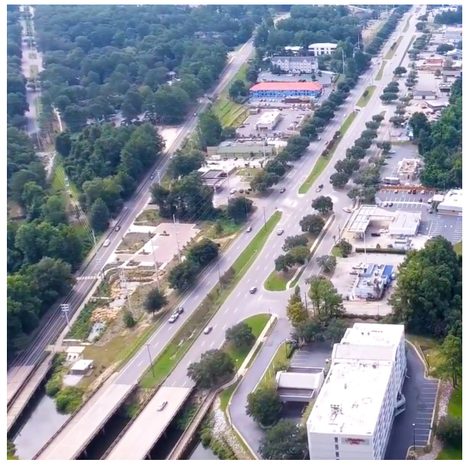
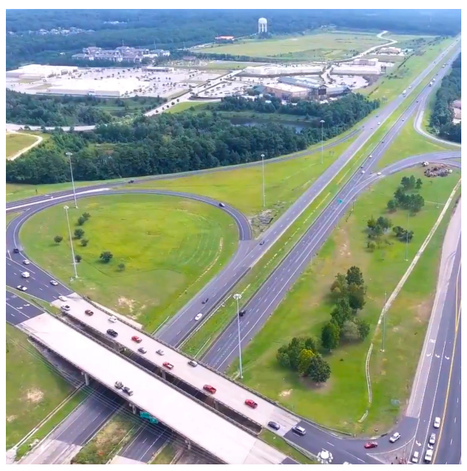


AESTHETIC GUIDELINES

REVISION 3, OCTOBER 2018



MobileRiver BRIDGE

CONTENTS

DRAFT

FOREWORD

INTRODUCTION

The Mobile River Bridge and Bayway Project (MRB) is very unique in that the alignment goes through nearly each major landscape type. From the east, the project begins as a greenbelt - an at-grade, high-speed roadway - leading to a transition area that continues onto the bayway, raising travelers high above the landscape via high-level approach structures and ultimately the main-span over the Mobile River. Once across the river, the project brings travelers back down via high-level approach structures that connect to an at-grade, high speed roadway. The western high-level approach structures are located in the dense urban environment of downtown Mobile.

This Aesthetic Guideline has been created to give shortlisted teams design direction for the entire project. The information communicated within is a collection of stakeholder preferences; structure types and span lengths, form, and experiences believed to be achievable within the project budget and consistent with ALDOT practices.

This project is the largest that the State of Alabama has procured. While economy is a primary driver, the built project should be a significant contribution to the built environment now and into the future. It is envisioned that the new structure will be compatible with land use and master plans of all of the adjoining municipalities. In its completed form, the project shall not preclude the vision or desired urban design direction currently being developed.

Because of the project size and impact on the viewsheds, the project should be iconic at all scales.

INTENTION FOR USE

Although the project has been organized into multiple character areas because of its size and complexity, there is a commonality to the design approach that should be applied throughout the entire project and across the entire Aesthetic Guidelines.

The document structure is intended to clearly define the project's major elements. For example, there is a connection between Chapters I and II. Chapter I, Regional Context, is intended to identify what makes the Mobile Bay area unique. Chapter I is focused on the physical character and culture, while Chapter II is focused on the emotional or experience of the Mobile Bay region.

It is feasible that a theme could build upon one of the physical characteristics of Chapter I and manipulate it to include elements of Chapter II. Form finding and surface treatments should seek to interpret themes over direct representations.

REGIONAL CONTEXT

INTRODUCTION

The MRB presents a unique opportunity to develop an iconic transportation link within the east-west I-10 corridor that stretches from Florida to California. I-10 in the Mobile Bay region consists of approximately 60 percent through traffic and 40 percent local traffic. This segment of the I-10 corridor is vital to interstate commerce and is a milestone for many out-of-state drivers traveling to the beaches along the Gulf Coast. Aesthetics have been a major consideration in the development of the MRB since it was originally conceptualized. Throughout the environmental and Section 106 Consultation process, the aesthetic components of the project have been an vital consideration in how to mitigate visual effects. The approved Draft Environmental Impact Statement for the project includes the following commitments to aesthetics:

"Create a new visual appearance for the area... opportunities to enhance visual effects and improve aesthetics."

"Measures that will be addressed include aesthetic treatment for various bridge components such as the pylons, cables, piers, treatment of the underside of the bridge, and other visual enhancement or mitigation measures, including lighting."

In order to achieve a project that is attractive, functional, and appropriate for its context, and to satisfy commitments made as part of the environmental process, the Alabama Department of Transportation (ALDOT) developed an Aesthetic Steering Committee (ASC). The ASC, which is comprised of members who represent communities on both sides of Mobile Bay, advises ALDOT on its preferences related to the aesthetic components of the project. Input from the ASC, along with ALDOT's requirements, are the basis for the Aesthetic Guidelines. The ASC will continue to provide input on the project through the review of the Aesthetic Guidelines submitted by each proposing team. Their input will be provided directly to ALDOT, and ALDOT will share their comments with the proposing teams.

The intent of this document is to guide the proposing teams as they develop context-sensitive designs that reflect the uniqueness of the Mobile Bay region while conforming to the preferences of the ASC and the communities they represent.

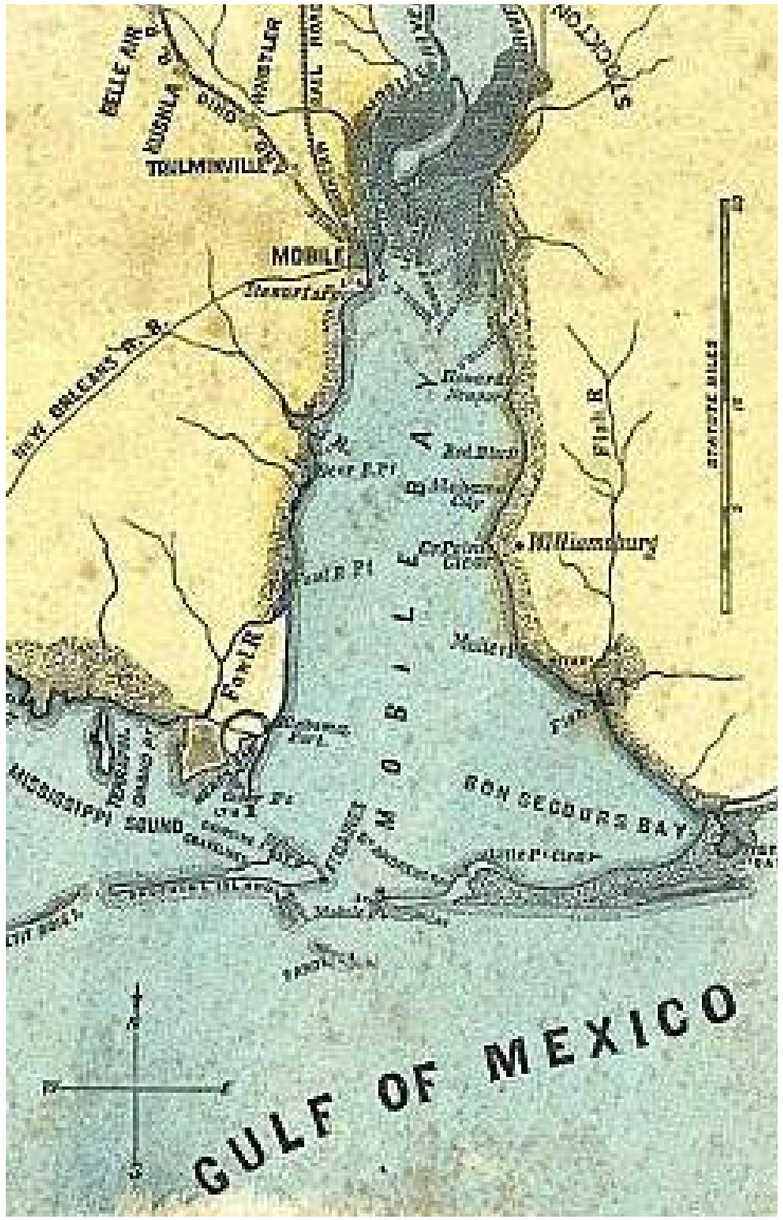
View of Mobile's skyline in 1909

HISTORY

European explorers first traveled to the Mobile area in the 1500s. At the time, Native Americans occupied much of the area. France was the first European country to officially settle in the area in 1702. Mobile experienced several turnovers and was occupied by the British and the Spanish before being annexed into the United States in 1813. Fort Conde was originally constructed in the early 1700s by the French to defend the area against British and Spanish attacks. It was subsequently used by the British, Spanish, and Americans to protect the area for nearly 100 years.

The region's fertile soil and location along the Mobile-Tensaw Delta made it well-suited for cotton growth and trade, and Mobile's plantation economy boomed. The Battle of Mobile Bay occurred here, in which the Union navy overcame Confederate defenses situated at Fort Gaines on the western side of the Bay and Fort Morgan on the eastern side of the Bay.

Following the Civil War, the region experienced its share of economic crises and natural disasters, and it's survival has been largely dependent on shipbuilding and water-based trade. During World War I, manufacturing of ships and steel became the mainstay of the area's economy. Mobile served as a center of production during World War II, producing ships and military supplies.



Left: Post card used to publicize Spanish Fort | Right: Map of Mobile Bay during Civil War

Top Left: Replica of Fort Conde located in downtown Mobile | Top Right: Recreational fishing at the Bayway | Bottom Left : Mobile is home to the only U.S.-based final assembly line for Airbus A320 aircraft | Bottom Right: Blakely Reenactment

Brookley Army Air Field, located on the Mobile River, also played an important role in the war by serving as the Army's major supply base for operations in the Southeastern United States and Caribbean.

Today, the Mobile-Fairhope-Daphne Combined Statistical Area is home to a population of over 600,000 and encompasses more than 2,800 square miles. Baldwin County is the fastest growing county in Alabama, and growth is projected to continue well into the future. The area's infrastructure includes two interstates, two airports, five Class I railroads, and access to 15,000 miles of inland waterways via the Port of Mobile. Since World War II, the area's economy has diversified with the top industries in the region consisting of:

- Aviation/aerospace,
- Chemical companies,
- Healthcare systems,
- IT/high tech,
- Logistics/distribution,
- Maritime,
- Oil/gas, and
- Steel

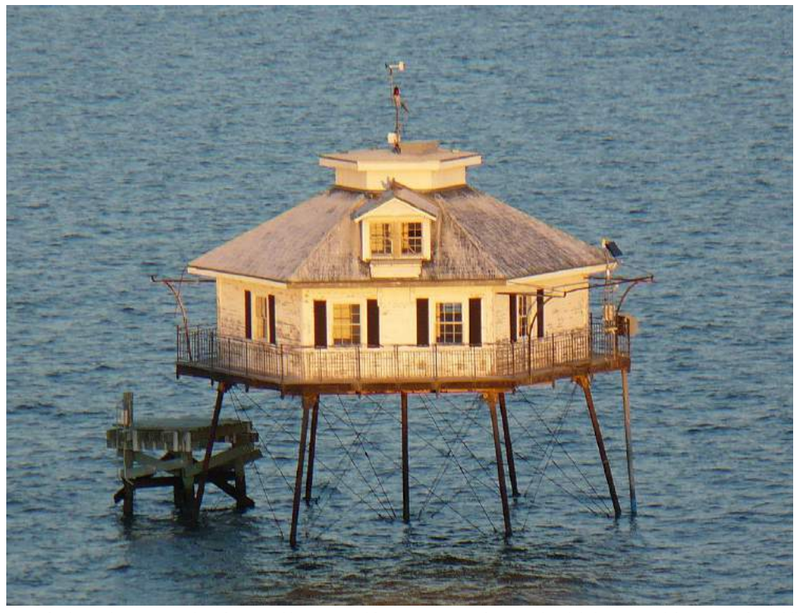
The area serves as a regional hub for aerospace traffic, engineering, maintenance, manufacturing, and technical training. Airbus recently constructed its only production facility in the United States on the banks of the Mobile River and recently announced that it will build a new facility to assemble Bombardier aircraft. Austal USA holds contracts to build littoral combat ships for the U.S. Navy, and the Port of Mobile is undergoing yet another expansion to develop the second phase of its container terminal facility. As growth along the I-10 corridor in Mobile and Baldwin Counties continues, so too does the need for improved infrastructure.

CULTURE

The Mobile Bay region supports a rich and diverse cultural identity known for its southern charm. The influences of the French, Creole, Spanish, and English are exhibited in the area's restaurants, museums, and architecture. The birthplace of Mardi Gras, which dates back to 1703, Mobile's motto is "Born to Celebrate." Each year, Mobile hosts a multi-week Mardi Gras celebration consisting of parades, balls, and parties culminating on Fat Tuesday. Mardi Gras beads can be found hanging from the trees that line parade routes year-round. Mobile is home to the Azalea Trail, ancient Live Oak trees, the largest Moon Pie in the world, three National Historic Landmarks, two tunnels, and five hall of fame baseball players (more than any other city except New York and Chicago). In the last decade, Downtown Mobile has experienced a revitalization with thriving culinary, microbrewery, and arts scenes. Mobile has been home to the Senior Bowl since 1951. The post-season football game is held each January and serves as a showcase event for NFL Draft prospects from colleges around the country.

Left: Poster advertising the 1900 Mardi Gras celebration | Top Right: Mobile has been the home of the Senior Bowl since 1951 | Middle Right: The Azalea Trail Maids in their antebellum dresses serve as ambassadors to Mobile | Bottom Right: The dragon floats in the Mystics of Time parade are some of the most famous floats in all of Mardi Gras

In contrast to the urban setting of Mobile, the Eastern Shore is appreciated for its laid back pace. Comprised of seven municipalities, the Eastern Shore's motto is "Life is Easy." Even with significant growth in permanent residents over the last few decades, the Eastern Shore has maintained its identity as a center for the arts, cuisine, shopping, fishing, boating, golfing, and an abundance of other year-round outdoor recreational opportunities. The Eastern Shore hosts several arts and crafts festivals throughout the year, with the Fairhope Arts and Crafts Festival attracting hundreds of vendors and thousands of shoppers each spring.



Top Left: The Fairhope Arts and Crafts Festival has occurred for over 65 years | Top Right: Blakely State Park | Bottom Left: Middle Bay Lighthouse | Bottom Right: Pecan Orchard in Baldwin

BIODIVERSITY

The Mobile Bay Watershed covers approximately 65 percent of the state of Alabama, as well as portions of Mississippi, Tennessee, and Georgia. The watershed consists of over 250 separate waterways, all of which come together in the Mobile-Tensaw Delta and ultimately Mobile Bay. Largely due to this watershed, the marshes of Alabama is home to more species of freshwater fish, mussels, snails, turtles and crawfish than any other state.

The delta opens up to the Bay at an area known as "Five Rivers" where the Mobile, Spanish, Tensaw, Apalachee, and Blakeley Rivers come together to create an estuary rich in species and habitat diversity. Mobile Bay is the fourth largest estuary in the United States. It averages 10 feet deep, and is the only place in the United States where jubilees (a swarm of fish and crustaceans at the shallow coastlines) commonly occur during summer months, making fresh seafood easy to catch.

Comprised of old growth cypress and lush marshlands, the Mobile-Tensaw Delta is one of the most biologically diverse ecosystems in North America and was recently deemed "America's Amazon." As such, protecting the Delta is an important consideration as the design for the MRB develops.

Top: Jubilee | Bottom Left: View from Five Rivers Resource Center looking toward downtown Mobile | Bottom Right: The Mobile Bay Watershed covers portions of four states

Downtown Mobile is well-known for its streets lined with live oaks

COASTAL ALABAMA

Coastal Alabama's warm climate facilitates in an abundance of year-round outdoor recreation opportunities, including boating, kayaking/ canoeing, fishing, bird watching, swimming, and golfing. On any given day, one will find shrimp boats, crab traps, and fishermen in Mobile Bay. The area also produces more oysters than any other place along the Gulf Coast. With plentiful fresh seafood, the area's restaurant scene is thriving on both sides of the Bay and along the US 90/US 98 Causeway connection.

Alabama tourism relies heavily on it's natural beaches which are known for their white powdery sand and clear water. More than 25 million people visit Alabama's beaches each year.

