairman, designee for Miami-Dade Mayor Carlos Gimenez
Frank Castaneda, designee for City Commissioner Gort
Patty Harris, designee for Governor
David Maer, designee for Miami-Dade State Attorney Katherine Fernandez-Rundle
John Michael Cornell, designee for Member at Large Appointed by the Governor
Sallye Jude, Neighborhood Representative Appointed by the County Commission
Neal Schafers, Downtown Development Authority
Bruce Brown, President, Miami River Marine Group
Rosy Noguera, designee for Sara Babun
Manny Prieguez, Member at Large Appointed by City of Miami
Tom Kimen, designee for Neighborhood Representative appointed by City of Miami

MRC Staff:
Brett Bibeau, Managing Director

Others attending interested in the River:
Please see attached sign in sheets.

I) Chair's Report – MRC Chairman Horacio Stuart Aguirre

The Miami River Commission (MRC) unanimously adopted the draft July 1, 2019 public meeting minutes, which were previously provided via e-mail.

MRC Chairman Horacio Stuart Aguirre provided the following report:

Although the Category 5 Hurricane Dorian missed Miami, it had tragic impacts to our immediate neighbors in the Bahamas. The Betty K Shipping Line has been shipping Cargo to the Bahamas for 60 years. On behalf of the MRC I thank the Betty K for distributing this informational flyer about their kind and generous offer to ship donated humanitarian supplies to the Bahamas free of charge. The Betty K vessel will be continuing departing from their Port Miami River international shipping terminal 3 times per week with donated humanitarian supplies for the next month. After Hurricane Dorian the first Betty K vessel departed Port Miami River last Thursday, and again yesterday, with the next departures tomorrow and Thursday, and then continuing every Sunday, Tuesday and Thursday for the next month shipping more donated humanitarian supplies free of

charge. As stated on Betty K's distributed flyer, donations may be dropped off at the Betty K shipping terminal located, 3611 NW South River Drive, Monday – Friday 8AM – 5 PM or 3701 NW South River Drive, Monday – Friday, 8 AM – 7 PM and even on Sunday's from noon-7 PM. Once the donations arrive in the Bahamas, the Betty K has a partnership with NIMA, which is the Bahamian Government's version of FEMA, for distribution to the areas of greatest need.

In addition, I want to thank the City of Miami for delivering 70 full pallets of donated humanitarian supplies collected at City of Miami Fire Stations which are being shipped for free by the Betty K Line, and I thank our friends at the Antillean Shipping Line, which is assisting in Hurricane Dorian Relief efforts.

MRC Vice Chairman Frank Balzebre provided the following update on the MRC's Miami River Voluntary Improvement Plan (VIP):

The Miami River Commission has been actively assisting the efforts of the City, County, State, and private sector to clean up the Miami River District. The MRC thanks the volunteers from the following 6 MRC coordinated and sponsored volunteer Miami River cleanup events conducted since our last meeting:

July 8 - 20 volunteers from the Miami Dolphins Special Teams youth program picked up garbage along the public Riverwalk in Curtis Park

July 11 - 20 volunteers from the Miami Dolphins Special Teams youth program picked up garbage and pulled weeds from the community vegetable and fruit garden along the public Riverwalk here at 1407 NW 7 ST

July 17 - 20 volunteers from the Miami Dolphins Special Teams youth program picked up garbage along the River's south shore from NW 27 Ave Bridge to NW 20 ST

July 25 - 20 volunteers from Touch Miami with Love pulled weeds from the community vegetable and fruit garden and pick up garbage along the public Riverwalk here at 1407 NW 7 ST

July 29 - 20 volunteers from the Miami Dolphins Special Teams youth program picked up garbage along the public Riverwalk in Curtis Park

August 2 – 20 volunteers from the Miami Dolphins pulled weeds from the community vegetable and fruit garden and picked up garbage along the public Riverwalk here at 1407 NW 7 ST

On September 28 the MRC is coordinating and sponsoring the spreading of 175 new bags of dirt and 76 bags of mulch in the community vegetable and fruit garden, and will pick up garbage along the public Riverwalk, here at 1407 NW 7 ST. The MRC thanks the estimated 70 volunteers from UM's Gandhi Day and 10 volunteers from Hands on Miami. This will prepare the public Riverwalk's community and vegetable fruit garden's 19 raised planter beds for a replanting of over 200 new vegetable and fruit plants, with volunteers on October 12, from 9-11 am.

II) Informational Presentation Regarding RMK Merrill-Stevens, 881 NW 13 Ave (both shores of the Miami River west of 12 Ave Bridge)

Mr. Don MacRae, Chief Operating Officer, RMK Merrill- Stevens presented an informational PowerPoint. Mr. MacRae noted Merrill Stevens was established in 1885, 135 years ago. Mr. Macrae stated they are conducting a $35 million renovation and modernization of the boat yard, which will double their workforce in the next 12-24 months with lots of different types of skilled jobs such as electricians, engineers, estimators, service writers, quality control, etc. RMK Merrill Stevens is currently hiring and participated in the Miami Industries Association of South Florida (MIASF) Summer STEM program. RMK Merrill Stevens is partnering with Miami-Dade County School Board, Broward School Board and MIASF on an apprentice program which is in the works. The modernization includes a new 2,700 ton, 72 meters long, Synchro Lift, capable of removing 235-foot world class mega yachts out of the Miami River for service on the "North Yard". Therefore, RMK Merrill Stevens will have the largest haul out capability south of Jacksonville Florida, and may fit 3-4 Mega Yachts a time out of the water on the "North Yard". In addition. the renovations include new seawalls and sheds, removed the top yard of dirt and replaced it with new clean dirt, and features an environmentally sensitive system for catching rain water, wash water, and water treatment. The South Yard has an additional 100 ton lift capable of removing vessels 80-100 feet. The renovations are estimated to be completed by April 2020.

Merrill Stevens Yachts is the exclusive South Florida dealer of Sealine Yachts, and is the Service and Warranty Center for Sealine, Fjord, and Maori Yachts. Arkup manufactured a floating boat house which has the ability to move and uses spuds as anchors. RMK Merrill Stevens sponsors "Fishing to Make a Difference" and the Miami River Commission.

Mr. MacRae stated within a 3-mile radius of RMK Merrill-Stevens there is:

- $8.8 billion in consumer buying power
- 200,000 residents
- $65,000 average annual income

Mr. MacRae stated the recreational boating industry in SE Florida produces $4 billion in annual wages, 136,000 jobs, and $23 million into the economy. Mr. Macrae stated a mega-yacht average stay in the boatyard is 3 months. Mr. MacRae stated the Fort Lauderdale Boat Show generates more than $800 million in economic activity, which is more than the NFL Super Bowl.

III) Informational Presentation Regarding Norseman Ship Building Corp., 437 NW South River Drive

Orin Black provided an informational presentation regarding Norseman Ship Building Corporation. Mr. Black stated Rick Herron sold the Norseman Building to the new owner / manager is Carlos "Marty" Martell, and they have a 20-year lease on the boatyard which is owned

by Orin Black. Mr. Martell was out of town, but will join Mr. Black to present this informational item to the full MRC on September 9, 2019. Dr. Fran Bohnsack, MARAD, stated this boatyard received a $225,000 Federal Small Shipyard Grant, and that program's available funding pool has grown to $7 million. Dr. Bohnsack stated over the past 3 years 5 Federal Small Shipyard Grants have been awarded to job generating marine industrial businesses operating along Port Miami River. Dr. Bohnsack added the "Port Infrastructure Grants" annual cycle is focused on international trade with Coastal Ports therefore it has less competition and could possibly provide funding for a new needed seawall on the western portion of Antillean Shipping or P&L Towing. The site has been going through improvements such as a new boat lift which is 80 feet long, 28 feet wide, and capable of hauling out 90-foot boats, new paint, new lights, and new decking. Business is good.

Mr. Black stated in 2 weeks a new seawall will commence construction at his adjacent 5TH Street Marina, at the future "Gramps on the River" restaurant portion of the site, followed by construction of the restaurant featuring a section of the public Riverwalk. Mr. Black stated the 5th ST Marina's 630 linear feet of dockage is currently full, with a waiting list.

IV. New Business

The meeting adjourned.

Miami River Commission
Public Meeting

Monday, September 9, 2019
Noon
1407 NW 7 ST
Miami, FL

NAME	ORGANIZATION	PHONE & E-MAIL
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TRoy TAylor	RiverFront Association	770 312 8422 TRoytt@AOl.com
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Miami River Commission
Public Meeting

Monday, September 9, 2019
Noon
1407 NW 7 ST
Miami, FL

NAME	ORGANIZATION	PHONE & E-MAIL
Mark Bailey	Miami River Marine Group	markbailey@miamirivermarinegroup.org
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Catherine Lackner	Miami Today	clackner@gmail.
Horacio S. Aguirre	MRC	Horacio@hsaguirre.com
Hans Mueller	First Bank FLA	305-3330055

PUBLIC DOCUMENT

MIAMI BAYWALK & RIVERWALK

Waterfront Design Guidelines
Section 1: Design, Layout & Materials

ACKNOWLEDGEMENTS

City of Miami
444 SW 2nd Avenue
Miami, FL 33130
(305) 416-1400

Planning Department
Office of Capital Improvements
Department of Resilience and Public Works

Mayor, Francis X. Suarez
Commissioner, Wilfredo (Willy) Gort, District 1
Commissioner, Ken Russell, District 2
Commissioner, Joe Carollo, District 3
Commissioner, Manolo Reyes, District 4
Commissioner, Keon Hardemon, District 5
City Manager, Emilio T. Gonzalez

Miami Downtown Development Authority
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Miami, FL 33131
(305) 379-6675

Miami River Commission
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Special Thanks To: Horacio Aguirre, Miami River Commission; Daniel Alzuri, Adrienne Arsht Center; Robert Hill, Intercontinental Hotel, Maria Hernandez, City of Miami Beach; Christopher Hodgkins, Miami Tunnel; Elizabeth Plater-Zyberk, DPZ; Troy Simmons, Troy Simmons Studio

Updated September, 2019

CONTENTS

Miami Baywalk & Riverwalk will celebrate Biscayne Bay and the Miami River's **ecology**, **history** & **culture** by connecting people to a **continuous**, **vibrant**, **resilient** and **iconic waterfront.**

The value, and especially the legitimization of design, will be measured in the future more in terms of how it can enable us to survive on this planet.

— Dieter Rams, designer

MISSION

MIAMIDDA
DOWNTOWN DEVELOPMENT AUTHORITY

Introduction

Over the years the City of Miami has undertaken numerous planning efforts directed at creating a public water edge along waterfront properties to provide public water access to adjacent communities. The following guidelines provide recommendations that unify and activate the waterfront by recognizing its importance as a cultural, ecological and recreational asset for the city.

These design guidelines provide the framework for existing buildings and open spaces, as well as future development along the Miami Baywalk & Riverwalk, consisting of the Brickell Area, Downtown Central Business District (CBD), and the Omni Area. Where the Miami River and Biscayne Bay merge.

These guidelines will define the 25-foot wide setback adjacent to the water's edge along the Miami waterfront. It will link together open space, buildings, water and sky with the use of a logo and unifying design elements such as: signage, lighting, site furniture, planting, paving, colors and art. The guidelines are based on five "Design Pillars:" 1) resiliency, 2) history, 3) culture, 4) identity, and 5) ecology.

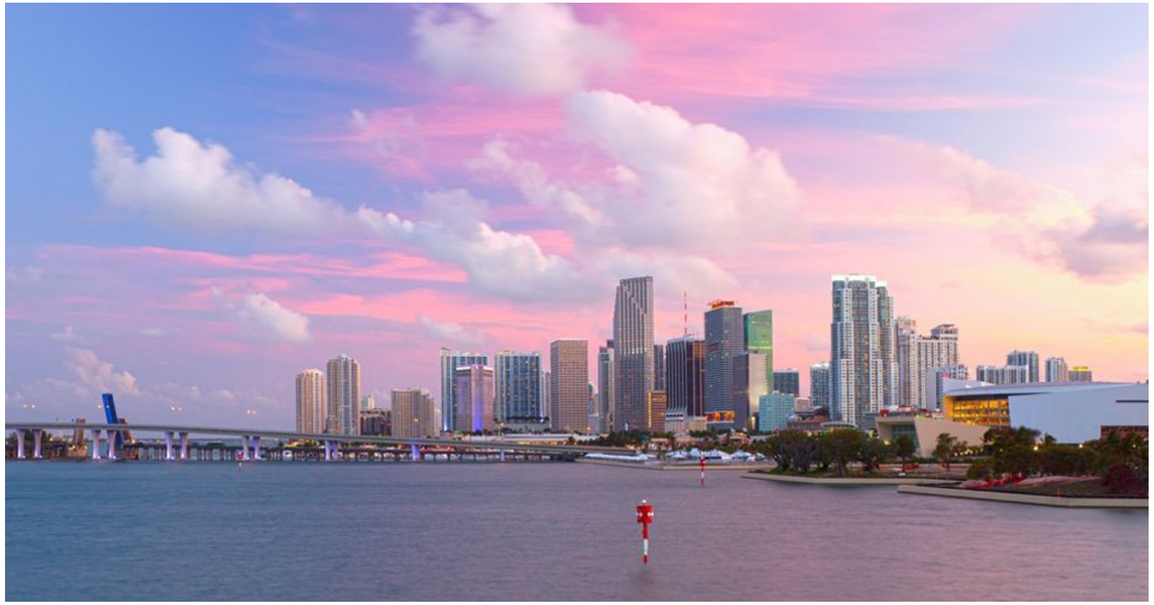
The brand, design guidelines and Unifying Design Elements (UDEs) have been developed through a partnership between the Miami Downtown Development Authority, the Miami River Commission, various stakeholders, and four community outreach efforts in the areas surrounding the Miami River; CBD, Omni and Brickell.

Years of collaboration have yielded numerous plans and studies focusing on land use, development, economics, transportation, engineering, and design. These Waterfront Design Guidelines are the first attempt to combine physical/spatial improvements with a brand and logo to raise public awareness of the waterfront, and create an implementation strategy that can start to become real immediately.

Since a decade ago, the City of Miami, universities and other agencies have recognized the importance of connecting the citizens to Miami's water edge. The following plans and studies are indicative of these efforts:

- Miami River Greenway Action Plan, 2001
- Miami River Corridor Urban Infill Plan, 2002
- Project for Public Spaces, Miami Baywalk, Place Evaluation Workshop Report, 2004
- Miami River Greenway Regulatory Design Standards, 2008
- Miami DDA 2025 Downtown Miami Master Plan, 2009
- Miami 21 Waterfront Design Guidelines, 2010
- University of Miami "On the Waterfront", 2012
- University of Florida, Capstone Project: "Baywalk", 2012
- Miami-Dade County Waterfront Masterplan, 2013
- City of Miami Baywalk Mobility Plan, 2013

The Waterfront Design Guidelines will allow designers creative latitude when designing projects along the Miami Baywalk & Riverwalk. Certain modulations are standard, but it gives the City, designers and developers choices to allow each area to express its own unique character.



Biscayne Bay

Miami River

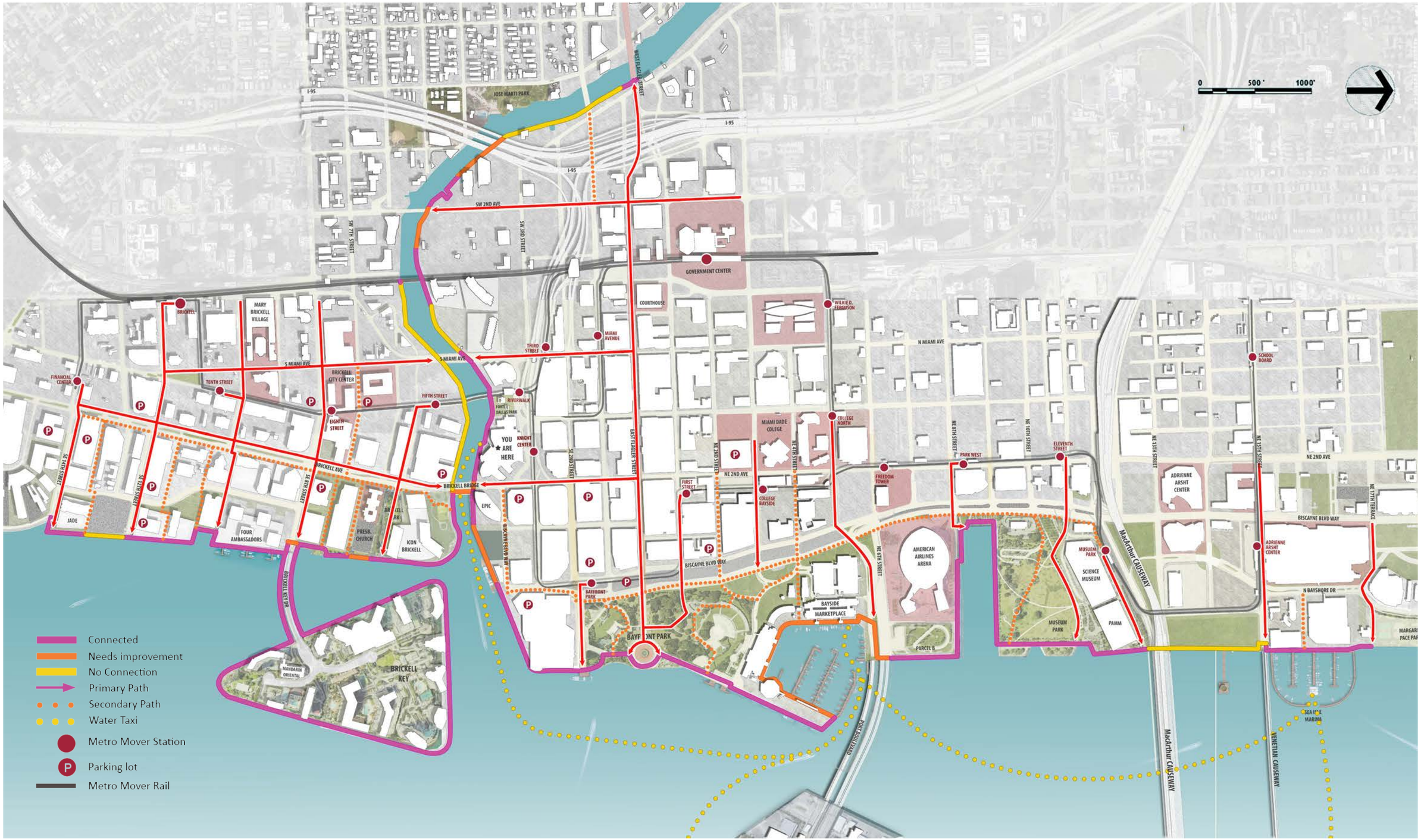
Overall Goals

Miami Baywalk & Riverwalk embodies the distinctive character and charm of Miami's cultural and maritime history addressing its community infrastructure and core values with future resiliency challenges.

The following are key goals for the development of the Miami Baywalk & Riverwalk:

- Improve public access to the waterfront, increasing connectivity and linkages to the adjacent communities and awareness of its existence.
- Create a continuous pedestrian waterfront experience connected to the City that affirms the waterfront as a public resource.
- Celebrate Miami and the significance of the water in its past, present, and future.
- Create a unified waterfront through the integration of consistent and/or complementary publicly-oriented improvements.
- Establish world-class unifying design components to solidify identity, bring people to the walk and enhance visitor experience.
- Reinforce the vitality and identify possible opportunities for activities along the waterfront to encourage a diversity of experiences.
- Make all improvements to increase resiliency while promoting sustainable practices.
- Create a safe environment for visitors and residents.
- Connect people to the outdoors and the natural environment.
- Promote healthy living.
- Reinforce a sense of historic continuity.
- Encourage private and public investment.
- Create a comfortable outdoor urban environment.
- Promote civic art.
- Encourage cultural and educational activities.

Project Limits & Connectivity Map



DESIGN & LAYOUT

Purpose & Use

The Miami Baywalk & Riverwalk Design Guidelines Manual will serve as a blueprint for long-term design and development, and as a reference document for the City, project developers and designers. It will articulate the envisioned character and design features to be implemented on the 25-foot wide open space adjacent to the water.

To inform the guidelines, the best examples of existing lighting fixtures, signage, open spaces, site furniture, paving, and general site design were identified and analyzed, along with the unique activities of each district.

The guidelines allow for a variety of physical improvements and spatial experiences to encourage creative, responsive design. The purpose of the guidelines, and especially the components, is to establish a desired unified character and level of quality for the Baywalk/Riverwalk that should be promoted and maintained.

This document is intended as a supplement to, not a replacement of, applicable city, state, federal, and other regulatory documents.

The Guidelines are intended to be used when designing or renovating open spaces along the Miami Baywalk & Riverwalk. For example, when a property needs to repair or replace light fixtures along the site, this manual can serve as the basis of decision-making to ensure consistency of style, fixture and level of illumination.

When issuing a request for proposals for development of public property within the boundary of the study area, the guidelines will be included and all, or some, of the components will be expected to be implemented.

The guidelines are structured within this document in the following manner:

A. Presenting broad goals to communicate the vision and overall intent of the topic.

B. Guidelines that apply to:
1. Sustainability and resiliency, 2. Spatial organization, continuity of promenade.

C. General guidelines that apply to:
1. Identity, 2. Safety, 3. Flexibility, 4. Materials

D. Unifying Design Elements guidelines:
1. Paving, 2. Lighting, 3. Site Furniture 4. Planting, 5. Signage

<u>Design & Layout Goals:</u>

- Improve public access to the waterfront, increasing connectivity and linkages to adjacent streets and neighborhoods.
- Raise awareness of Miami's waterfront.

Design & Layout

- Create a continuous pedestrian waterfront experience connected to the city that affirms the waterfront as a public resource.
- Celebrate Miami's waterfront and its significance in the past, present, and future.
- Create a unified spatial experience on the waterfront through the integration of consistent and/or complementary publicly-oriented improvements.
- Establish world-class unifying design components to strengthen district identity and enhance user experience.
- Identify possible opportunities for activities along the waterfront to encourage a diversity of experiences.
- Increase waterfront resiliency while promoting sustainable practices.
- Create a safe environment for visitors and residents.
- Connect people to the outdoors and the natural environment.
- Promote healthy lifestyles.
- Reinforce a sense of historic continuity.
- Encourage private and public investment.
- Create a comfortable, "livable" outdoor urban environment.
- Promote civic art, educational and cultural activities.
- Improve orientation along the waterfront. Unify the Miami Baywalk & Riverwalk through improvements to the public realm.
- Design a vibrant and diverse open space system with a continuous waterfront promenade for residents and visitors.
- Create an active, high-quality, varied, and accessible environment at the water's edge.
- Ensure strong visual and physical connections towards the Miami Baywalk & Riverwalk.
- Reflect the waterfront's ecology, cultural history and working maritime community in the design of public amenities.
- Encourage low impact, sustainable design methods within the public realm that address water run-off, water quality, air quality, biodiversity and Heat Island Effect.

Promenade Typologies

- Encourage low impact, sustainable design methods within the public realm that address water run-off, water quality, air quality, biodiversity and Heat Island Effect.
- Utilize pervious paving system (see Hardscape Guidelines).
- Use high-quality materials that are compatible and resilient to the waterfront location.
- Capitalize on the waterfront location, balancing recreation, contemplation and nature.

INTENT

The Miami Baywalk & Riverwalk design guidelines are intended to provide the overall vision for the 25-foot wide promenade adjacent to the water's edge for the development of public access, open space improvements, and the addition of public amenities. It is important that open spaces, private spaces, and street ends will be integrated along the waterfront establishing a unified character and high-quality public realm leading to the Miami Baywalk & Riverwalk. It will become a system of linked public spaces creating a lasting amenity within the city's urban realm with an established identity and character.

The goal is to establish and reinforce visual and physical connections from the city to the waterfront, as well as create connection along the waterfront linking institutions, parks, plazas, landmarks, retail, residential, office buildings, and water-related activities.

The central feature of this linear open space is the continuous pedestrian promenade extending from Brickell to Omni parallel to the Bay's edge and connecting up the Miami River until SW 1st Court on the south side and the Flagler Bridge on the north side.

This section presents guidelines as an example for how the promenade design can be configured. The design configurations or typologies include the promenade path(s), addressing where lighting, planting, seating and activity nodes (such as playgrounds, food vendors), water access, public art or other features could be placed.

The promenade provides continuous off-street circulation for pedestrians and people on bicycles with views to the bay and the river. This pathway is integrated with water taxis, bike paths connecting adjacent parks and plazas and other connections, such as the Venetian Causeway, Brickell Key Bridge and the MacArthur Causeway.

Its possible configuration allows for seating, walking, rollerblading, biking, people-watching, fishing, art shows, markets, festivals, education, and will encourage much more activity on the Baywalk & Riverwalk.

Typologies:

To promote diversity of experience for the users, the promenade may have four basic configurations:

1. **Central walk**, framed by green
2. **East-side walk**, where the open or green space is on the west side and the walk is adjacent to the water
3. **West-side walk**, where the open or green space is adjacent to the water and the walk is on the west side
4. **Split walk**, the walk is split into two and the green space is in the center to allow for bikers and pedestrians to be separate or to create two different experiences: one facing the water and one facing the city

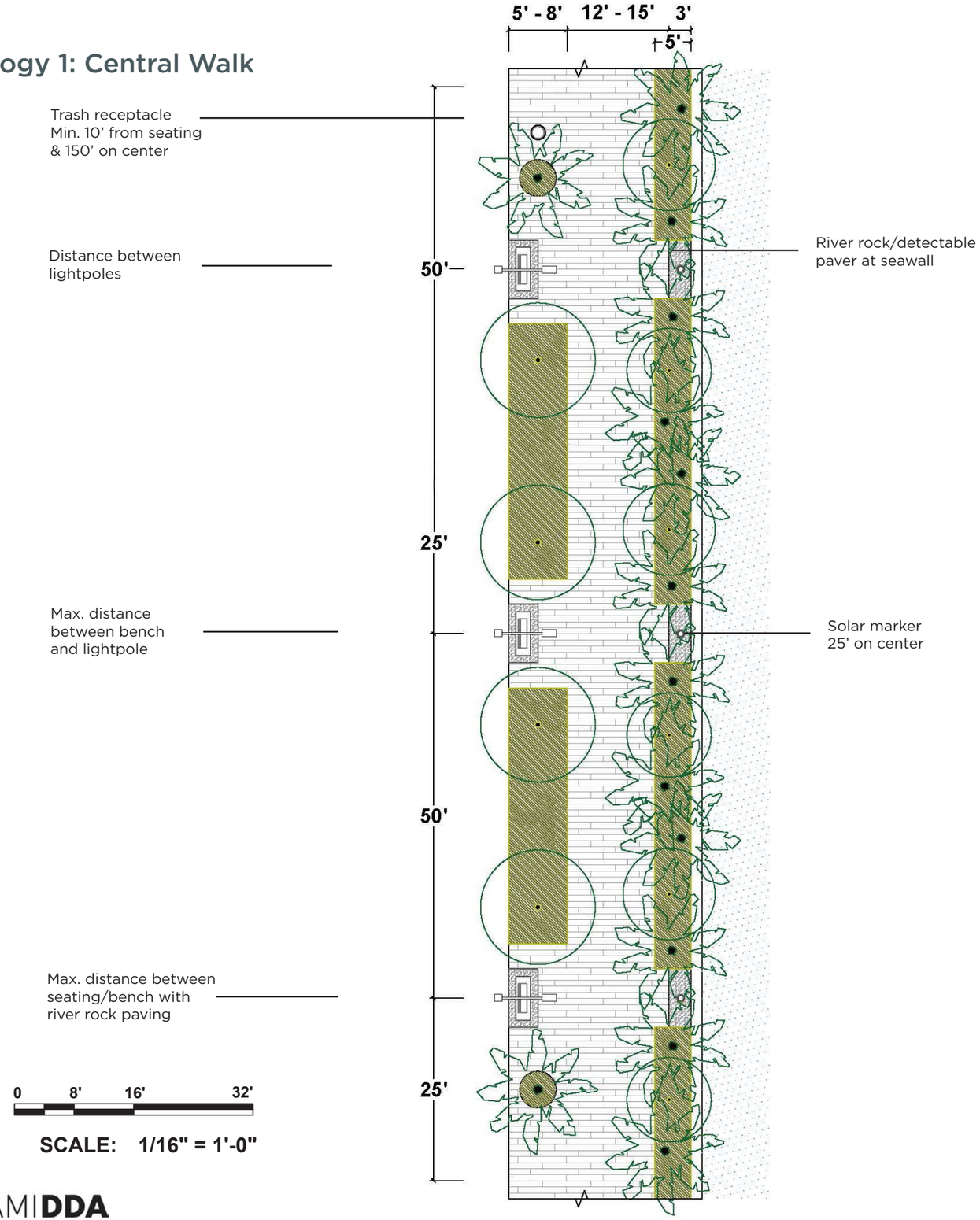
Promenade typology planting guidelines:

Promenade typologies are intended to allow designers with maximum flexibility in spatial configurations to reflect and adapt to adjacent conditions along the seawall and shoreline, public open space and private property development.

- Typology 1 shall have a minimum 30% green space ratio.
- Typology 2 shall have a minimum 35% green space ratio.
- Typology 3 shall have a minimum 35% green space ratio.
- Typology 4 shall have a minimum 25% green space ratio.