Coastal Alabama is known for its abundance of fresh seafood, including oysters, and white sandy beaches

Top Left: Causeway Fisherman | Top Right: The Back Bay of the Mobile Delta | Bottom Left: Views from restaurants along the Causeway show the Bay, Battleship, and downtown Mobile | Bottom Right : Wooden piers line both sides of Mobile Bay

MARITIME

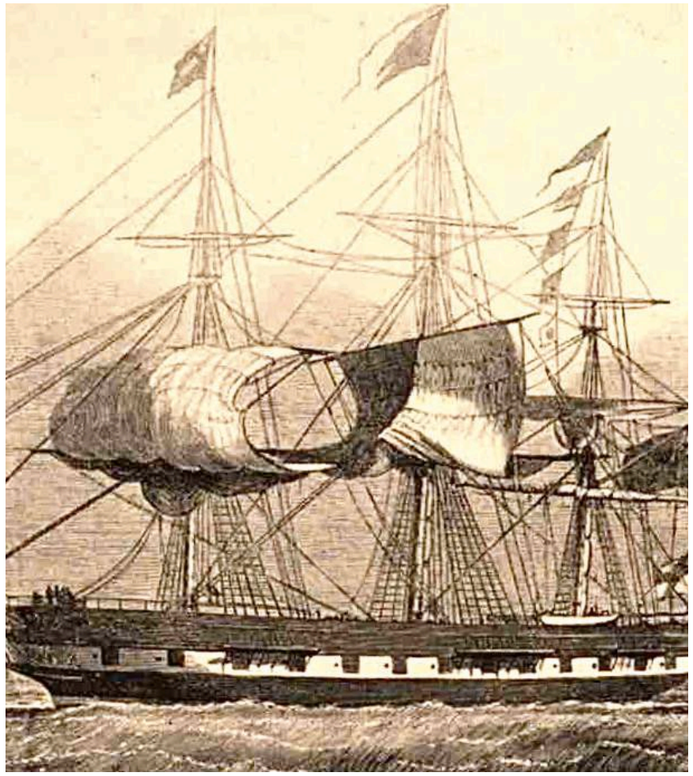
With an active port dating back to the 1700s, the maritime industry has been a consistent pillar of the economy in the Mobile Bay area. By the 1850s, the port was one of the busiest U.S. ports largely due to the trade of cotton and slaves. Today, the Port of Mobile is the largest break bulk forest products port and one of the largest coal terminals in the U.S. Other commodities include steel, and containers supporting the aerospace and automotive industries. The Port of Mobile, today encompassing over 4,000 acres, generates an annual estimated economic impact of $19 billion for the state of Alabama. In addition to the import/export of goods, shipbuilding and repair continues to thrive along the banks of the Mobile River.

Mobile's ties to the maritime industry are so strong that GulfQuest National Maritime Museum of the Gulf of Mexico, was built just south of the MRB site, in order to share and celebrate the importance and uniqueness of the Gulf Coast's maritime heritage.

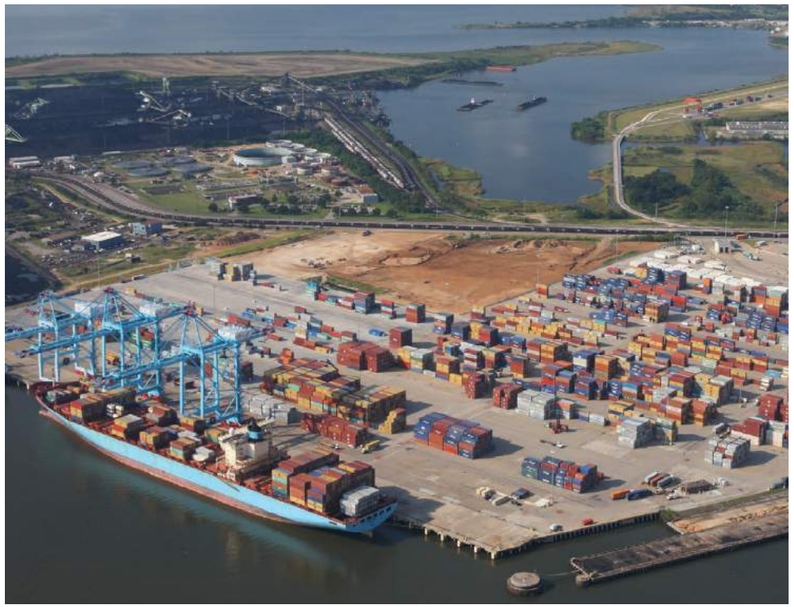
Carnival cruise lines currently operates out of the Mobile Alabama Cruise Terminal, offering multi-day cruises to the Caribbean and bringing tourism and passenger travel uses to the port.

In addition to the commercial maritime aspects of the area, dozens of marinas along both shores of the Bay support recreational boating. The Dauphin Island Regatta is the largest single-day, point-to-point sailing race in the U.S. Each April, hundreds of sailboats compete in a race that begins in the middle of Mobile Bay and ends at Dauphin Island.

Perhaps one of the most recognizable maritime features in the region is the USS ALABAMA Battleship, located along the US 90/US 98 Causeway at USS ALABAMA Battleship Memorial Park. The Park is also home to the submarine, USS DRUM, and an aircraft pavilion. Both the USS ALABAMA and USS DRUM served during World War II.



Top Left: Mobile's connection to the maritime industry dates back to the 1700s | Top Right: The National Historic Landmark, USS Battleship ALABAMA, is located at the USS Battleship Memorial Park on the Causeway
Bottom Left: The largest single-day point-to-point sailing race in the U.S. occurs in Mobile Bay each year | Bottom Right: Austal USA currently holds contracts to construct Littoral Combat Ships for the U.S. Navy



Top Left: Mobile's port contains iconic blue cranes to transfer containers from ships to the shore | Top Right: The Gulf Coast Ducks | Bottom Left: The Gulf Quest | Bottom Right: The Cruise ship

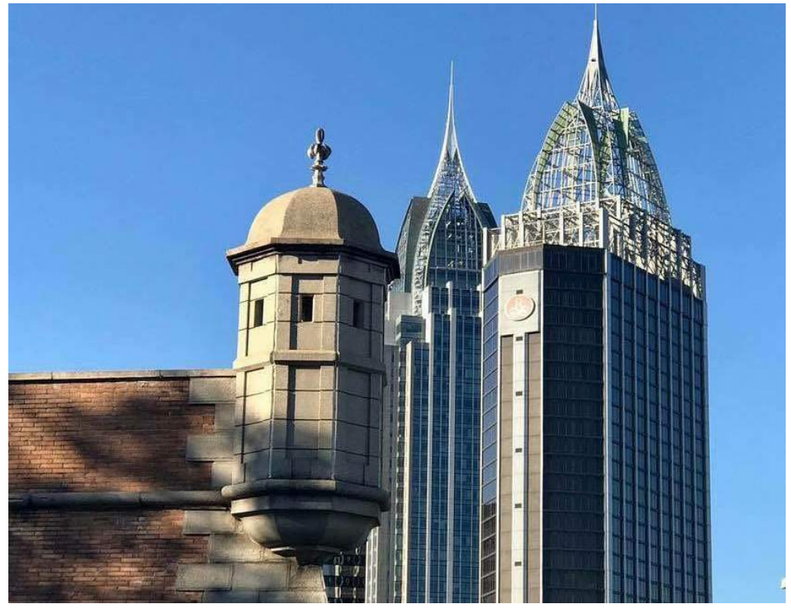
The Waterman Steamship Corporation, which specialized in shipbuilding and shipping, was an important part of Mobile's development during World War II. By the end of World War II, Waterman Steamship Corporation was one of the largest shipping companies in the United States, with its headquarters in downtown Mobile. In 1955, the company was purchased by McLean Securities Corporation. Its founder, Malcolm McLean, is the father of standardized shipping containers, and his company became the leading promoter of containerized shipping. The Port of Mobile has seen consistent growth in containerized shipping. In 2017, the APM container terminal at the Port of Mobile finished a Phase 2 expansion featuring two new super Post-Panamax cranes, increasing its capacity from 350,000 containers to 500,000 containers.

ARCHITECTURE

Architecture on the Mobile side of the Bay is a mixture of historic and modern residential, commercial, and institutional structures. Antebellum architectural examples of the Federal, Greek Revival, Gothic Revival, and Italianate styles are found throughout downtown Mobile. Creole cottage and Gulf Coast cottage styles are common and are some of the oldest surviving houses in the area. Townhouses built downtown between the 1840s and 1860s incorporate Federal style architecture with Greek Revival and Italianate elements. Cast iron galleries, iron lace, and brick work are common features in downtown architecture.

Modern structures, such as the RSA Tower, Government Street Plaza, the Trustmark Building, the Mobile Convention Center, and GulfQuest are scattered among the historic structures in downtown Mobile. Examples of 1960s ranch houses and commercial buildings are also common throughout the city.

Architecture along the Eastern Shore is also a mixture of modern and historic styles. The area around the I-10/US 90/US 98 interchange and along the US 90/US 98 corridor is largely comprised of modern commercial buildings. The area between US 98/US 98 and Mobile Bay contains a mixture of modern residences as well as Gulf Coast cottages and antebellum homes locally referred to as "bay houses."



Top Left: View of downtown Mobile from water shows mixture of historic and modern buildings | Top Right: View of Mobile's skyline with Fort Conde, Renaissance Plaza, and RSA Tower
Bottom Left: The modern Mobile Convention Center is located in downtown Mobile on the Mobile River | Bottom Right: A classic bay house on the Eastern Shore exhibits traits of Creole and Gulf Coast Cottage architectural styles

Top Left: The Buick Building | Top Center: Downtown Daphne | Top Right: The Conde-Charlotte House exhibits traits of Federal and Greek Revival | Bottom Left: Victorian cottages like this one are common in Fort Conde Village | Bottom Centre: Van Antwerp Building | Middle Right: This Italianate style home boasts detailed cast iron lace and brick work | Bottom Right: Government Street Presbyterian Church is a National Historic Landmark for its historic integrity as a Greek Revival style church

SCALE

The MRB traverses varied landscapes and settings. As with any large design project, it is important that the design of this project incorporate scales that are appropriate for each setting while providing a unified, cohesive design throughout the entire corridor. The aesthetic features and treatments selected for this project should complement the surrounding environment, whether it's urban, industrial, commercial, or suburban.

The ASC has provided input that the large components of the main-span should have clean lines and prefer designs that minimize the appearance of bulkiness. All of the structural elements throughout the project corridor should complement one another and have good proportional relationships to one another and be proportional to the environment in which they are located.

It is difficult to identify a precedent infrastructure project in the United States with this level of variation in landscape conditions. The challenge is identifying the correct scale of form and treatments based on distance and speed.

In locations where the traveler is moving at low speed and in close proximity to the alignment, care will be needed to appropriately design the space.

Urban locations should implement Crime Prevention Through Environmental Design (CPTED) principles for place making and sight distances. These areas should be designed to the human scale, with corresponding materials and detail.

In locations where the traveler is moving at high speed and great distances, architectural forms will need to be recognizable momentarily and be strengthened by repetition. These locations should be designed as urban or large scale spaces.

Given the context and the scale, some of the more powerful experiences will be the memorable points and new landmark locations. With the new alignment and new way to cross the river, new perspectives and experiences of the region based on their location and mode of transportation will in turn be created.

The Aesthetics Steering Committee identified two important areas of the project as strong landmark locations: the high point on the eastern shores looking west and the western approach of the tunnels. Both are landmarks as it is a point of travel and provide a sense of arrival; either to the Bay or proximity to the beach. Both will be altered but the conditions will be similar with the completed project. Clear views and re-creation of the the existing conditions should be an objective of the design teams for continuity.

The new alignment will alter the experience at street level with the addition of the low and high-level structures. Low-level structures will have a greater impact in the urban fabric due to the low elevation of the roadway and retaining walls. While respecting the form commonality between all of the structures, the low structures should be more human-scale with texture and relief. Since these structures will be in the direct sight lines of people walking, driving, or inhabiting the spaces around these structures, they should be detailed at a scale similar to that of small buildings.

The high-level structures will have a different impact on the urban fabric as the piers will have isolated locations along the alignment. With the scale of a small building, the overall effect will be similar to that of urban infill.

Careful attention should be given to the difference in level of detail of the low structures, which will have both close-range and slow-moving travel visibility. Shallow relief and subtle textures are more appropriate in these locations. Large structures with limited accessibility or seen mostly at high speed should be detailed such that the aesthetic treatment is understandable immediately.

Iron lace and galleries are common traits of Mobile's architecture

Top: Beautiful sunsets are common on Alabama's Gulf Coast | Bottom Left: Wooden boardwalks are characteristic of coastal Alabama, providing recreational trails and access to the waterfront
Bottom Center: Live oak trees, brick sidewalks, and piers are trademark features of the Eastern Shore | Bottom Right: Mobile's skyline is lit with different colors at night

II THEMES

INTRODUCTION

When Federal Highway Administration (FHWA) developed the Context Sensitive Design process, one of its main goals was to develop infrastructure projects in a manner that reflect the local and specific character of the community in which it is built to serve. The core of the process is to identify what makes a site or community unique and incorporate those qualities into the design. Stakeholders concluded that the defining character of the project area encompass the following themes: Skyscape, Iconography, Nature, New Urbanism, and People & Place-Making.

The design teams are encouraged to create a design approach that is based on some or all of the above-listed themes. The proposed designs should physically embody those themes in an interpretive manner rather than a literal representation.

SKYSCAPE

Urban design defines the built environment as a composition of “landscape” and “hardscape.” These terms refer to the design mostly in the horizontal plane. The MRB has a very unique set of conditions in that the roadway of the main-span is very high above the “streetscape” OF a dense urban environment. As stated previously in this guideline, it is difficult to identify projects of similar conditions. These unique conditions have resulted in a new design concept, “Skyscape.” The design of a Skyscape evaluates how the aerial structure will be perceived from the ground while taking into consideration how the atmospheric conditions can alter the structure.

The proposed MRB main-span will have one of the highest decks above sea level in the United States with a navigable waterway below. Unlike the Golden Gate Bridge, the MRB main-span will begin to lift above the flat landscape a great distance from the main-span. The high-level approach piers and deck will rise above the majority of the surrounding buildings, ships, and cranes. The majority of the people looking at the piers and deck will be at a level below the structure; therefore, those elements will be part of the skyview.

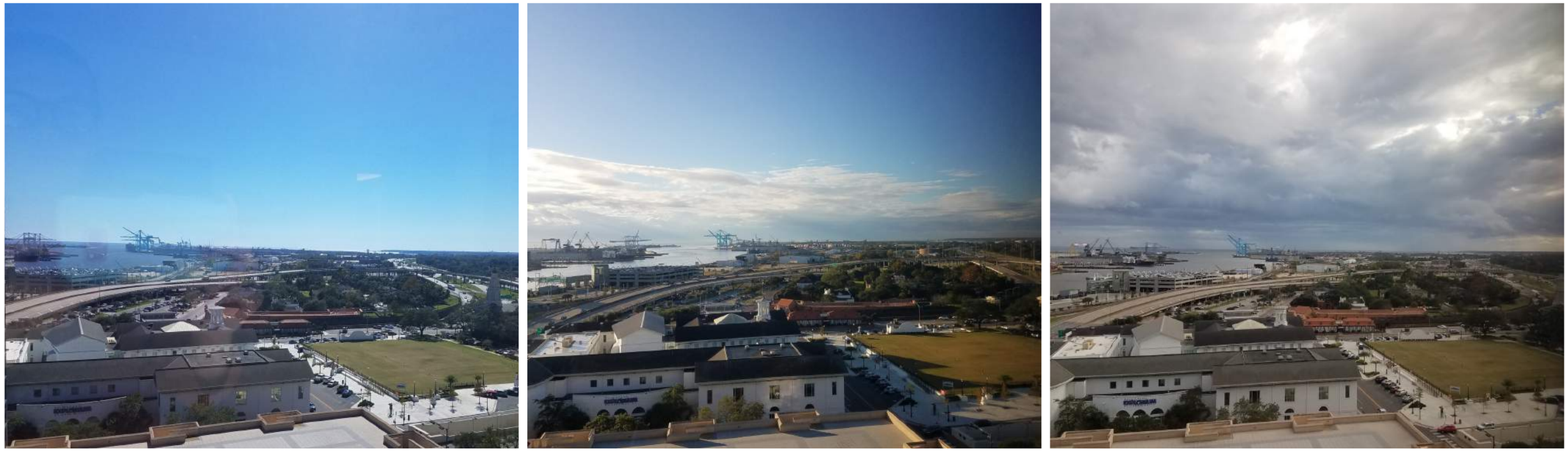
Just as we refer to the design of plants and garden as a landscape, and the design of walking surfaces as hardscape, the design of the piers and deck should consider its context to be the sky, resulting in a skyscape. During the dawn and dusk hours, the piers and deck will appear as a silhouette with the form described as a flat form. During the day, the form will be rendered in three dimensions. Atmospheric conditions such as clouds, rain, sun, and overcast skies will greatly impact the character of the form,given sun exposure and shadowing. Faceting or surface treatments, reducing the perceived mass of the columns is recommended.

The flat topography of the region creates a huge canvas of sky. When there are no clouds, the sky can feel infinite as opposed to when a storm rolls in, the clouds can create a heavy blanket or appear pocketed by clouds that rise 70,000 feet into the atmosphere. Storms can sometimes take all day to arrive or take the area by surprise and onset suddenly.

Objects in the area are greatly impacted by these environmental changes and the relative location of the sun. At sunrise and sunset, buildings, trees, cranes, ships and even birds, occur as flat silhouettes. As the sun rises, such objects become three-dimensional, and their colors are rendered.

The high structures of the MRB will interact with the sky in a manner similar to that of the trees and shipping cranes but on a much larger, intentionally designed scale. The piers and deck underside should be designed to blend, reflect, or contrast with the context. The design teams are encouraged to investigate manners or effects to dematerialize the piers.

Top: Sample of Bridge: Building and Sky | Bottom Left: Sample: Tree and Sky in Mobile | Bottom Right: Example of silhouette against the sky



Top: Sky types in Mobile I Bottom: Sample of Bridge, Sky and Aesthetic Lighting

ICONOGRAPHY

Iconic structures fall into many categories- technical achievements, singular gestures, and projects that accurately express the character of a location. The main-span structure is a very unique form with the potential to become a national icon. In addition to the main-span, through the stakeholder process, a project goal is to make the entire project iconic in the use of holistic elements at appropriate scales.

To be iconic in the Mobile area means the project must respond to the scale of the neighborhoods, have a positive impact on the built environment, and have a structure that expresses the values of the Mobile Bay community.

Top left: Rialto Bridge | Top right: Solenburg Bridge |Bottom: Golden Gate Bridge

All: The images shown above are unique patterns that appear in the Mobile-Tensaw Delta and serve as inspiration for the implementation of Biomimicry and Sustainable techniques.

NATURE

The culture of the greater Mobile Bay area has a strong connection to nature and especially to water. The intention of the Nature theme is to promote the vibrant emotional connection of the Bay through the built environment. The result of implementing this theme should be a project that is a good shepherd of our natural environment, improved water quality, and strengthen the community's bond with nature. The theme of Nature is a rather broad-based context and can take on many forms.

Biomimicry is defined as seeking solutions to human problems by emulating nature's patterns, strategies, and models. These solutions are often more sustainable because the natural world has evolved over time to sustain their place on the planet. Many of the patterns found in this region can serve as inspiration for design and engineering. For instance, the free form patterns found in the Mobile-Tensaw Delta may serve as inspiration for the design of the landscape, or the sculptural character of the live oak branching may suggest a design for the strength of the foundation piers used to elevate the roadway deck. Also, the web pattern found in the veins of a leaf may relate to the cables supporting the bridge over the Mobile River, or the reflections seen in the waters of Mobile Bay could lead to the inspiration for roadway lighting. By studying forms found in nature, engineers may learn how patterns make it possible for delicate objects, such as a leaf on a tree, to withstand the intense forces of wind, rain, or impact. As it is said, nature is an excellent and final response to solving complex problems toward sustainability.

Singular Large Diameter Tree in a rural setting

Mobile Bay is commonly referred to as “America’s Amazon” because of its biodiversity and sheer volume of aquatic life. Biomimicry for the MRB project might highlight specific locations such as the heavily wooded Eastern Shore and the aquatic nature of the Bayway. This theme would value interpretive biomimicry over representative imagery.

Typical Oak in Downtown Mobile

The images shown above are representative of landscapes that provide function and aesthetics in an urban environment

In addition to industry standards for sustainability in design and construction, this theme is intended to introduce methods to incorporate environmentally-sensitive stormwater management techniques consistent with state and local requirements and standards. The design of the new MRB should incorporate elements that are sensitive to the ecology and environment in which they are located. These elements are applicable within the urban ends of the project, as well as over the waterways.

NEW URBANISM

New Urban principles promote environmentally-friendly spaces with walkable neighborhoods of a human scale. This urban design principle promotes a reduced dependence on vehicles by combining housing, workplace, and retail locations in close proximity.

Downtown Mobile is experiencing urban growth and diversity on a large scale. The urban design approach in Mobile should promote the continuation of the growth and weave the Mobile Alabama Cruise Terminal and Cooper Riverside Park into downtown activity.

On the Eastern Shore, the design approach should be compatible with its existing trails such as the Eastern Shore National Recreation Trail, and should promote connectivity and walkability.

All: Providing well designed and programmed public open space will encourage social interaction and community engagement

Top: Open fields at Battleship Park are regularly used for lacrosse and rugby games, fun runs/walks, and staging for dragon boat races as shown in this picture
Bottom: Adults and kids alike enjoy the City of Mobile's temporary ice skating rink at Cooper Riverside Park

PEOPLE & PLACE MAKING

Repairing the fabric of the urban grid requires creation of spaces that are accessible and allow for multiple program elements. Low, covered areas with short sight distances with one or no functional spaces should be avoided. For example, a parking area would contain permeable materials, bio- filteration swales and large open area that could allow for farmers markets, craft shows, and other event uses such as support area for Mardi Gras.

Space under and around the alignment should avoid creating edge conditions similar to the existing elevated Water Street structures. These spaces should allow for future development in congruence with master plan visions for growth.

III LAND USE

INTRODUCTION

When our national highway system was being designed in the 1950s and 1960s, little attention was given to what is now referred to as the Context Sensitive Design process. At the time, economy and efficiency were the most important factors in selecting locations for highways. In most cases, the highways replaced rail lines or were placed between downtown areas and industrial waterfronts. This placement created an edge condition where accessing the waterfront became very difficult. As a result, most American cities turned their urban design back on the water, cutting off an important natural resource to residents.

Starting about 20 years ago, cities across the United States have been evaluating how these major infrastructure elements have impacted cities' growth and vitality. Cities such as San Francisco, Baltimore, Seattle, Boston, Louisville, and Chattanooga have removed highways that separated residents from the waterfront and have seen enormous growth at the water's edge. Large areas of each these cities were neglected for years yet became prime real estate almost overnight.

The City of Mobile is currently evaluating proposals for options to develop or re-develop the 22-acre civic center site. Teams should be mindful of this process as it evolves.

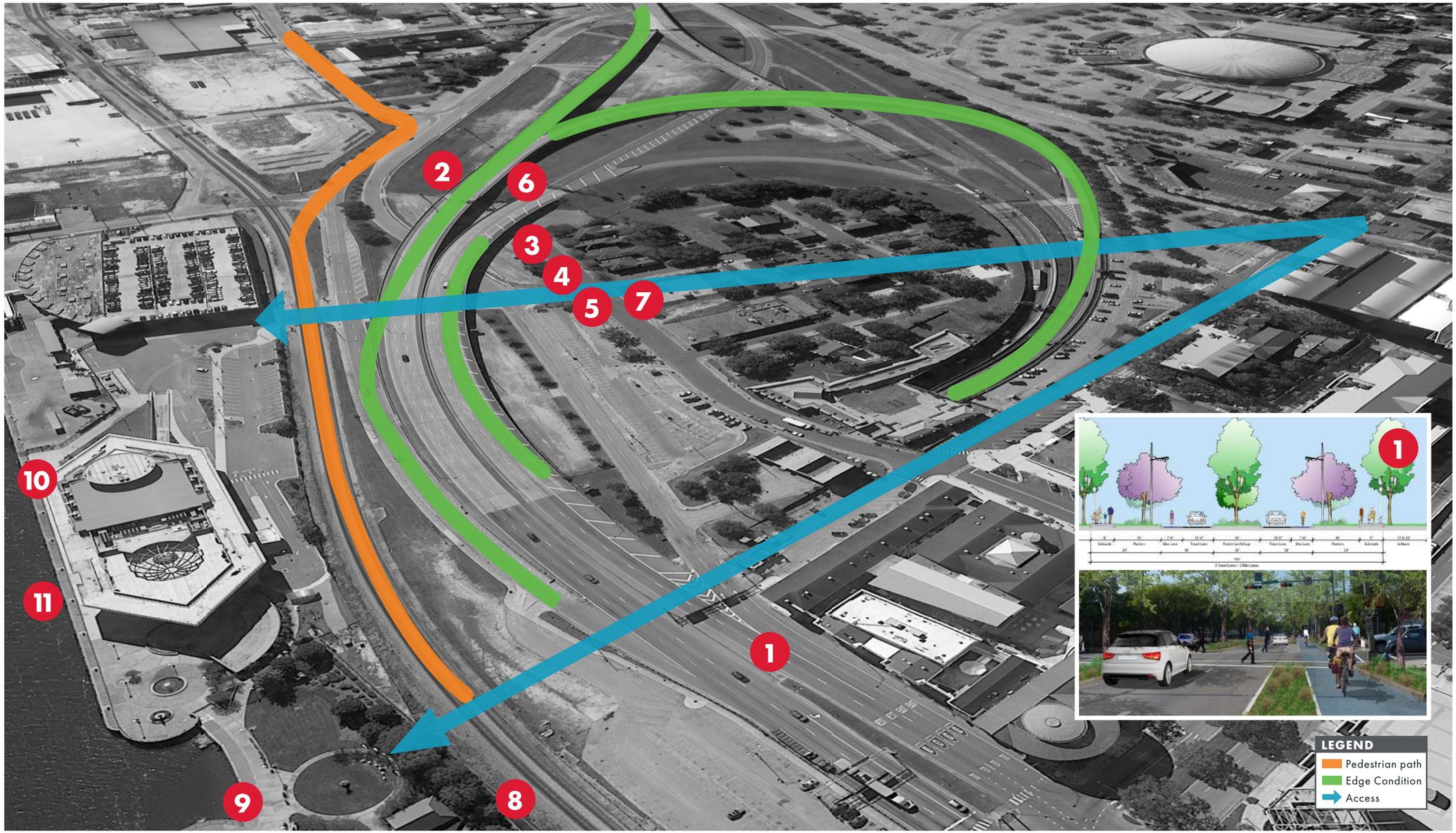
The urban fabric of downtown Mobile will change significantly given the removal of the elevated infrastructure and replacement with the new bridge. The existing tunnel infrastructure (green line) creates an edge that obstructs easy movement in this section of the city. A separate project, Water Street will undergo a road diet and become an at- grade roadway , creating the opportunity to reconnect Canal Street directly to the waterfront. The existing bike trail (yellow line) that terminates (at water) could be extended through the city to the north. The red lines represent possible connections at grade in the future. These connections are consistent with the Map for Mobile.

San Francisco - Before 1989

WEAVING THE URBAN GRID

At the time I-10 was designed, the trend was to place interstates indiscriminately within urban areas. The location of both I-10 and the rail lines between downtown and the river makes it difficult to safely access the waterfront. In the proposed condition of the MRB, the on-ramps to I-10 will be located further to the west of downtown, and Water Street will become a four-lane, at-grade, city street. Several acres of land that are now occupied solely for highway infrastructure will be vacated, making it possible to repair the urban grid and weave a significant part of downtown Mobile back together into a vibrant neighborhood.

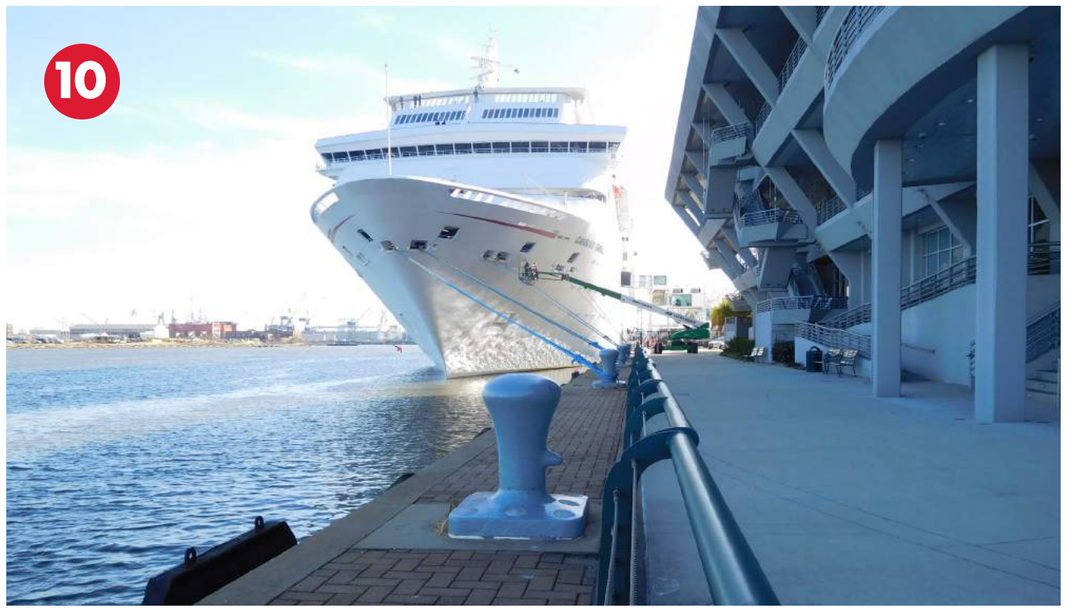
San Francisco - After 1989



Graphic illustrating the existing edge conditions, possible at grade connections to the waterfront, and continuation of the bike trail


8


9

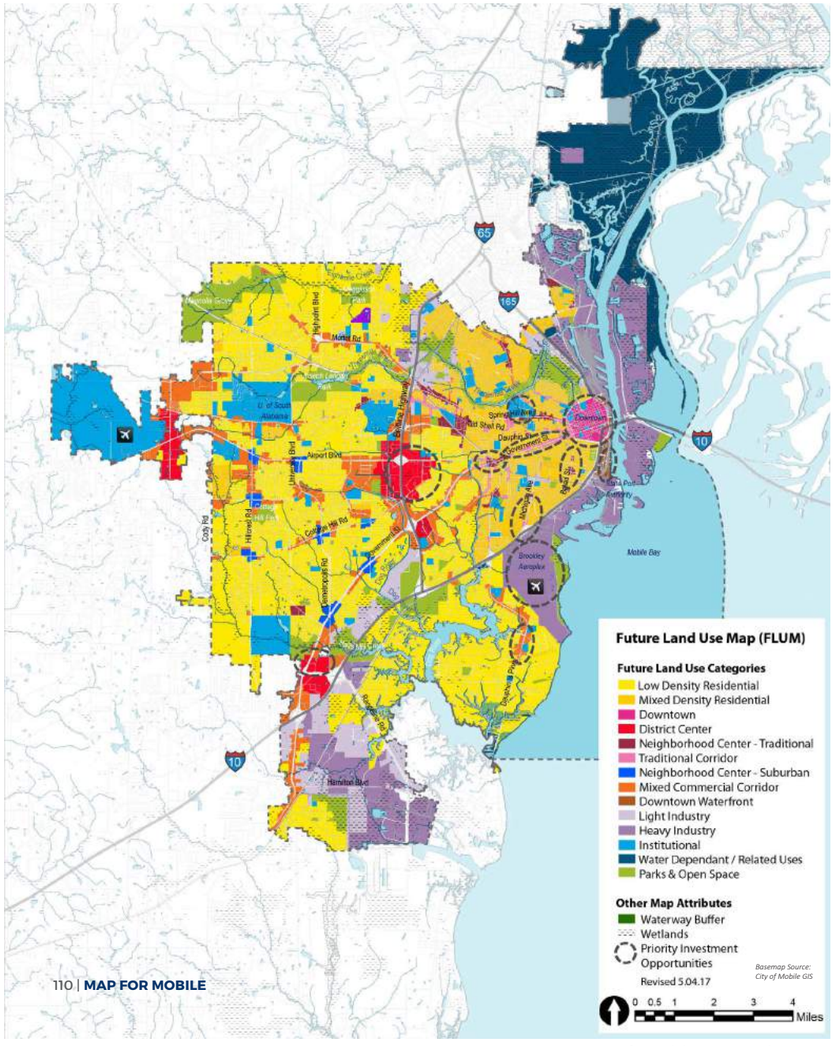

10


11

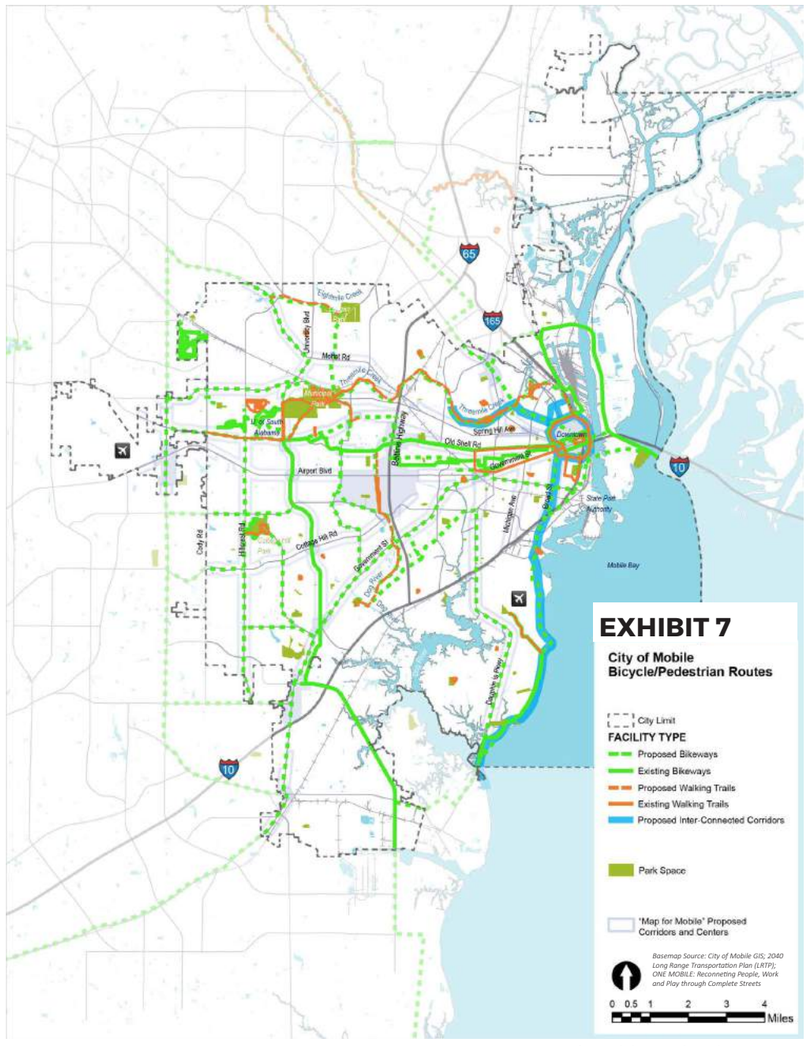
MAP FOR MOBILE

The City of Mobile is in the process of revising its Master Plan, known as the Map for Mobile. The schedules for completing the Map for Mobile and the MRB run concurrently, with the final design of the bridge expected in advance of the Master Plan. Included in Chapter II are some relevant findings and graphics from the draft Map for Mobile for reference.