- **All typologies shall provide at least 50% immediate shade coverage on the Baywalk & Riverwalk, with 100% shade coverage within 10 years.**

Typology 1: Central Walk



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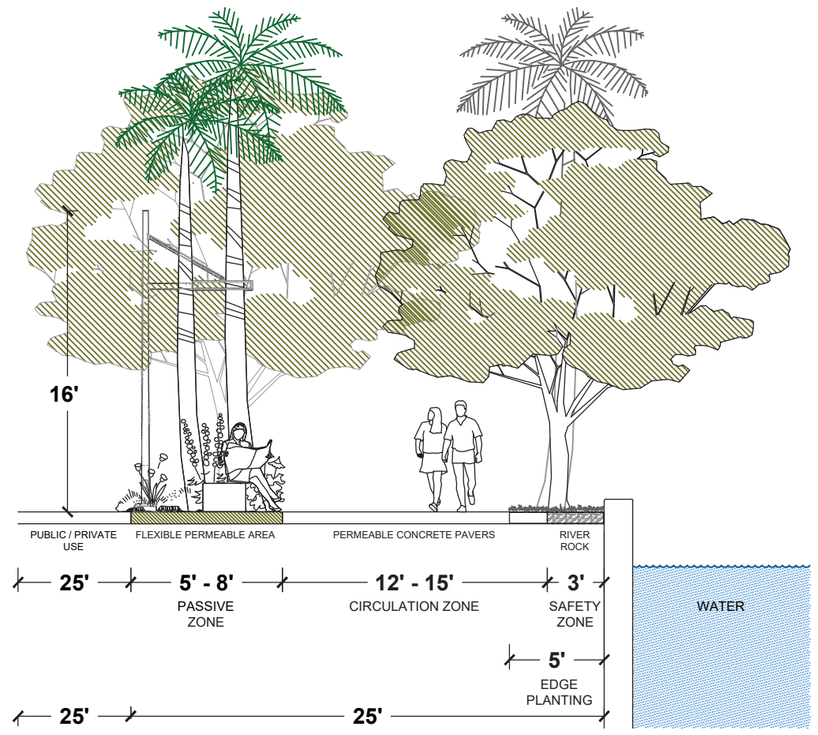

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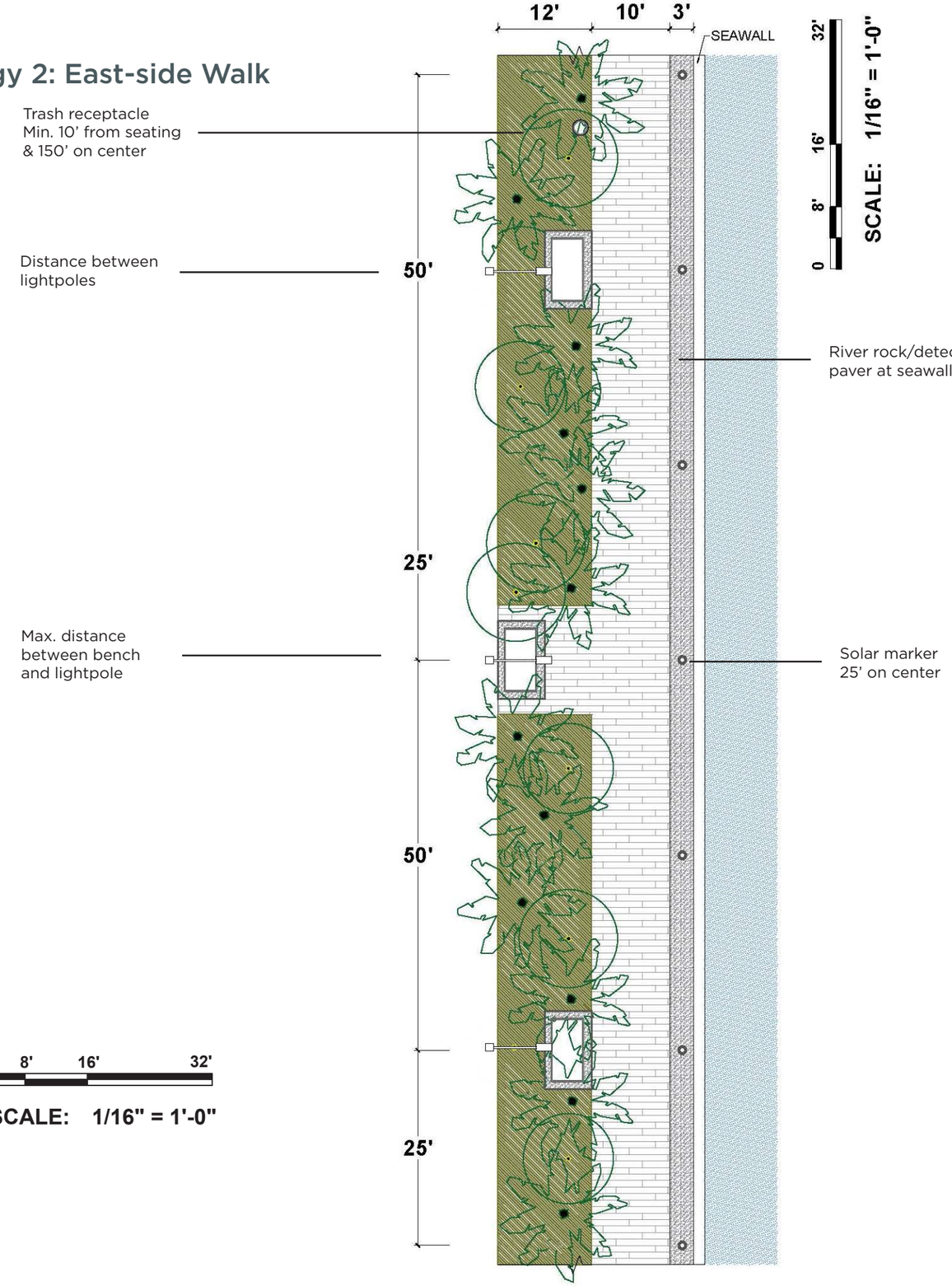
Typology 2: East-side Walk



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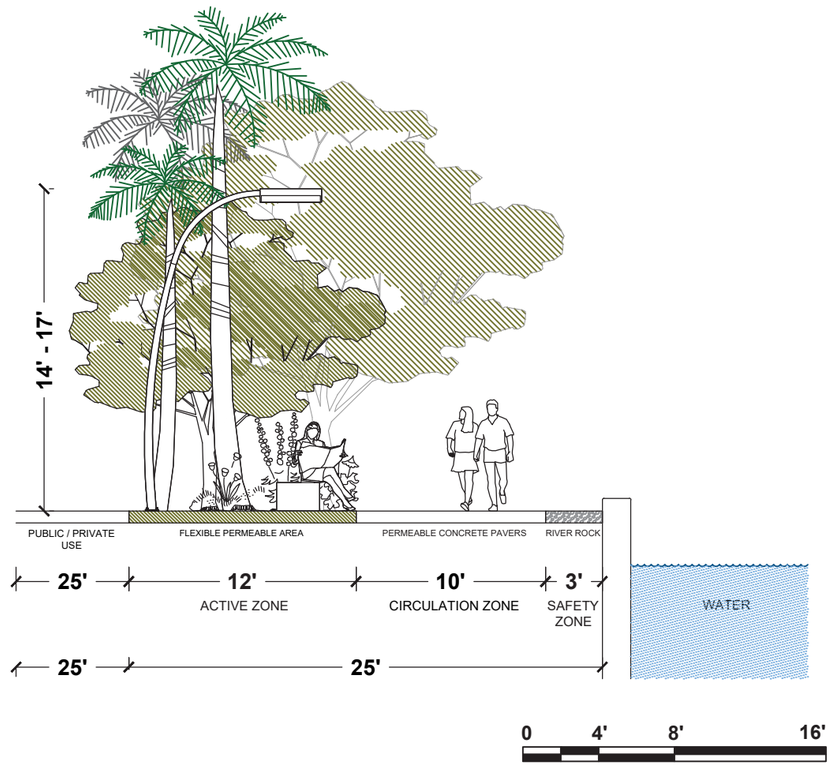

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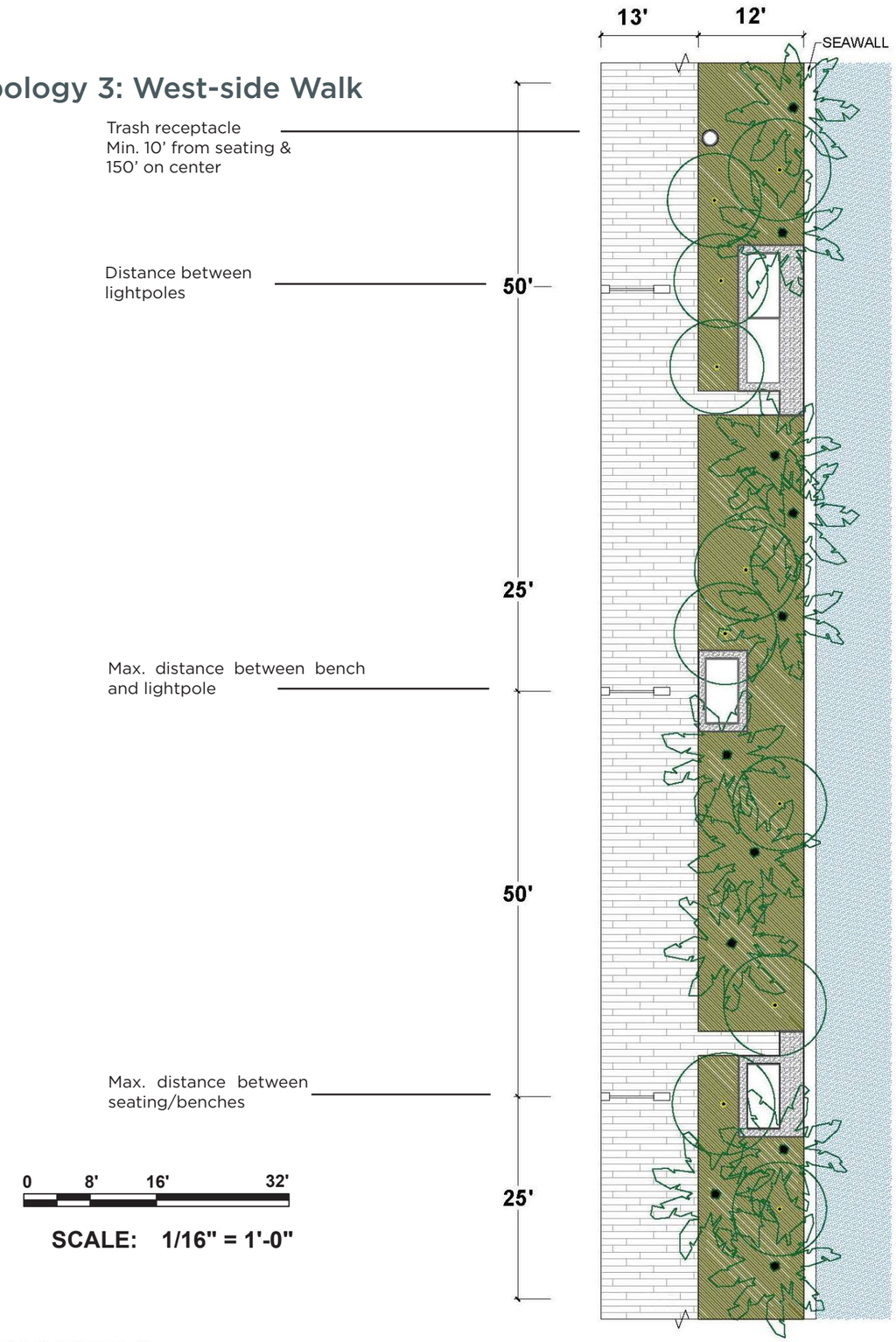
Typology 3: West-side Walk



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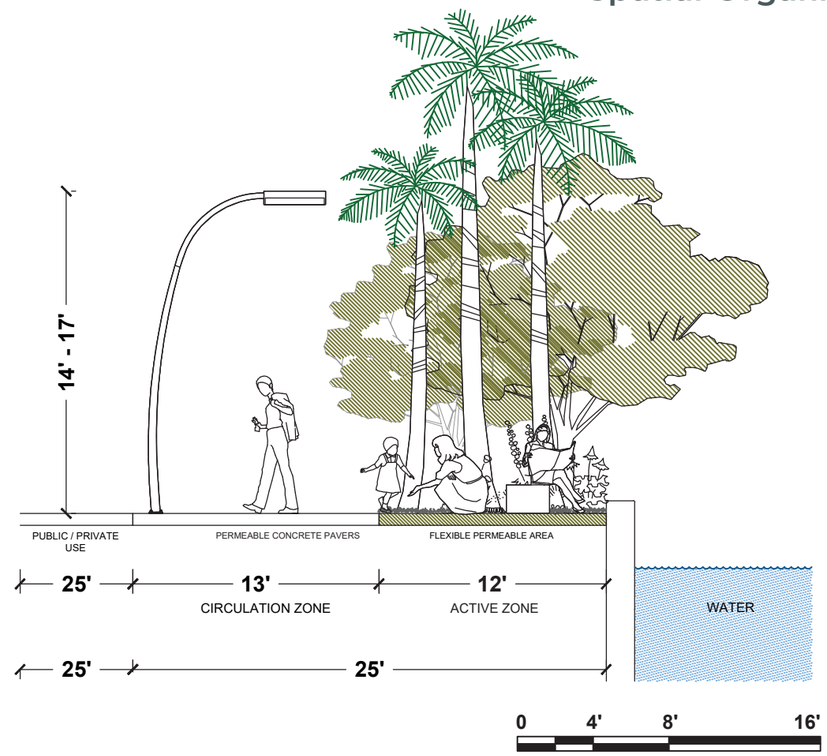

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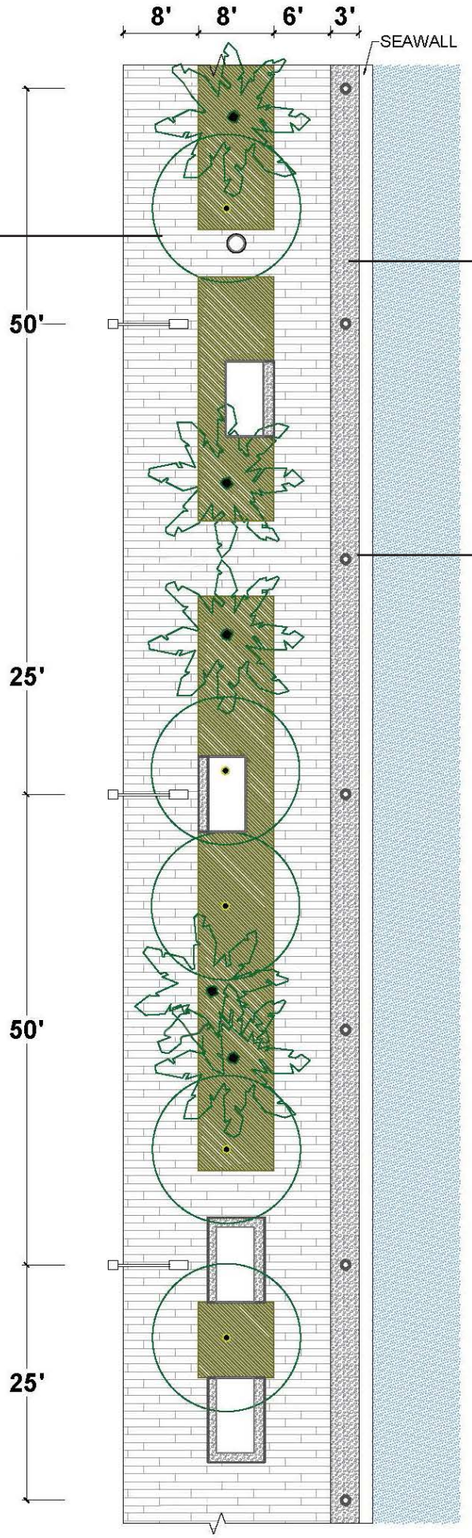
Typology 4: Split Walk



Trash receptacle
Min. 10' from seating
& 150' on center

Distance between
lightpoles

Max distance betwen
seating/benches

River rock/detectable
paver at seawall

Solar marker
25' on center

0 8' 16' 32'

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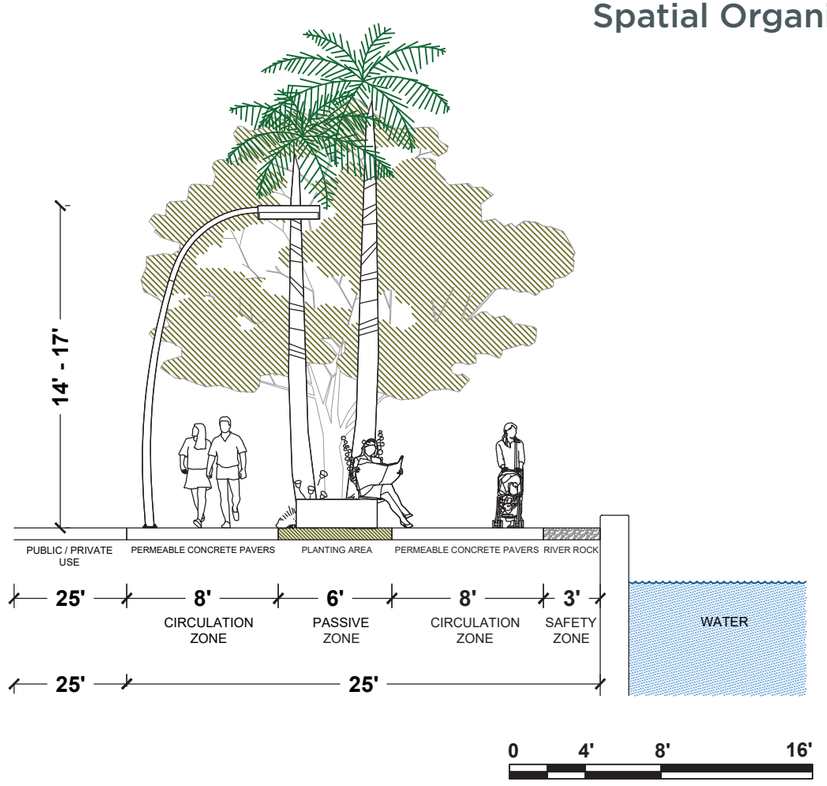

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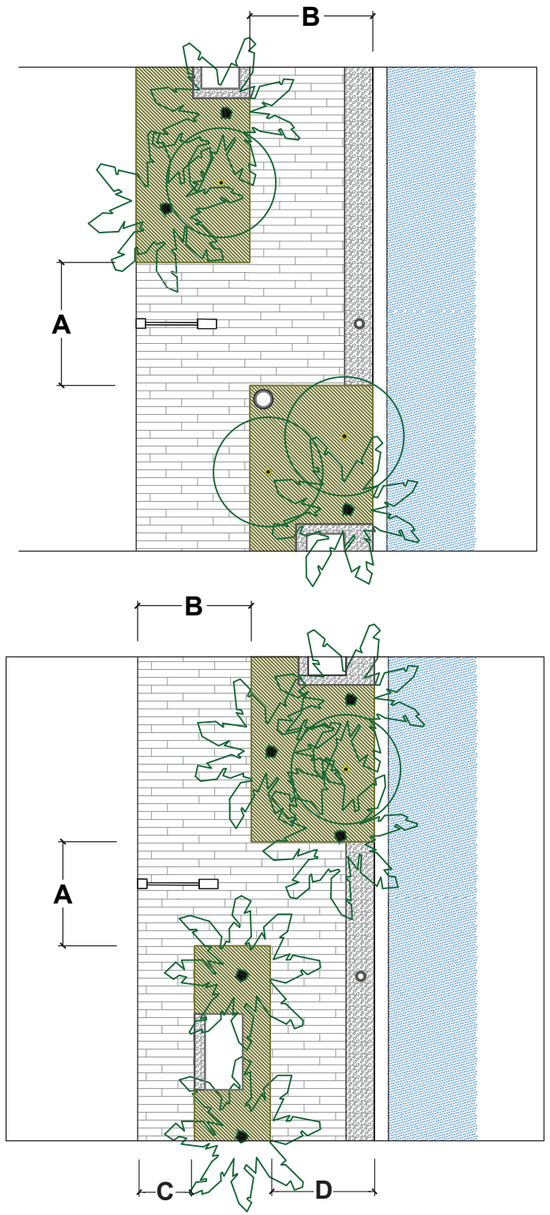
Promenade Typology Transitions

GUIDELINES

Transition areas will be 8’-15’ wide where the width of the transition area (A) is equal to the width of the connecting path (B).
See graphics below for the three types of transitions between the four promenade typologies.

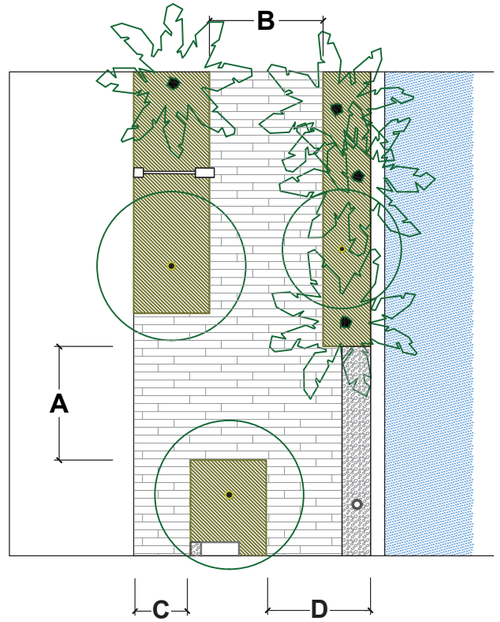


Transition 1

Transition between Typology 2 (East-side walk) and Typology 3 (West-side walk). **Width of A and B shall be equal.**

Transition 2

Transition between Typology 4 (Split walk) and Typologies 2 or 3 (East-side or West-side walk). **Width of A and B shall be equal.**



Transition 3

Transition between Typology 4 (Split walk) and Typology 1 (Central walk). **Width of A and B shall be equal.**

SCALE: 1/16" = 1'-0"

A proposed example of the typology transition will be implemented at the River Landing development on the Miami River.

MATERIALS

Paving & Hardscape Background & Intent

Today there are many paving and hardscape styles, patterns and materials along the Miami Baywalk & Riverwalk. For paving, most properties show concrete pavers in different colors and patterns. Consistent use of selected paving materials enriches the pedestrian environment, improves its functional and aesthetic qualities, and furthers the goal of unifying the Miami Baywalk & Riverwalk.

Paving materials should be compatible with the desired intent and function of the space in which they are used. The family of paving materials, commonly used in marine environments, should include concrete pavers, pervious pavers, stone pavers, with or without aggregates, river rock and concrete.

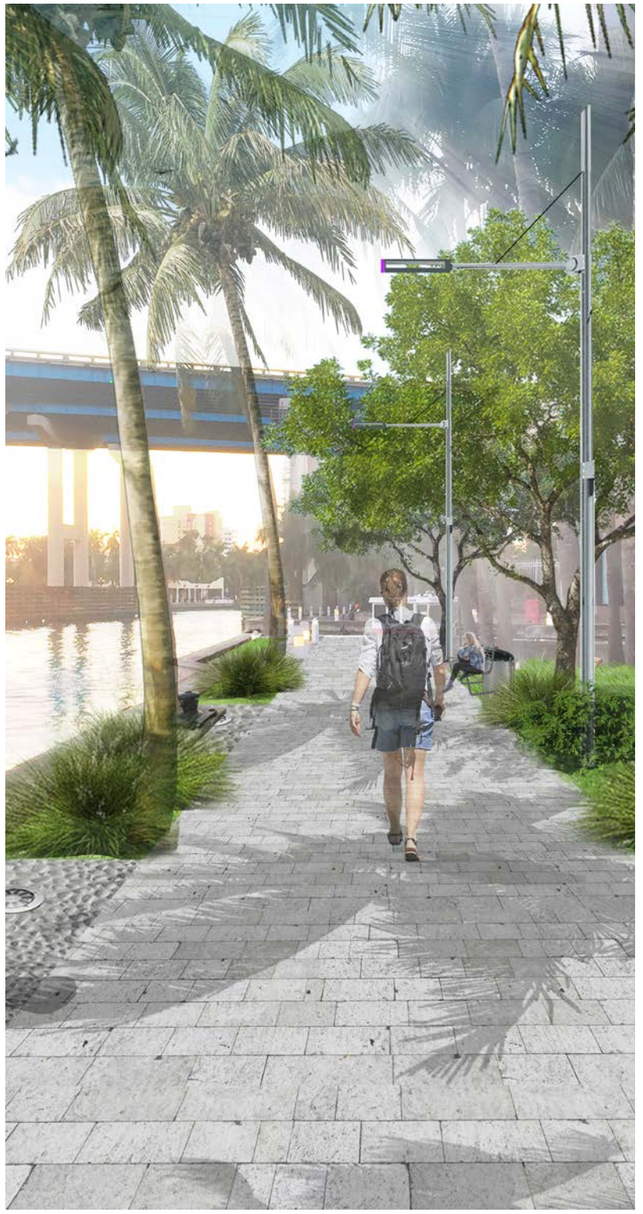
Concrete pavers are recommended as the standard paving material that ties to existing paver installations and provide a unified feel. Selecting pavers in neutral tones such as “gray” and “sand” with natural aggregates, such as marble chips and seashells, is an effective way to transition between properties and build the new sections of the Miami Baywalk & Riverwalk. Concrete pavers are also highly functional because they are easy to maintain and replace. It also provides a resilient alternative to poured concrete by incorporating pervious paving infrastructure using concrete pavers.

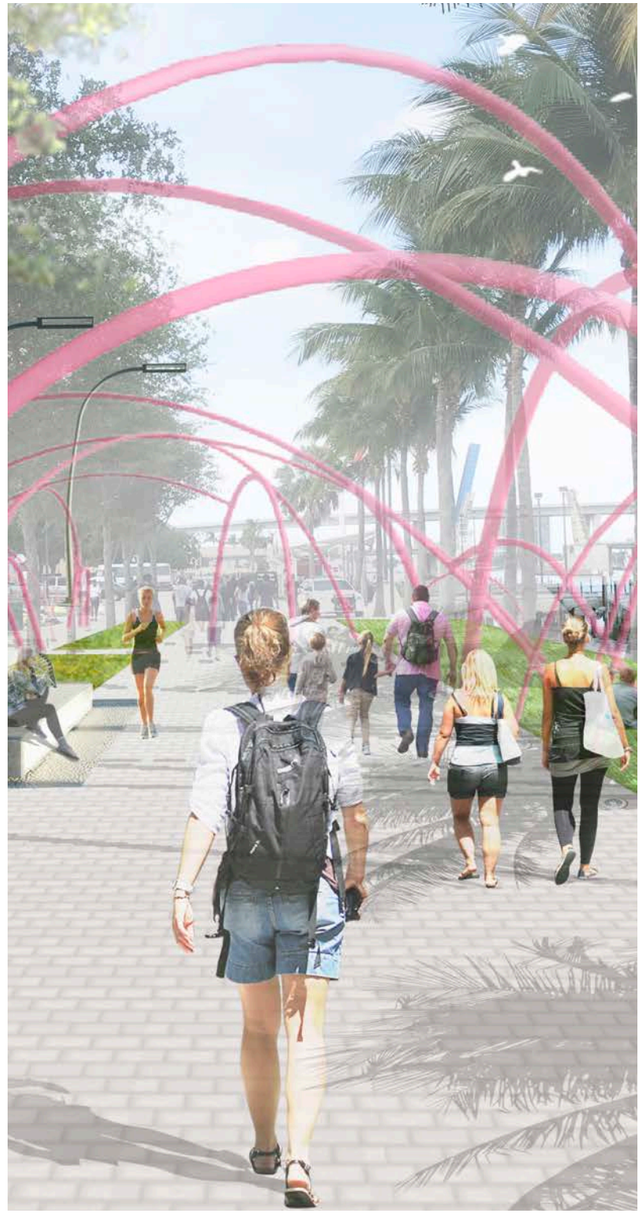
<u>Goals:</u>

- Create a unified paving material both in the visual and tactile sense
- Reduce maintenance requirements with easy to maintain and replace paving materials
- Promote sustainability and resiliency with locally-sourced and manufactured paving materials, as well as pavers that can be adapted to a permeable paving system

<u>Paving Guidelines:</u>

- Paving should have a low reflectance albedo (minimum 0.3 factor) to reduce glare and heat absorption to decrease the heat-island effect.
- Permeable paving materials shall be used to reduce stormwater utility infrastructure and promote the filtration and collection of stormwater.
- Concrete pavers shall be used to visually and tactilely unify the promenade together.
- Concrete paving materials shall incorporate recycled materials where practical (i.e. glass aggregate, fly ash, or recycled aggregates) and/or shells, stones and other natural marine aggregates.
- Concrete with salt finish or shell aggregate should be used in steps adjacent to the water. A stainless steel anti-slip mesh shall be fixed to the upper “wet” concrete steps.
- For proposed walkways over water, wood decking or recycled plastic such as reclaimed, thermally-modified/acetylized wood may be used.





Concrete pavers give the Miami Baywalk & Riverwalk a unified, but distinct character. They are also easy to maintain and replace. LEFT: Miami Riverside Center heading to SW 1st Ave Bridge. RIGHT: Bayfront Park heading to Bayside Marketplace.

- Select pavers in neutral tones such as “gray” and “sand” with natural aggregates, such as marble chips and seashells
- Utilize mortared river rock as a detectable paver for the waterfront edge and around benches for protection against skateboards.
- Paving shall be laid in a running bond pattern for pedestrian areas and herringbone in areas where vehicular use is required for emergency access.
- Poured-in-place rubberized play surface and artificial turf shall be added in playground and fall areas.
- Any proposed material to be incorporated should reflect the nature and character of the site as a waterfront marine environment.
- All materials and colors shall be approved by the City of Miami Planning Department.

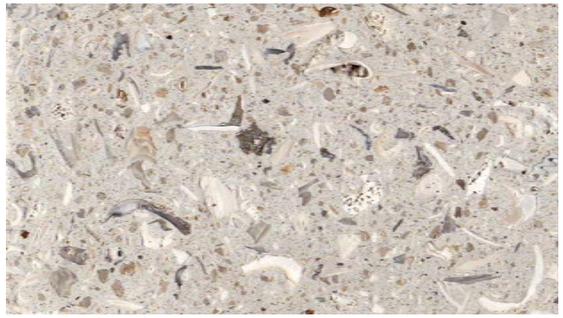
Maintenance:

- Quarterly weeding at paver joints
- Quarterly pressure cleaning
- If required, the sealing of pavers to minimize stains in high-intensity use zones (i.e. cafe areas), shall be restricted to clear, penetrating, non-glare sealers
- All sealed pavers shall be re-sealed on an annual basis

Wood Guidelines:

Timber structures, typically, require a relatively high commitment to maintenance and repair, especially in outdoor areas exposed to water, salt, wind and intense sun conditions. It is important that this is budgeted for at the outset and considered within the design approach and selection of materials. These maintenance regimes will require a combination of routine inspections and reactive repairs. For these reasons the use of wood should be carefully considered. The use of naturally durable timber such as reclaimed Greenheart wood (primarily from marine piles) is recommended for permanently wet exposed environments. Other types of wood, such as thermally modified wood with less moisture content, are recommended. Recycled reclaimed timber is also recommended as a source material. Potential sources of reclaimed timbers include posts and beams from demolished warehouses, pilings and beams from dismantled piers and planks.

- All timbers have a machined finish. The hardwood timber shall be left in its natural state.
- Fittings are made from stainless steel or aluminum.
- All wood shall be separated from stone and/or concrete base by a minimum of 4” to allow for air circulation and on top of a metal flashing with a drip edge.



- Concrete Permeable Paver
- Concrete with marble chip or seashell aggregate
- Old Castle Paving, or approved equal
- 3” x 12” X 3 1/8 th” or 4” x 16” x 4” th or 12” x 6” x 3 1/8 th (for heavy vehicular use only)
- Exposed aggregate; spacers on all edges; light/natural gray, sand or buff color

- Cast-in-place decorative concrete paving
- White Portland Cement with exposed seashell aggregate
- Light sandblast
- Limited use only

- Detectable paving band
- White/Brown River Rock
- 1”-3” pebble
- Set in thickset mortar bed
- Match existing

It is critical that the right species of wood is selected for each job. Selection of the appropriate material is largely determined by the original materials and anticipated residual life of all components. It is recommended to keep a stock of appropriately dimensioned timbers to allow for example, deck planks or wood benches slats to be repaired with the minimum of delay.

Wood substitutes are acceptable if they meet the minimum standard of 95% pre-consumer and post-consumer content. Kebony, Resysta, and Recycled Plastic Wood, are acceptable alternative materials. Potential uses of wood or alternative materials on the Miami Baywalk & Riverwalk include: wood decking on boardwalks or piers and for benches.

Lighting Background & Intent

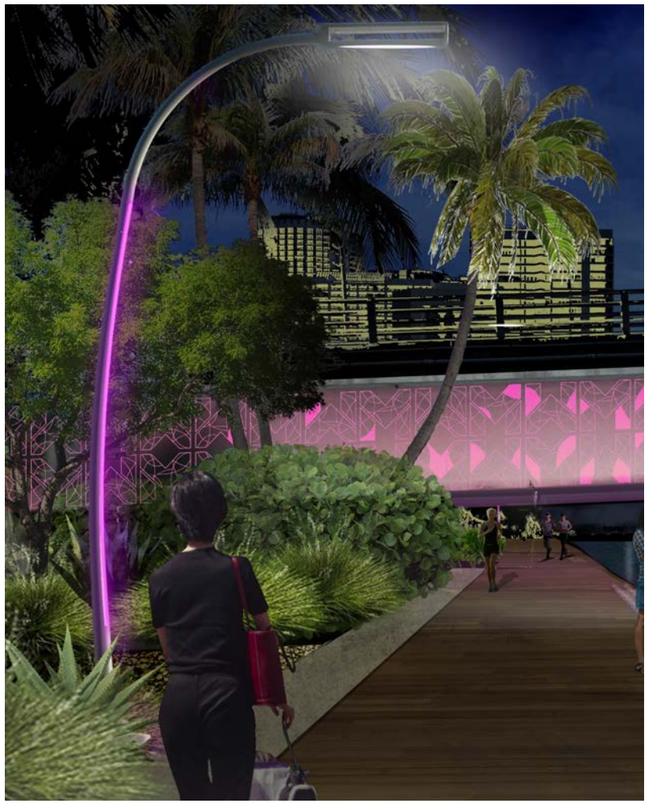
The light fixture design and colors are inspired by the sights, sounds and forms of Biscayne Bay and Miami River. Much like the mangrove's arching roots, the light fixture is designed for the bayfront arches over the walkway. Along the River, the light pole reflects the masts and rigging of sailboats. To create a unifying element, each light is designed with a small accent LED light – a thin linear strip on the bayfront and a small triangle on the riverfront – that forms a nighttime "pink necklace" - symbolizing our sky's colors, the flamingo, and shrimp – which can be seen by land, water and air. Additionally, the fixtures will be equipped with technology that allows other colors to be projected at any time, to adapt to each season if the City so desires.

The lighting for the Miami Baywalk & Riverwalk will transform the nighttime experience of Miami's "front porch" from both the land and the sea. Lighting will make the waterfront not only a world-renowned community amenity, but also an economic driver at night. This amenity will be used late into the evening, therefore we must use light to define how people will "see and be seen" in their surrounding environment. This approach considers layers of light, vertical illumination, long distance visual cues, glare, visual acuity and contributions from surrounding elements i.e., architectural aerial lighting, landscape features and signage.

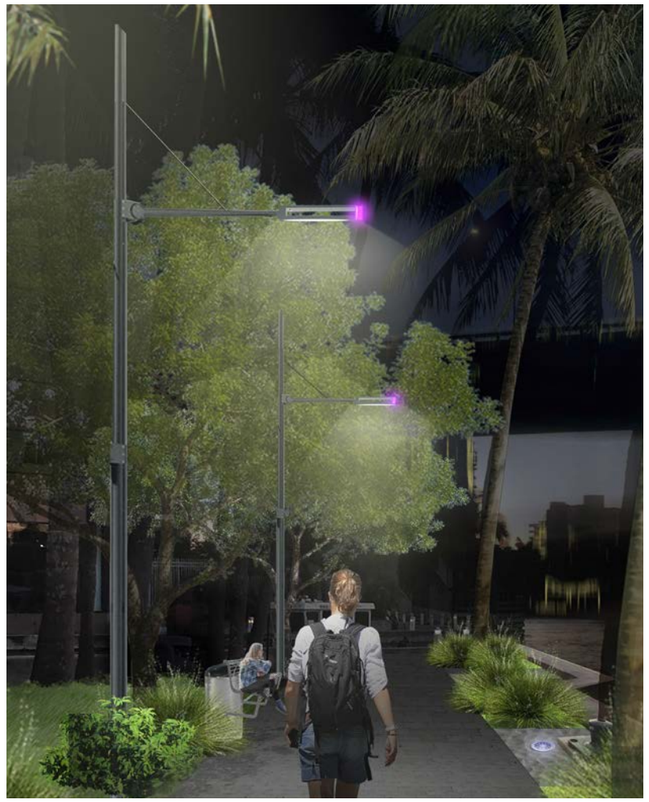
Other important aspects of lighting are longevity, controllability, sustainability and maintainability. The project endeavors to use a vocabulary of fixtures that are familiar with the waterfront and can build on a family of fixtures that can enhance the branding. It is proposed to use cutting edge long life LED technology that is highly efficient to maximize lifetime operating costs. Smart wireless control techniques may be implemented to manage light levels after hours when the path is less frequently used as well as monitor fixture conditions by maintenance teams. The fixtures will be resilient to environmental conditions and the realities of the waterfront elements such as salt, water and wind. Our goals are to put the right light in the right place at the right time, to provide an energy effective, dynamic solution that defines and celebrates the Miami waterfront for many years to come.

<u>Lighting Goals:</u>

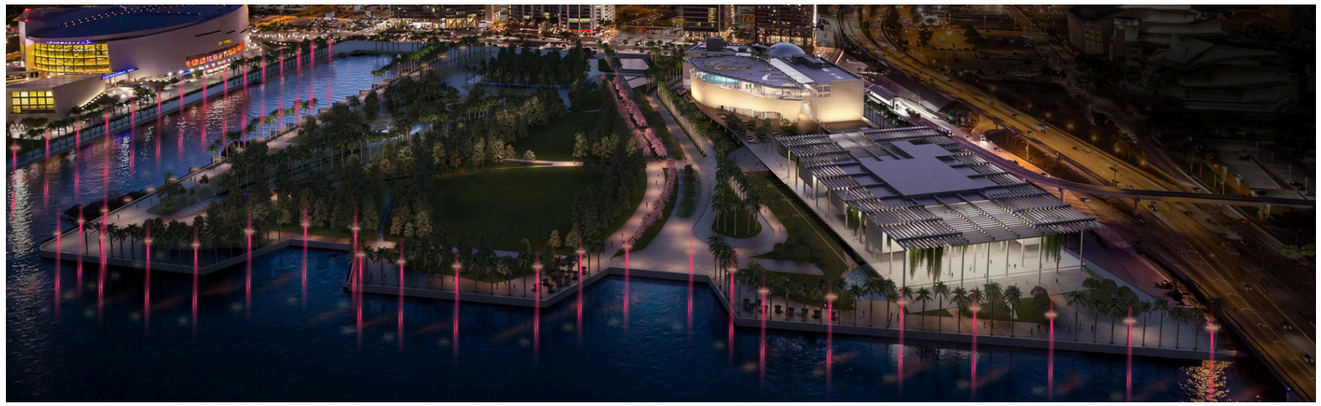
- Create a visual necklace to connect the entire downtown waterfront
- Architectural integration with the iconic Miami waterfront and district identity
- Safety and security - good visual acuity
- Create hierarchy - pedestrian experience
- Optical control (full cut-off "dark sky" luminaries, glare reduction, and dimming levels)
- Maintainability, resilience and sustainability
- Energy efficiency with LED and solar fixtures
- Budget
- Dynamic qualities (eco-intelligence, dimming/motion activation): Wireless sensors to optimize energy savings, minimize light trespass and enhance security.



Baywalk curved lightpole
with colored LED strip



Riverwalk "mast" lightpole
with colored LED cap



"Necklace" of light on the bayfront

Goals:

The goal for lighting at the Miami Baywalk & Riverwalk is to create a stimulating yet respectful connection along this iconic public waterfront. One of the ways to activate the connective spine is to use multiple layers of light:

- **High Level Ambient Light - Typical Pathway Area Lights:** Connection, consistent, rhythm/intervals.
- **Mid Level Destination Light - Unifying Design Element:** Color light band, mangrove trellis, observation towers, shoreline steps, water features, artwork, illuminated signage, gaming areas.
- **Low Level Wayfinding and Placemaking Light:** Marker lighting to define paths, under bench lighting and specimen tree lighting.

Criteria:

Based on existing Museum Park illumination criteria and recommended IESNA 10th Ed. values for high activity in lighting zone 3:

- Average maintained horizontal illuminance at ground level - 1fc
- Average maintained vertical illuminance - 0.3fc
- Average to minimum uniformity ratio - 5:1 or less

References:

- IESNA RP-33-14 Lighting for Exterior Environments
- IESNA G-1-03 Security, People, public Spaces
- IESNA Lighting Handbook 10th Edition
- Miami Dade Parks and Recreation
- FBC 6th Edition 2017

Basic control system:

- The controls shall meet the current edition of the Florida Building Code at time of construction These guidelines are based off of the Florida Building Code 6th Edition 2017.
- Typical pathway lighting designated for dusk-to-dawn operation shall be controlled by an astronomical time switch or photosensor. All time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.
- Solar powered paver lights shall be illuminated through the night based on amount of UV power collected throughout the day.
- Any requirements for code related illumination including but not limited to egress, emergency and exit lighting shall be shown on the Electrical Drawings.

Benefits of an adaptive wireless control system:

- Extends lamp life
- Adaptive dimming through motion sensors
- Reduces power consumption
- Reduces light trespass in residential neighborhoods
- System management and reporting

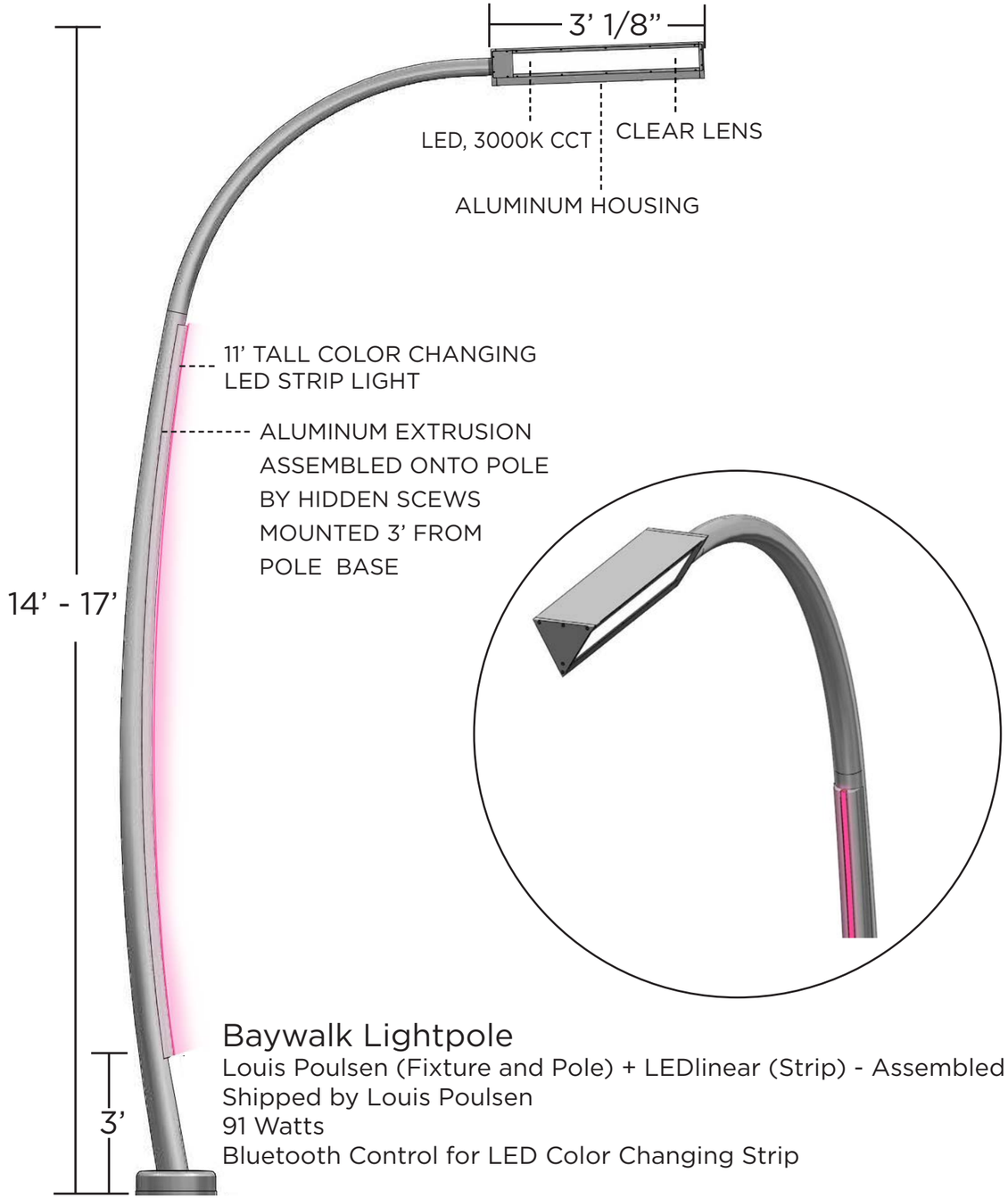
A traditional lighting control system requires line voltage power infrastructure continuously along the path, which can be expensive and labor intensive. By taking advantage of advanced technologies, such as Bluetooth Low Energy (BLE) enabled devices (i.e Casambi), within fixtures it is possible to create a fully addressable wireless point to point mesh network without having to pull any additional control wiring. Once control over fixtures is enabled, fixtures can be remotely turned on and off, dimmed, change colors, grouped into zones and configured into scenes and animations, set on timeclocks with weekly and yearly calendars and relay information back about the fixture life status all from the app installed on a phone or tablet. One of the greatest sustainability advantages is to pair BLE devices with motion and daylight sensors and to apply adaptive lighting strategies after normal operation hours. Fixtures can be programmed to turn on to full at dusk, dim after hours, turn back to full on only when motion is detected and then fully shutoff at sunrise. This strategy extends lamp life, reduces power consumption, and reduces light trespass in residential neighborhoods.

Ideally every fixture would be installed with a BLE device, however with budget in mind the first most critical light feature to be installed with BLE technology is the color changing feature on the typical pole lights. By having control over this fixture the color can be changed on the UDE for special holidays and events. This builds civic pride, engages visitors, and adds a dynamic feature to the waterfront. The secondary component recommended to have BLE control would be the typical overhead area lights paired with sensors; therefore employing an adaptive lighting control strategy to reduce the overall energy consumption along the entire path.

Maintenance

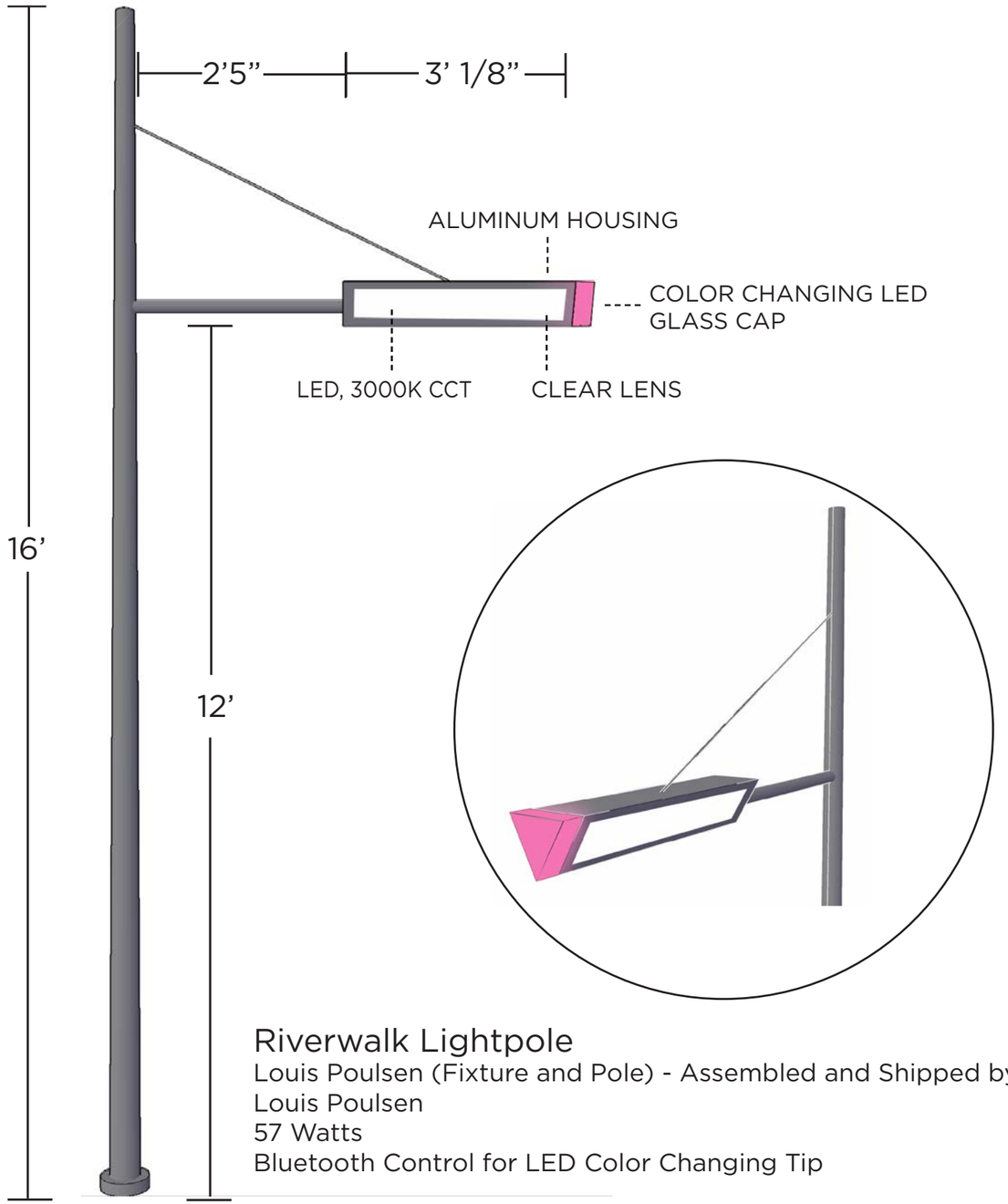
The average rated life for the LED lighting utilized on the Baywalk & Riverwalk ranges from a minimum of 30,000 hrs to 50,000 hours, which is approximately 6.8 to 11.4 years with an average operating period of 12 hrs/day and it is recommended to purchase extended warranties when available. Fixtures with remote drivers shall have the drivers located in easily accessible well ventilated locations that are protected from the elements to prevent overheating and premature failure. Fixtures shall be specified with marine grade finishes and a minimum IP66 rating to withstand the environmental elements. Fixtures shall be procured through North American companies to facilitate long term future maintenance and replacement.

Baywalk & Riverwalk Lightpoles (**Distance between lights no greater than 60’. Preferred distance is 40’**)



Baywalk Lightpole

Louis Poulsen (Fixture and Pole) + LEDlinear (Strip) - Assembled and Shipped by Louis Poulsen
91 Watts
Bluetooth Control for LED Color Changing Strip



Riverwalk Lightpole

Louis Poulsen (Fixture and Pole) - Assembled and Shipped by Louis Poulsen
57 Watts
Bluetooth Control for LED Color Changing Tip

NOTE: See appendix for details

Lighting Standards

Adjustable Ingrade Lighting
Erco - Tesis - 35181.023
LED, 7 Watts

Solar Marker Lights
Solar Path - SolaTile Rigel 60
LED, 0 Watts
Photo Sensor

Tree Strapped Lights
BK Lighting - Denali on PM2 Tree Strap
LED, 12-27 Watts - Tree Dependant

Tree Uplighting
BK Lighting - Denali on Power Pipe
LED, 12-27 Watts - Tree Dependant

Underwater Fish Lights
Acclaim - Flex Tube SE RGB
LED Color Changing, 3 W Watts/ft.

Underbench Lighting
Q-Tran - iQ67 Flex Mini White
LED, 3.3 Watts/ft.

Mangrove Trellis
Acolyte - Neonlyte
LED, 3 Watts/ft.

Bollard Lighting
Louis Poulsen - Waterfront
LED, 35 Watts

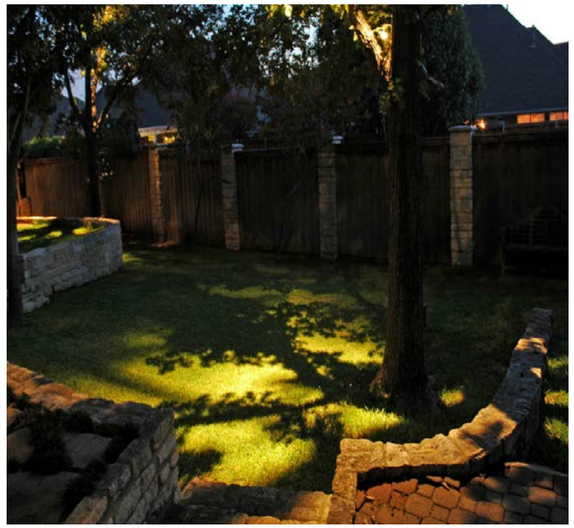
Refer to Materials Matrix and Appendix for Product Specifications

Layers of Light Applications (Additional Options)

Uplights - for sculptures or specialty trees and planting

Mangrove Trellis Lighting

Tree Lighting - uplights and downlights



Moonlighting - downlights

Solar Markers - for the water's edge

Underwater Fish Lights - for specialty locations along the water's edge

Bench Lighting

Artistic Element Lighting

Refer to Materials Matrix and Appendix for Product Specifications

Site Furniture Background & Intent

Inspired by nature and the history of the waterfront, the family of furnishings is designed and selected to reflect both the character of the Miami waterfront on Biscayne Bay and Miami River, as well as Miami's cultural heritage. Mangrove patterns, reinforcing the waterfront brand and logo, are imprinted or carved into benches, signage and waste receptacles.

Sustainability, mainly in the form of durability and local availability, was the main criteria in creating the furniture palette. Materials include reclaimed wood, coral rock, concrete/shellstone paving, aluminum and recycled plastic that are appropriate for the Miami waterfront location.

Presently, the Miami Baywalk & Riverwalk includes a variety of components such as furniture, lighting, paving and planting that are not cohesive and do not promote harmony between properties. This manual provides recommendations for furnishings, lighting and paving elements as a basis to establish a unified spatial experience. The Miami waterfront has two distinct characters: the Bay, which is expansive and open to the sky, and the River, which is industrial and has a more intimate scale.

The family of furnishings for the Miami Baywalk & Riverwalk reflects these two characters. Inspired by the natural environment, the shipping industry, the Bay, the River and Miami's culture and identity, the family consists of seating, waste and recycling containers, bike racks, drinking fountains and others. The furnishings are made of a consistent palette of materials including reclaimed wood, shellstone or coral rock, concrete pavers with shell aggregates and metals that are appropriate to these Miami waterfront locations, reinforce site identity, and sense of place.

Goals:

- Reflect the maritime nature of the site
- Use appropriate and durable materials suitable for the marine environment including shellstone, metal and reclaimed wood (when allowed to weather naturally).
- Become an ornamental aspect of the Miami Baywalk & Riverwalk.
- Harmonize with the natural ecology of Miami.
- Provide comfortable opportunities for rest and relaxation.
- To facilitate diversity in usage.
- Withstand regular coastal winds and hurricane force winds.
- Reduce maintenance.
- Allow a free flow of pedestrian traffic and not pose a hazard to anyone. excessively.

GENERAL GUIDELINES

- Seating materials are made of stone, wood or metal "tubes" that do not conduct heat excessively.
- Seating is designed as movable, fixed, seat/retaining walls, or terraced steps.
- Seating design and selection to respond and enhance Bay and River's character.
- Locate long seating, such as seatwalls and steps in appropriate locations, e.g. spaces adjacent to the water, which would protect the seawall. (See spatial typologies for organization examples)
- Provide separate waste receptacles for garbage and recycling. Recycling should be separated between glass, paper, metal and plastic.
- Waste receptacles are selectd with rain covers and removable liners to conceal waste, and allow for easy maintenance.

BOLLARDS

- Bollards are to be placed at street ends to block access to pedestrian areas.
- Bollards are designed as square coral or shellstone blocks, between 18 to 24 inches height.
- "Movable" bollards shall be used where access of emergency vehicles is required.

STORAGE AND EQUIPMENT

- Outdoor storage of materials should be minimized and consolidated.
- Outdoor storage shall be screened from public view.
- Fire and mechanical equipment, if visible, should be uniform and consistent in color, size and location.
- Marina storage boxes shall be metal or recycled plastic with reclaimed wood veneers, to also function as "benches".

MAINTENANCE

- All metals shall have rust-inhibiting finishes, such as galvanization or powder coating, and be resistant to UV light, chipping, flaking, and salt spray.
- Anti-graffiti coating (either liquid-applied non- sacrificial surface sealer or liquid-applied sacrificial surface coating) shall be used to minimize maintenance, where necessary.
- Shade structures (i.e. pergolas/trellises), designed to withstand coastal winds and UV light, should be utilized to provide shaded seating in limited, selected locations.

Baywalk or Riverwalk - Standard Bench

- **Distance between benches no greater than 60’. Preferred distance is 40’**
- Santa Cole Neoliviano Bench (or approved equivalent)
- Anodized Aluminum Finish for Supports Anodized Aluminum Finish for Supports
- Unfinished Exterior Wood available in Jarrah and Domestically Sourced Thermally Modified Ash (DSTMA) exterior wood.
- Exterior woods weather to a warm, pewter gray; no finish is applied so no maintenance is required.
- Three options: 24” chair, 69” bench w/ center arm, or 118” w/ center arm

69” bench w/ center arm

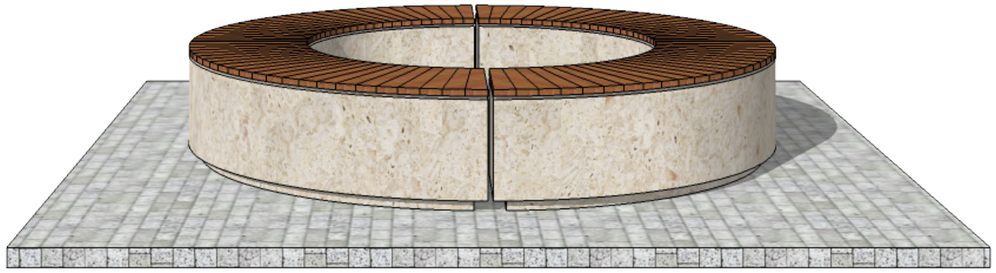
24” chair

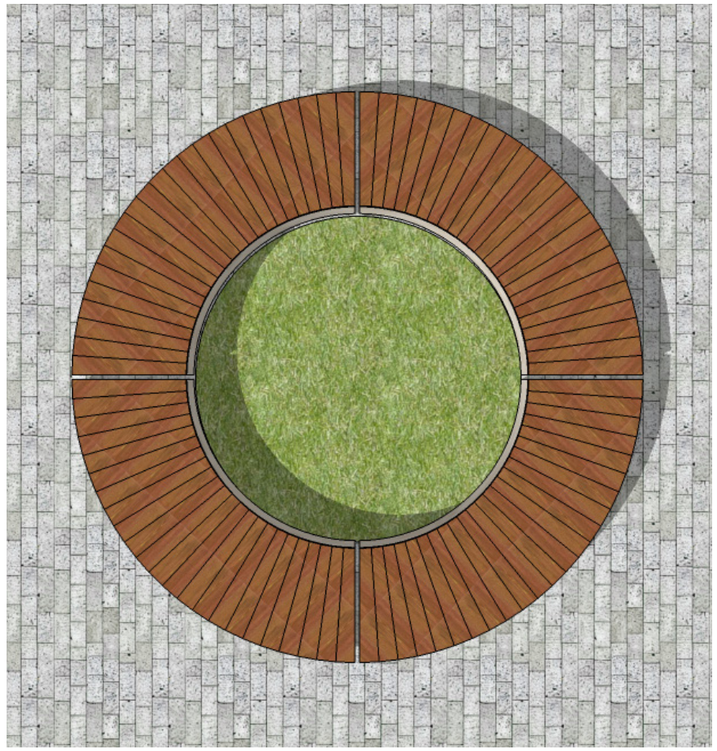
118” bench w/ center arm

Refer to Materials Matrix and Appendix for Product Specifications

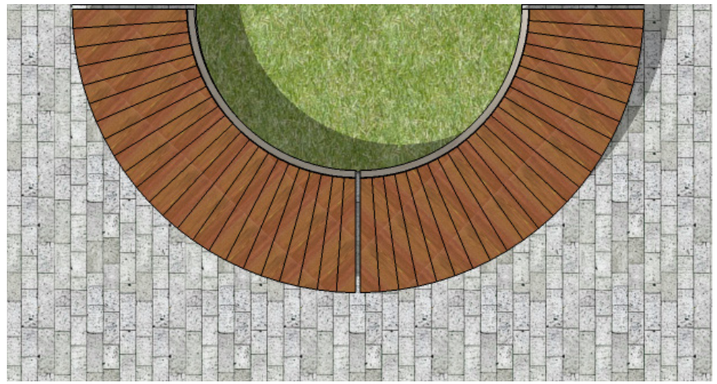
Stone Donut Bench (optional)

- Dominican Shellstone
- Circular bench wrapped around tree
- 10’ and 6’ radius options
- Full circle or half circle option
- Optional Thermory wood seat from Maglin (Ogden collection) or made out of reclaimed Greenheart wood.