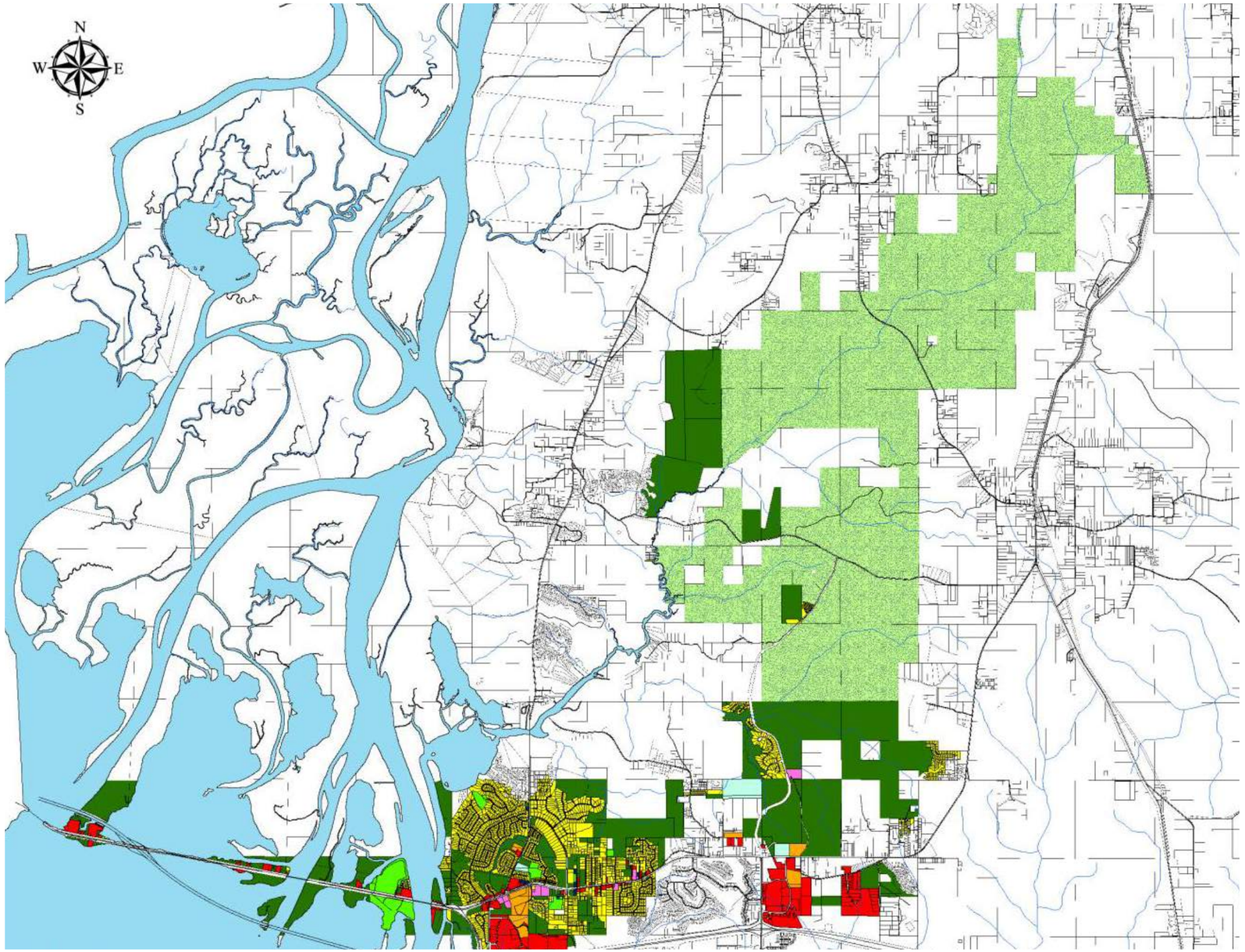
It is recommended that each team review the entire document for guidance on how to integrate the proposed roadway system into the vision Mobile has for its downtown area, to not preclude future development.



Map for Mobile: Future Land Use Map



Map for Mobile: Bicycle Pedestrian Routes



Land Use map from the City of Spanish Fort

CITY OF SPANISH FORT

The City of Spanish Fort and the City of Daphne have developed Comprehensive Plans for the areas within their jurisdiction on the Eastern Shore. The City of Spanish Fort is currently preparing a Causeway Master Plan for development along the US 90/US 98 Causeway between Mobile and Baldwin Counties.

Similar to the plans by City of Mobile, it is recommended that each team review the plans for guidance on how to integrate the MRB into the vision for land use on the Eastern Shore.

IV PRECEDENT IMAGES

INTRODUCTION

This chapter conveys the types of design strategies and solutions that are appropriate to the MRB project. This chapter contains a collection of designs that should inspire the use of mixed textures, scale, and materials. A high value has been placed on solutions that successfully address these design goals at multiple levels. The goal of layering functions is to create areas that promote natural and unimpeded movement.

Spaces that allow for open programing and informal spaces for flexibility are also characteristics that were noted as being valued by the ASC. Designs can be clear and simple, such as open green space areas that allow for programming such as farmer's markets, outdoor active or passive exercise areas, and/or arts and music venues in the future.

Waterfront park is not part of MRB. The intent is to not preclude future waterfront landuse and development around the project.

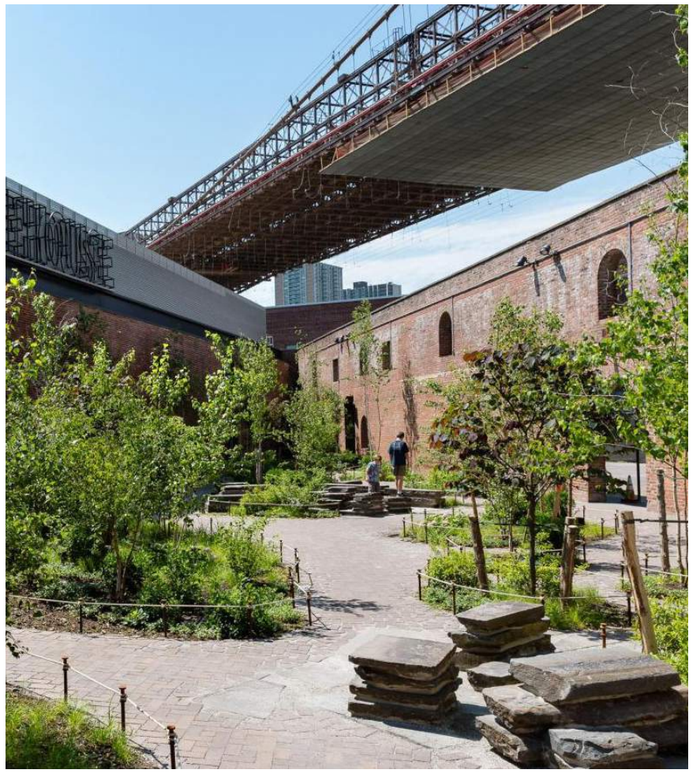
WATERFRONT URBAN RENEWAL

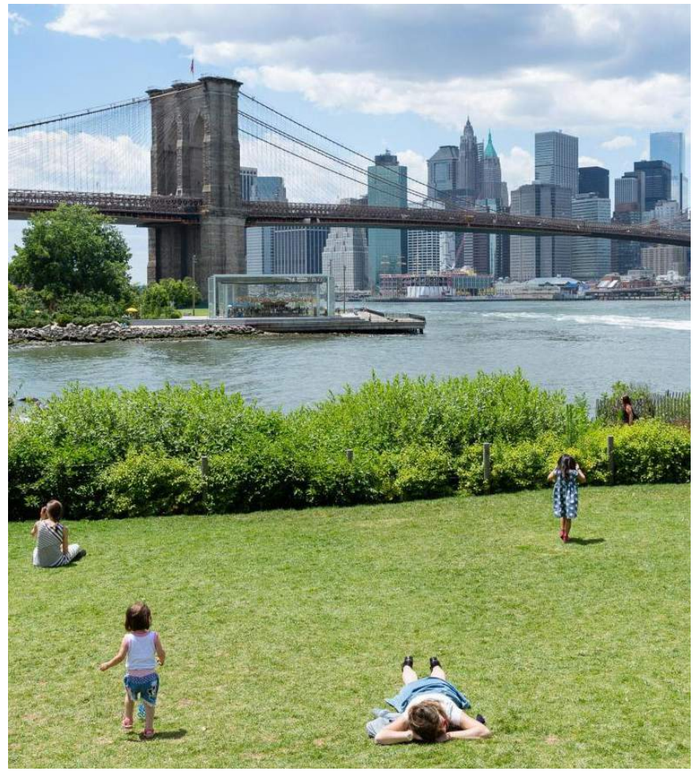
Unlike the cities of Europe, where the waterfront accommodates industrial uses along with social and recreational activities, American waterfront cities often see rail lines and highways accompanying industrial land uses to facilitiate the expeditious movement of freight, creating yet another barrier to the waterfront. Historically, Mobile's waterfront is similar to that of most waterfront American cities. The riverfront had become an industrial area for the mass movement of goods and people, and not necessarily a civic asset.

The following pages contain examples of similar scale waterfront urban renewal success stories in four cities. The Water Front Development in not part of the project and is referenced here to not preclude it from future development.

Beginning in the 1980's, many American cities looked to revitalize their riverfront areas as potential development sites and to promote urban growth. Baltimore's Inner Harbor was the first large scale model for such success.

New York's Brooklyn Bridge Park transformed 1.3 miles of abandoned cargo and shipping storage areas into a vibrant string of public places along the riverfront. Each individual park or "urban juncture" has a unique character and programming opportunity. Uses include dog runs, civic lawns, and playgrounds. The park also utilizes the latest technology in stormwater recycling that create 70% of the park's irrigation needs. The parks and trails have transformed the waterfront into a popular, active urban amenity that has triggered redevelopment in what had been a previously dormant section of the city.



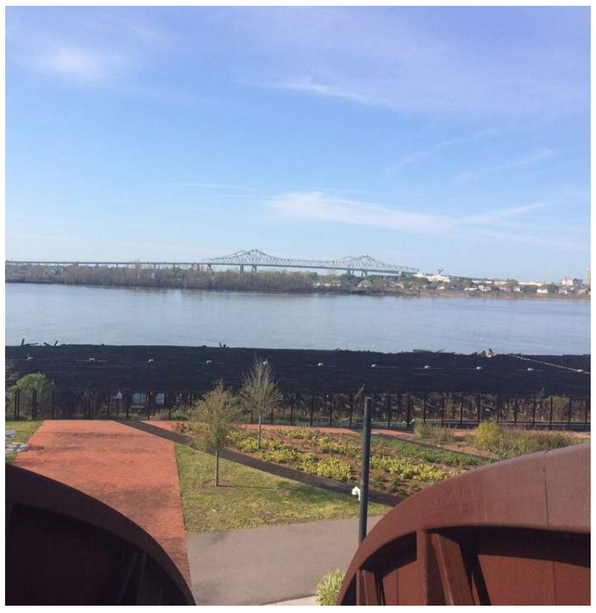


All: Images of Brooklyn Bridge Park

In the 1970's, Chattanooga Tennessee's Ross Landing was in deep decline from the loss of manufacturing jobs and resulting highly-polluted air. A group of concerned citizens began a grass roots plan to revive the city's fortune and future. An ambitious group called Chattanooga Venture created a 22-mile-long Riverwalk to serve as a catalyst for development along the Tennessee River. The first initial development was a small parcel called Ross's Landing, the founding site of the city in 1815. Private development later built the Tennessee Aquarium and Waterfront Park access to the river. Since then, the area continues to thrive, with primarily private development further developing the successful urban district.

Top & Bottom: Images of Ross Landing and Park Area

New Orleans' Crescent Park was located on a narrow parcel of land between the vibrant city and its waterfront, only a few feet above water level, was essentially detached from the urban grid by an active rail line. The old industrial area is a few feet above the water elevation and separated from the urban grid by a railroad line. This ambitious project was part of a larger waterfront trail system. The design is based on maintaining the atmosphere of the industrial context of the site while creating pocket park type spaces and restoring access to the water via a revitalized wharf.



All: Images of Phase one of Crescent Park

Top left: Majestic live oak trees provide shade and frame vistas on Government Street in Mobile | Bottom left: Live oaks along the Eastern Shore of Mobile Bay are often planted in less formal arrangements known as groves
Bottom right: The unique branching of the Sand Live Oak tree (Quercus geminata) provides sculptural character throughout Coastal Alabama

LIVE OAKS

The Mobile Bay areas Live Oaks (Quercus virginiana) are an undeniably majestic, iconic presence throughout the region. Whether planted by early settlers to create a formal allee leading to many of the beautiful antebellum homes of the region, or having passively planted, creating a natural grove by local wildlife, the beauty of the Live Oak tree is unmatched. The iconic native tree is the definition of strength and resilience. Many are hundreds of years old and have survived natural disasters, pollutant and physical impacts due to man-made construction and development. With their sculptural branches sweeping toward the ground, Live Oaks provide significant shade - in turn creating a comfortable microclimate and habitat for small wildlife and birds - and also often become a natural jungle gym for children to climb. Only improving with age, their roots generally extend far beyond the dripline of the tree, providing shade for all living creatures and a jungle gym for children to climb. The roots often extend beyond its branches providing a stable foundation to support the weight of the canopy and absorb nutrients for its health and viability. There may be no other single symbol more representative of this region than the mighty live oak.

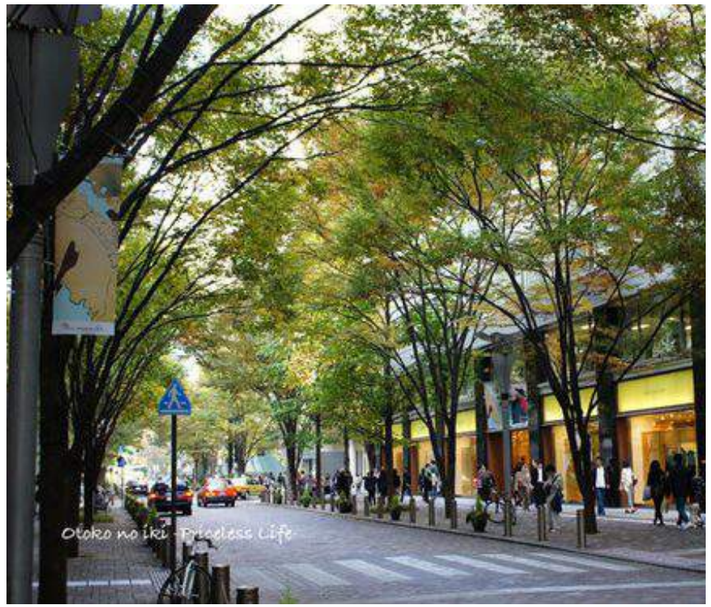
GREEN INFRASTRUCTURE

Throughout history, humans have been trying to emulate the natural processes of ecological systems in many ways and to various amounts of success. One such system, biofiltration, protects our local waterways by naturally filtering stormwater and non-point source pollutants while creating habitat for wildlife. Humans have a responsibility to be good stewards of the natural environment in order to preserve it for generations to come. Many natural processes can be incorporated into the design of green infrastructure systems such as water retention areas and bio swales. Properly designed, constructed, and maintained green infrastructure can provide the greatest benefit to water resources and the community.