SCALE: 3/8" = 1'-0"



Refer to Materials Matrix and Appendix for Product Specifications

Additional / Movable Furniture (optional)

Trio Bench (or approved equivalent)
Forms + Surfaces
Center Arm available. Frame is solid cast aluminum with powdercoat finish. Ipé hardwood slats are 100% FSC with a natural oiled finish

Bench MLB870 (or approved equivalent)
Maglin
Center Arm, Marine grade or E-Coat Rust Proofing, Thermory wood or High density paper composite

Chill Lounge
Landscape Forms
Polyethylene
Daisy, Habanero, Fog and Otter

MCL720 Chaise Lounge
Maglin
Powdercoated steel or wood
Gunmetal

Chipman Chair
Landscape Forms
Marine grade Aluminium, 100% recyclable
Silver

Catena Chair
Landscape Forms
Marine grade Aluminium, 100% recyclable
Silver

Foro or Battery Collection Table
Maglin
Marine grade or E-Coat Rust Proofing, 100% recyclable
Gunmetal

Column Table
Forms+Surfaces
Stainless Steel,
Spun stainless steel,
Finish: Satin

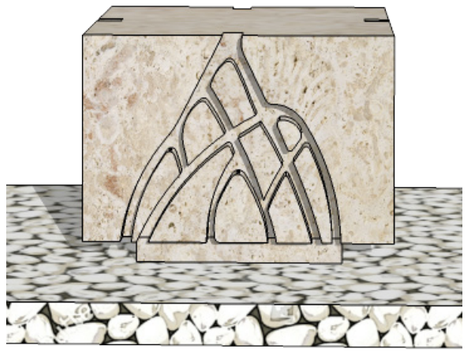
Refer to Materials Matrix and Appendix for Product Specifications

Site Furnishings (trash receptacles are mandatory, all other accessories are recommended, but optional)

Lakeside Litter w/ side opening and mangrove pattern
Landscape Forms - Stainless steel

Flo Bike Rack
Landscape Forms
Marine grade Aluminium, 100% recyclable
Silver

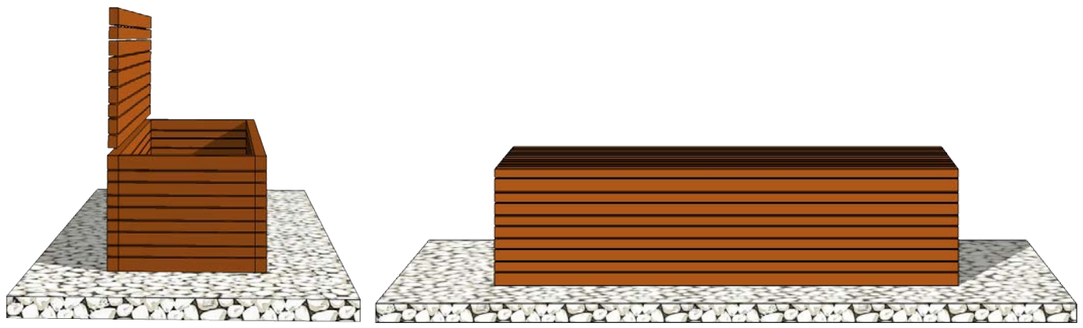
Loop Bike Rack
Landscape Forms
Marine grade Aluminium, 100% recyclable
Silver



Bollard
Sutton Brick & Stone
Dominican Shellstone w/ mangrove pattern carving

Cube Bollard
Metalco
Stainless steel w/ mangrove pattern

440 SM & SMSS w/ pet fountain
Most Dependable Fountains
Powdercoated stainless steel



Marina Storage Container
Reclaimed wood box with cover for marina box storage and seating

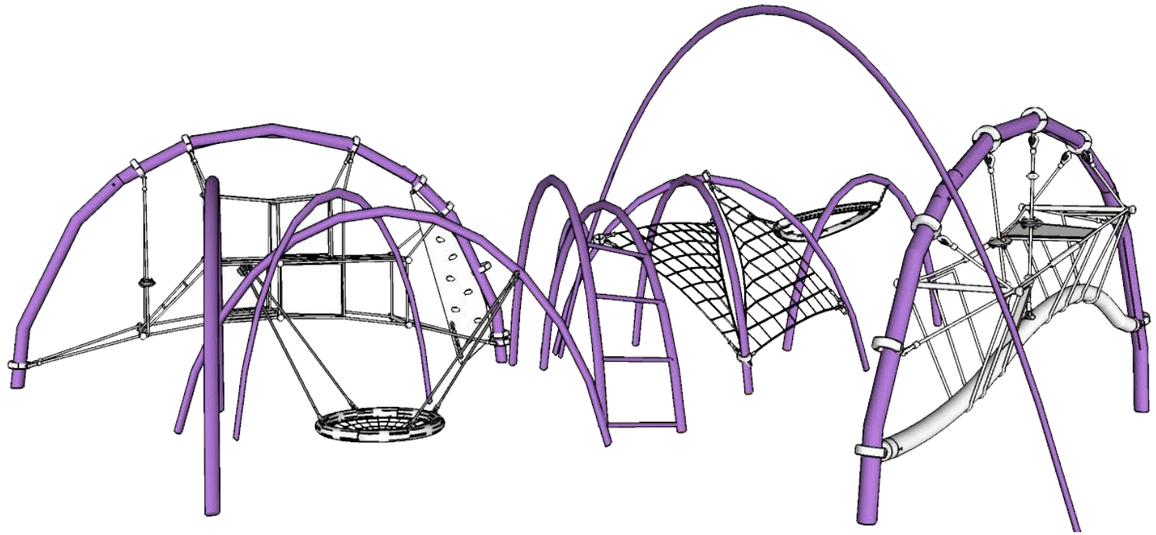
Bollard Lighting
Louis Poulsen
Waterfront
LED, 35 Watts

Modern Dog Kit: Dog Waste Receptacle by Pet Pickups
Aluminum w/mangrove pattern

Refer to Materials Matrix and Appendix for Product Specifications

Mangrove Trellis (optional placemaking element)

The mangrove evokes back to Miami's history, as it was the dominant force as Miami was ecologically formed. It might also be a call to our future, as its resilient nature can stabilize shorelines, clean water and provide marine habitat. Taking its iconic shape and utilizing it in number of forms, these placemaking options can provide: 1. a children's play area, 2. an adult outdoor lounge, 3. a shaded arbor, 4. a sculptural focal point.



Playground by Kompan with playground surface

Arbor with aluminum vine lattice

Swing zone with hanging chairs and swings

Sculpture

Planting Background & Intent

The native climate in Miami is hot and humid in the summer with cooler temperatures and dryer air in the winter. Biscayne Bay's shoreline is a harsh environment that requires careful selection of plants and strict guidelines to ensure resiliency and facilitate maintenance, especially in light of hurricane force winds and storm surge events. Plant selection along Biscayne Bay must be able to handle full sun and be drought tolerant, as well as extremely salt and wind tolerant. While the selection of plant material along the Miami River - with brackish water moving upriver on the tide and fresher water pushing downriver after heavy rains - allows for a wider diversity of plant selection. The entire promenade is located along the shoreline of Biscayne Bay or Miami River. The soils throughout much of the area consist of fill materials due to the expansion of port operations, so replacement of existing soil with suitable planting soil mixtures is recommended.

These planting guidelines shall establish basic criteria with the purpose of creating a unifying and pedestrian-friendly plant environment along the entire Baywalk & Riverwalk.

Goals:

- **Provide at least 50% immediate shade coverage on the Baywalk & Riverwalk, with 100% shade coverage within 5 years.**
- Provide a consistent material selection to unify the Baywalk & Riverwalk visual/ perceptual experience and contributes to their coastal, ecological character.
- Connect to, enhance and showcase the natural ecology of Miami.
- Emphasize and establish hierarchy of spaces and district identity.
- Promote green infrastructure to mitigate flooding caused by sea-level rise, king tides and storm surge
- Increase stormwater infiltration and improve water quality
- Protect against storm surge protection.
- Promote the planting of shade trees to reduce Urban Heat Island Effect.
- Increase water quality with filtration.
- Reduce maintenance and minimize the use of fertilizers and pesticides.

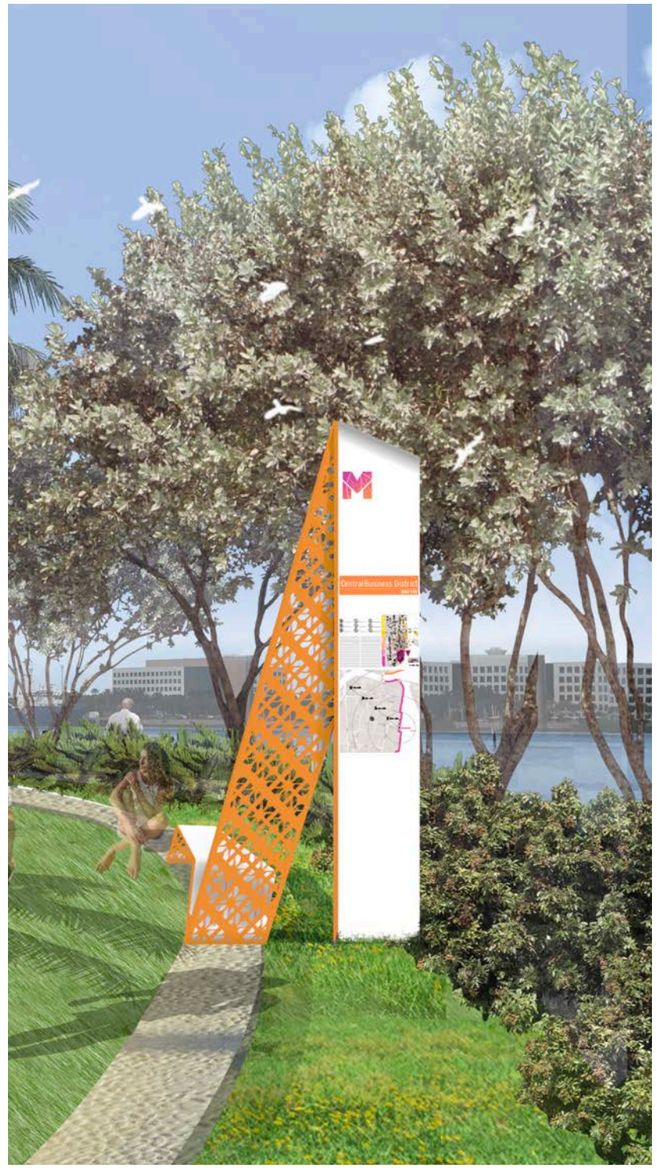
Planting guidelines:

- The planting pallete shall consist of a minimum of 90% native, salt and drought-tolerant trees, 50% of palms (if using Coconut Palms), and 80% native, salt and drought-tolerant shrubs and groundcover.

- All planting selection and installation methods shall conform to Florida Friendly Landscape Guidelines.

- Native and/or naturalized plants shall be selected to increase biodiversity and creation of wildlife habitat, by attracting birds, butterflies, and other species.

- No planting material shall be specified that is classified as a Category 1 invasive species.



Increasing green space and planting native, salt-resistant, drought-tolerant, and in some cases, floodable vegetation increases the sustainability and resiliency of the Miami Baywalk & Riverwalk and adjacent neighborhoods prone to flooding. LEFT: Maurice A. Ferre Park; RIGHT: Bayfront Park

- Select plants that provide enhancement and protection to seawall and promote marine wildlife restoration, such as mangroves.
- Plants shall not obstruct the path of pedestrian circulation.
- Large canopy shade trees and palm trees shall take priority over waterfront views between 10 and 40 feet above the seawall elevation.

Soil guidelines:

- For new plantings, planting soil shall be weed-free, and consist of 70% clean, coarse, sharp, Lake Wales Silica Sand (alternate: Ortona or FDOT #3 coarse silica sand) and 30% Everglades muck.
- Test soils in project areas in the project design phases and include soil improvement measures in project documents.

Tree and palm guidelines:

- Large trees shall be promoted to create shade for pedestrians and in seating/gathering areas.
- Trees shall be selected for their proven resiliency, especially in high wind flooding events.
- Plant trees and palms to establish a unified canopy for visual unity and pedestrian comfort.
- Large canopy trees shall be planted between 20 feet to 30 feet on center, maximum.
- Large palm trees shall be planted a maximum of 25 feet on center, and palm clusters can be specified in lieu of large trees. Both shall provide at minimum 50% shade canopy at installation with 100% within 10 years.
- Coconut Palm trees have been historically associated with Miami and may be used to define the continuity of the promenade, to avoid obscuring water views, and at some points of entry.
- Avoid trees with known pests and diseases that increase pesticide requirements.
- Provide adequate root zone space for trees in all planting areas and raised planters. Wherever possible, provide continuous or planting areas between trees to increase the root zone.
- Use Structural Cells under paving where large trees are specified in planters less than 100 square feet and further than 12’ from adjacent, continuous green space areas.
- Install root barriers at pavement edges where large trees and palms are specified.

Groundcover guidelines:

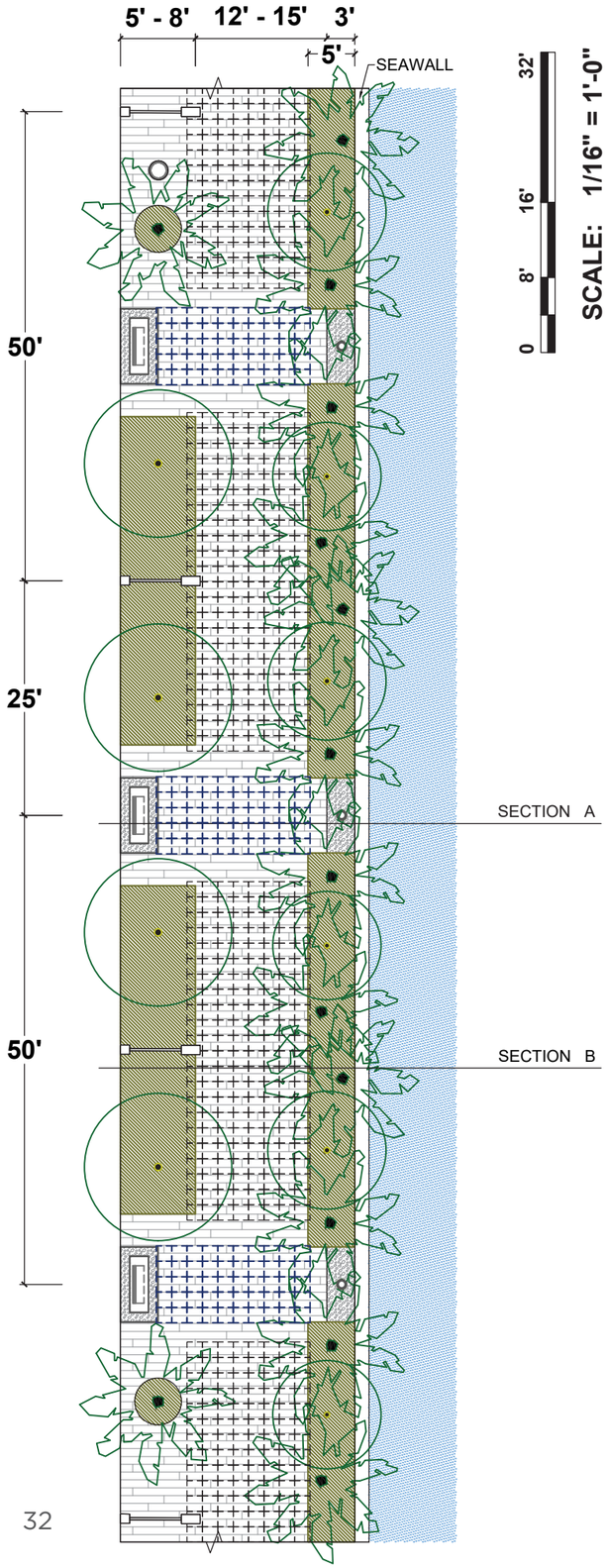
- Use salt-tolerant turf, such as Paspalum ‘Sea Dwarf’, or Zoysia ‘Empire’, in areas intended for recreation and gathering.
- No planting material shall be used that is classified as an invasive species.
- Use grasses or other floodable groundcovers where adjacent to flood areas.

Maintenance guidelines:

- Select plants that can be maintained in their natural forms to reduce required trimming, energy use and green waste.
- Develop plantings with a hierarchy of maintenance needs where high use areas can provide more frequent maintenance
- Fertilize all plant material two times a year minimum for three (3) years minimum after installation.
- Apply mulch to 3” depth minimum at least three (3) times a year in all planting beds that are not fully covered by shrubs and groundcover.
- Select plants that require minimal fertilization, pruning and pest control.
- Select plants that are locally and readily available.
- All planting areas shall have low-water use/high efficiency irrigation systems, such as drip irrigation, low-trajectory irrigation nozzles, automatic shut-offs and equipped with soil and/or rain moisture sensors to regulate water use.
- Group plants by “hydro-zone” to reduce water use.

Minimum specifications:

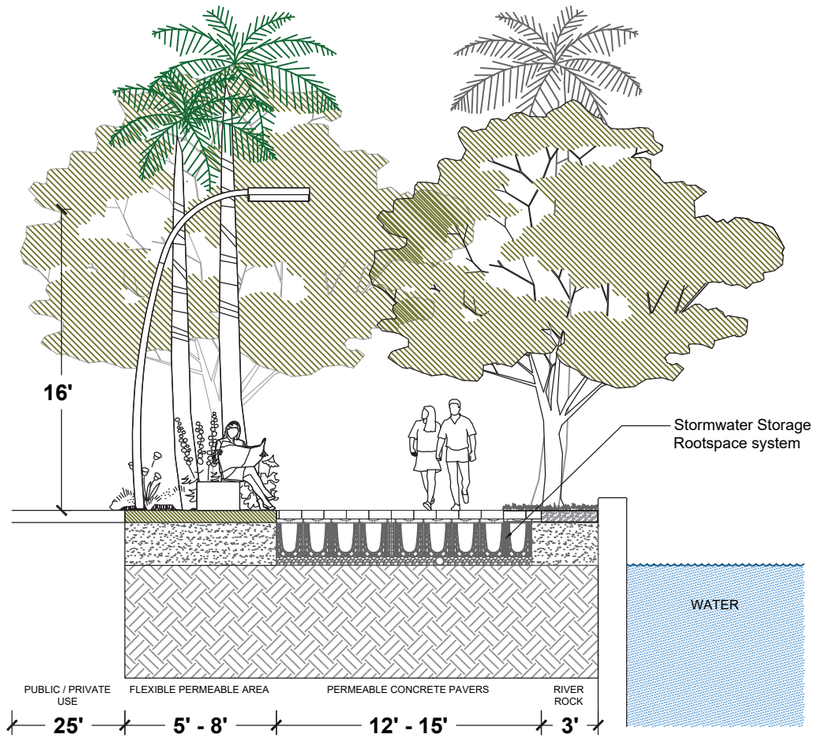
- All plants furnished by the Landscape Contractor unless otherwise specified shall be Florida No.1 or better, and shall be specified in the current edition of Grades and Standards for Nursery Plants, Part 1 by the Florida Department of Agriculture and Consumer Services Division of the plant industry.
- All newly planted shrubs and groundcovers shall be guaranteed for six months from date of final acceptance. All newly planted trees and palms shall be guaranteed for one year from date of final acceptance.
- All trees, palms and standard shrub material to be staked in a good workmanlike manner. No nail staking permitted.
- All trees shall be fertilized at installation with “Agriform Pills”, 21 gram size, with a 20-10-5 formulation, or approved equal, according to manufacturer’s recommendations.



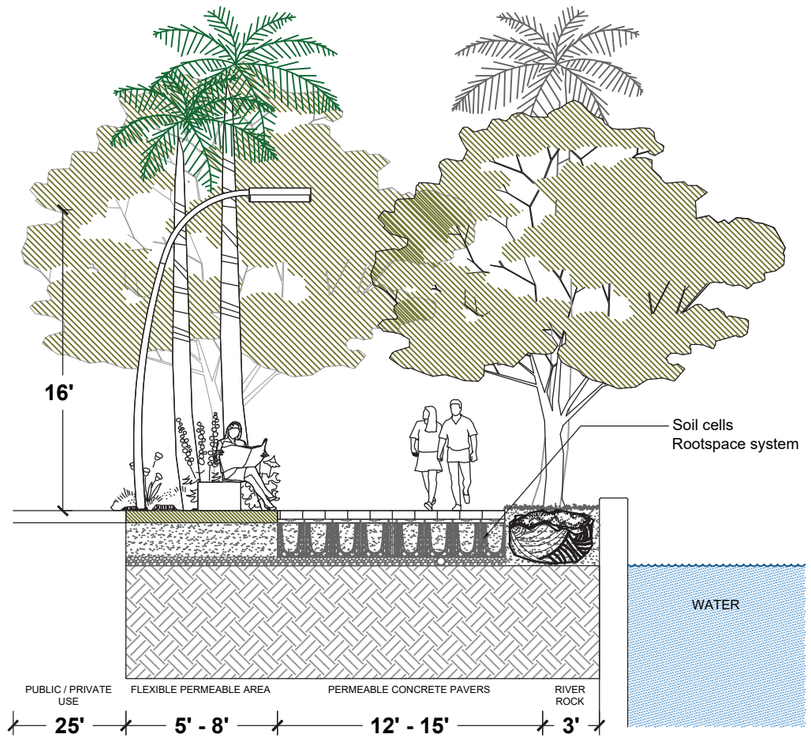
Minimum specifications (*continued*):

- All palms shall be fertilized at installation with Atlantic East Coast Fertilizer “Palm Special” (12-2-8) with slow-release sulphur-coated pellets, or approved equal.
- All other plants shall be fertilized at installation with a 12-4-8 time-release fertilizer (with slow release sulphur) according to manufacturer’s recommendations.
- Cover all planting beds with a minimum of 3” layer of shredded Melaleuca, Grade B or eucalyptus mulch.
- No heavy equipment or materials shall be placed within the drip line of protected trees.
- At grade planters for medium-to large trees shall be a minimum of sixty (60) square feet, with a minimum dimension of five (5) feet .
- At grade planters for palms and small trees shall be a minimum of thirty (30) square feet, with a minimum dimension of four (4) feet.
- Planting shall be used where possible to screen parking garages, service, and loading areas from public view.

Section A: Stormwater Storage



Section B: Structural Soil Cells



SCALE: 1/8" = 1'-0"

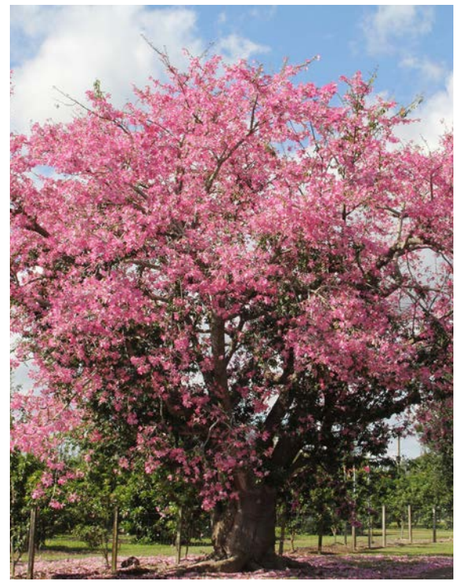
Large Canopy Trees (> 40’)

Black Olive
Bucida buceras

Gumbo Limbo
Bursera simaruba

Beauty Leaf
Calophyllum brasiliense

White Silk Floss
Chorisia insignis



Silk Floss Tree
Chorisia speciosa

Satin Leaf
Chrysophyllum oliviforme

Royal Poinciana
Delonix regia

Florida Strangler Fig
Ficus aurea

Short leaf Fig, Wild Banyan
Ficus citrifolia

Wild Tamarind
Lysiloma latisiliquum

Large Canopy Trees (> 40’)

Yellow Poinciana
Peltophorum pterocarpum

Red Bay
Persea borbonia

Jamaican Dogwood
Piscidia piscipula

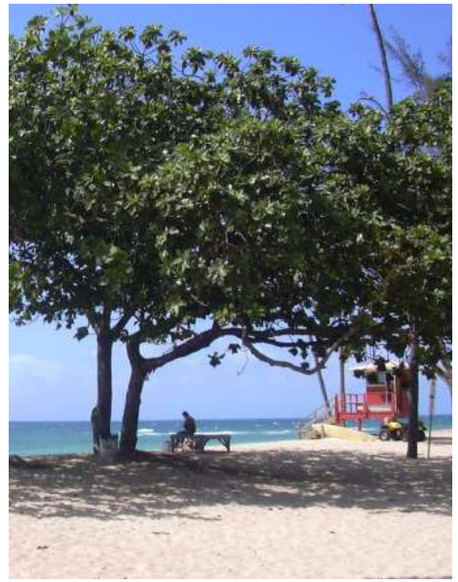
Live Oak
Quercus virginiana

Soapberry
Sapindus saponaria

Paradise Tree
Simarouba glauca

West Indies Mahogany
Swietenia mahagoni

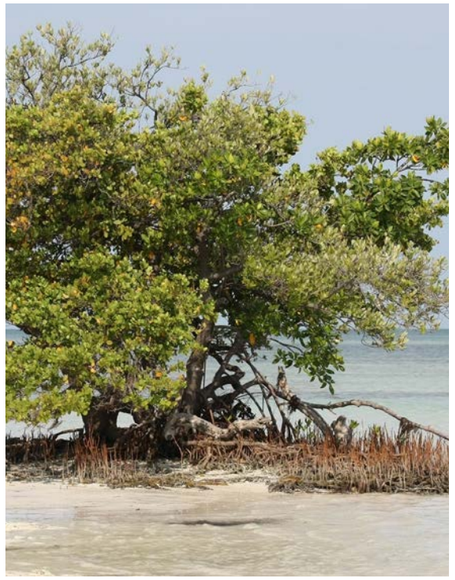
Wild Tamarind
Tamarindus indica



Sea Almond
Terminalia catappa

Tipu Tree, Rosewood
Tipuana tipu

Medium Sized Trees (15 – 30')



Black Mangrove
Avicennia germinans
** inundation-tolerant*

Verawood
Bulnesia arborea

Pitch Apple, Autograph Tree
Clusia rosea

Pigeon Plum
Coccoloba diversifolia

Sea Grape
Coccoloba uvifera

Green Buttonwood
Conocarpus **erecta**

Japanese Fern Tree
Filicium decipiens

Black Ironwood
Krugiodendron ferreum

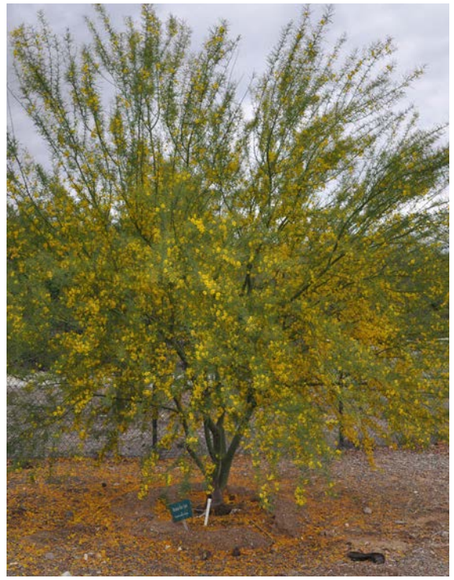
White Mangrove
Laguncularia racemosa
** inundation-tolerant*

Simpson Stopper
Myrcianthes fragrans

Medium Sized Trees (15 – 30')

Madagascar Olive
Noronhia emarginata

Madagascar Screw Pine
Pandanus utilis



Mexican Palo Verde
Parkinsonia aculeata

Red Mangrove
Rhizophora mangle
** inundation-tolerant*

Yellow Trumpet Tree
Tabebuia argentea

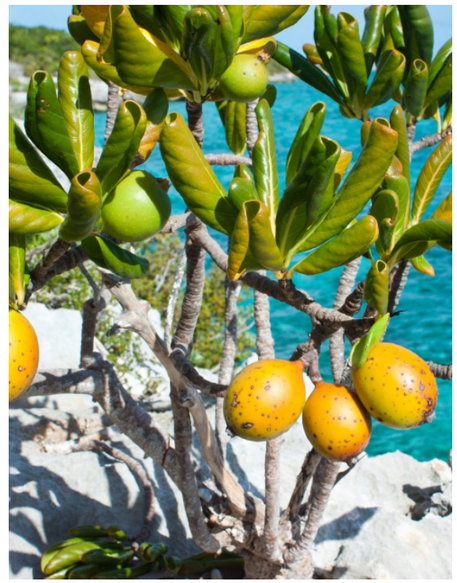
Pink Tab
Tabebuia heterophylla

Small Accent Trees (<20')

Jamaica Caper Tree
Capparis cynophallophora

Silver Buttonwood
Conocarpus erectus 'Sericeus'

Orange Geiger Tree
Cordia sebestena



Seven Year Apple
Genipa clusiifolia

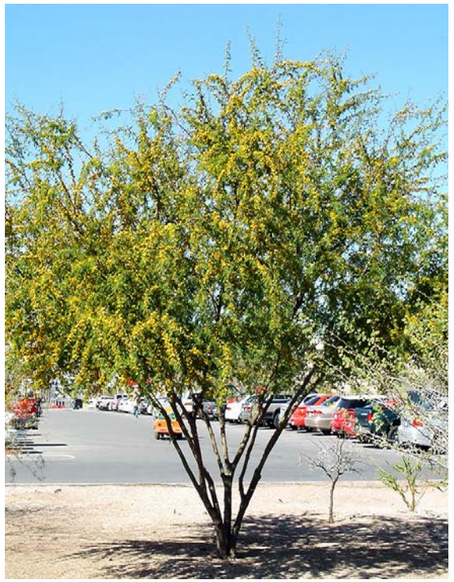
Lignum-vitae
Guaiacum officinale

Joewood
Jacquinia keyensis

White Frangipani
Plumeria alba

Frangipani
Plumeria rubra

Desert Cassia
Senna polyphylla



Sweet Acacia
Vachellia farnesiana

Palms

Paurotis Palm
Acoelorrhaphe wrightii

Silver Bismarck Palm
Bismarkcia nobilis

Silver Palm
Coccothrinax argentata

Green Malayan Coconut Palm
Cocos nucifera 'Green Malayan'

Maypan Coconut Palm
Cocos nucifera 'Maypan'

Buccaneer Palm
Pseudophoenix sargentii

Florida Royal Palm
Roystonea elata

Cuban Royal Palm
Roystonea regia

Silver Saw Palmetto
Serenoa cinera

Saw Palmetto
Serenoa repens

Palms

Key Thatch Palm
Thrinax morrisii

Florida Thatch Palm
Thrinax parviflora

Thatch Palm
Thrinax radiata

Windmill Palm
Trachycarpus fortunei

Montgomery Palm
Veitchia montgomeryana

Washington Fan Palm
Washingtonia robusta

Large Shrubs (>6’)

Giant Leather Fern
Acrostichum danaeifolium

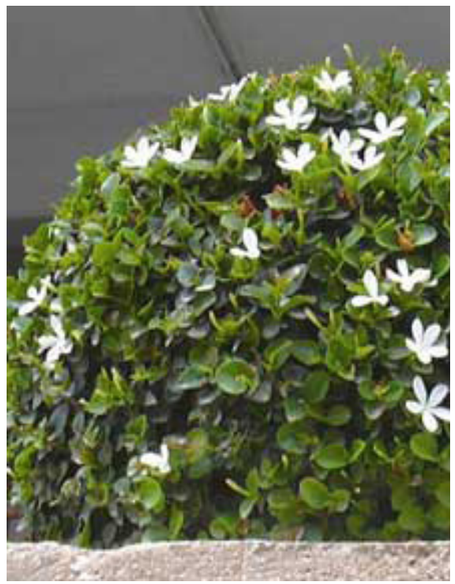
Century Plant
Agave americana

Spineless Century Plant
Agave attenuata

Desert Bird of Paradise
Caesalpinia gilliesii

Pride of Barbados
Caesalpinia pulcherrima

American Beautyberry
Callicarpa americana



Natal Plum
Carissa grandiflora

Bahama Senna
Cassia bahamensis

Green Cocoplum
Chrysobalanus icaco/horizontalis

Red Tip Cocoplum
Chrysobalanus icaco ‘Red Tip’

Large Shrubs (>6')

Small leaved Pitch Apple
Clusia guttifera

Sea Grape
Coccoloba uvifera

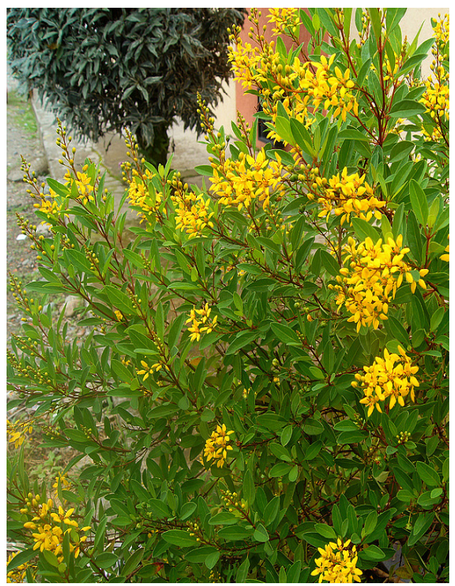
Green Buttonwood
Conocarpus erectus

Silver Buttonwood
Conocarpus erectus 'Sericeus'

New Zealand Cabbage Palm
Cordyline australis

Queen Emma's Spider Lily
Crinum asiaticum 'Queen Emma'

Cherokee Bean
Erythrina herbacea



Thryallis
Galphimia gracilis

Firebush
Hamelia patens

Dwarf Firebush
Hamelia patens 'Compacta'

Large Shrubs (>6’)

Tropical Hibiscus
Hibiscus rosa-sinensis

Oleander
Nerium oleander

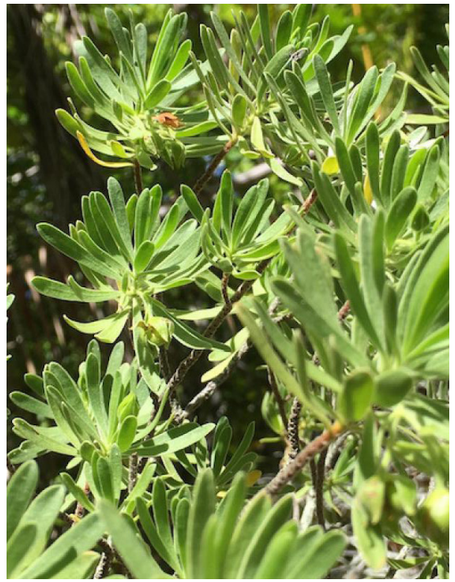
Pittosporum, Mockorange
Pittosporum tobira

Wild Coffee
Psychotria nervosa

Firecracker Plant
Russelia equisetiformis

Beach Naupaka
Scaevola frutescens

Necklace Pod
Sophora tomentosa



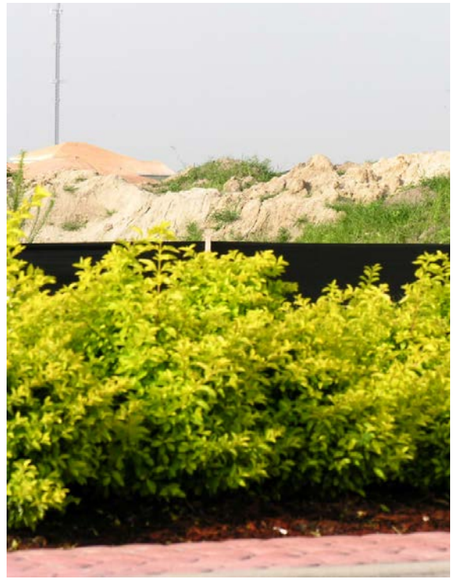
Bay Cedar
Suriana maritima

Spanish Bayonet
Yucca aloifolia

Adam’s Needle
Yucca smalliana

Small to Medium-sized Shrubs (3’ – 6’)

Sea Lavender
Argusia gnaphalodes



Golden Dewdrop
Duranta erecta ‘Goldmound’

Crown of Thorns
Euphorbia milii

Spider Lily
Hymenocallis latifolia

Sword Fern
Nephrolepis spp.