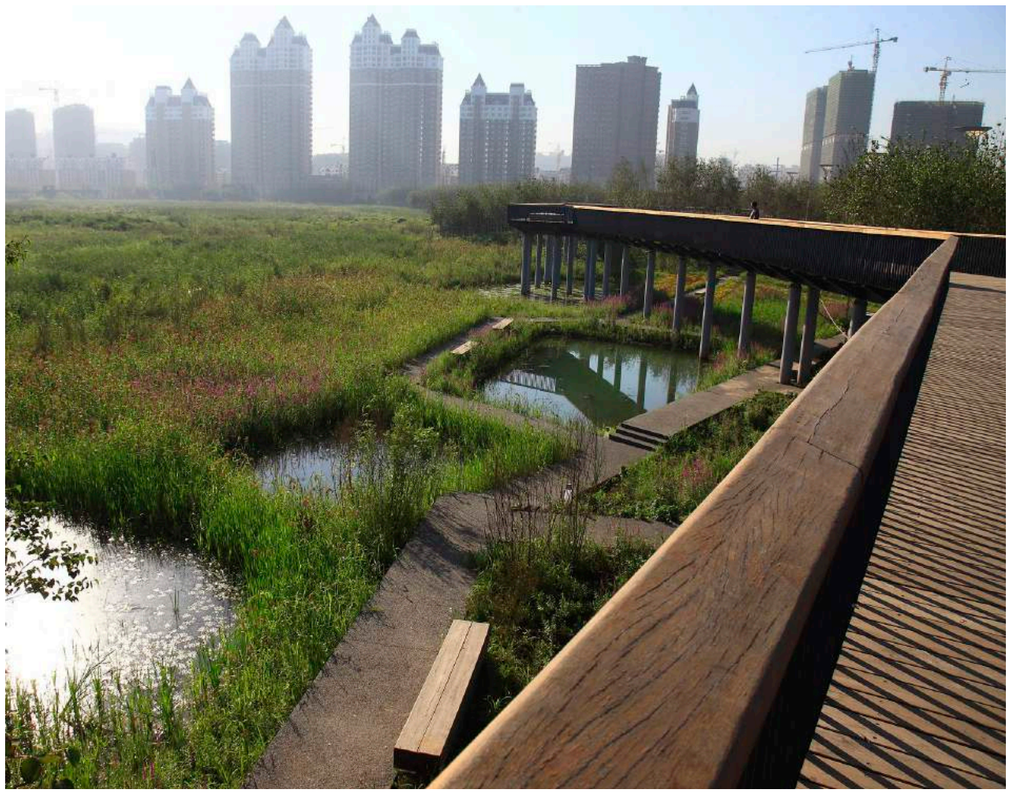
The concept of nature as infrastructure is not new. Natural processes can be harnessed to provide critical services for communities, such as protecting them against flooding or excessive heat, or helping to improve air and water quality. Designed correctly, these systems have proven to be more cost-effective than many man-made infrastructure systems while providing far more benefits to both people and the environment.

Top : Several large stream restoration projects have been completed on the Eastern Shore such as this step pool project along one of the many tributaries of Joe's Branch in Daphne | Bottom Left: Parking lot bioswales can help filter stormwater pollutants while providing aesthetic value and wildlife habitat | Right: Check dams and dense plantings placed in strategic areas in the landscape can help filter non-point source pollutants, capture litter, and help combat against erosion

Left: Unique patterns can be designed throughout the landscape that not only look great but function by helping to manage stormwater runoff
Right: Plant material can be used to reduce the amount of impervious surface area and help to reduce the heat island effect



All: Examples of integrating bio swale technologies into a typical streetscape



All: Examples of integrating bio swale technologies into a typical streetscape

WATER AS AN URBAN ELEMENT

A prevalent element in the region is water. Mobile is consistently one of the rainiest cities in the United States. The question then becomes what can be done with all of the water in an urban context. Many cities have learned to manage water in urban environments by creating public amenities utilizing green infrastructure techniques in open space areas for parks and recreation opportunities. Parks and open space are critical in urban environments due to the density created by the built environment. Urban patterns of development often make waterways inaccessible to adjacent neighborhoods. Lack of access to such natural resources limits a community's ability to reap the many potential benefits of living adjacent to the water, whether through recreation, fishing, or access to real estate. Public spaces along waterways offer residents opportunities for community gatherings, recreation, and environmental education. Additionally, increased access to waterways can inspire the creation of new jobs and the growth of local businesses.

The redesign of the transportation systems and the removal of infrastructural obstructions in critical public areas as part of the scope of this project will provide this region with an incredible opportunity to reconnect with its waterfront.

STREETSCAPE

"Streetscape" refers to the natural and built elements of a street corridor that combined create the spatial sense of place experienced both by automobiles and pedestrians. The concept recognizes that a street is a public place where people are able to engage in various activities. All roads have multiple users and serve many functions and must be context sensitive to the region.

Transportation systems must consider the context or physical setting in which they are located and utilize design approaches and materials that are compatible with local conditions. A successful streetscape should have clear boundaries that ensure safe travel for all roadway users. Signs, curbs, site furnishings, fences and landscape can effectively create an inclusive, safe environment that provides a sense of physical comfort for diverse users groups and activities. The aesthetic appeal of attractive lighting, street furniture, effective maintenance and uses such as outdoor dining contribute to an area's sense of place. Streetscape amenities should be designed to encourage people to join the public realm.

All: Sample images of streetscape treatments next to and under low-level bridges in an urban environment

Left & Right: Patterns in nature can be found by the repetition created by the planting of pine trees found within the rural areas of the Eastern Shore or bald cypress trees found within the Mobile-Tensaw Delta

GATEWAY MONUMENTS

Gateway monuments identify arrival into a community or district. Gateways are usually placed at major entry nodes by creating a consistent pattern of recognizable materials. All gateways are prominent elements in the landscape and create a purposeful sense of place.

The design intent for the Mobile and Eastern Shore gateways should focus on the natural-rather than built environment. Patterns in nature are found in the repetition of pine trees planted for timber harvesting or the vertical cypress trees reaching for sunlight found within the Mobile-Tensaw Delta. In the case of the Mobile Bay region, the landscape of scale, repetition, and vistas are much more powerful than a literal "Welcome to Anywhere USA" entry sign. Driving across the I-10 Bayway, one can feel the richness of the landscape, the uniqueness of the biodiversity of the region, and the area's connection to the water. The gateway monuments should be carefully designed to blend in with the landscape and the communities they represent.

V PROJECT OPPORTUNITIES

INTRODUCTION

Due to the complexity and diversity of the project's setting, the project team divided it into 9 separate character areas. Each character area may have its own theme, scale, graphic pattern, site elements and landscape treatments. Though there may be separate design standards within each character area, it is critical on the overall aesthetic goals and themes set forth for the project are prioritized so that the entire project is unified from an aesthetic perspective and does not feel like 9 disjointed areas. To better achieve this goal, several design standards will be replicated throughout each character area and the project in its entirety.

The character areas, from west to east are as follows:

Character Area 1 – Mobile Gateway

Character Area 2 – High-level Approach & MRB

Character Area 3 – West Tunnel Approach

Character Area 4 – Future Development Area

Character Area 5 – East Tunnel Interchange

Character Area 6 – Midbay Interchange

Character Area 7 – US 98 Corridor

Character Area 8 – US 90 Interchange/Eastern Shore Gateway

Character Area 9 – I-10 Corridor

AESTHETICS & LANDSCAPING PLAN

The aesthetics and landscape plan character area maps shown on the next several pages define the type of character area as well as the available limits of implementation within the ALDOT proposed ROW.

Character Area 1 – Mobile Gateway

Certain corridors act as primary gateways or the "front door" into a city. Enhancing the gateway corridor to promote travelers' arrival into the City of Mobile can help define the vision of the project for residents and visitors alike. The Mobile Gateway character area begins at the intersection of Broad Street and I-10. It continues along the I-10 corridor through Tennessee Street, Pillans Street, Virginia Street and culminates at Texas Street. The importance of scale and repetition have been discussed throughout this manual. Due to the rate of speed of vehicle travel occurring along the I-10 corridor and nearing the area where critical decisions need to be made regarding whether to take the MRB High-level Approach or the West Tunnel Interchange, the Concessionaire must pay close attention to wayfinding signage elements and viewshed corridors. Therefore, the landscape and aesthetic elements within this corridor must be pedestrian in scale and trees shall be spaced appropriately as to not distract drivers trying to determine which route they will take for travel.

Character Area 2 – MRB High-level Approach & Main-span

The second character area is the MRB High-level Approach. The Concessionaire should pay special attention to the treatment of features within this area. This character area begins at Texas Street and ends at the Mobile River. The majority of this area will occur below the MRB high-level approach and will have large skyscape elements, such as the foundation piers and decking for the bridge. One of the most important opportunities for this character area is that the corridor below the high-level approaches allows for the potential to connect pedestrians back to the riverfront area. The Concessionaire should review the Map of Mobile to connect the pedestrian improvements and vehicular road diet occurring along Water Street to the riverfront. The landscape plant material selected should be native grasses and shrubs with appropriate trees that can thrive in a wet urban environment. Aesthetic treatments of the underside of the high-level approaches should be considered since so much of the underside of the bridges will be visible to the human eye. The shadows that are cast from the foundation piers and bridge deck above should be taken into account in designing public open space.

Character Area 3 – West Tunnel Approach

The character area defined for the West Tunnel Approach is limited in available development area, much of which is outward-facing towards the residential neighborhoods and a large recreational park. Several key elements that will appear within this area that need to be taken into design consideration are retaining walls and fencing. The landscape character for this area needs to serve as a buffer to the nearby residential areas as well as screening of the retaining walls and fencing. Close attention should be paid to the Civic Center site. The City of Mobile is currently evaluating potential redevelopment opportunities for the Civic Center; the overall design of the streetscape elements and landscape character should be carefully coordinated with these public plans for consistency and connectivity with plans for the Civic Center site. The intersection of the West Tunnel Approach and Water Street should incorporate the landscape and streetscape elements of the Water Street road diet design. This may include sidewalks and/or bike paths.

Character Area 4 – Future Development Area

This character area will undergo the most drastic transformation with the removal of the elevated interstate on and off ramps and foundation pier structures. The available open space created for this area will provide opportunities for potential infill development, public open space, and stormwater management. Specific research should be given to the historical and cultural aspects of this area as it relates to the proximity of Fort Conde and the urban street grid that used to exist. The Concessionaire should replace all sidewalks consistent with City of Mobile standards and plant the remaining open areas with grass, wildflower mix, and trees as described in the Technical Provisions. At the time of the release of the RFP, an agreement between ALDOT and the City of Mobile regarding future ownership and development opportunities had not been agreed upon. This open space is large enough to accommodate multiple uses to satisfy the goals of ALDOT, the City of Mobile and the citizens of this region.

REVISION 4, OCT 9 2018

Character Area 5 – East Tunnel Interchange

The East Tunnel Interchange character area is a very complex roadway network. The Wallace Tunnel is the main thoroughfare for I-10 that connects to the Bayway; the Bankhead Tunnel is an alternate tunnel connecting to the Causeway and Downtown Mobile; and US 90 takes one to the alternate route of the Cochrane Africatown Bridge. Another transportation route will be added to the network once the MRB is completed. Therefore, due to the complexity of these transportation systems in character area 5, it is critical that vehicular viewsheds remain visible and wayfinding signage is designed to be clear and concise. The landscape elements within this character area shall be ornamental in scale and character. The concessionaire shall understand the potential of exposure to high winds and salt spray in selecting the plant material for this area. However, there is plenty of opportunity to screen and soften the large expanses of concrete using vegetation to create a more visually appealing aesthetic in this character area.

Character Area 6 – Midbay Interchange

Much of the Midbay Interchange character area will see minimal change due to its close proximity to the water. Several key character elements that need to be taken into consideration are wayfinding signage, consistency among the overhead toll gantries, lighting standards and maintaining viewshed corridors. Design considerations should be given to blending these elements into the environmental landscape versus making them stand-out. This area in particular is environmentally sensitive, and great care should be taken in the design process as to not impact the fisheries or wildlife.

Character Area 7 - US 98 Corridor

In order to understand the importance of this character area, one must travel US Highway 98 from Spanish Fort through Daphne and Fairhope. One will notice the large live oak trees planted at 75' on center lining both sides of the road as well as hundreds of crepe myrtles strategically grouped throughout the boulevard median. The local municipalities and residents have worked very hard to protect these trees from development and destruction knowing the beauty and benefits they add to their communities. The majority of these trees were planted in the 1980's as a grassroots effort from the citizens of these communities to create a greenway corridor that creates a unique sense of arrival into their respected communities. Also, several years ago, the City of Daphne created an eco-tourism attraction known as Alligator Alley with viewing platforms and educational kiosks to discover and learn about the native wildlife in our region. Great care should be taken in designing aesthetic elements and landscaping placed along this corridor. It should all be in accordance with the existing elements and landscape that is unique to this corridor and the Eastern Shore of Mobile Bay.

Character Area 8 – US 90 Interchange/ Eastern Shore Gateway

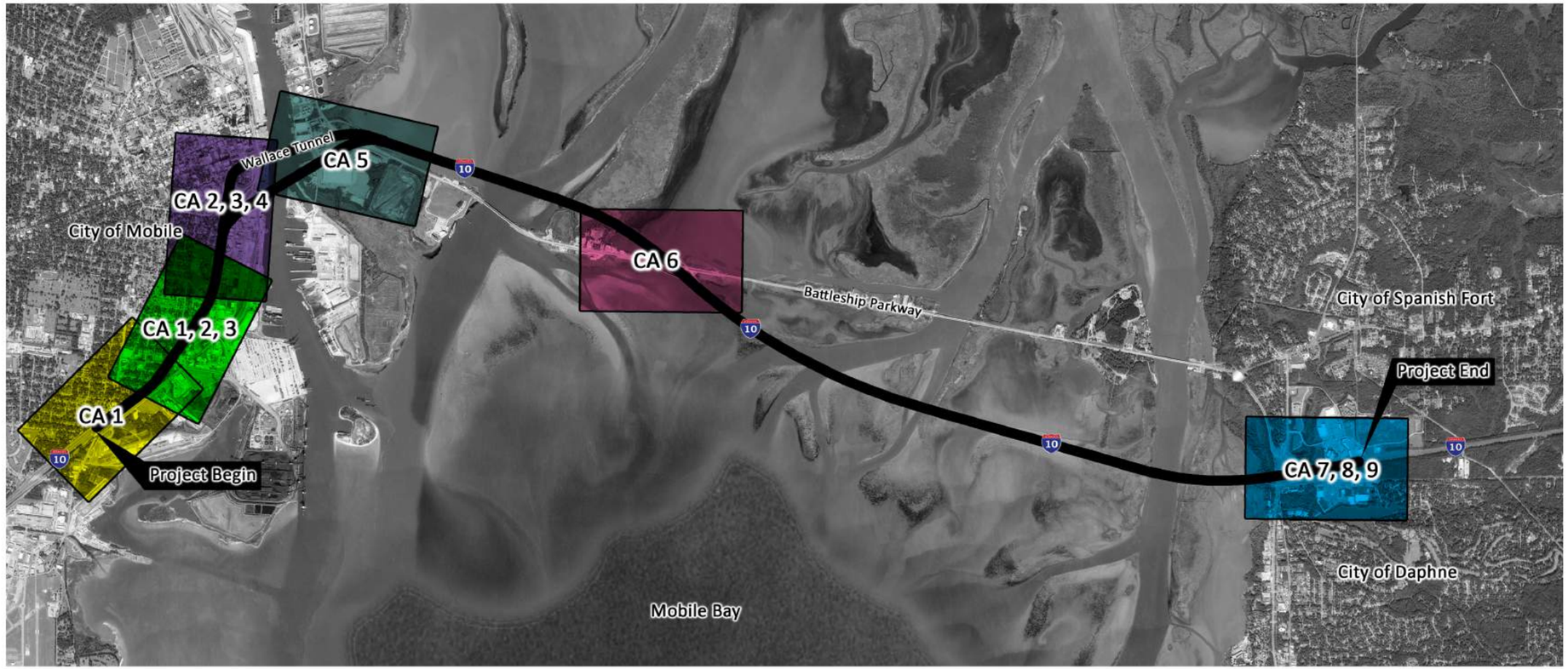
The US 90 Interchange/ Eastern Shore Gateway character area is a complete redesign of the intersections, adding a diamond interchange allowing for better vehicular circulation routes leading to and from the commercial areas adjacent to US 98 and I-10. The redesign of this interchange has provided additional open space to be utilized for managing stormwater runoff and landscaping. Similar to the Mobile Gateway character area, the Concessionaire must pay close attention to wayfinding signage elements and viewshed corridors due to the complexity of the intersections. The landscape of this area should be much more commercial in nature with flowering shrubs and ornamental trees, which will showcase a sense of arrival into the commercial corridor along US 90.