Royal Fern
Osmunda regalis

Indian Hawthorn
Rhaphiolepis indica

Tropical Sage
Salvia coccinea

Inkberry
Scaevola plumieri

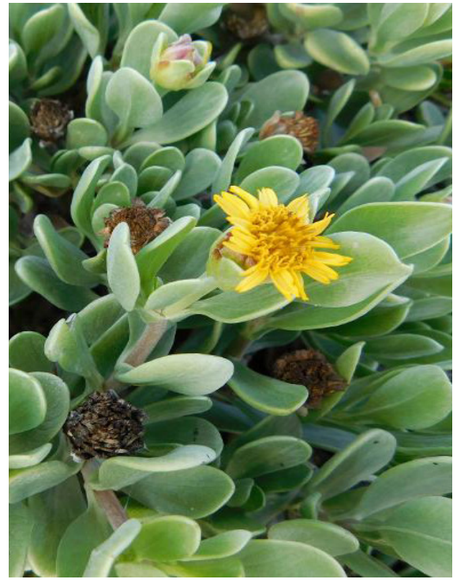
Coontie
Zamia floridana

Groundcovers (<2')

Perennial Peanut
Arachis glabrata

Scarlet Weed
Asclepias curassavica

Foxtail Fern
Asparagus meyerii



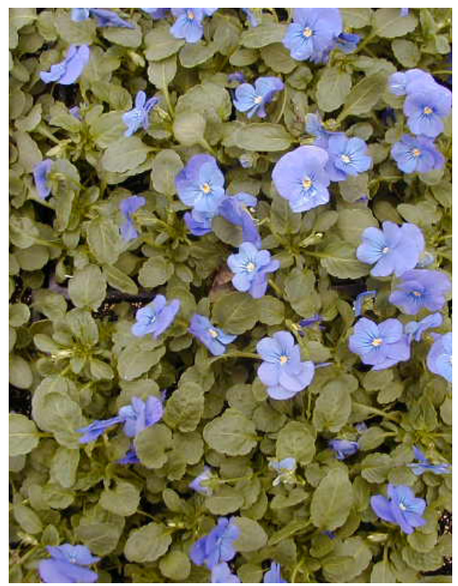
Sea Oxeye Daisy
Borrichia arborescens

Natal Plum
Carissa macrocarpa

Dwarf Natal Plum
Carissa macrocarpa 'Nana'

White Striped Flax Lily
Dianella tasmanica 'Variegata'

Golden Creeper
Ernodia littoralis



Brazilian Dwarf Morning-Glory
Evolvulus glomeratus

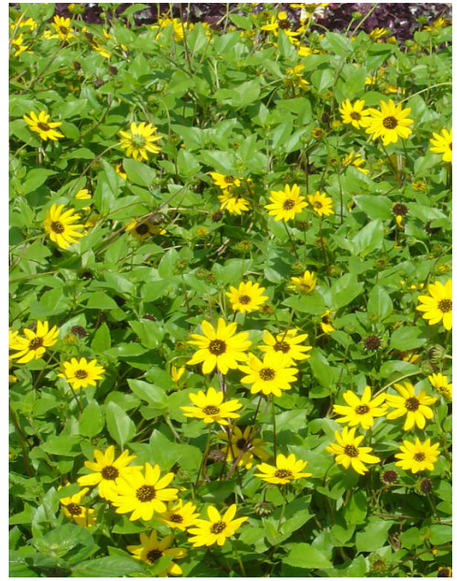
Green Island Ficus
Ficus microcarpa 'Green Island'

Groundcovers (<2’)

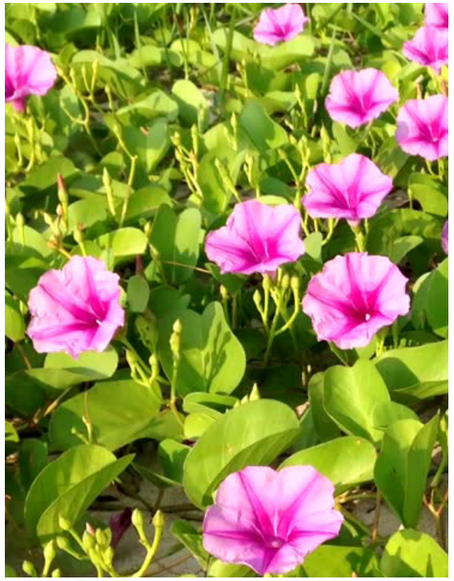
Creeping Ficus
Ficus pumila repens

Narrowleaf Yellowtop
Flaveria linearis

Blanket Flower
Gaillardia pulchella



Beach Sunflower
Helianthus debilis



Railroad Vine
Ipomoea pes-caprae

Dune Marsh Elder
Iva imbricata

Pineland Lantana
Lantana depressa var. floridana

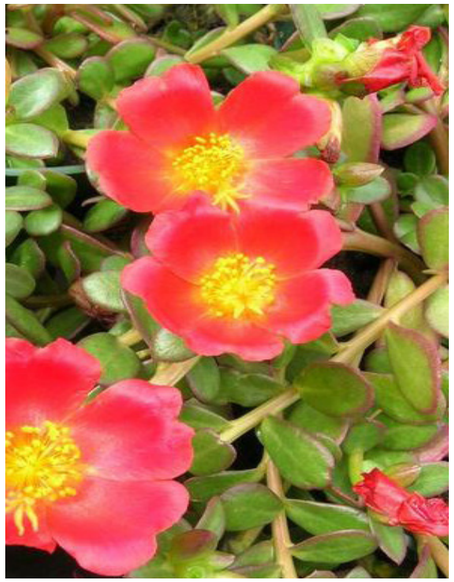
Gopher-Apple
Licania michauxii

Evergreen Giant Lilyturf
Liriope muscari ‘Evergreen Giant’

Wart Fern
Microsorum scolopendrium

Groundcovers (<2')

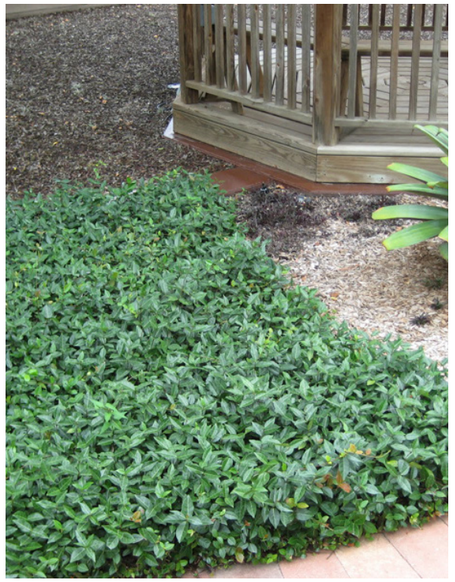
Sensitive Plant
Mimosa strigillosa



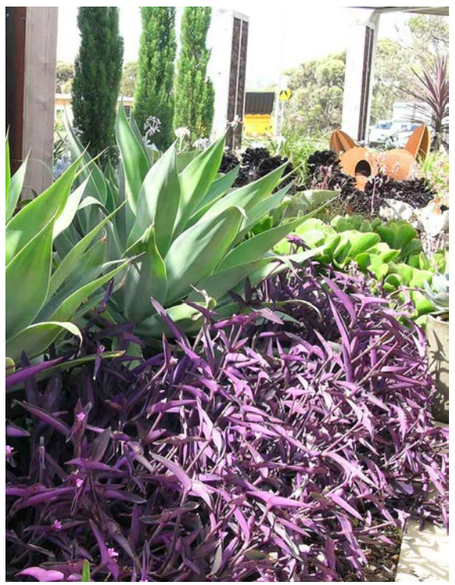
Sea Purslane
Portulaca spp.
** inundation-tolerant*

Star Sedum
Sedum sarmentosa

Sea Purslane
Sesuvium portulacastrum
** inundation-tolerant*



Asiatic Jasmine
Trachelospermum asiaticum



Purple Heart
Tradescantia pallida 'Purpurea'

Tri-colored Oyster Plant
Tradescantia spathacea

Wedelia, Creeping Daisy
Wedelia trilobata

Wandering Jew
Zebrina pendula

Ornamental Grasses

Pink Muhly Grass
Muhlenbegia capillaris

Smooth Cordgrass
Spartina alterniflora
** inundation-tolerant*

Sand Cordgrass
Spartina bakeri
** inundation-tolerant*

Saltmeadow Cordgrass
Spartina patens
** inundation-tolerant*

Fakahatchee Grass
Tripsacum dactyloides

Florida Gama Grass
Tripsacum floridana

Sea Oats
Uniola paniculata

Vines

Boungainvillea, Paper Flower
Bougainvillea glabra

Trumpet Vine
Campsis radicans

Creeping Fig
Ficus pumila

Maypop, Passionflower
Passiflora incarnata

Mexican Flame Vine
Senecio confusus

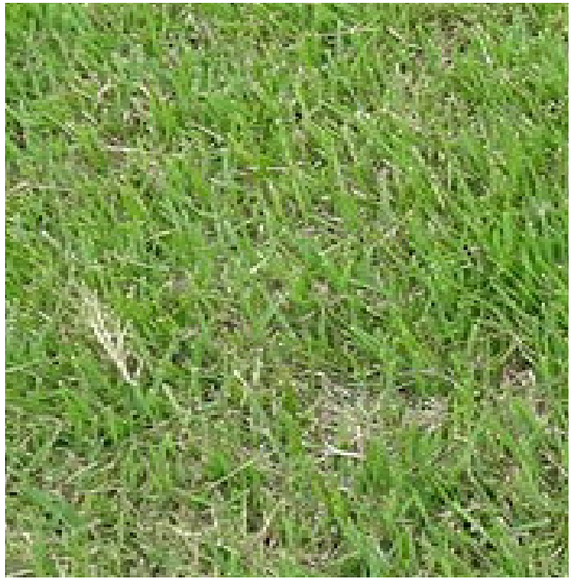
Cape honeysuckle
Tecomaria capensis

Turfgrasses

Bermuda Grass
Cynodon dactylon

Seashore Paspalum
Paspalum distichum
** inundation-tolerant*

St. Augustine Grass
Stenotaphrum secundatum



Zoysia Grass
Zoysia japonica 'Empire'

SIGNAGE & WAYFINDING

Vision

The brand draws inspiration from the nature and history of this unique waterfront. The prismatic nature of Miami, essentially a composite of people, language, culture, all forming a dynamic and colorful community bonded together by establishing roots into the earth, much like the Mangrove colonizes and helps form new land. Mangrove, water, sky, ever-changing light, limestone, the diversity of both culture, flora and fauna all contribute to the landscape.

The branding strategy and logo is an abstraction of the mangrove and a reflection of Miami's unique multi-faceted diversity. The brand's colors are the colors of the sky and the sunrise and sunsets reflected in the clouds and waters.

Guidelines

The Miami Baywalk & Riverwalk primary logo lock-up should be used in its original state whenever possible. For any instance it can not, the following secondary logo lock-ups are approved for use. The icon was designed for signage and can be used on its own to represent Miami Baywalk & Riverwalk.

Refer to Miami Baywalk & Riverwalk graphic standards for full logo usage guidelines.

PRIMARY LOGO LOCK-UP

To be used on print, web & social media

MIAMI BAYWALK

LOGO MARK

Stand alone

SECONDARY LOGO LOCK-UP

To be used for signage and advertising

MIAMI BAYWALK

Logo & Color Standards

The Miami Riverwalk primary logo lock-up should always be used in its original state whenever possible. For any instance it can not, the following secondary logo lock-ups are approved for use. The icon was designed for signage and can be used on its own to represent Miami Riverwalk.

Refer to Miami Riverwalk graphic standards for full logo usage guidelines.

PRIMARY LOGO LOCK-UP
To be used on print, web & social media

LOGO MARK
Stand alone

SECONDARY LOGO LOCK-UP
To be used for signage and advertising

Font Standards

Miami Baywalk & Riverwalk will utilize the geometric sans-serif typeface of Neutra Display Bold for use in signage only. Since its release, the Neutra Display font has been immensely popular for an extensive range of different applications.

Trade Gothic Condensed No.20 is utilized for Pedestrian Street Signs where a condensed font is needed to fit a large range of street names.

PRIMARY SIGNAGE FONT

NEUTRA DISPLAY BOLD

Font to be used on all signage for wayfinding or directional information

Aa

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

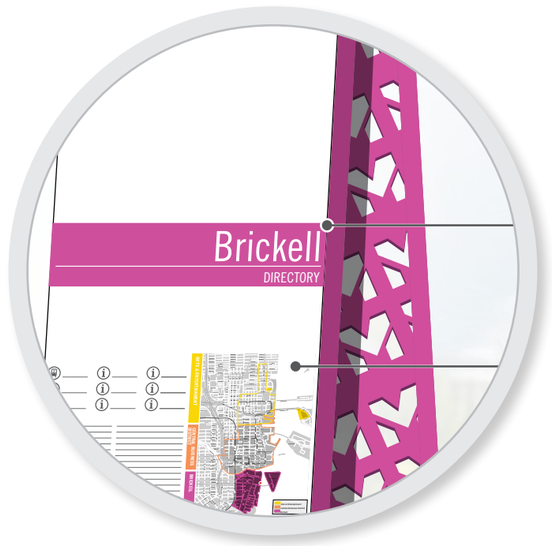
SECONDARY SIGNAGE FONT

TRADE GOTHIC CONDENSED No.20

Font to be used on the District Orientation Map only.

Aa

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890



Colors and Materials

Signage materials on the Miami Baywalk & Riverwalk will be an elegant mix of natural finishes and painted metals with internally illuminated messaging and changeable directory/tenant graphics. Materials should be consistent with architectural and hardscape finishes and be resilient to weather and wind conditions.

PAINTS
All paints to have Satin Finish unless otherwise specified. All painted surfaces are to be on aluminum.

P1
MP32071
Wonder
White

P2
MP05295
Neutral Grey

P3
MP04761
Steel Wool

P4
Miami Baywalk
Branded
Gradient

MATERIALS
All materials to be provided as 8" x 8" sample or as part of a mock-up for approval.

M1
Frosted Acrylic

DISTRICT COLORS

BRICKELL DISTRICT

P5
MP05041
Roseate Spoonbill

P6
MP12477
Orchis Purple

OMNI DISTRICT

P7
MP00190
Matchbox Car
Orange

P8
MP00205
Orange Ember

DOWNTOWN DISTRICT

P9
MP12528
Yellow Crownbeard

P10
MP00142
Golden Oldie

DISTRICT COLORS

BRICKELL DISTRICT

P11
Brickell District
Gradient

OMNI DISTRICT

P12
Omni District
Gradient

DOWNTOWN DISTRICT

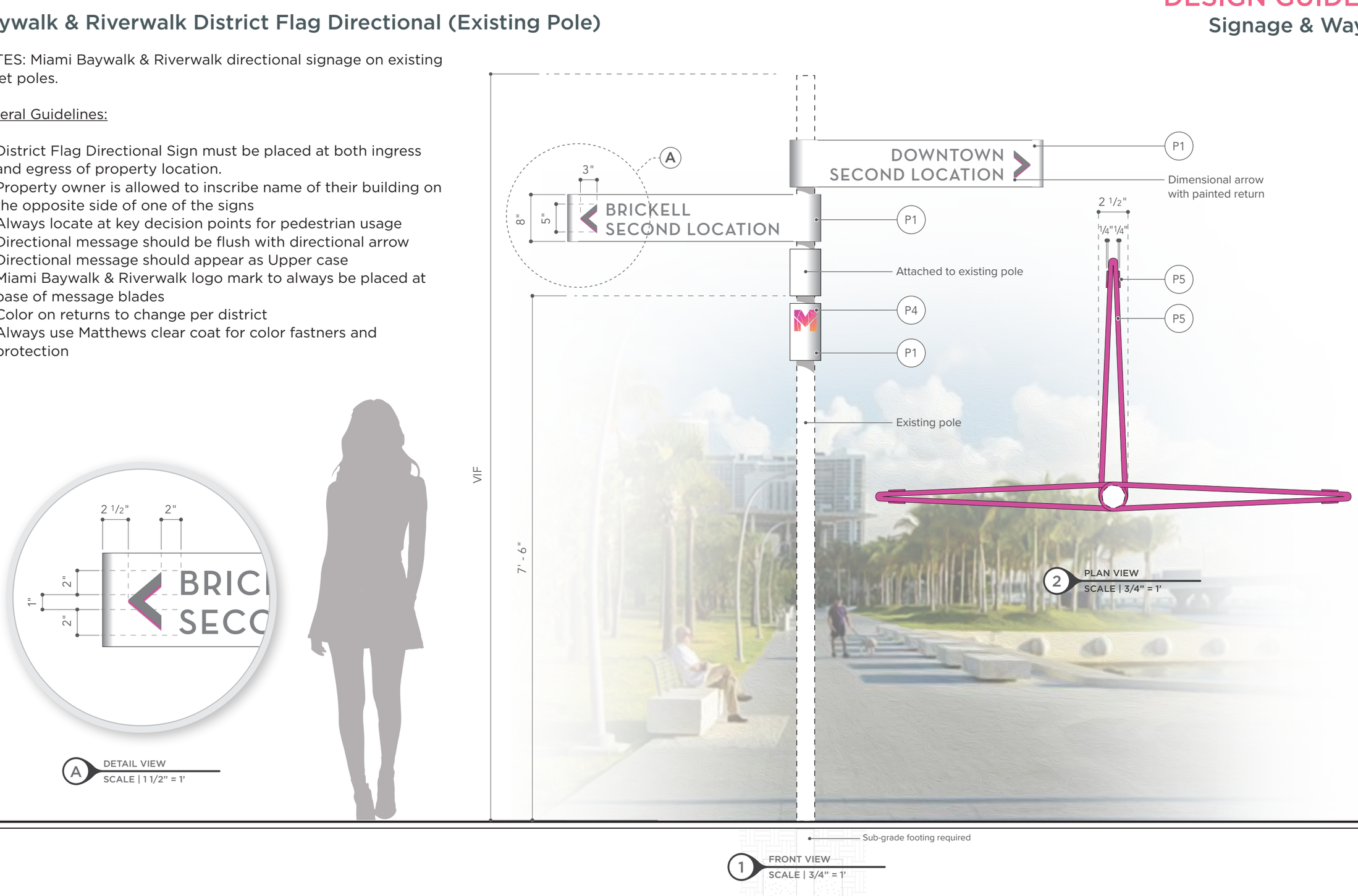
P13
Downtown District
Gradient

Baywalk & Riverwalk District Flag Directional (Existing Pole)

NOTES: Miami Baywalk & Riverwalk directional signage on existing street poles.

General Guidelines:

1. District Flag Directional Sign must be placed at both ingress and egress of property location.
2. Property owner is allowed to inscribe name of their building on the opposite side of one of the signs
3. Always locate at key decision points for pedestrian usage
4. Directional message should be flush with directional arrow
5. Directional message should appear as Upper case
6. Miami Baywalk & Riverwalk logo mark to always be placed at base of message blades
7. Color on returns to change per district
8. Always use Matthews clear coat for color fastners and protection



A DETAIL VIEW
SCALE | 1 1/2" = 1'

2 PLAN VIEW
SCALE | 3/4" = 1'

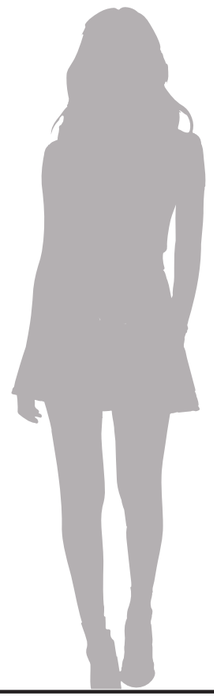
1 FRONT VIEW
SCALE | 3/4" = 1'

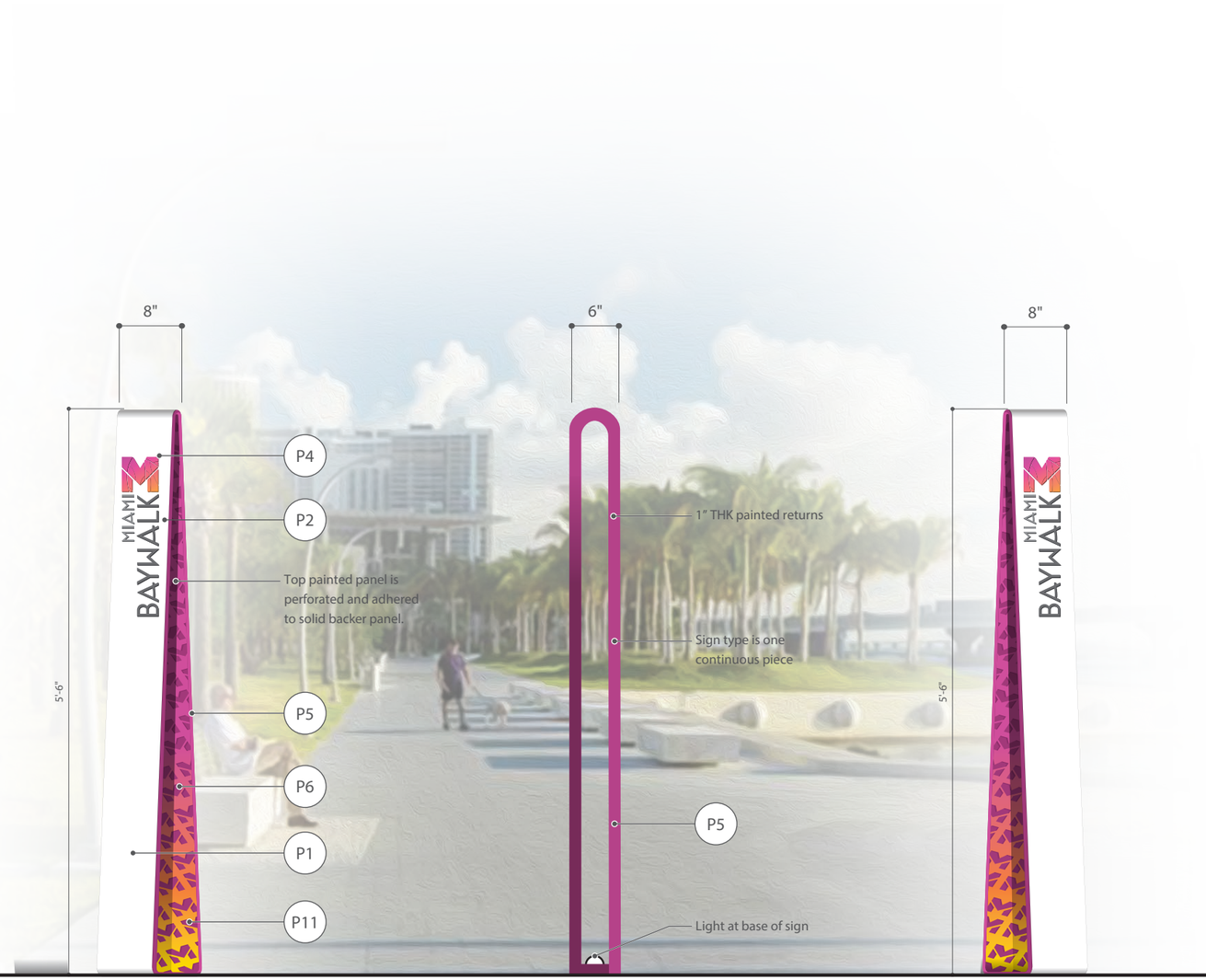
Baywalk District Identity Sign

NOTES: Color coded district identity signs with perforated panel and internal illumination.

General Guidelines:

1. District Identity Sign must be placed at midpoint of property.
2. If property owner desires to place more than one District Identity Sign on their property, they are allowed.
3. Double-sided sign panel with district name
4. Miami Baywalk & Riverwalk logo mark to always be placed at top of sign
5. Color on returns to change per district
6. Always use Matthews clear coat for color fastners and protection





Sub-grade footing required

1 FRONT VIEW
SCALE | 3/4" = 1'

Sub-grade footing required

2 SIDE VIEW
SCALE | 3/4" = 1'

Sub-grade footing required

3 BACK VIEW
SCALE | 3/4" = 1'

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Riverwalk Logo Applied

Miami Riverwalk logo to be applied onto all new Miami River Greenway signage.

Reference sign types below.

NOTE: Please refer to “Miami Greenway: Wayfinding and Environmental Graphics Specifications”
www.yazimiami.com/miami-river-greenway.html

1 PEDESTRIAN DIRECTIONAL
SCALE | 3/4" = 1'

W-PED

2 PEDESTRIAN KIOSK
SCALE | 3/4" = 1'

W-KSK

3 HISTORIC MARKER
SCALE | 3/4" = 1'

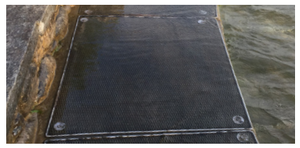
H-HIS

4 PERIMETER PEDESTRIAN DIRECTIONAL
SCALE | 3/4" = 1'

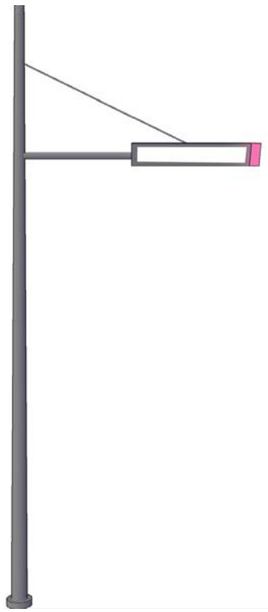
W-PRM

MATERIALS MATRIX

Paving & Hardscape

Unifying Design Element	Item	Location	Manufacturer/ Supplier (or approved equal)	Size	Approved Colors	Warranty	Required?	Min. Standard
	Concrete Permeable Paver	Paved promenade Pervious paved areas	Old Castle, Earth Surfaces of America	3” x 12” x 3 1/8” th, 4” x 16” x 4” th or 12” x 6” x 3 1/8 th (for heavy vehicular use only)	Light Gray Natural Gray Sand Buff	N/A	**YES**	Permeable paver system with marble chip or seashell aggregate
	Decorative concrete paving	Limited use only	Connery Concrete	6 x 6 x 4” th No. 10 W.W.M. w/ thickened edges	White Portland cement with exposed seashell aggregate	N/A	Optional	3000 psi after 30 days Cast-in-place A.S.T.M. C 150, Type I & II
	River Rock	3’ detectable zone at benches and seawall	Olimar Stone	2” - 3” pebble	White/Brown	N/A	**YES**	Match existing
	Concrete with salt finish	Steps adjacent to the water	Homestead Paving	6” x 6” x 4” th No. 10 W.W.M. w/ thickened edg-es	Gray Portland Cement w/ Rock Salt Finish	N/A	Optional	3000 psi after 30 days Cast-in-place A.S.T.M. C 150, Type I & II Apply rock salt at 5 lb./ sq ft min.
	Anti-slip mesh	Steps adjacent to the water	C & R Metals	Varies	Natural Metal Finish	N/A	Optional	Stainless steel Marine grade mesh w/ ss fastening screws
	Wood decking	Over-water walkways	Thermory	6 x 5/4” th	Natural	N/A	Optional	Thermally/chemically-modified wood
	Recycled Plastic FiberFORCE	Over-water walkways	Bedford	Varies	Gray NWW	50 Years Limited Warranty	Optional	95% recycled content 100% recyclable
	Reclaimed wood	Wood decking	Miles Black, Miles of Wood	Varies	Natural	N/A	Optional	Locally sourced Greenheart

Lighting

Unifying Design Element	Item	Location	Manufacturer	Dimensions	Approved Colors	Warranty	Required?	Min. Standard
	Baywalk Lightpole	Baywalk spaced every 50’	Assembled and Shipped by Louis Poulsen	17’ ht.	Aluminum LED Color changing strip	5 years	**YES**	Fixture: Aluminum housing with structured light grey (229) finish. 59W LED in 3000K CCT with reflector for 55° cutoff. Clear U.V. stabilized acrylic lens on both sides. BUG rating: B1-U3-G1. Pole: 3.5” O.D. top x 5.5” O.D. bottom pole fabricated from 6063-T4 aluminum tubing (heat treated to T6 condition after welding); with structured light grey (229) finish. 8 1/2” sq. x 1” thick aluminum base plate (6061-T6 alloy) with structured light grey (229) finish 5.2” conduit opening slotted holes to allow for field adjustability. Casambi bluetooth controller installed on pole Line of light: LED linear flexible of RGB color changing leds. Aluminum extrusion assembled onto pole by hidden screws with brushed aluminum finish.
	Riverwalk Lightpole	Riverwalk spaced every 50’	Assembled and Shipped by Louis Poulsen	16’ ht. Pole 12’ ht. Fixture	Aluminum LED Color changing tip	5 years	**YES**	Fixture: Aluminium housing with structured light grey (229) finish clear U.V. stabilized acrylic lens on both sides. Aluminium housing with structured light grey (229) finish clear U.V. stabilized acrylic lens on both sides. Triangular diffuser with U.V. protection. Pole: Taper pole; bottom diameter 6”; top diameter 3.5”; 0.188” wall aluminium tube with structured light grey (229) powder coated finish. Hand hole with flush fitting aluminium door attached with (2) SS C-sunk screws and powder coated finish.

Lighting

Unifying Design Element	Item	Location	Product name	Manufacturer	Dimensions	Approved Colors	Warranty	Required?	Min. Standard
	In-grade Lighting	N/A	Tesis round - 35181.023	Erco	6 5/16” dia.	Stainless steel	One year	**YES**	Adjustable, LED, 7 Watts
	Solar marker	Detectable zone at seawall	SolaTile Rigel 60	Solar Path	R64 x H40mm	Stainless steel Blue Light	One year	**YES**	Adjustable, LED, 7 Watts
	Tree Strapped Lights	Planting areas	Denali on PM2 Tree Strap	BK Lighting	Varies	Black	5 year limited	Optional	LED, 12-27 Watts - Tree Dependant
	Tree Up-lighting	Planting areas	Denali on Pow-er Pipe	BK Lighting	Varies	Black	5 year limited	Optional	LED, 12-27 Watts - Tree Dependant
	Underwater Fish Lights	N/A	Flex Tube SE	Acclaim	Variable length	Color Changing	3 years standard, 5 years optional	Optional	RGB LED. 3 W Watts/ft.
	Underbench Lighting	N/A	iQ67 Flex Mini	Q-Tran	Variable length	White	2 years	Optional	LED, 3.3 Watts/ft.
	Mangrove Trellis	N/A	Neonlyte	Acolyte	Variable	RGB + White	5 years	Optional	Mangrove Trellis LED, 3 Watts/ft.

Site Furniture

Unifying Design Element	Item	Location	Manufacturer	Size	Approved Colors	Warranty	Required?	Min. Standard
	Neoliviano Bench		Landscape Forms	24” chair, 69” bench, or 118” bench w/ center arm	Aluminium Natural wood	3 Years	**Yes**	Freestanding Marine grade Aluminium Thermory or Greenheart wood
	Bench MLB870	TBD	Maglin	32.2”Ht. x 69.5”L x 24.3”	Gunmetal Sandstone PCS	5 Years	Optional	Marine grade or E-Coat Rust Proofing Thermory wood or High density paper composite
	Stone Donut Bench	Baywalk	Sutton Brick & Stone + Maglin	6’ & 10’ outside di-ameter	Natural Shellstone Natural wood	Maglin-5 years	Optional	Dominican Shellstone Thermory or Mangrove on sides
	Chill Lounge	TBD	Landscape Forms	28” x 33”Ht. x 62”L.	Baywalk & Riverwalk Color	3 Years	Optional	35% Recycled components, 100% recyclable
	Chaise Lounge MCL720	TBD	Maglin	41.25”Ht.x 61.9”L.x 23.5”	Yellow Gunmetal	5 Years	Optional	Marine grade or E-Coat Rust Proofing
	Chipman chair	TBD	Landscape Forms	22’ x 30” W x 33”Ht.	Silver	3 Years	Optional	Marine grade Aluminium 100% recyclable

Site Furniture

Unifying Design Element	Item	Location	Manufacturer	Size	Approved Colors	Warranty	Required?	Min. Standard
	Catena Chair	TBD	Landscape Forms	23” x 21” W x 30” Ht.	Silver	3 Years	Optional	Marine grade Aluminium 100% recyclable
	Table Foro or Battery Collection	TBD	Maglin	30” diameter / 36” diameter	Gunmetal	5 years	Optional	Marine grade or E-Coat Rust Proofing 100% recyclable
	Column Table	TBD	Forms+Surfaces	30” diameter / 36” diameter	Stainless Steel Finish: Satin	1 Year	Optional	Marine grade Stainless Steel or Aluminium 100% recyclable
	Lakeside Litter Receptacle	TBD	Landscape Forms	21” x 36” x 30 GL.	Silver	3 Years	**Yes**	Side opening Custom Mangrove design Aluminium
	Loop Bike Rack	TBD	Landscape Forms	14” x 36” x 31”	Silver	3 Years	Optional	Marine grade Aluminium 100% recyclable
	Flo Bike Rack	TBD	Landscape Forms	27.75” x 25.5” x 32.5”	Silver	3 Years	Optional	Marine grade Aluminium 100% recyclable

Site Furniture

Unifying Design Element	Item	Location	Manufacturer	Size	Approved Colors	Warranty	Required?	Min. Standard
	Baywalk & Riverwalk Bollard	TBD	Sutton Brick & Stone	24” x 24” x 24”	Natural Shellstone	N/A	Optional	Dominican Shellstone Mangrove patterns carved
	Cube Bollard + custom mangrove pattern	TBD	Metalco	1.3’ x 1.3’ x 1.3’	Stainless Steel	2 years	Optional	Stainless Steel or Aluminium Mangrove Pattern
	Waterfront Bollard	Riverwalk	Louis Poulsen	10.2” W x 35.1” H x 10.2” L	Aluminium	5 years	**Yes**	Aluminium
	Pet waste receptacles and bag dispensers - Modern Dog Kit	Baywalk & Riverwalk	Pet Pick ups	72.4” high x 19.4” wide x 9.1” deep	Aluminium	-	Optional	Aluminium
	Corocord Domes & Arches	TBD	Kompan	Standard	Aluminum finish and Baywalk colors	Depending on parts, lifetime to two years	Optional	Hot-tip galvanized steel

Botanical Name	Common Name	Size and Spacing Height x Width	Sun/Shade Light Preference	Aerosol Salt Spray Tolerance	Baywalk, Riverwalk, or Both	Florida Native	Minimum Size Requirements
LARGE CANOPY TREES							
Bucida buceras	Black Olive	40-50' x 35-50'	FS to PS	High	Both	✓	12'-14' Ht. x 8'-9' Sprd., B&B, 3' CT, 3.5" Cal
Bursera simaruba	Gumbo Limbo / Tourist Tree	24-50' x 20-50'	FS to PS	High	Both	✓	12'-14' Ht. x 8'-9' Sprd., B&B, 3' CT, 3.5" Cal
Calophyllum brasiliense	Beauty Leaf	30-40' x 40-50'	FS to PS	High	Both		15' Ht. x 8' Sprd./ Full/ B&B Approved Source
Chorisia insignis	White Silk Floss	35-50' x 40-55'	FS	Med to Low	Riverwalk		12' Ht. x 6' Sprd./ 3" Cal/ B&B
Chorisia speciosa	Silk Floss Tree	35-50' x 40-55'	FS	Med to Low	Riverwalk		12' Ht. x 6' Sprd./ 3" Cal/ B&B
Chrysophyllum oliviforme	Satin Leaf	35-45" x 18-25'	FS to PS	Moderate	Both	✓	10' Ht. x 6' Spr./ B&B/ Full
Delonix regia	Royal Poinciana	35-40' x 40-60'	FS	Med to Low	Riverwalk		12' Ht. x 8' Sprd./ B&B/ Heavy
Ficus aurea	Strangler Fig	50-60' x 50-70'	FS to Fshade	Medium	Baywalk	✓	12' Ht. x 6' Sprd.
Ficus citrifolia	Short leaf Fig, Wild Banyan	40-70' x 30-40'	FS	Med to Low	Riverwalk	✓	12' Ht. x 6' Sprd.
Lysiloma latisiliquum	Wild Tamarind	30-60' x 30-50'	FS to PS	High	Both	✓	12' Ht. x 6' Sprd./ 3" Cal min./ B&B/ Full
Peltophorum pterocarpum	Yeloow Poinciana	40-50' x 35-50'	FS	High	Both		12' Ht. x 6' Sprd./ Full/ B&B
Persea borbonia	Red Bay	35-50' x 30-50'	FS to PS	Med to High	Both	✓	12' Ht. x 5' Sprd.
Piscidia piscipula	Jamaican Dogwood	35-50' x 30-50'	FS to PS	High	Both	✓	10'-12' Ht. x 7'-8' Sprd./ B&B
Quercus virginiana	Live Oak	60-80' x 60-120'	FS to PS	High	Both	✓	14' Ht. x 7' Sprd./6" Cal/Sgl. Str. trunk/Full/B&B
Sapindus saponaria	Florida Soapberry	35-40' x 25-35'	FS	High	Both	✓	10'-12' Ht. x 6'-7' Sprd./ B&B
Simarouba glauca	Paradise Tree	40-50' x 25-35'	FS to PS	Med to High	Both	✓	10'-12' Ht. x 6'-7' Sprd./ B&B
Swietenia mahagoni	West Indies Mahogany	40-60' x 40-60'	FS to PS	High	Both	✓	12' Ht. X 6' Spr. / B&B/ Single/ Straight Trunk/
Tamarindus indica	Wild Tamarind	40-65' x 40-50'	FS	Med to Low	Riverwalk		12' Ht. x 6' Sprd./ Full/ B&B
Terminalia catappa	Sea Almond	35-55' x 30-50'	FS	High	Baywalk		10'-12' Ht. x 6'-7' Sprd./ B&B
Tipuana tipu	Tipu Tree, Rosewood	25-50' x 25-50'	FS	Med to Low	Riverwalk		10'-12' Ht. x 6'-7' Sprd./ B&B
MEDIUM-SIZED TREES							
Avicennia germinans	Black Mangrove	25-30' x 40-60'	FS	High	Baywalk	✓	4' Ht. x 2' Sprd./ 7 Gal/ Full
Bulnesia arborea	Verawood	25-30' x 25-40'	FS	Moderate	Riverwalk		8' Ht. x 4' Sprd./ B&B/ Full
Clusia rosea	Pitch Apple, Autograph Tree	25-30' x 15-25'	FS to PS	High	Both	✓	8' Ht. x 4' Sprd./ Full/ B&B
Coccoloba diversifolia	Pigeon Plum	25-40' x 20-35'	FS to PS	High	Both	✓	8' Ht. x 4' Sprd./Min 2" Cal/ Full
Coccoloba uvifera	Sea Grape	25-45' x 20-30'	FS to PS	High	Both	✓	8' Ht. x 4' Sprd./Min 2" Cal/ Full
Conocarpus erecta	Green Buttonwood	30-45' x 20-30'	FS	High	Both	✓	10' Ht. x 6' Sprd./ B&B/ Standard/ Tree Form
Filicium decipiens	Japanese Fern Tree	20-25' x 20-25'	FS to PS	Moderate	Riverwalk		10' Ht. x 6' Sprd./ 25 Gal/ Heavy/ Full
Krugiodendron ferreum	Black Ironwood	20-30' x 15-25'	FS to PS	Moderate	Riverwalk	✓	10' Ht. x 6' Sprd./ 25 Gal/ Heavy/ Full
Laguncularia racemosa	White Mangrove	35-50' x 40-60'	FS	High	Baywalk	✓	4' Ht. x 2' Sprd./ 7 Gal/ Full
Myrcianthes fragrans	Simpson Stopper	20-30' x 15-25'	FS to PS	High	Both	✓	6' Ht. x 3' Sprd./ 25 Gal./ Standard/ Tree Form
Noronhia emarginata	Madagascar Olive	20-25' x 15-20'	FS to PS	High	Both		10' Ht. x 6' Sprd./ 25 Gal/ Heavy/ Full
Pandanus utilis	Madagascar Screw Pine	20-30' x 12-20'	FS to PS	High	Both		9-10' / 65 Gal
Parkinsonia aculeata	Mexican Palo Verde	15-20' x 20-25'	FS	High	Both	✓	12' Ht. x 6' Sprd.
Rhizophora mangle	Red Mangrove	25-30' x 40-60'	FS	High	Baywalk	✓	4' Ht. x 2' Sprd./ 7 Gal/ Full
Tabebuia argentea	Yellow Trumpet Tree	15-20' x 10-15'	FS	Moderate	Riverwalk		10' Ht. x 5' Sprd./ Full/ BB
Tabebuia heterophylla	Pink Tab	20-30' x 15-25'	FS	Moderate	Riverwalk		10' Ht. x 5' Sprd./ Full/ BB

Denotes a plant that has a high tolerance for aerosol salt spray

Planting

Botanical Name	Common Name	Size and Spacing Height x Width	Sun/Shade Light Preference	Aerosol Salt Spray Tolerance	Baywalk, Riverwalk, or Both	Florida Native	Minimum Size Requirements
SMALL ACCENT TREES							
Capparis cynophallophora	Jamaica Caper Tree	6-15' x 8-12'	FS to PS	Moderate	Riverwalk	✓	10' Ht. x 6' Sprd./ B&B/ Standard/ Tree Form
Conocarpus erectus 'Sericeus'	Silver Buttonwood	15-20' x 15-20'	FS	High	Both	✓	10' Ht. x 6' Sprd./ B&B/ Standard/ Tree Form
Cordia sebestena	Orange Geiger Tree	15-25' x 20-25'	FS	High	Both	✓	8' Ht. x 4' Sprd./ B&B
Genipa clusiifolia	Seven Year Apple	10-20' x 15'	FS to PS	Moderate	Riverwalk	✓	8' Ht. x 4' Sprd./ B&B
Guaiacum officinale	Lignum-vitae	10-30' x 8-12'	FS to PS	High	Both	✓	5'-6' Ht. x 4' Sprd./ 15 Gal
Jacquinia keyensis	Joewood	8-10' x 8-12'	FS to PS	High	Both	✓	5'-6' Ht. x 4' Sprd./ 15 Gal
Plumeria alba	White Frangipani	20-25' x 20-25'	FS to PS	Moderate	Riverwalk		10' Ht. x 5' Sprd.
Plumeria rubra	Frangipani	20-25' x 20-25'	FS to PS	High	Both		10' Ht. x 5' Sprd.
Senna polyphylla	Desert Cassia	8-10' x 8-12'	FS	Moderate	Riverwalk		6' Ht. x 3' Sprd./ 20 Gal./ Full/ Standard
Vachellia farnesiana	Sweet Acacia	15-25' x 15-25'	FS	Moderate	Riverwalk		8' Ht. x 4' Sprd./ B&B
PALMS							
Acoelorrhaphe wrightii	Paurotis Palm	15-25' x 10-15'	Sun or Shade	High	Both	✓	12-15' Ht. / B&B/ 7 stem min/ Full to ground
Bismarkcia nobilis	Silver Bismarck Palm	25-60' x 10-15'	FS to PS	Med to High	Both		8' O.A./ Full hd./ 45 Gal.
Coccothrinax argentata	Silver Palm	6-15' x 6-7'	Sun or Shade	High	Both	✓	8' O.A. Ht./ 15 Gal
Cocos nucifera 'Green Malayan'	Green Malayan Coconut Palm	50-75' x 15-25'	FS	High	Both		10" Cal/ 15 Fronds min./ B&B/ Heavy
Cocos nucifera 'Maypan'	Maypan Coconut Palm	50-75' x 15-25'	FS	High	Both		15 Fronds min./ B&B/ Heavy
Pseudophoenix sargentii	Buccaneer Palm	10-15' x 6-10'	Sun or Shade	High	Both	✓	8' O.A./ Full hd./ FG
Roystonea elata	Florida Royal Palm	50-75' x 15-25'	FS	Med to High	Both	✓	B&B/ Heavy/ No Scars/ Matched/ App. Sr.
Roystonea regia	Cuban Royal Palm	50-75' x 15-25'	FS	Med to High	Both	✓	B&B/ Heavy/ No Scars/ Matched/ App. Sr.
Sabal palmetto	Cabbage Palm	25-50' x 10-15'	FS to PS	High	Both	✓	Avg. 20' O.A./ Hurr. cut
Serenoa cinera	Silver Saw Palmetto	5-10' x 4-10'	Sun to FShade	Med to High	Both	✓	24" Ht. x 30" Sprd./ 3 Gal/ 24" O.C./ Full
Serenoa repens	Saw Palmetto	5-10' x 4-10'	Sun to FShade	Med to High	Both	✓	24" Ht. x 30" Sprd./ 3 Gal/ 24" O.C./ Full
Thrinax morrisii	Key Thatch Palm	15-25' x 6-10'	FS to PS	Moderate	Riverwalk	✓	4' C.T./ Full hd./ FG
Thrinax parviflora	Florida Thatch Palm	15-25' x 6-10'	FS	Moderate	Riverwalk	✓	4' C.T./ Full hd./ FG
Thrinax radiata	Thatch Palm	15-25' x 6-10'	FS to PS	Moderate	Riverwalk	✓	4' C.T./ Full hd./ FG
Trachycarpus fortunei	Windmill Palm	10-25' x 8-10'	Sun to FShade	Moderate	Riverwalk		8' O.A./ Full hd./ FG
Veitchia montgomeryana	Montgomery Palm	25-35' x 10-15'	Sun to FShade	Moderate	Riverwalk		8' C.T./ 18" Cal min./ B&B
Washingtonia robusta	Mexican Fan Palm	60-75' x 10-15'	FS to PS	Med to High	Both		8' C.T./ 18" Cal min./ B&B
LARGE SHRUBS							
Acrostichum danaeifolium	Giant Leather Fern	6-12' x 8-14'	FS to PS	Moderate	Riverwalk	✓	30" Ht./ 3 Gal/ 36" O.C.
Agave americana	Century Plant	6-8' x 6-10'	FS to PS	Moderate	Riverwalk	✓	3' O.A./ 7 Gal
Agave attenuata	Spineless Century Plant	2-3' x 3-4'	FS to PS	Moderate	Riverwalk		3' O.A./ 7 Gal
Caesalpinia gilliesii	Desert Bird of Paradise	7-10' x 7-10'	FS to PS	Moderate	Riverwalk		3' O.A./ 7 Gal
Caesalpinia pulcherrima	Pride of Barbados	8-12' x 10-12'	FS to PS	Moderate	Riverwalk		3' O.A./ 7 Gal
Callicarpa americana	American Beautyberry	3-8' x 4-8'	FS to PS	Med to Low	Riverwalk	✓	3' O.A./ 7 Gal
Carissa grandiflora	Natal Plum	6-10' x 4-10'	FS to PS	High	Both		18" O.A./ 3 Gal/ 24" O.C.

Denotes a plant that has a high tolerance for aerosol salt spray

Planting

LARGE SHRUBS (continued)

Botanical Name	Common Name	Size and Spacing Height x Width	Sun/Shade Light Preference	Aerosol Salt Spray Tolerance	Baywalk, Riverwalk, or Both	Florida Native	Minimum Size Requirements
Cassia bahamensis	Bahama Senna	3-9' x 6-10'	FS to PS	Moderate	Riverwalk	✓	3' O.A./ 7 Gal
Chrysobalanus icaco	Green Cocoplum	6-20' x 4-10'	FS to PS	High	Both	✓	18" O.A./ 3 Gal/ 24" O.C.
Chrysobalanus icaco 'Red Tip'	Red Tip Cocoplum	6-15' x 4-6'	FS to PS	High	Both	✓	18" O.A./ 3 Gal/ 24" O.C.
Clusia guttifera	Small leaved Pitch Apple	6-20' x 4-10'	FS to PS	High	Both	✓	3' O.A./ 7 Gal
Clusia rosea	Pitch Apple	6-20' x 4-10'	FS to PS	High	Both	✓	3' O.A./ 7 Gal
Coccoloba uvifera	Sea Grape	25-45' x 20-30'	FS to PS	High	Baywalk	✓	2' O.A./ 3 Gal/ 36" O.C./ Full/ Shrub Form
Conocarpus erectus	Green Buttonwood	6-20' x 8-20'	FS to PS	High	Both	✓	2' O.A./ 3 Gal/ 36" O.C./ Full/ Shrub Form
Conocarpus erectus 'Sericeus'	Silver Buttonwood	6-12' x 4-10'	FS to PS	High	Both	✓	24" Ht. x 18" Spr./3 Gal/ 24" O.C./Full
Cordyline australis	New Zealand Cabbage Palm	6-15' x 3-6'	FS to PS	Med to High	Both		3' O.A./ 7 Gal
Crinum asiaticum 'Queen Emma'	Queen Emma's Spider Lily	3-6' x 3-5'	FS to PS	Med to Low	Riverwalk		3' Ht. x 3' Sprd./ 3 hd. Min / 7 Gal/ As Shown
Erythrina herbacea	Cherokee Bean, Coral Bean	5-15' x 8-12'	FS to PS	High	Both	✓	30" Ht. x 24" Sprd./ 3 Gal/ 24" O.C.
Galphimia gracilis	Thryallis	6-10' x 6-10'	FS to PS	Low	Riverwalk		24" O.A./ 3 Gal/ 30" O.C./ Full
Hamelia patens	Firebush	6-12' x 5-8'	FS to PS	Low	Riverwalk	✓	24" O.A./ 3 Gal/ 36" O.C./ Full
Hamelia patens 'Compacta'	Dwarf Firebush	4-8' x 4-6'	FS to PS	Low	Riverwalk	✓	24" O.A./ 3 Gal/ 36" O.C./ Full
Hibiscus rosa-sinensis	Tropical Hibiscus, Rose Mallow	4-10' x 5-8'	FS to PS	Moderate	Riverwalk	✓	24" O.A./ 3 Gal/ 30" O.C./ Full
Nerium oleander	Oleander	10-18' x 10-15'	FS to PS	Med to High	Both		24" O.A./ 3 Gal/ 36" O.C./ Full
Pittosporum tobira	Pittosporum, Mock Orange	8-12' x 12-18'	FS to PS	Med to High	Both		24" O.A./ 3 Gal/ 36" O.C./ Full
Plumbago auriculata	Cape Plumbago	6-10' x 8-10'	FS to PS	Med to High	Both		24" O.A./ 3 Gal/ 36" O.C./ Full
Psychotria nervosa	Wild Coffee	4-10' x 4-8'	Sun to FShade	Med to Low	Riverwalk	✓	30" Ht. x 24" Sprd./ 3 Gal/ 24" O.C.
Russelia equisetiformis	Firecracker Plant	4-5' x 4-5'	FS to PS	Moderate	Riverwalk		24" O.A./ 3 Gal/ 36" O.C./ Full
Scaevola frutescens	Beach Naupaka	3-10' x 3-6'	FS to PS	High	Baywalk		18" O.A./ 3 Gal. / 24" O.C. / Full
Sophora tomentosa	Necklance Pod	6-10' x 8-12'	Full Sun	Moderate	Riverwalk	✓	18" O.A./ 3 Gal. / 24" O.C. / Full
Suriana maritima	Bay Cedar	5-20' x 5-8'	Full Sun	Med to High	Baywalk	✓	18" O.A./ 3 Gal. / 24" O.C. / Full
Yucca aloifolia	Spanish Bayonet	10-15' x 3-5'	FS to PS	High	Both	✓	3' O.A./ 7 Gal/ 36" O.C.
Yucca smalliana	Adam's Needle	6-8' x 3-5'	FS to PS	Moderate	Riverwalk	✓	3' O.A./ 7 Gal/ 36" O.C.

SMALL TO MEDIUM-SIZED SHRUBS

Argusia gnaphalodes	Sea Lavender	3-5' x 3-6'	Full Sun	High	Baywalk	✓	18" O.A./ 3 Gal/ 36" O.C./ Full
Duranta erecta 'Goldmound'	Golden Dew Drop	2-5' x 2-3'	FS to PS	Med to Low	Riverwalk	✓	18" O.A./ 3 Gal/ 24" O.C.
Euphorbia milii	Crown of Thorns	2-3' x 1-2'	Full Sun	High	Both		8"-12" O.A./ 1 Gal/ 12" O.C.
Hymenocallis latifolia	Spider Lily	1-3' x 3-5'	FS to PS	Med to High	Both	✓	3' O.A./ 7 Gal/ 36" O.C.
Nephrolepis spp.	Sword Fern	1-4' x spreads indefinite	Sun to FShade	Med to Low	Riverwalk	✓	18" O.A./ 3 Gal/ 24" O.C.
Osmunda regalis	Royal Fern	2-3' x 2-3'	Part to Full Shade	Low	Riverwalk	✓	18" O.A./ 3 Gal/ 24" O.C.
Rhaphiolepis indica	Indian Hawthorn	3-7' x 6-10'	FS to PS	Moderate	Both		18" O.A./ 3 Gal/ 24" O.C.
Salvia coccinea	Tropical Sage	2-4' x 1-2'	FS to PS	Med to High	Both	✓	18" O.A./ 3 Gal/ 24" O.C.
Scaevola plumieri	Inkberry	2-3' x 3-8'	FS to PS	High	Baywalk	✓	24" O.A./ 3 Gal/ 36" O.C./ Full
Zamia furfuracea	Cardboard Palm	2-5' x 5-8'	FS to PS	Med to High	Both		3' O.A./ 7 Gal/ 36" O.C.
Zamia integrifolia	Coontie	2-5' x 5-8'	FS to PS	Med to High	Both		3' O.A./ 7 Gal/ 36" O.C.

Denotes a plant that has a high tolerance for aerosol salt spray

Planting

GROUNDCOVERS

Botanical Name	Common Name	Size and Spacing Height x Width	Sun/Shade Light Preference	Aerosol Salt Spray Tolerance	Baywalk, Riverwalk, or Both	Florida Native	Minimum Size Requirements
Arachis glabrata	Perrenial Peanut	6" x spreads indefinite	FS to PS	Med to High	Both	✓	12" O.A. /1 Gal/18" O.C.
Asclepias curassavica	Scarlet Weed	1-2' x 1-2'	Full Sun	Med to Low	Riverwalk	✓	12" O.A. /1 Gal/18" O.C.
Asparagus meyerii	Foxtail Fern	1-2' x 1-2'	Sun to FShade	Moderate	Both		24" Ht. x 24" Sprd./ 3 Gal/ 24" O.C.
Borrichia arborescens	Silver Sea Oxeye Daisy	2-4' x 2-3'	Full Sun	High	Baywalk	✓	2' Ht. / 3 Gal. / 24" O.C./ Full
Carissa macrocarpa	Natal Plum	1-2' x 4-8'	FS to PS	Med to High	Both		24" Ht. x 24" Sprd./ 3 Gal/ 24" O.C.
Carissa macrocarpa 'Nana'	Dwarf Natal Plum	1-2' x 1-2'	Sun to FShade	High	Both	✓	18" Ht./ 3 Gal/ 24" O.C./ Full
Dianella tasmanica 'Variegata'	White Striped Flax Lily	2-3' x 1-2'	FS to PS	Med to High	Both		30" ht x 30" spr/3 gal/ 24" O.C./Full
Ernodea littoralis	Golden Creeper	1-3' x spreads indefinite	Full Sun	Med to High	Both	✓	12" O.A. /1 Gal/15" O.C.
Evolvulus glomeratus	Brazilian Dwarf Morning-Glory	1-2' x 1-2'	Full Sun	Moderate	Both		18" Ht./ 3 Gal/ 24" O.C./ Full
Ficus microcarpa 'Green Island'	Green Island Ficus	2-4' x 3-5'	FS to PS	Med to High	Both	✓	30" ht x 30" spr/3 gal/ 24" O.C./Full
Ficus pumila	Creeping Ficus	6" x spreads indefinite	FS to PS	Moderate	Both		24" OA/ 3 Gal./ 24" O.C.
Flaveria linearis	Narrow Yellowtop	2-3' x 3-4'	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/15" O.C.
Gaillardia pulchella	Blanketflower	1-2' x 2-3'	Full Sun	High	Both	✓	12" O.A. /1 Gal/18" O.C.
Helianthus debilis	Beach Sunflower	2-4' x 2-4'	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/15" O.C.
Ipomoea pes-caprae	Railroad Vine	2-4' x 2-4'	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/18" O.C.
Iva imbricata	Dune Marsh Elder	2-4' x 2-4'	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/18" O.C.
Lantana depressa var. floridana	Pineland Lantana	2-4' x 3-5'	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/15" O.C.
Lantana montevidensis	Trailing Lantana	12-18" x 3-5'	Full Sun	High	Both	✓	12" O.A. /1 Gal/15" O.C.
Licania michauxii	Gopher-Apple	6-12" x spreads indefinite	Full Sun	High	Baywalk	✓	18" Ht./ 3 Gal/ 24" O.C./ Full
Liriope muscari 'Evergreen Giant'	Evergreen Giant Lilyturf	1-2' x 1-2'	Sun to FShade	Moderate	Both		12" O.A. /6" Pot/24" O.C.
Microsorum scolopendrium	Wart Fern	1-2' x spreads indefinite	FS to PS	Med to Low	Riverwalk		12" O.A. /1 Gal/18" O.C.
Mimosa strigillosa	Sensitive Plant	6-12" x spreads indefinite	FS to PS	Med to Low	Riverwalk	✓	12" O.A. /1 Gal/15" O.C.
Portulaca oleracea	Common Purslane	6" x 2-3'	Full Sun	High	Baywalk		12" O.A. /1 Gal/18" O.C.
Sedum sarmentosa	Star Sedum	6" x 2-3'	FS to PS	Med to High	Baywalk		12" O.A. /1 Gal/18" O.C.
Sesuvium portulacastrum	Sea Purslane	6-12" x spreads indefinite	Full Sun	High	Baywalk	✓	12" O.A. /1 Gal/18" O.C.
Trachelospermum asiaticum	Asiatic Jasmine	1-2' x 10-12'	Sun to FShade	Moderate	Both		12" O.A. /1 Gal/18" O.C.
Tradescantia pallida 'Purpurea'	Purple Heart	12-18" x spreads indefinite	FS to PS	Moderate	Both		12" O.A. /1 Gal/18" O.C.
Tradescantia spathacea	Tri-colored Oyster Plant	12-18" x spreads indefinite	FS to PS	Moderate	Both		12" O.A. /1 Gal/18" O.C.
Wedelia trilobata	Wedelia, Creeping Daisy	6-12" x spreads indefinite	FS to PS	High	Baywalk		12" O.A. /1 Gal/18" O.C.
Zebrina pendula	Wandering Jew	6-12" x spreads indefinite	PS to Full Shade	Med to Low	Riverwalk		12" O.A. /1 Gal/18" O.C.