Character Area 9 – I-10 Corridor

The I-10 Corridor character area is the gateway of the Eastern Shore of Mobile Bay. As mentioned previously throughout this manual, the Eastern Shore of Mobile Bay is less dense and more sprawling in character. As a result, the I-10 Corridor gateway should be more like a parkway or greenway leading into the municipalities of Spanish Fort, Daphne and Fairhope. In order to create this parkway setting, the landscape trees and shrubs should feel less like it was designed by man and much more like it evolved over time through natural succession. Therefore, the landscape density is what will create that sense of arrival and place along the Eastern Shore.

Existing Downtown Infrastructure Plan

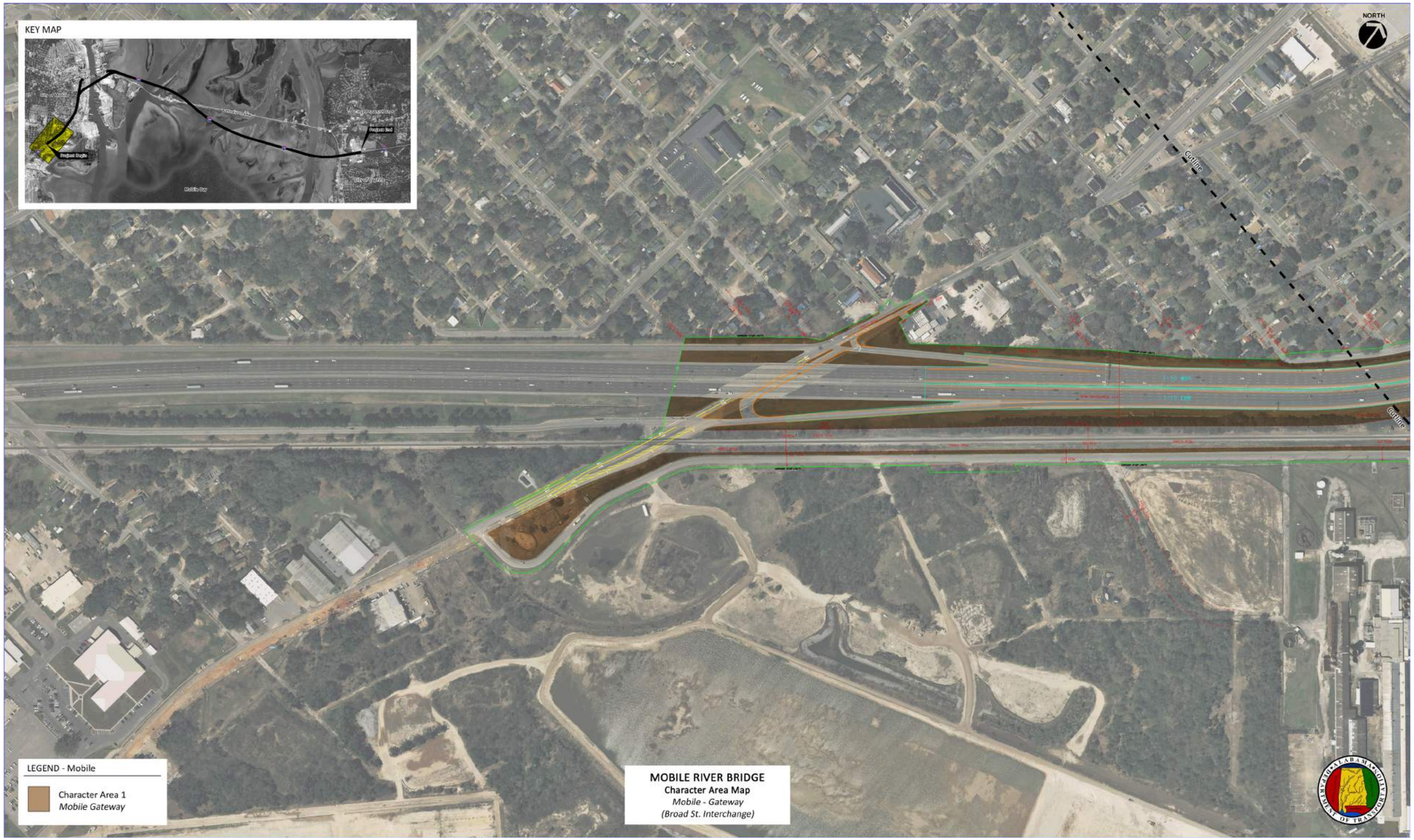
Proposed Downtown Infrastructure Plan

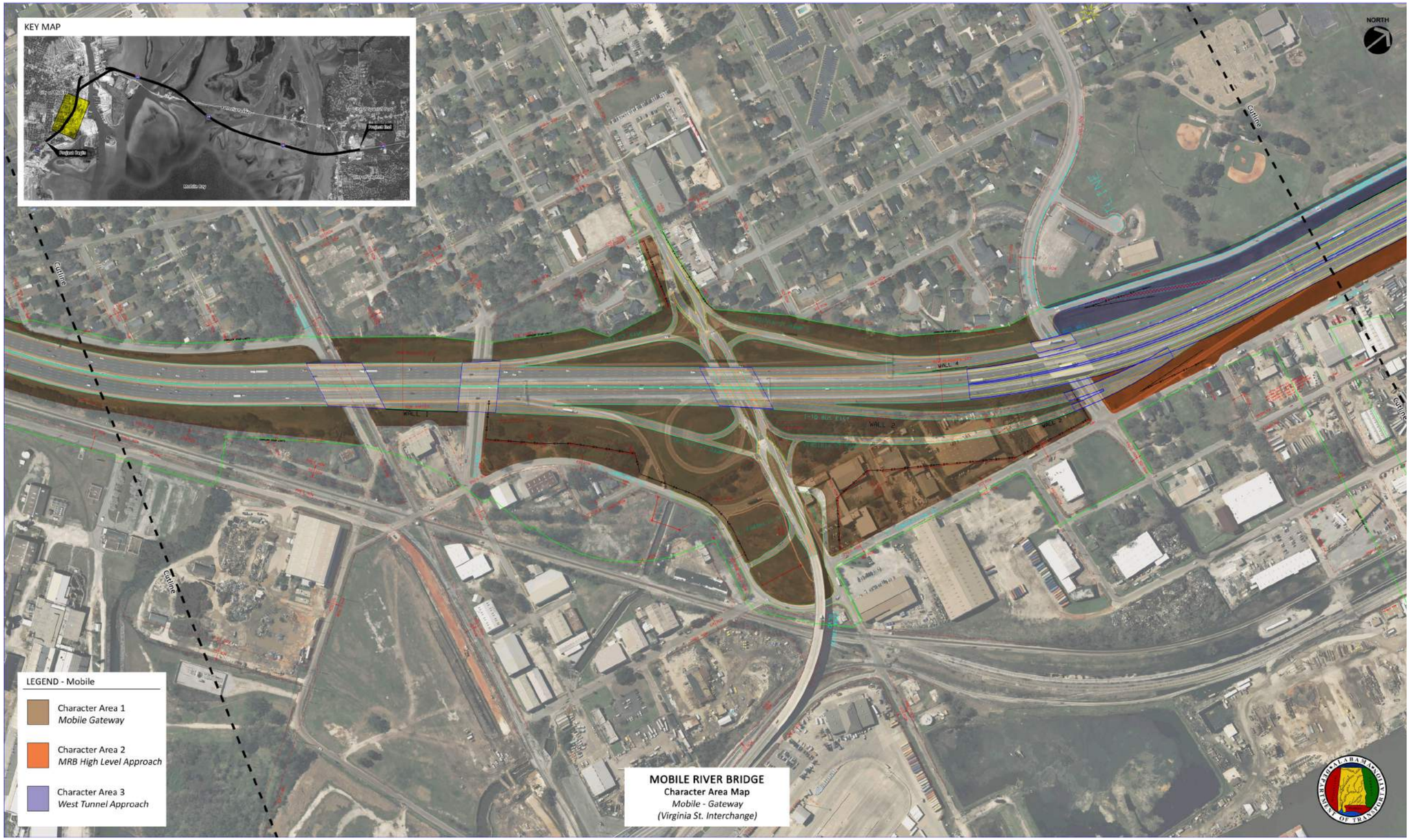


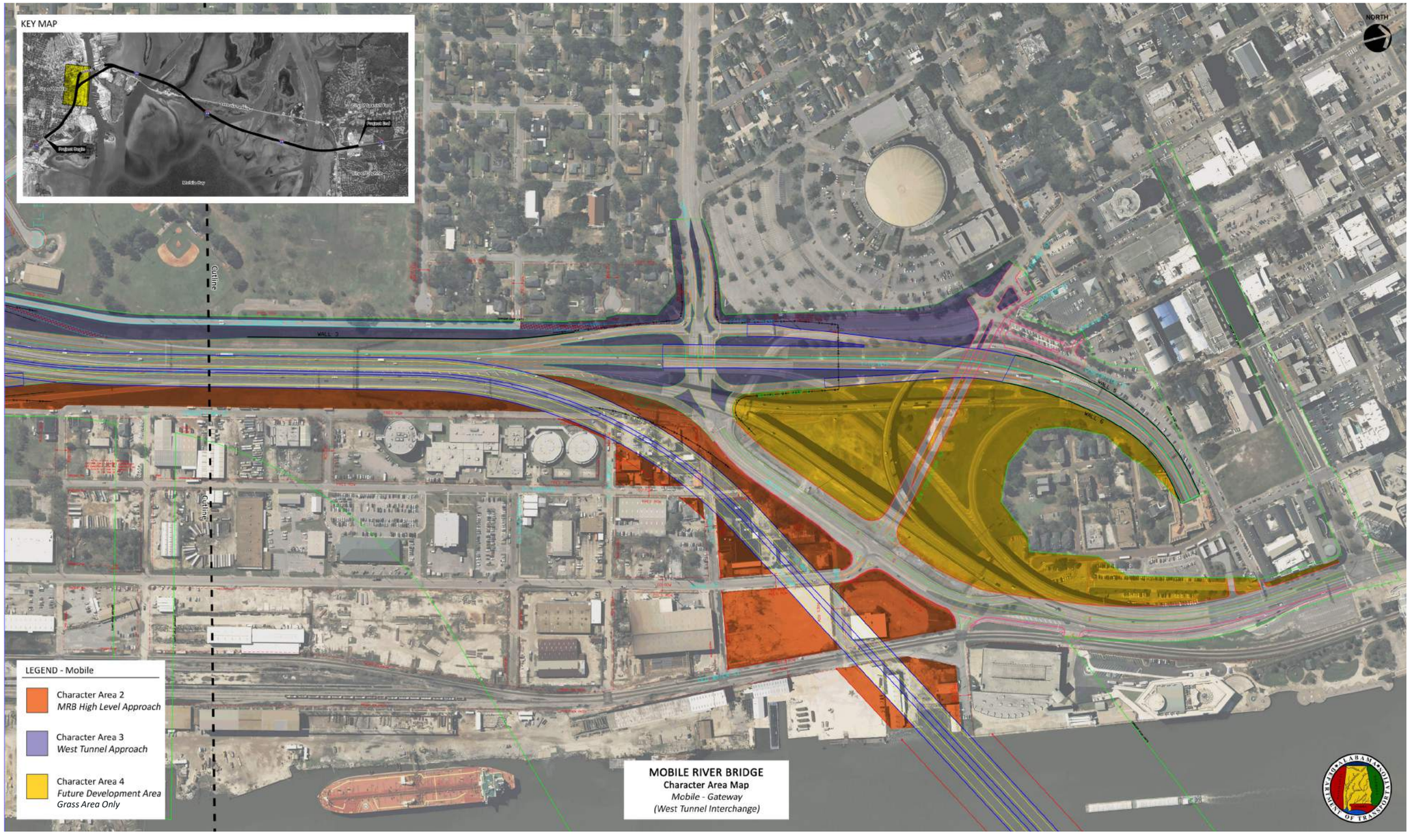
Character Area: Key Map

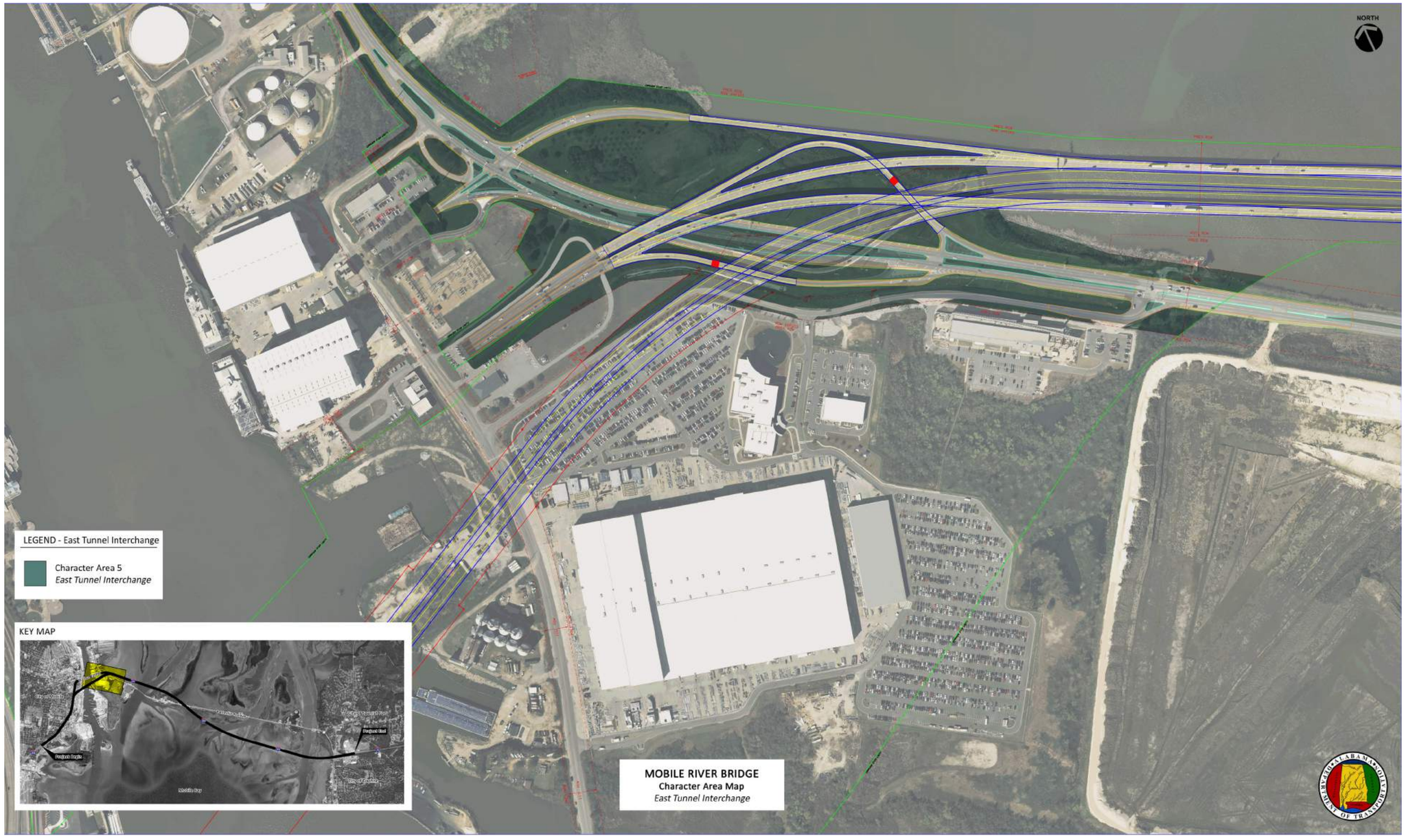
LEGEND - Key Map

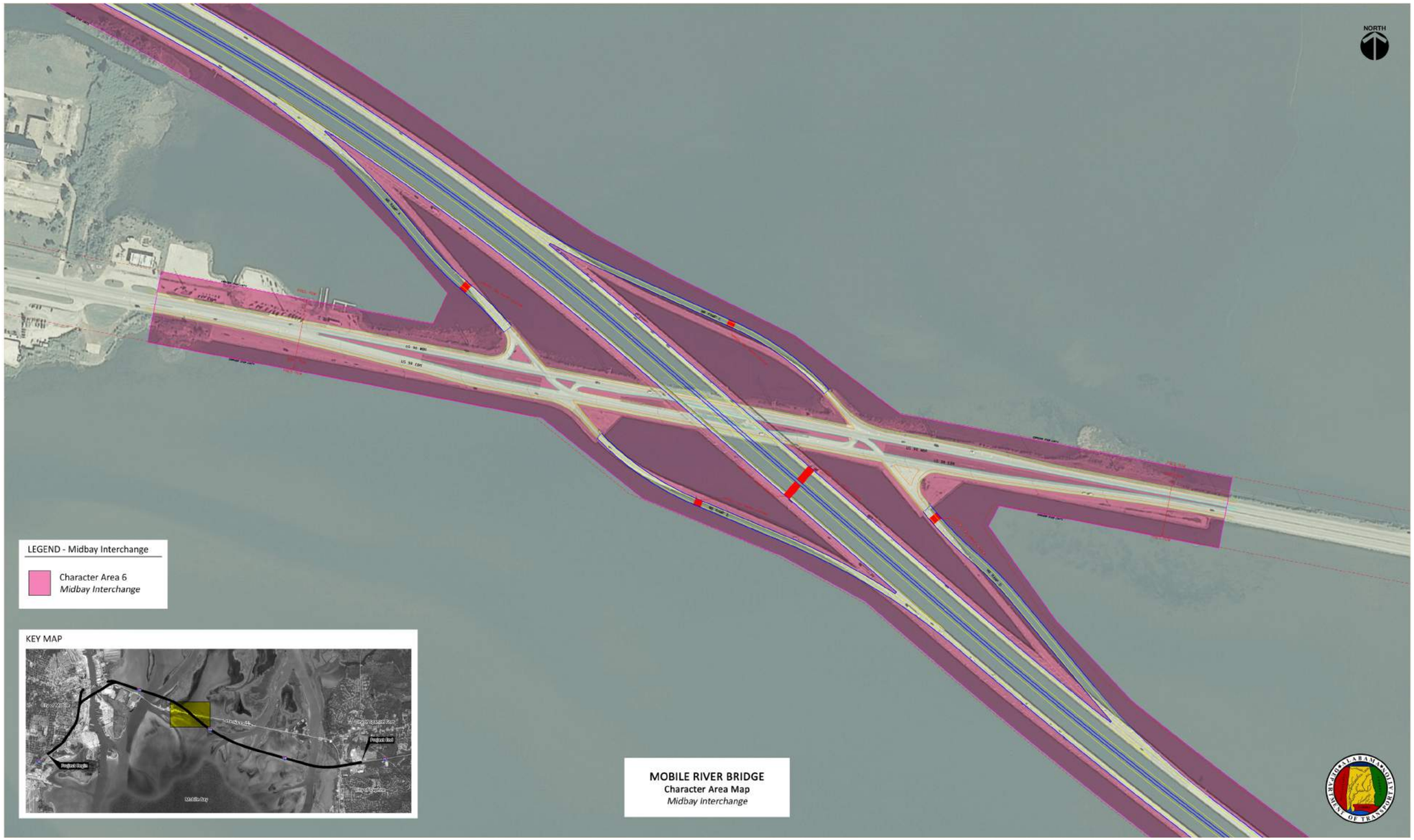
- Character Area 1
  Mobile Gateway - Broad St. Interchange
- Character Area 1, 2, 3
  Mobile Gateway - Virginia St. Interchange
- Character Area 2, 3, 4
  Mobile Gateway - West Tunnel Interchange
- Character Area 5
  East Tunnel Interchange
- Character Area 6
  Midbay Interchange
- Character Area 7, 8, 9
  Eastern Shore Gateway - *US 98/US 90/I-10 Interchange*

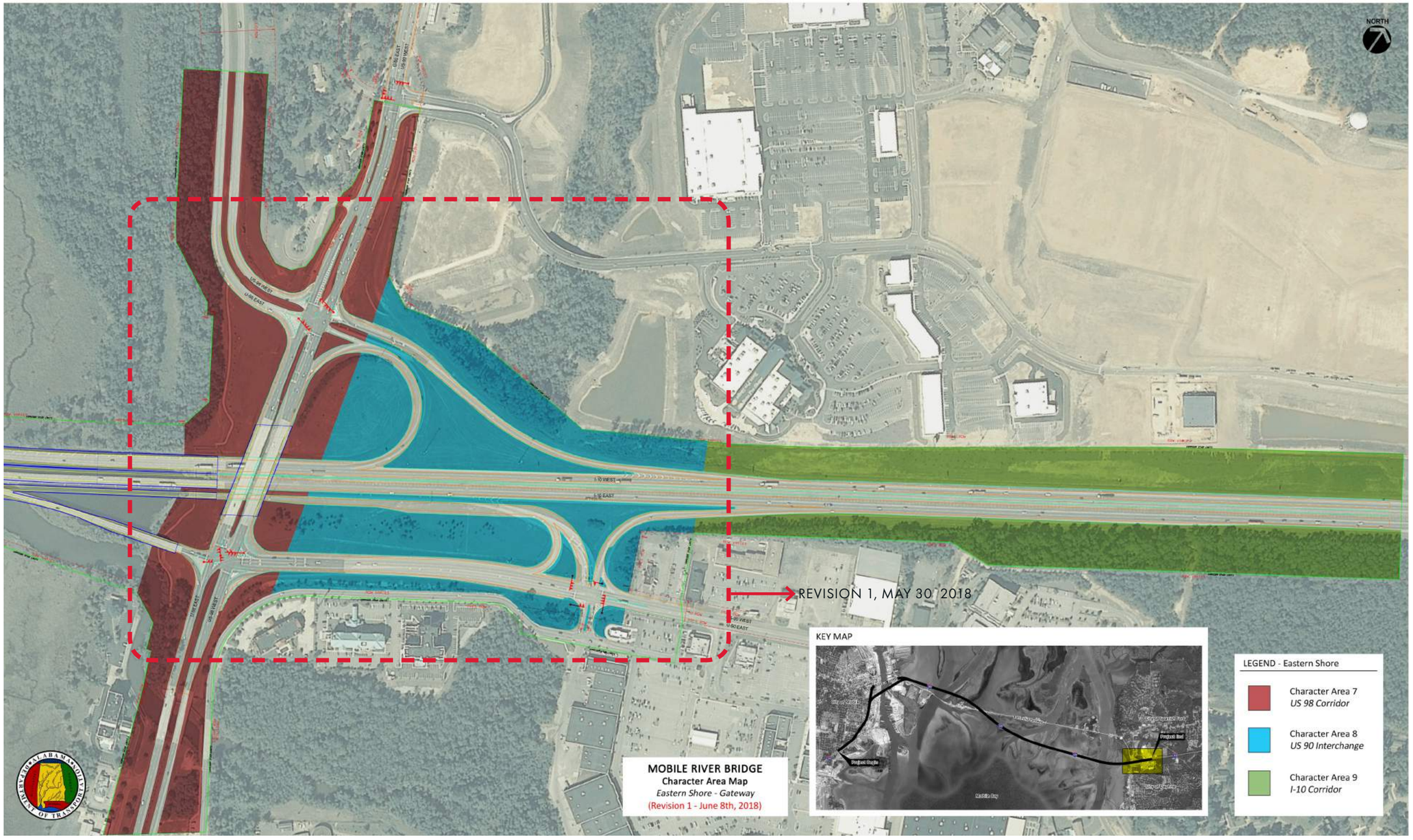

KEY MAP
Project Begin
Project End
Mobile Bay
NORTH
Centline
Centline
LEGEND - Mobile
Character Area 1
Mobile Gateway
MOBILE RIVER BRIDGE
Character Area Map
Mobile - Gateway
(Broad St. Interchange)


KEY MAP
Project Begin
Project End
Mobile Bay
NORTH
Centline
Centline
Centline
Centline
WALL 1
WALL 2
WALL 4
LEGEND - Mobile
Character Area 1
Mobile Gateway
Character Area 2
MRB High Level Approach
Character Area 3
West Tunnel Approach
MOBILE RIVER BRIDGE
Character Area Map
Mobile - Gateway
(Virginia St. Interchange)


KEY MAP
Project Begin
Project End
Middle Bay
NORTH
Gutline
WALL 3
LEGEND - Mobile
Character Area 2
MRB High Level Approach
Character Area 3
West Tunnel Approach
Character Area 4
Future Development Area
Grass Area Only
MOBILE RIVER BRIDGE
Character Area Map
Mobile - Gateway
(West Tunnel Interchange)


NORTH
LEGEND - East Tunnel Interchange
Character Area 5
East Tunnel Interchange
KEY MAP
MOBILE RIVER BRIDGE
Character Area Map
East Tunnel Interchange


NORTH
LEGEND - Midbay Interchange
Character Area 6
Midbay Interchange
KEY MAP
MOBILE RIVER BRIDGE