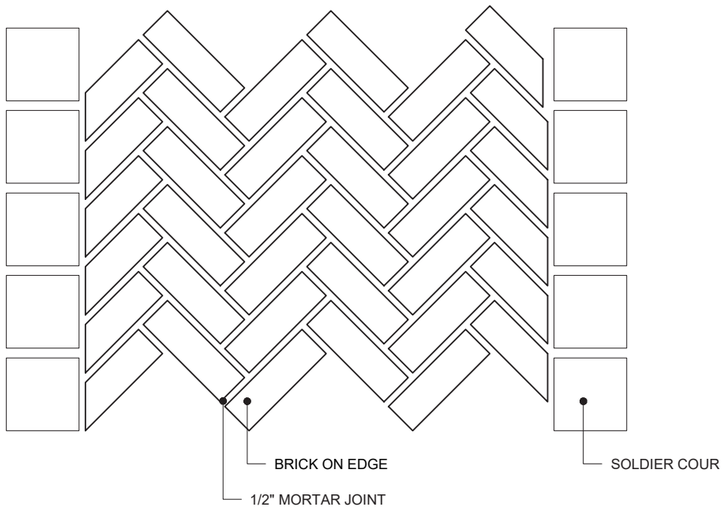
Denotes a plant that has a high tolerance for aerosol salt spray

Botanical Name	Common Name	Size and Spacing Height x Width	Sun/Shade Light Preference	Aerosol Salt Spray Tolerance	Baywalk, Riverwalk, or Both	Florida Native	Minimum Size Requirements
ORNAMENTAL GRASSES							
Muhlenbegia capillaris	Pink Muhly Grass	3-5' x 2-3'	Full Sun	Moderate	Both	✓	18" O.A./ 1 Gal/ 24" O.C.
Spartina alterniflora	Smooth Cordgrass	3-6' x 3-5'	Full Sun	High	Baywalk	✓	24" OA/ 3 Gal./ 24" O.C.
Spartina bakeri	Sand Cordgrass	3-4' x 3-5'	Full Sun	High	Both	✓	24" OA/ 3 Gal./ 24" O.C.
Spartina patens	Saltmeadow Cordgrass	1-3' x 3-5'	Full Sun	High	Baywalk	✓	12"-18" OA/ 1 Gal./ 18" O.C./ Full
Tripsacum dactyloides	Fakahatchee Grass	4-8' x 4-6'	FS to PS	Med to High	Both	✓	30" Ht./ 3 Gal/ 36' O.C.
Tripsacum floridana	Florida Gama Grass	3-4' x 4-6'	FS to PS	Med to High	Both	✓	24" O.A./ 3 Gal/ 30" O.C.
Uniola paniculata	Sea Oats	3-4' x spreads	Full Sun	High	Baywalk	✓	12"-18" OA/ 1 Gal./ 18" O.C./ Full
VINES							
Bougainvillea glabra	Bougainvillea, Paper Flower	20-30' with support	Full Sun	High	Both		7 Gal / 5' Trl
Campsis radicans	Trumpet Vine	Spreads indefinite	FS to PS	Low	Riverwalk	✓	1 Gal
Ficus pumila	Creeping Fig	6" x spreads indefinite	FS to PS	Moderate	Both		3 Gal
Passiflora incarnata	Maypop, Passionflower	6-8' x 3-6'	FS to PS	Moderate	Both	✓	7 Gal / 5' Trl
Senecio confusus	Mexican Flame Vine	Spreads indefinite	FS to PS	Low	Riverwalk	✓	1 Gal
Tecomaria capensis	Cape honeysuckle	12-16' x 6-8'	Full Sun	High	Both		3G Org Yl
TURFGRASSES							
Cynodon dactylon	419 Bermuda Grass	2-6" x 2-6"	Full Sun	Moderate	Both		
Paspalum distichum	Seashore Paspalum	6-24" x spreads	Full Sun	High	Baywalk		
Stenotaphrum secundatum	St. Augustine Grass	4-12" x spreads	FS to PS	Med to High	Both		
Zoysia japonica	Zoysia Grass	2-6" x spreads	FS to PS	High	Both		

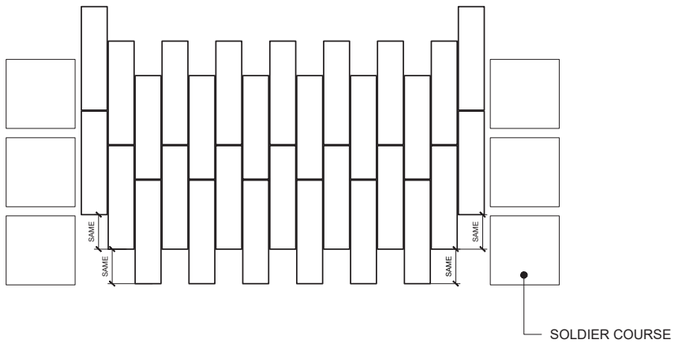
Denotes a plant that has a high tolerance for aerosol salt spray

APPENDIX

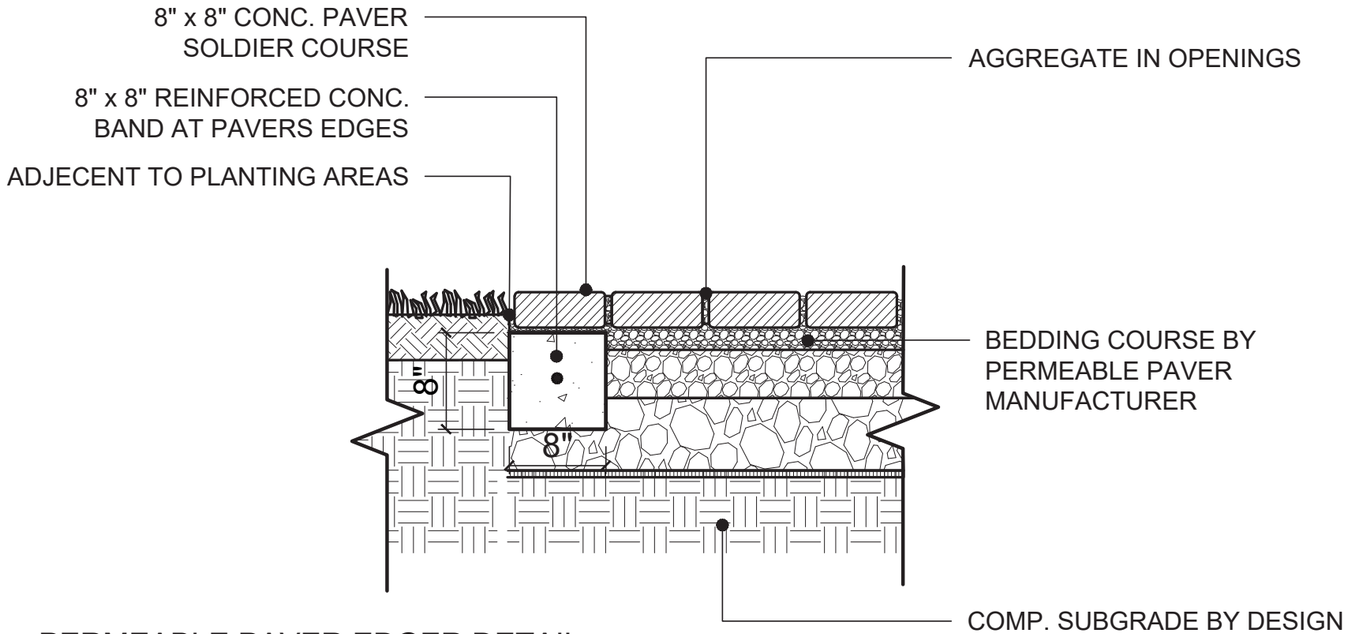
Paving Details



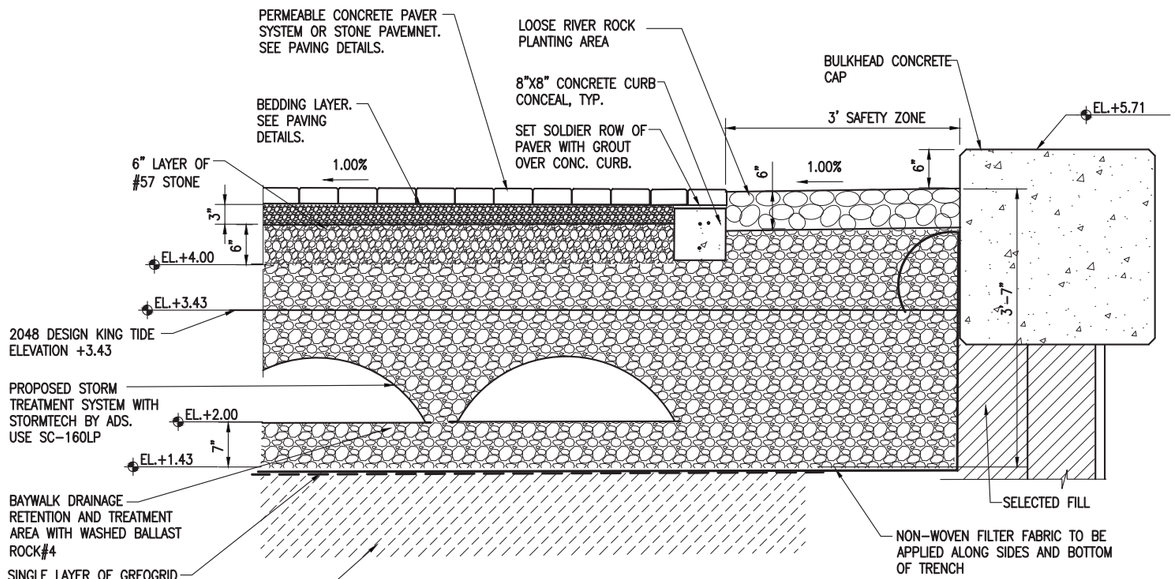
HERRINGBONE PATTERN DETAIL
SCALE: NTS



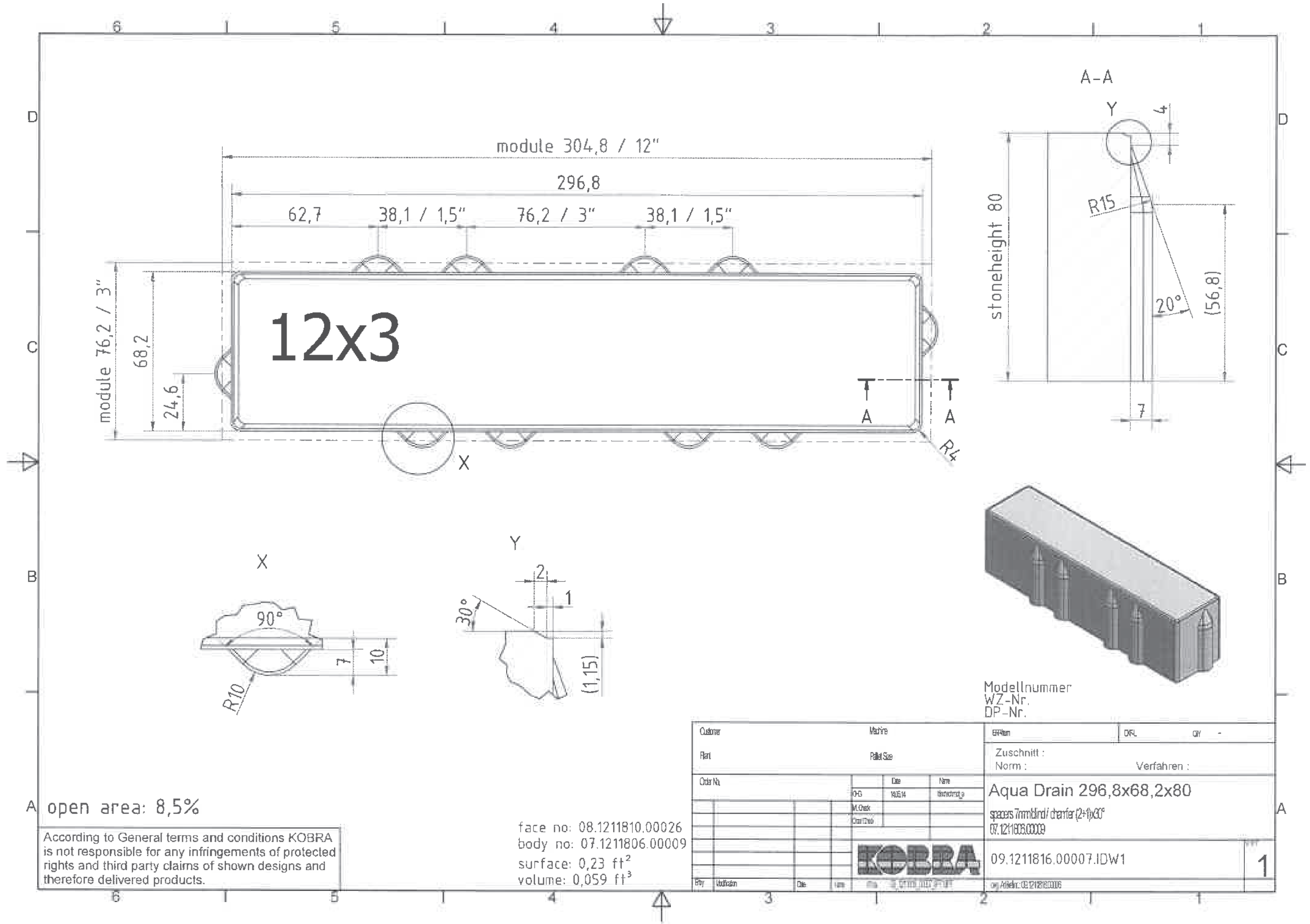
RUNNING BOND PATTERN DETAIL
SCALE: NTS

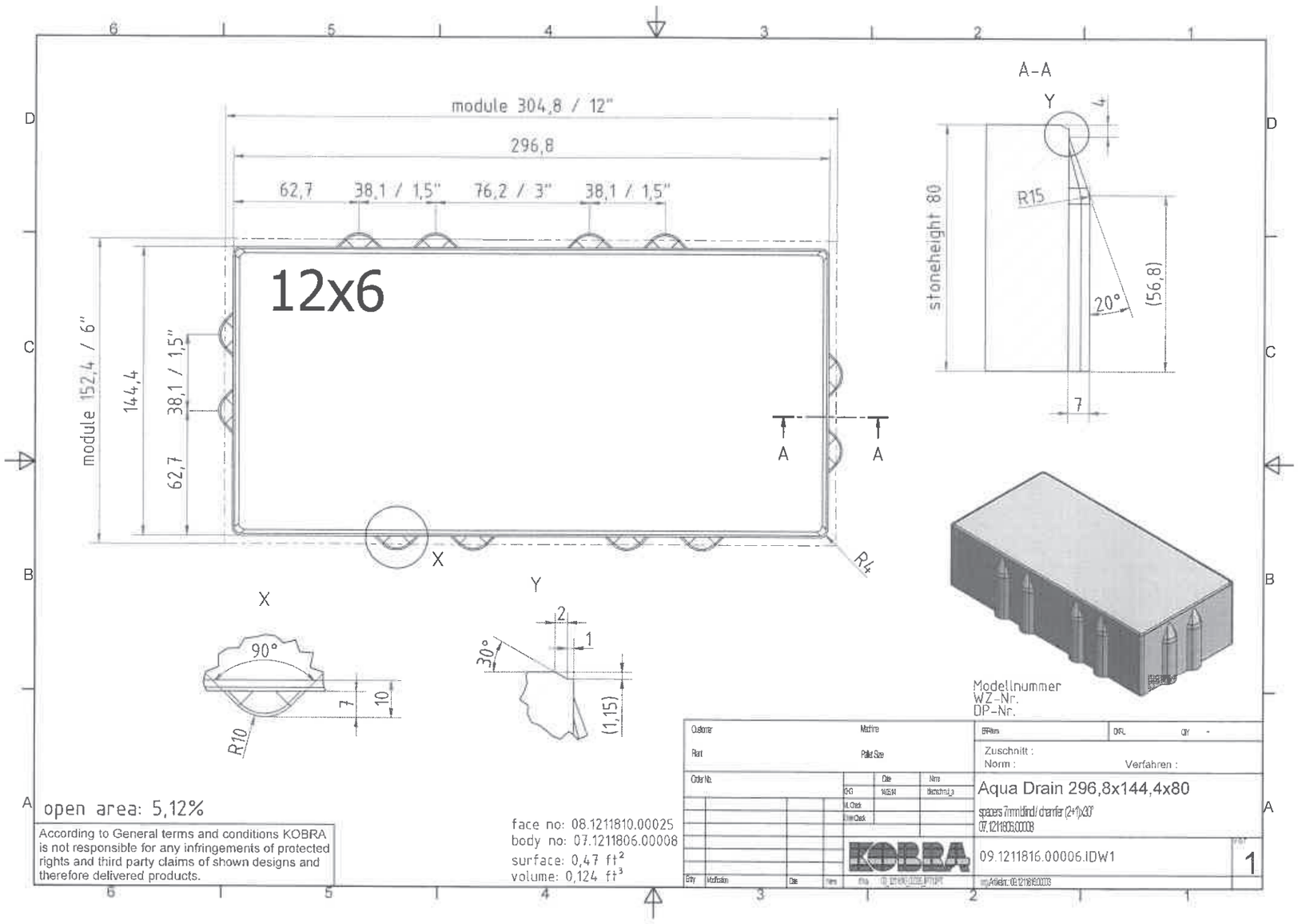


PERMEABLE PAVER EDGER DETAIL
SCALE: NTS



3 TYPICAL BAYWALK DRAINAGE SYSTEM
SCALE: NTS


module 304,8 / 12"
296,8
62,7
38,1 / 1,5"
76,2 / 3"
38,1 / 1,5"
module 76,2 / 3"
68,2
24,6
12x3
X
A
A
R4
A-A
Y
4
R15
stoneheight 80
20°
(56,8)
7
X
90°
R10
7
10
Y
2
1
30°
(1,15)
Modellnummer
WZ-Nr.
DP-Nr.
open area: 8,5%
According to General terms and conditions KOBRA is not responsible for any infringements of protected rights and third party claims of shown designs and therefore delivered products.
face no: 08.1211810.00026
body no: 07.1211806.00009
surface: 0,23 ft²
volume: 0,059 ft³
Customer
Machine
Plant
Pallet Size
Order No.
Zuschnitt :
Norm :
Verfahren :
Aqua Drain 296,8x68,2x80
KOBRA
09.1211816.00007.IDW1
1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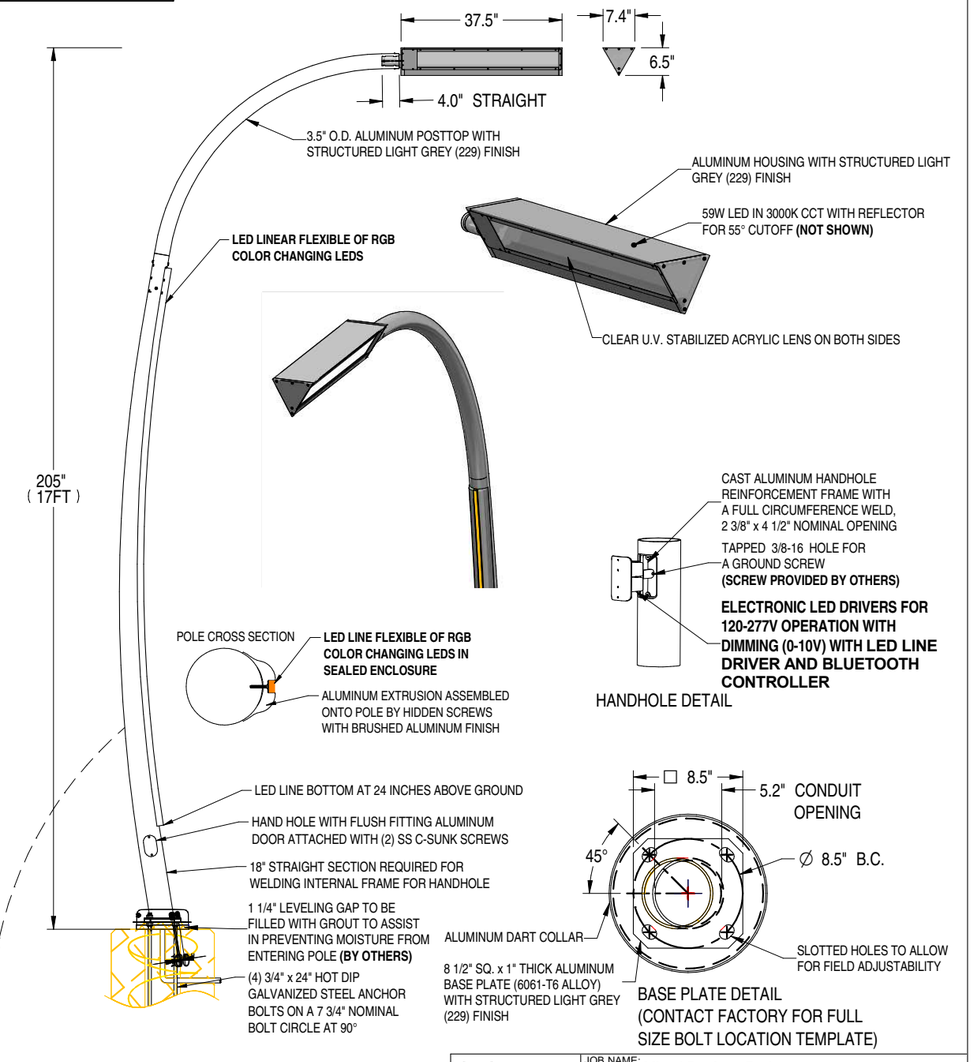
296,8
62,7
38,1 / 1,5"
76,2 / 3"
38,1 / 1,5"
12x6
module 152,4 / 6"
144,4
38,1 / 1,5"
62,7
A-A
Y
4
R15
stoneheight 80
20°
(56,8)
7
A
A
X
R4
X
90°
7
10
R10
Y
30°
2
1
(1,15)
Modellnummer
WZ-Nr.
DP-Nr.
open area: 5,12%
According to General terms and conditions KOBRA is not responsible for any infringements of protected rights and third party claims of shown designs and therefore delivered products.
face no: 08.1211810.00025
body no: 07.1211806.00008
surface: 0,47 ft²
volume: 0,124 ft³
Customer
Material
Plant
Pallet Size
Order No.
Date
Name
Zuschnitt :
Norm :
Verfahren :
Aqua Drain 296,8x144,4x80
spacers 7mm/6mm/ chamfer (2+1)x30°
07.1211806.00008
KOBRA
09.1211816.00006.IDW1
1

VER	BY	DATE	DESCRIPTION
00	DAN	2/20/18	BASED ON 131-19403-000, ADDING PHOTOSENSOR
01	DAN	7/19/18	REMOVE PHOTOCELL, ADD COLOR LINE FROM 131-19416-001 CONCEPT

BUG RATING: B1-U3-G1



NOTES:
1. FINISH: AS NOTED
2. VOLTAGE: 120-277V
3. POLE IS RATED FOR 132 MPH/170MPH (AASHTO 2013/FBC 2014) WITH A 3 SECOND GUST FACTOR

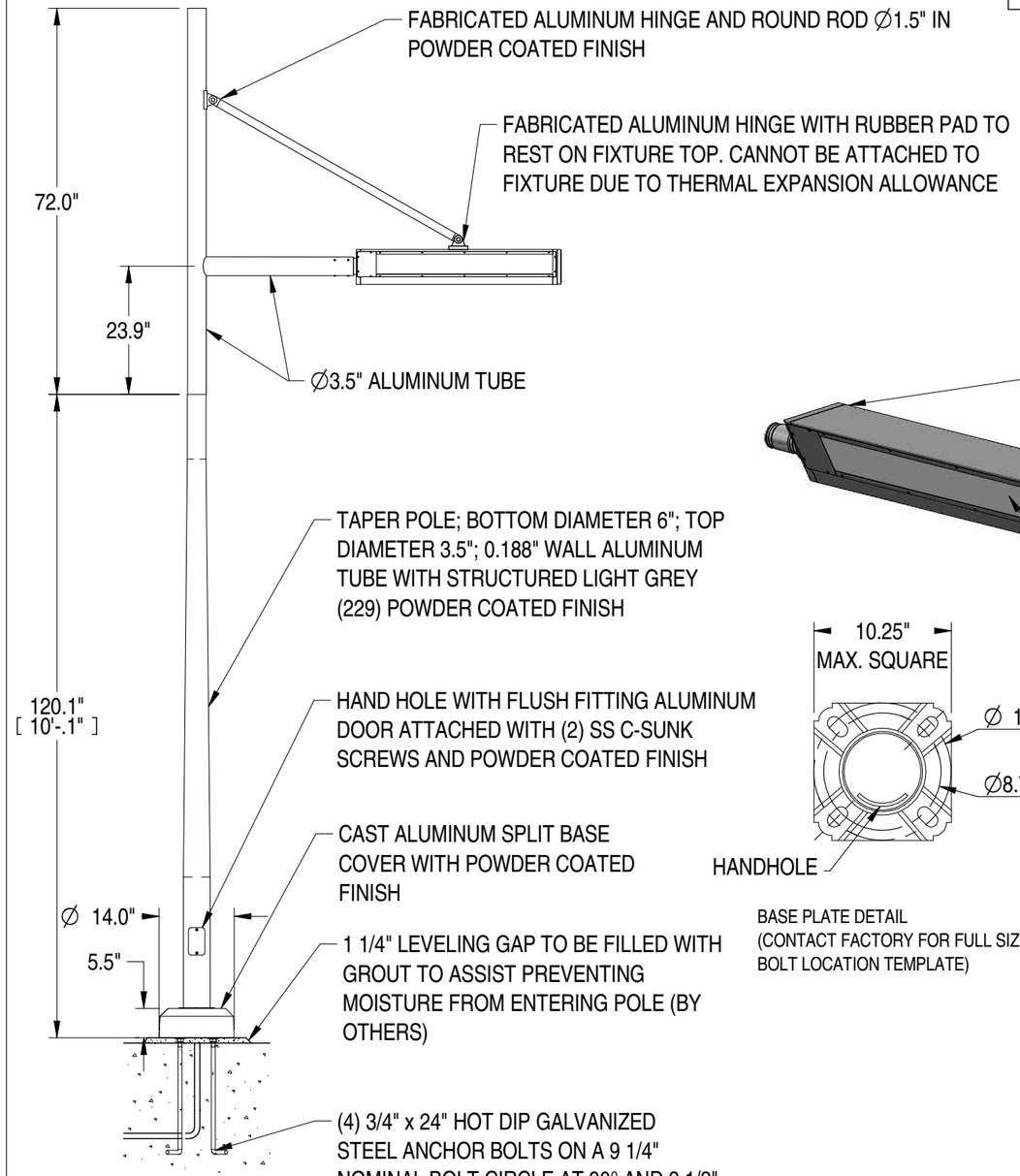
louis poulsen
LOUIS POULSEN USA, INC.
3260 MERIDIAN PKWY
FT LAUDERDALE FL. 33331
PHONE: (954) 349 2525
FAX (954) 349 2500

INCHES
THIRD ANGLE PROJECTION
TOLERANCE:
DECIMAL X.XX = ± .03
X.XXX = ± .010
ANGULAR: ± 1/2°

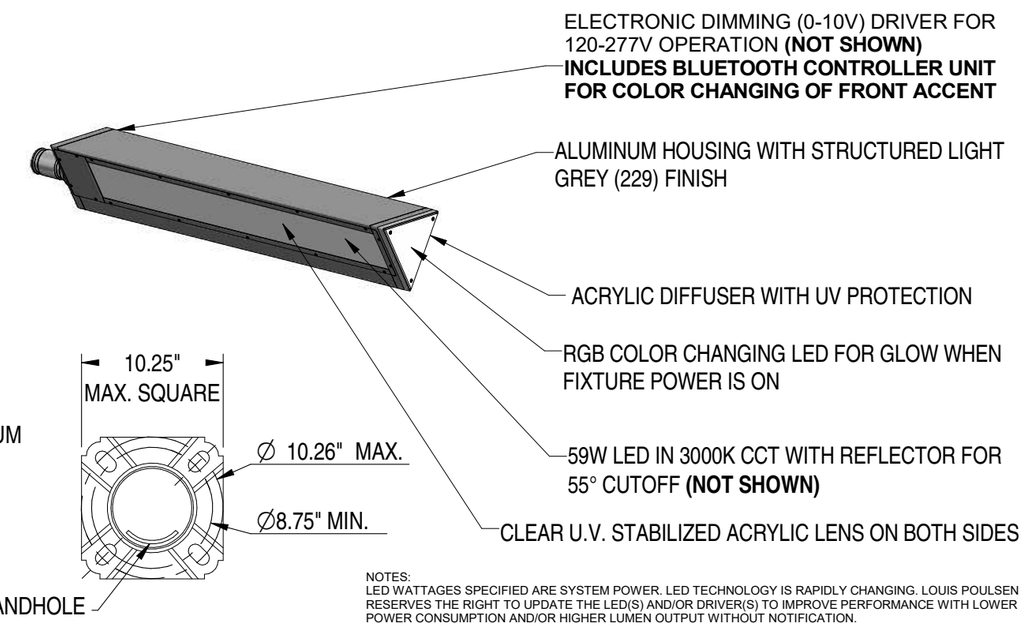
JOB NAME: Miami Bayfront Park			
TITLE: MUSEUM PARK LED FIXTURE/CURVED TAPER POLE			
MOD. FROM: Std SAP			QUOTE NO.: 20059495
DRAWN BY: DAN	DATE: 7/19/2018	APPROVED BY:	TYPE: -
MATERIAL: AS NOTED			VERSION: 01
SCALE: NTS	SHEET: 1 OF 1	DWG. NO.: 131-19470-001	

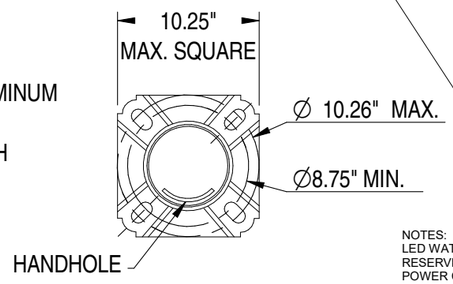
VER	BY	DATE	DESCRIPTION
01	DAN	7/19/18	REVISED TRIAGULAR ROD DESIGN; ADD BLUETOOTH + RGB TO FRONT ACCENT

PRELIMINARY DESIGN SUBJECT TO CHANGE
LOUIS POULSEN RESERVES THE RIGHTS TO CHANGE THE DESIGN WITHOUT ALTERING THE APPEARANCE SIGNIFICANTLY



NOTES:
1. FINISH: AS NOTED
2. VOLTAGE: 120-277V





BASE PLATE DETAIL
(CONTACT FACTORY FOR FULL SIZE BOLT LOCATION TEMPLATE)

NOTES:
LED WATTAGES SPECIFIED ARE SYSTEM POWER. LED TECHNOLOGY IS RAPIDLY CHANGING. LOUIS POULSEN RESERVES THE RIGHT TO UPDATE THE LED(S) AND/OR DRIVER(S) TO IMPROVE PERFORMANCE WITH LOWER POWER CONSUMPTION AND/OR HIGHER LUMEN OUTPUT WITHOUT NOTIFICATION.

LEDS ARE MADE IN LOTS AND SORTED INTO BINS BASED ON WAVELENGTH RANGES THAT ACHIEVE COLORS. PRODUCTS ORDERED AT DIFFERENT TIMES MAY NOT HAVE THE SAME COLOR APPEARANCE.

LOUIS POULSEN MUST RECEIVE THIS DRAWING WITH APPROVAL SIGNATURE PRIOR TO THE DEVELOPMENT AND MATERIAL PURCHASE OF THIS ITEM. ANY MODIFICATION OF THIS DRAWING NOT DONE BY LOUIS POULSEN WILL INVALIDATE THE QUOTATION. DELAYS IN PROVIDING DRAWING APPROVAL WILL IMPACT DELIVERY TIMELINE.

louis poulsen
LOUIS POULSEN USA, INC.
3260 MERIDIAN PKWY
FT LAUDERDALE FL. 33331
PHONE: (954) 349 2525
FAX (954) 349 2550

JOB NAME: Miami Baywalk-Riverwalk			
TITLE: TITLE			
MOD. FROM: Std SAP			QUOTE NO.: 20065090
DRAWN BY: DAN	DATE: 7/19/2018	APPROVED BY:	TYPE: -
MATERIAL: AS NOTED			VERSION: 01
SCALE: NTS	SHEET: 1 OF 1	DWG. NO.: 131-19642-001	

NEOLIVIANO

Product Data Sheet

The NeoLiviano bench is a lyrical variation on NeoRomantico. Lighter in structure and form it has arms for extra comfort. Its slim profile coupled with a strong cast aluminum structure and wood slat seat and back make it versatile seating for both public and private spaces.