Character Area Map
Midbay interchange


NORTH
US 98 WEST
US 98 EAST
I-10 WEST
I-10 EAST
REVISION 1, MAY 30 2018
KEY MAP
LEGEND - Eastern Shore
Character Area 7
US 98 Corridor
Character Area 8
US 90 Interchange
Character Area 9
I-10 Corridor
MOBILE RIVER BRIDGE
Character Area Map
Eastern Shore - Gateway
(Revision 1 - June 8th, 2018)

VI BRIDGES & OTHER STRUCTURES

INTRODUCTION

The most visible aspect of the MRB project will be its structures. As stated throughout these Aesthetic Guidelines, the alignment traverses very diverse site conditions and scales. Finding a commonality of form within the varied conditions will require great care and creativity.

The alignment has been developed with the goals of minimizing the impacts to the existing built environment and aligning with future urban growth. This approach also reduces impacts to the existing transportation system and allows for the movement of goods and services with minimal disruptions during construction.

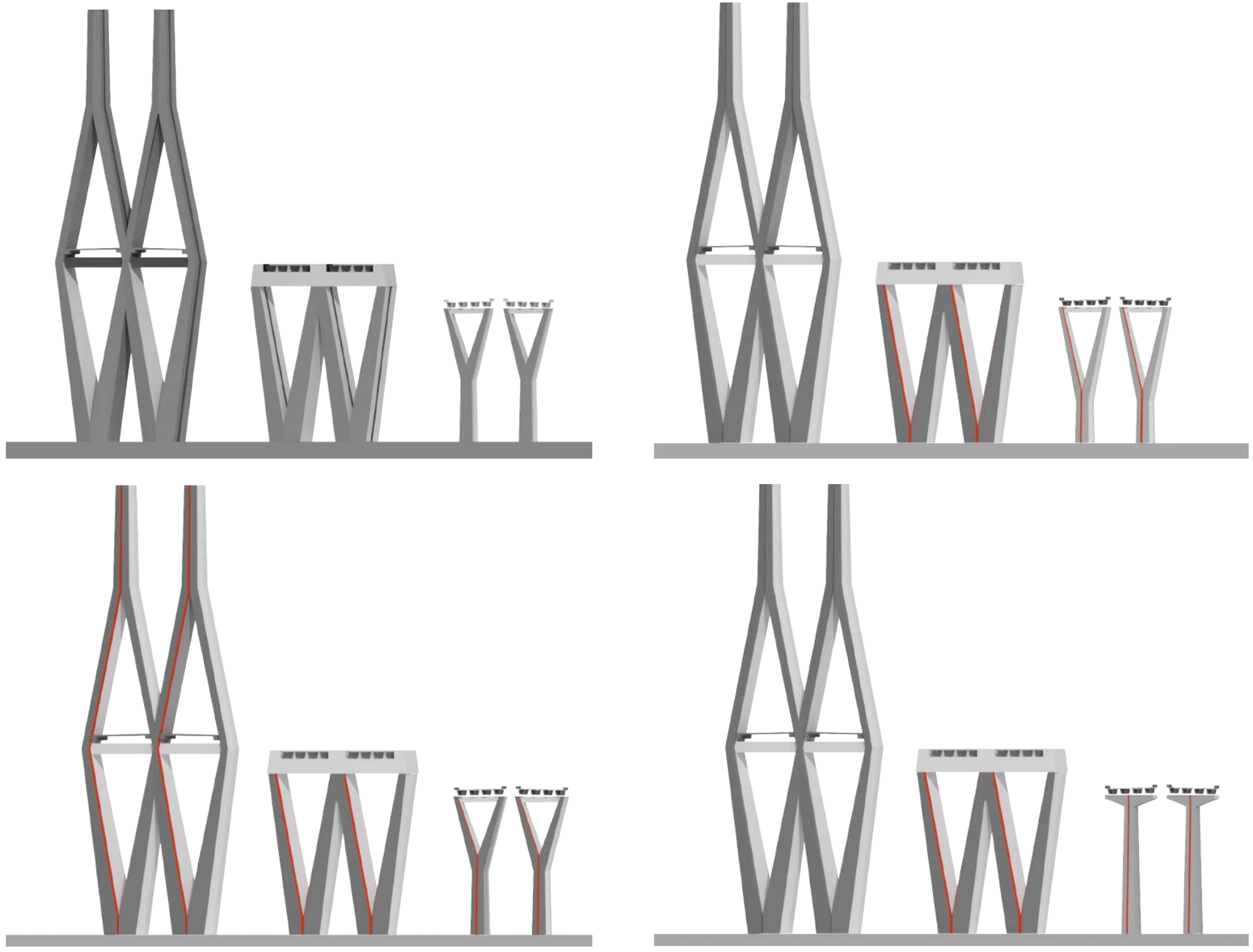
FORM COMMONALITY

Form commonality in areas of high visibility is highly desirable. This concept applies to the main line structures, approach structures, straddle bents, light poles, overhead gantries, retaining walls, and sign structures. Developing form commonality should apply to all of the conditions and structure types. Areas of the Bayway that are only visible from the water are exempt due to financial constraints.

Large-scale structures should employ faceting or shaping of the visible surface to reduce the perceived mass. The intent is to break up large planes that are out of scale with the context of surrounding buildings and/or landscapes.

Super-structure types and depths should be consistent between spans. In areas of significant depth requirements, such as the transition from the low-level approach to the high-level approach and at the high-level approach to the main-span, visual impacts should be minimized by using a vertical visual break or by adjusting the deck overhang for shadow consistency.

Lowry Avenue Bridge



All: Form commonality between main-span, tie-down pier and high-level approach

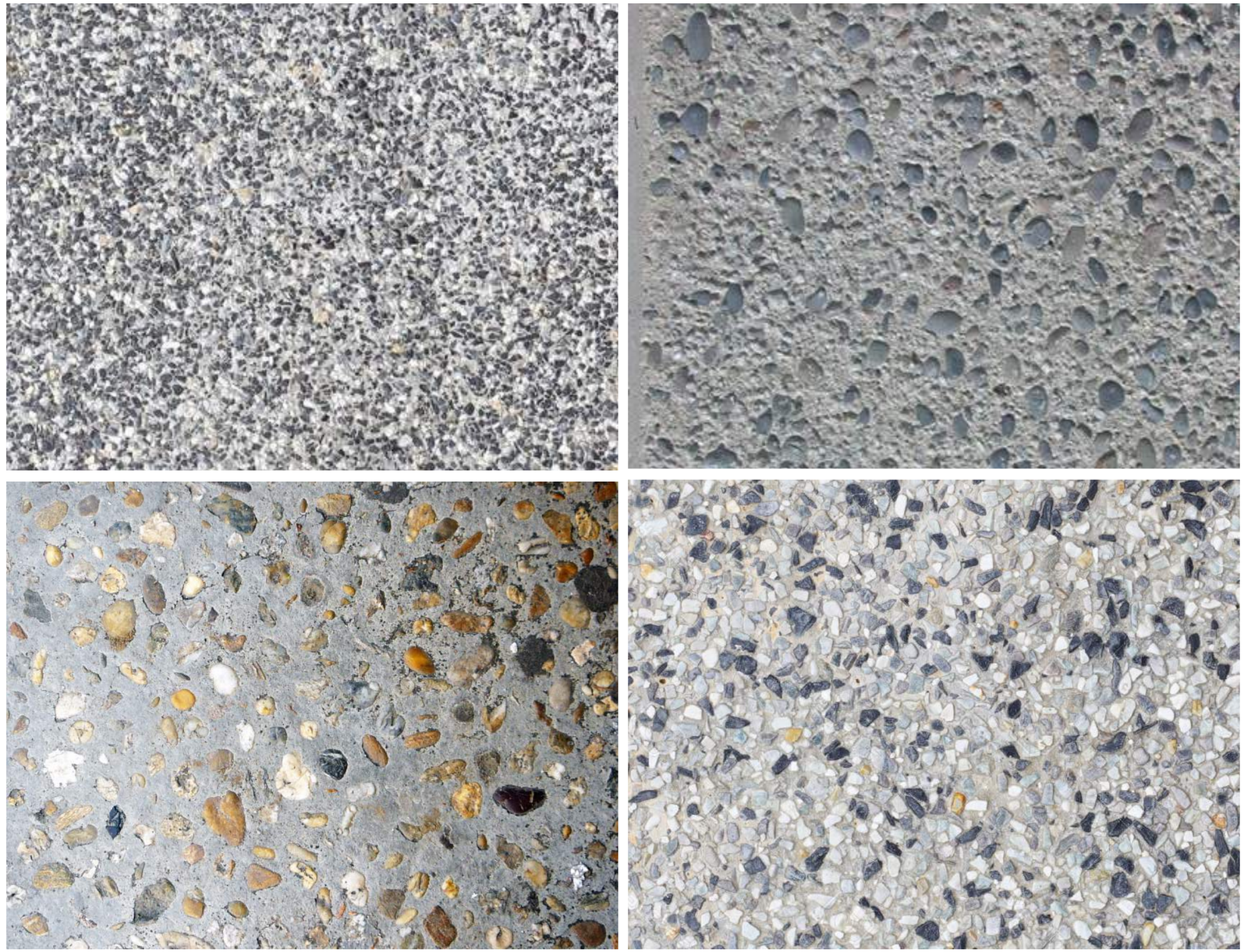
MATERIALS & FINISHES

All materials and finishes should require minimal maintenance and exhibit excellent resilience and longevity. All finishes should be consistent with ALDOT standard specifications and quality. To reduce graffiti, all large flat areas within 10′ of the adjacent ground line should avoid flat surfaces.