Bench

- Benches are available backed or backless.
- Bench can be freestanding, surface mounted, or embedded.
- Supports come in an anodized finish with no color options.
- Center arm option available for 118" bench only.
- Available only in Jarrah—exterior or interior finishes.

Finishes

- Anodized Aluminum Finish for Supports.
- Unfinished Exterior Woods.
- Interior Woods with LF-80 Finish.

Designed by Santa & Cole

BACKED	STYLE	DEPTH	WIDTH	HEIGHT	PRODUCT WEIGHT
	24"	26.5"	24"	31"	47 lb
	69"	26.5"	69"	31"	96 lb
	118"	26.5"	118"	31"	155 lb
	118" w/ center arm	26.5"	118"	31"	157 lb

BACKLESS	STYLE	DEPTH	WIDTH	HEIGHT	PRODUCT WEIGHT
	24"	19.5"	24"	17"	27 lb
	59"	19.5"	59"	17"	51 lb
	118"	19.5"	118"	17"	96 lb

Visit our landscapeforms.com for more information. Specifications are subject to change without notice.
Landscape Forms supports the Landscape Architecture Foundation at the Second Century level.

Landscape Forms, Inc. | 800.521.2546 | F 269.381.3455 | 7800 E. Michigan Ave., Kalamazoo, MI 49048

NEOLIVIANO

Materials / Colors

Wood

Exterior woods weather to a warm, pewter gray; no finish is applied so no maintenance is required. Available in Jarrah and Domestically Sourced Thermally Modified Ash (DSTMA) exterior wood. Special stain may be specified for interior woods. Pricing for standard woods and options varies, see Price Book. (P) = Premium Woods

exterior no finish

jarrah (P) DSTMA

interior LF-80 finish

jarrah (P) DSTMA

Aluminum

aluminum

NEOLIVIANO IS MANUFACTURED USING THE FOLLOWING MATERIALS:

Material	Parts	Recyclable
aluminum	bench supports	100%
wood	seat/back panels	100%

Finishing
Supports are treated with Alodine® to provide corrosion protection.

Landscape Forms wood furniture for outdoor use is manufactured from wood species that weather naturally in outdoor settings to a beautiful pewter gray. We do not apply paints or finishes to these products and do not recommend the use of finishes which would require ongoing maintenance programs as the wood weathers. Our wood furniture for indoor use is finished with LF 80, a clear, catalyzed low-VOC acrylic finish.

Packaging Materials	Parts	Recyclable
biodegradeable plastic	product bagged to protect finish	100%
recycled skid		100%
cardboard with 35% recycled content		100%

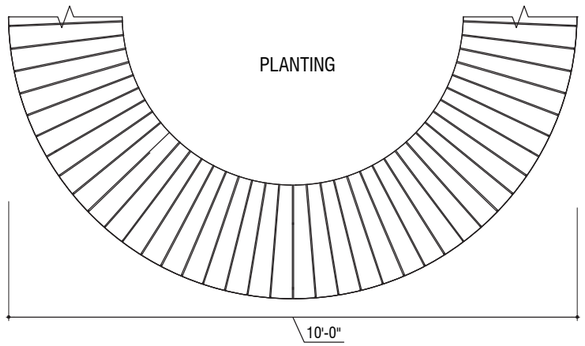
To find local recyclers visit: for steel: www.recycle-steel.org; for cardboard: www.corrugated.org.

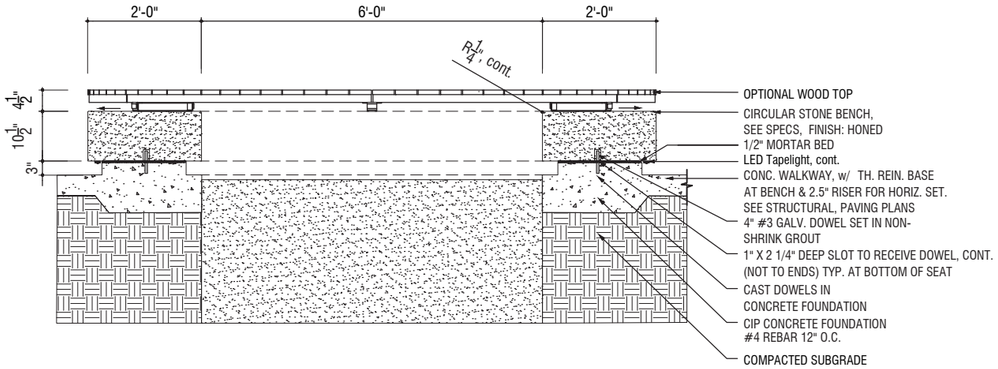
CARE AND MAINTENANCE

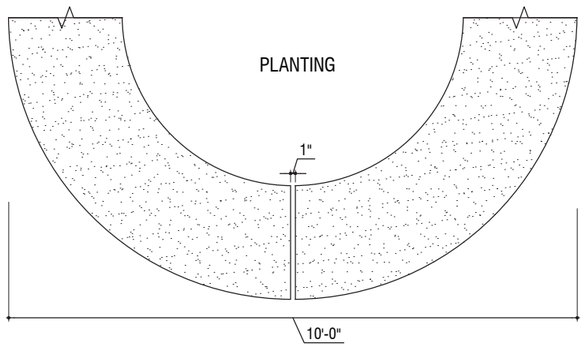
Neoliviano is designed and engineered to live a long, useful life in outdoor spaces without the use of chemical cleaners to maintain the finish. The durability, longevity and low maintenance of our products contribute to responsible stewardship of the earth's resources.

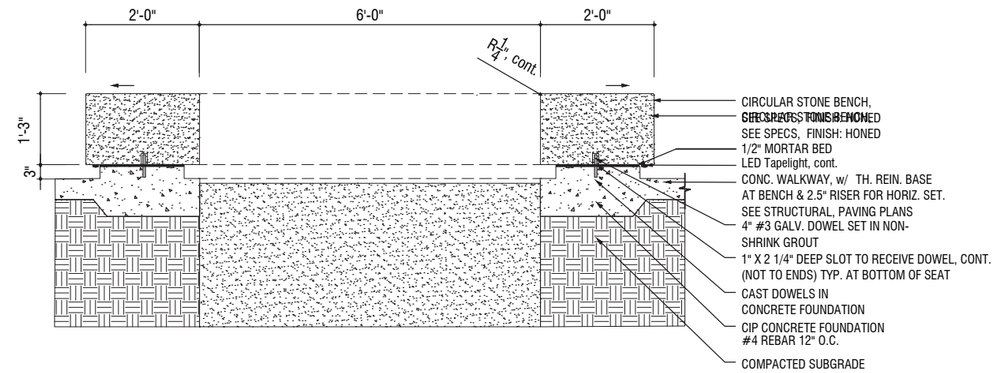
Metal: Clean surface as needed using a soft cloth or brush with a mild detergent. Avoid steam cleaning, abrasive cleansers, carbon steel brushes/wools and cleaners containing chlorine.

Wood: Exterior woods require no maintenance. If desired, the surface may be scrubbed with warm soapy water and soft bristle brush. Pressure washing, steel wool/wire brushes are not recommended. Heavily ingrained stains may be sanded away with fine grade sandpaper worked in the direction of the grain. Sanded wood will weather to a gray patina. Interior woods require only dusting or occasional cleaning with a good-quality furniture polish.


PLANTING
10'-0"

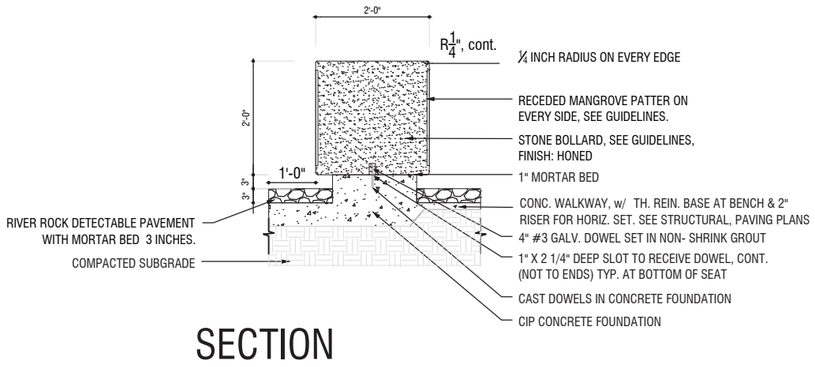

2'-0"
6'-0"
2'-0"
R1/4", cont.
4 1/2"
10 1/2"
3"
OPTIONAL WOOD TOP
CIRCULAR STONE BENCH,
SEE SPECS, FINISH: HONED
1/2" MORTAR BED
LED Tapelight, cont.
CONC. WALKWAY, w/ TH. REIN. BASE
AT BENCH & 2.5" RISER FOR HORIZ. SET.
SEE STRUCTURAL, PAVING PLANS
4" #3 GALV. DOWEL SET IN NON-
SHRINK GROUT
1" X 2 1/4" DEEP SLOT TO RECEIVE DOWEL, CONT.
(NOT TO ENDS) TYP. AT BOTTOM OF SEAT
CAST DOWELS IN
CONCRETE FOUNDATION
CIP CONCRETE FOUNDATION
#4 REBAR 12" O.C.
COMPACTED SUBGRADE


PLANTING
1"
10'-0"

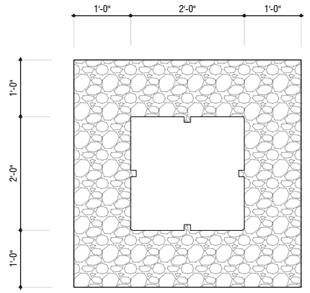

2'-0"
6'-0"
2'-0"
R1/4", cont.
1'-3"
3"
CIRCULAR STONE BENCH,
SEE SPECS, FINISH: HONED
1/2" MORTAR BED
LED Tapelight, cont.
CONC. WALKWAY, w/ TH. REIN. BASE
AT BENCH & 2.5" RISER FOR HORIZ. SET.
SEE STRUCTURAL, PAVING PLANS
4" #3 GALV. DOWEL SET IN NON-
SHRINK GROUT
1" X 2 1/4" DEEP SLOT TO RECEIVE DOWEL, CONT.
(NOT TO ENDS) TYP. AT BOTTOM OF SEAT
CAST DOWELS IN
CONCRETE FOUNDATION
CIP CONCRETE FOUNDATION
#4 REBAR 12" O.C.
COMPACTED SUBGRADE


0
2'
4'
6'

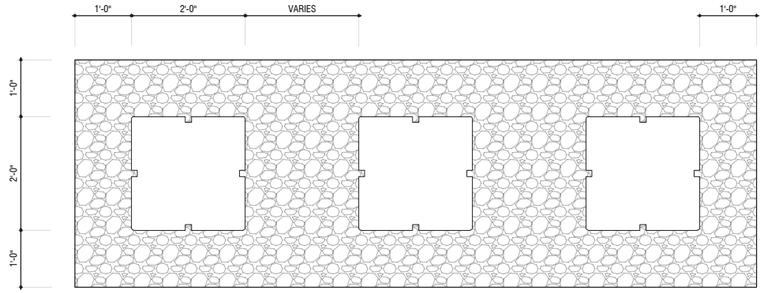
SCALE: 3/8" = 1'-0"



SECTION



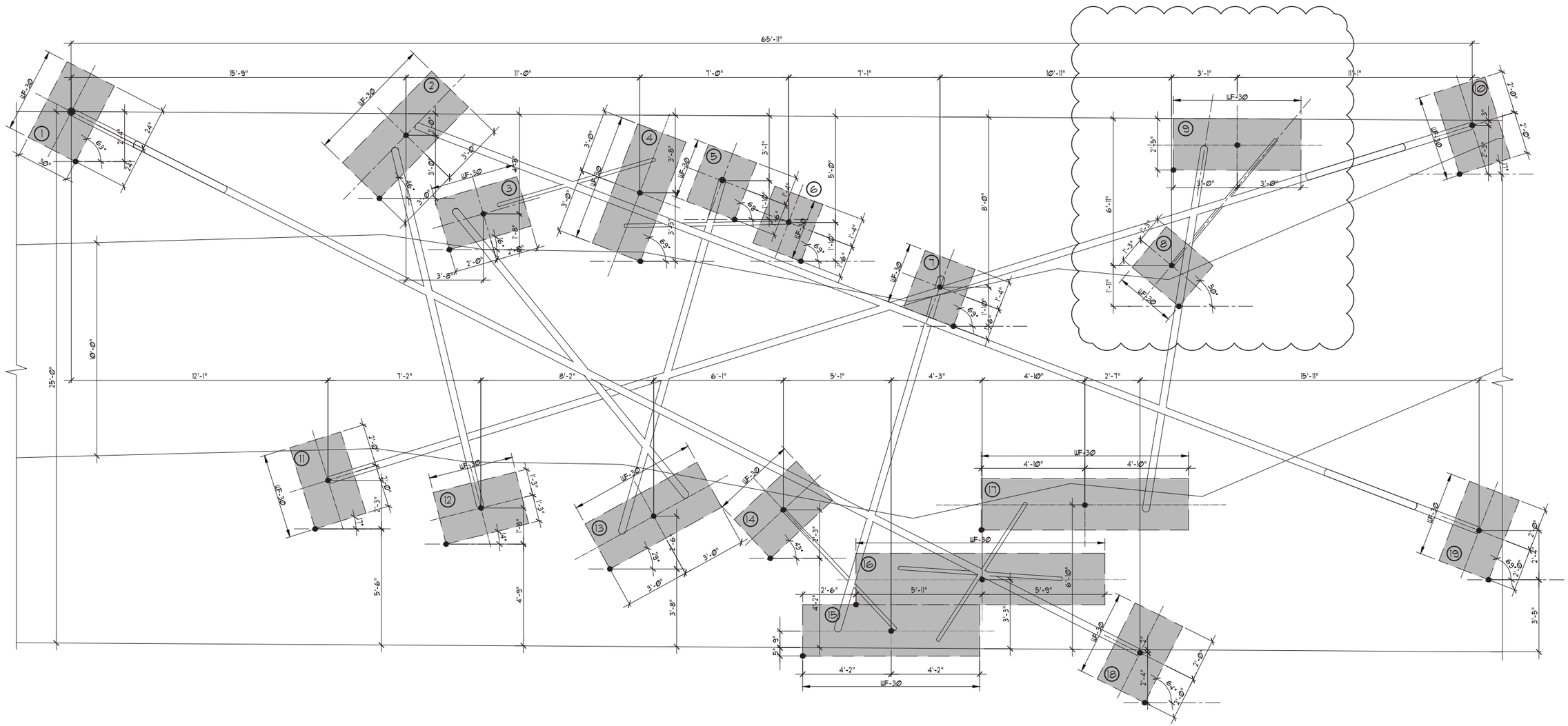
INDIVIDUAL INSTALLATION
1' RIVER ROCK BUFFER AROUND THE BOLLARD



GROUP INSTALLATION
CONTINUOUS RIVER ROCK BUFFER BETWEEN BOLLARDS

PLAN VIEW

SCALE: 3/8" = 1'-0"

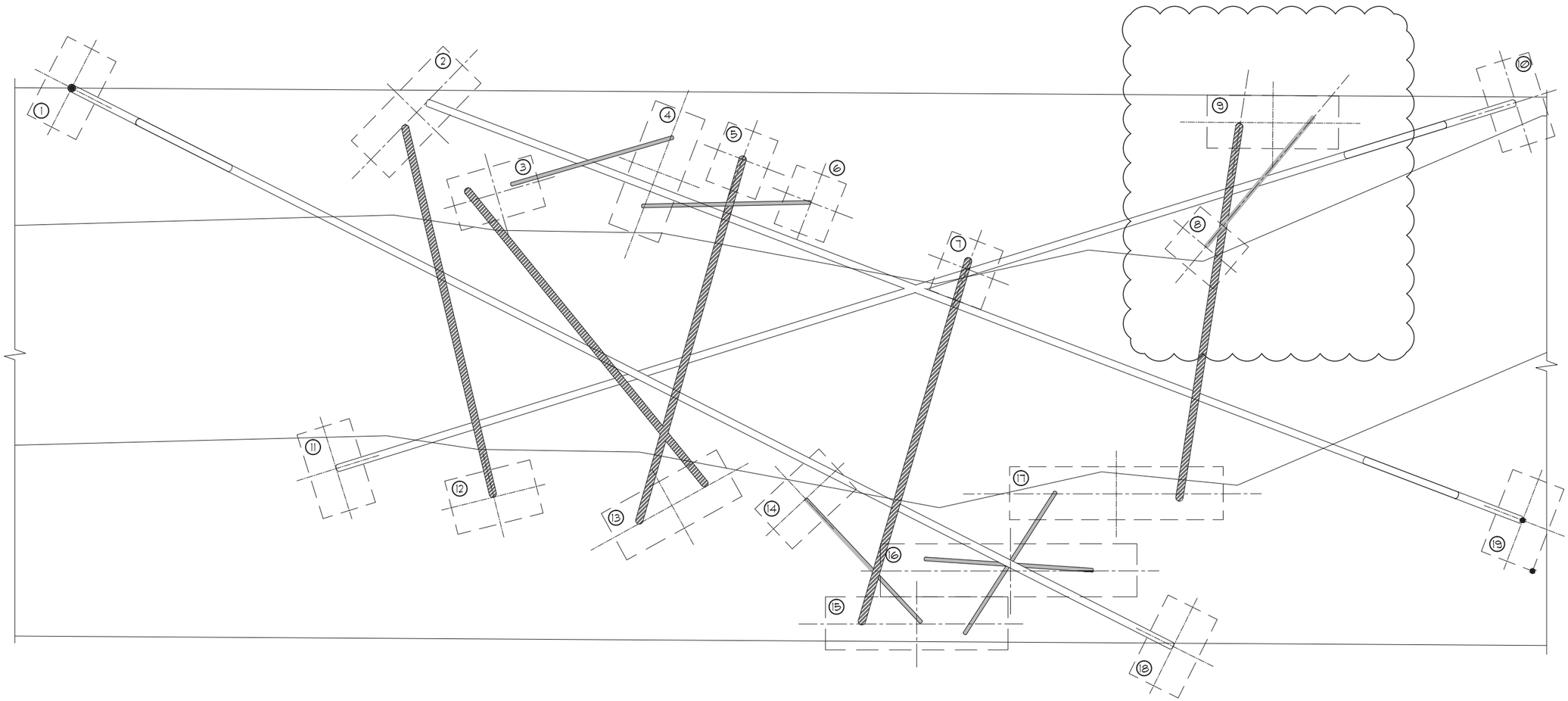


FOUNDATION PLAN

SCALE: 3/8"=1'-0"

FOUNDATION PLAN NOTES:

1. G. C. PROVIDE SOIL REPORT TO VERIFY ASSUMED 2000 PSF SOIL BEARING PRESSURE.
2. VERIFY AND COORDINATE ALL DIMENSIONS WITH ARCHITECTURE BEFORE COMMENCEMENT.
3. FOR BASE PLATE, SEE DETAIL 1/S-3.



ALUMINUM FRAME PLAN

SCALE: 3/8"=1'-0"

FOUNDATION PLAN NOTES:

1. THE ALUMINUM CONNECTION TO BE WELDED ALL AROUND WITH 5/16" SIZE.

LEGEND:

- 4" DIAM NOMINAL PIPE - SCHEDULE 40
- 3" DIAM NOMINAL PIPE - SCHEDULE 80
- 2 1/2" DIAM NOMINAL PIPE - SCHEDULE 80

GENERAL STRUCTURAL NOTES:

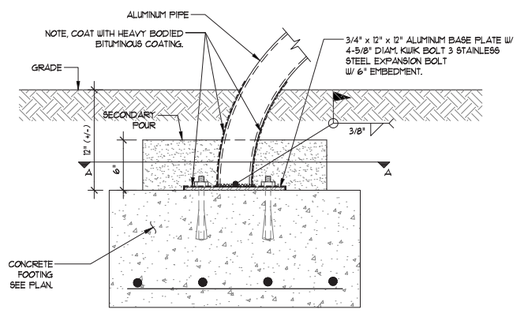
1. ALL WORK SHALL CONFORM TO FLORIDA BUILDING CODE 2017.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO START OF WORK AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCY IN THE DRAWINGS AND OBTAIN HIS APPROVAL BEFORE PROCEEDING WITH WORK.
3. ALL ALUMINUM SHALL BE TYPE 6061-T6, UNLESS NOTED OTHERWISE (U.N.O.)
4. BOLTS & OTHER FASTENERS DIRECTLY IN CONTACT WITH ALUMINUM MEMBERS SHALL BE ALUMINUM, STAINLESS STEEL OR ELECTRO GALVANIZED STEEL
5. ALUMINUM PARTS SHALL BE WELDED WITH AN INERT-GAS SHIELDED ARC OR RESISTANCE WELDING PROCESS. FLUX WELDING IS NOT ALLOWED FILLER ALLOYS SHALL BE AS AMERICAN WELDING SOCIETY SPECIFICATIONS A5.10-69, ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
6. DURING ERECTION, ALUMINUM STRUCTURES SHALL BE ADEQUATELY BRACED FASTENED TO RESIST DEAD, WIND AND ERECTION LOADS.
7. ALUMINUM IN CONTACT WITH NON-COMPATIBLE METALS SUCH AS STEEL SHALL BE PROTECTED AS PER FBC 2003.B.4.2.
8. ALUMINUM IN CONTACT WITH WOOD SHALL BE PROTECTED WITH TWO COATS OF ALUMINUM METAL-AND-MASONRY PAINT.
9. WIND DESIGN CRITERIA ALL STRUCTURAL ELEMENTS, EXPOSED TO WIND, HAVE BEEN DESIGNED PER THE GUIDELINES OF THE ASCE 7-10 BUILDING CODE.

   V = 175 MPH

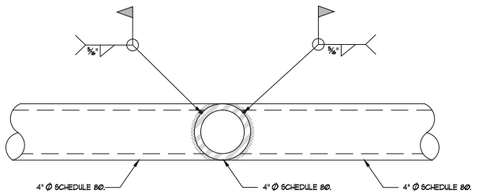
   I = 1.0

   EXP. "D"

FOOTING SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARKS
WF-30	30" x 14"	#5 @ 8" c/c EACH WAY BOTTOM	
NOTE: FOR CONCRETE FOTING USE f'c=3000 PSI			

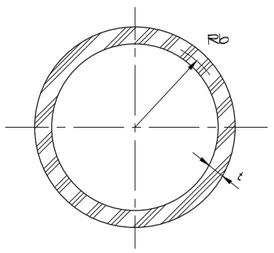


FOOTING DETAIL (1 / S-3)
SCALE: 1 1/2"=1'-0"

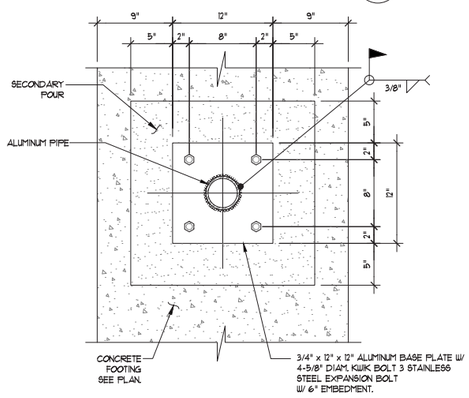


4" TO 4" CONNECTION DETAIL (1 / S-4)
SCALE:3"=1'-0"

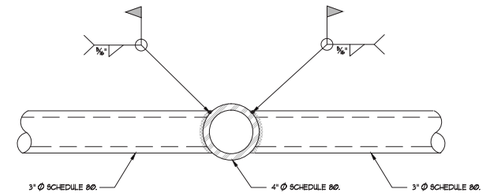
ALUMINUM PIPE DIMENSIONS AND PROPERTIES													
NOMINAL PIPE SIZE	SCHED No.	OUTSIDE DIAMETER in.	INSIDE DIAMETER in.	WALL THICKNESS in.	AREA A $in.^2$	WEIGHT lb/ft	I $in.^4$	S $in.^3$	Z $in.^3$	r in.	J $in.^4$	Rb/t	
2 1/2"	40	2.875	2.469	0.203	1.70	2.00	1.53	1.06	1.45	0.947	3.04	6.6	
3"	80	3.500	2.900	0.300	3.02	3.55	3.89	2.23	3.08	1.14	7.72	5.3	
4"	80	4.500	3.826	0.337	4.41	5.18	9.61	4.27	5.85	1.48	19.1	6.2	



SECTION PIPE
SCALE: 1/4"=1'-0"



BASE PLATE
SECTION A-A
SCALE: 1 1/2"=1'-0"



3" TO 4" CONNECTION DETAIL (2 / S-4)
SCALE:3"=1'-0"

Miami River Commission's
Urban Infill and Greenways Subcommittee
September 19, 2019 Minutes

The Miami River Commission's (MRC) Urban Infill and Greenways subcommittees conducted a public meeting on September 19, 2019, 3 PM, 1407 NW 7 ST. The attendance sign in sheets are enclosed. MRC Urban Infill Subcommittee Chairman Jim Murley conducted the public meeting.

I. Update for the Downtown Development Authority's "Baywalk & Riverwalk Unifying Design Elements & Waterfront Design Guidelines"

Mr. Neal Schafers, Downtown Development Authority (DDA), distributed and presented an 18-page summary of the "Miami Baywalk & Riverwalk Unifying Elements & Waterfront Design Guidelines", drafted by Savino Miller Design Studio, and provided a copy of the full draft document which is under review by the City of Miami Planning Department. Mr. Schafers stated Patrice Smith, DDA, will present the item to the full MRC on October 7, noon, 1407 NW 7 ST, when he is considering recusing himself from the item.

Mr. Neal Schafers stated the DDA is asking the City Commission to adopt the draft "Miami Baywalk & Miami Riverwalk Unifying Design Elements & Waterfront Design Guidelines" document, and make related amendments to Miami 21's "Waterfront Standards" in Section 3.11 and Appendix B (yet to be drafted or presented). The draft "Miami Baywalk & Miami Riverwalk Unifying Design Elements & Waterfront Design Guidelines" includes:

- "Updated Logo, Signage & Wayfinding"
- "Lighting"
- "Paving and Hardscape"
- "Site Furnishings"
- "Native Landscape"

Mr. Schafers stated due to regulatory agency input, the section of the document entitled "Seawall and Bulkhead Treatments" therefore they will not be seeking any amendments to the code's current requirements in that regard.

Mr. Schafers' distributed "Next Steps" estimates the draft "Miami Baywalk & Miami Riverwalk Unifying Design Elements & Waterfront Design Guidelines" document will be considered by the City of Miami Planning, Zoning and Appeals Board (PZAB) in November, and the City Commission in December.

MRC Urban Infill Subcommittee Chairman Murley suggested a comprehensive maintenance, safety, and activity programming for the Riverwalk and Baywalk, coordinate the connections between the Baywalk and Underline via the Riverwalk, and that the required elements in "Section 1" be accepted and approved by the MRC to recommend to the City Commission.

II. Preliminary Informational Discussion Regarding the Future U.S. Army Corps of Engineer's "Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study"

MRC Urban Infill Chairman Murley, whom is Miami-Dade County's Chief Resilience Officer, distributed and presented the following 2 U.S. Army Corps of Engineers documents:

1. "Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study's Process, Key Decision & Product Milestones"
2. "Miami Dade County Coastal Storm Risk Management Feasibility Study" summary

MRC Urban Infill subcommittee Chairman Murley stated the Army Corps of Engineers provided the full $3 million to conduct this nearly 3-year study, which commenced in January 2019, and is estimated to be complete in September 2021. Miami Dade County is serving as the "Local Project Sponsor". Chairman Murley explained the U.S. Army Corps of Engineer's "Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study" is required to be complete in order for projects addressing Storm Surge to become eligible for a potential 65% federal cost share. The Study will include, "Management Measures for Consideration" designed to protect real estate and critical facilities in vulnerable communities from storm surge, in the following three categories:

1. Structural
   - Floodwall / Levees
   - Surge Barriers
   - Bulkheads
   - Deployable Floodwalls

2. Nonstructural
   - Higher Floodplain Standards
   - Enhanced Warning System

3. Natural and Nature Based
   - Wetland Restoration

The federal Government provided the majority of the funding for existing "floodwalls" and "surge barriers" in New Orleans and Norfolk Virginia. The study will identify, "Problems, Opportunities, Objectives, Constraints & Considerations", and includes a cost benefit analysis. Mr. Murley stated Miami-Dade County and the U.S. Army Corps of Engineers wants the involvement of the Miami River Commission and general public. MRC Urban Infill subcommittee Chairman Murley stated he is inviting the Army Corps of Engineers to present at a future MRC public meeting, perhaps on November 4, noon, 1407 NW 7 ST.

III. City of Miami's New Waterfront Public Park on the North Shore of the Miami River's South Fork Tributary, 2304 NW 14 ST

Brett Bibeau, Managing Director, MRC, distributed copies of the City of Miami's Plans for a new waterfront public park on the North shore of the Miami River's South Fork Tributary, 2304 NW 14 ST. The MRC previously recommended relocating the historic Tamiami Canal Swing Bridge to this location which has occurred, and will serve as a bike / ped bridge connecting the existing Fern Isle Park on the south shore with the subject new park site on the north shore. The plans include:

- public Riverwalk
- Kayak / paddleboard launch
- Outdoor exercise equipment area
- Multi-use field
- Existing oak forest
- Curved benches
- Public art
- shoreline stabilization
- picnic tables and shelters
- restroom building

The City of Miami's subject plans are currently out for construction bids; therefore, the City of Miami is currently under the "Cone of Silence". The City of Miami will present the item to the full MRC's public meeting when the "Cone of Silence" is lifted, perhaps on October 7 or November 4.

IV. New Business

The meeting adjourned.

Miami River Commission's
Urban Infill and Greenways Subcommittees

Thursday, September 19, 2019
3:00 PM
1407 NW 7 ST
Miami, FL

NAME	ORGANIZATION	PHONE & E-MAIL
CATHERINE LACKNER	MIAMI TODAY	clackner@gmail.com
Brett Bibeau	MRC	305 644 0544 miamiriver1@bellsouth.net
Jim Murley	MDC	James.Murley@miamidade.gov
Neal Schafer	Miami DDA	schafer@miamidda.com

LEGEND

1. 10' WIDE CONCRETE WALKWAY
2. PARKING LOT
   STANDARD: 49 SPACES ADA: 3 SPACES
3. DROP-OFF
4. PICNIC TABLE PAD
5. 40'X40' SHELTER
6. EXISTING STORAGE BUILDING
7. RESTROOMS BUILDING
8. EXISTING KAYAK LAUNCH
9. GRAVEL BED
10. STABILIZED TURF
11. PINE GARDEN
12. PLAY LANDFORM
13. OUTDOOR EXERCISE EQUIPMENT AREA
14. CONCRETE RIVER WALK
15. EXISTING WOOD RAMP
16. EXISTING RIP-RAP
17. EXISTING PEDESTRIAN BRIDGE
18. MULTI-USE FIELD
19. VEHICULAR ACCESS FROM PBA BUILDING
20. PICNIC AREA
21. EXISTING OAK FOREST
22. EXISTING SPECIMEN PINE TREE
23. CURVED BENCHES
24. NATIVE HEDGE
25. PUBLIC ART

EXISTING TREE TO REMAIN

CANOPY TREES

SABAL PALMS

PINE TREES

EXISTING TREES NOT IN SCOPE

THE CITY OF MIAMI DADE CO., FLORIDA

PBA - FERN ISLE REDEVELOPMENT PROJECT

RENDERED SITE PLAN

2019.01.07

Kimley»Horn