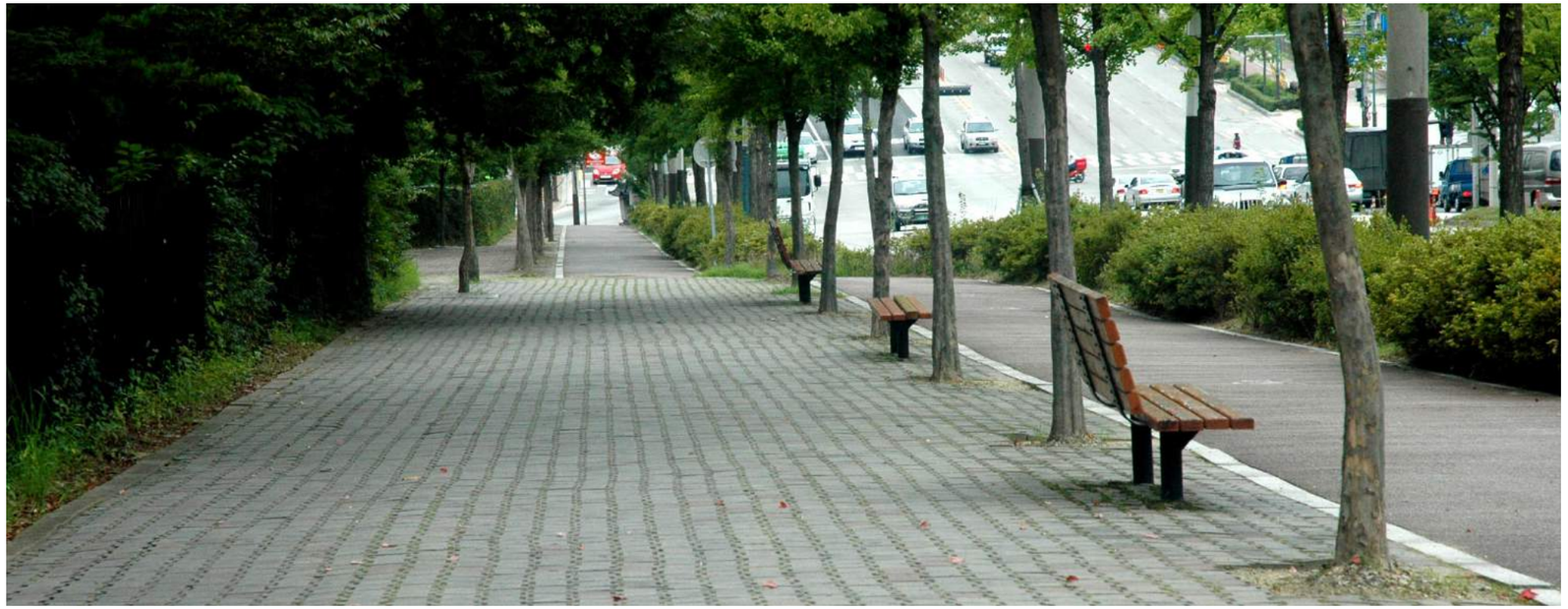
Consistent material types shall be used for each superstructure of the project. The mixing of steel and concrete superstructures within bridges or bridge areas (i.e. low-level, Bayway, ramps) should be avoided. The main-span unit and high-level approach span superstructures are to be comprised solely of concrete.

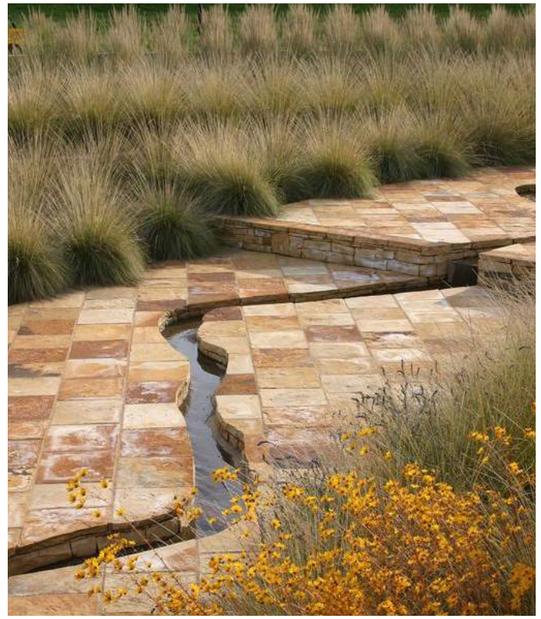
If steel and concrete are used for low-level super structure in an area, the steel should be coated to match the color of the concrete. However, in all other conditions, such as barriers, light poles, and cables, the coatings should emphasize the material change.

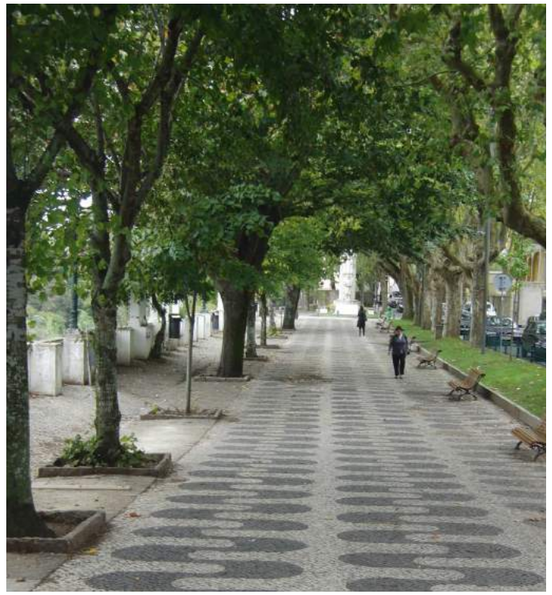
To avoid staining, down-spouts or similar features should be placed away from piers that could receive concentrated water and mineral exposure.

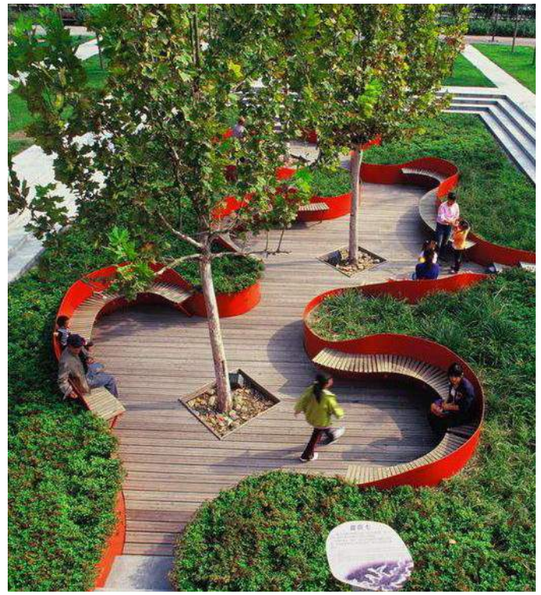


All: Samples of concrete finish palette









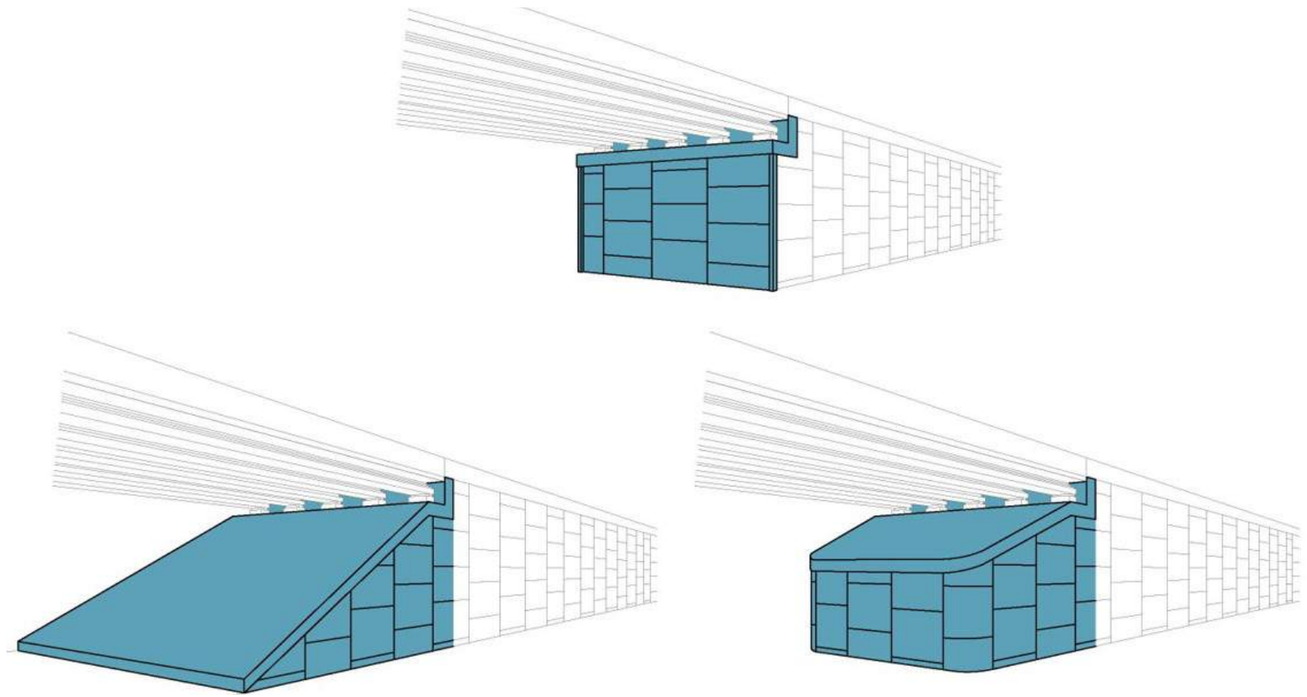
All: Samples of mixing color and texture to break large areas to feel smaller

BARRIERS

All barriers are to be consistent with ALDOT standard specifications and quality. All barriers and railings should be of simple design and without ornamentation.

Exterior barriers in the high-level approaches and both the interior and exterior of the main-span shall utilize open railings, to allow travelers to view the landscape from a typical car level view/height.

Top: Open Barrier Fencehere | Bottom: Solid Traffic Barrier & Access prevention Fence



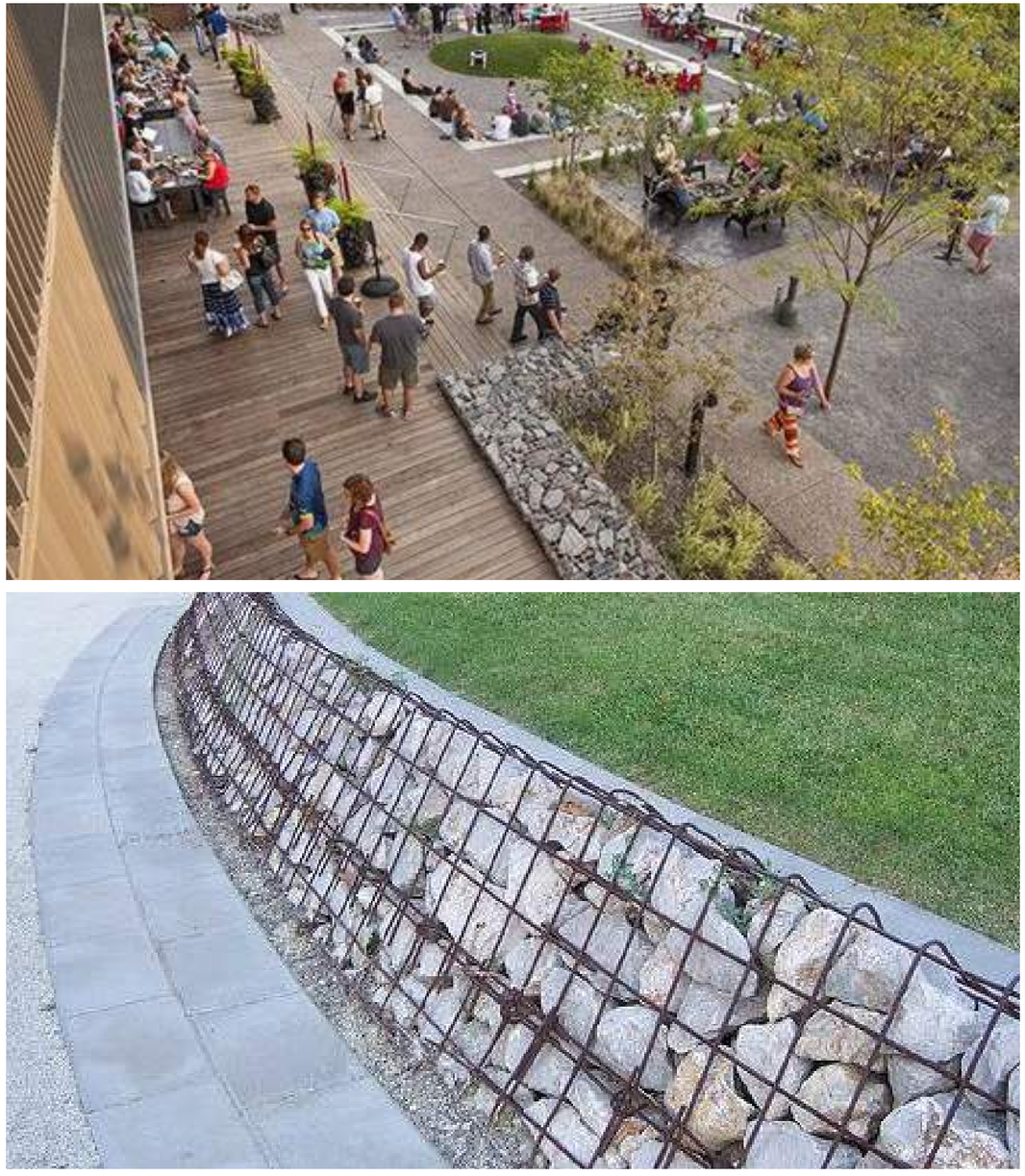
RETAINING WALLS

Retaining walls will be located in the neighborhood areas of the project with sufficient area for screening with planting. Surface treatment or form liners should be interpretive in form and should be coordinated with the landscape planting. To reduce large planes of retaining wall, stepped retaining walls with landscape layers are encouraged.

If noise-walls are to be implemented, the form and textures should be in the same family of form as the retaining walls.

Top : Abutment wall configurations- Vertical, full slope, partial slope I Bottom: Sample colors and finish for retaining wall

All: Samples of deep relief, representational treatments, decorative and no treatment



All: Samples of gabions

OVERHEAD GANTRY & SIGN STRUCTURES

The design of the overhead gantries and sign structures should be simple and made to blend in with the landscape where feasible. For example, the use of a singular, large diameter galvanized tube is preferred to a more complex truss. The commonality of form applies to the overhead gantry, sign structures, and light poles as a manner of enforcing corridor-wide aesthetic principles.

All: Images of preferred overhead gantry






All: Examples of low-level structures with clean and uncluttered visual impact

WEST TUNNEL INTERCHANGE

The overpasses and low-level bridges are located in neighborhoods and should relate aesthetically to that scale. The size of low-level bridge piers should be much smaller than the main-span piers. While being aesthetically related to the main-span piers, the overpasses and low-level bridges should also be relatable to the human scale. Form and texture might be deeper or more detailed in the low-level piers than the large main-span piers. Structure and landscape in these areas should also be designed with the understanding that people will be living, walking in close proximity, driving slowly, or possibly even stopped in proximity to these features.

At present, the elevated structures at Water Street create an edge in the city. The design of structures in and around West Tunnel interchange should be designed to create open, clear sight lines and well lit areas at street level.

All: Examples of low-level structures with clean and uncluttered visual impact

All: Straddle bents with closed box superstructurein various relationships to the at grade roadway

STRADDLE BENTS

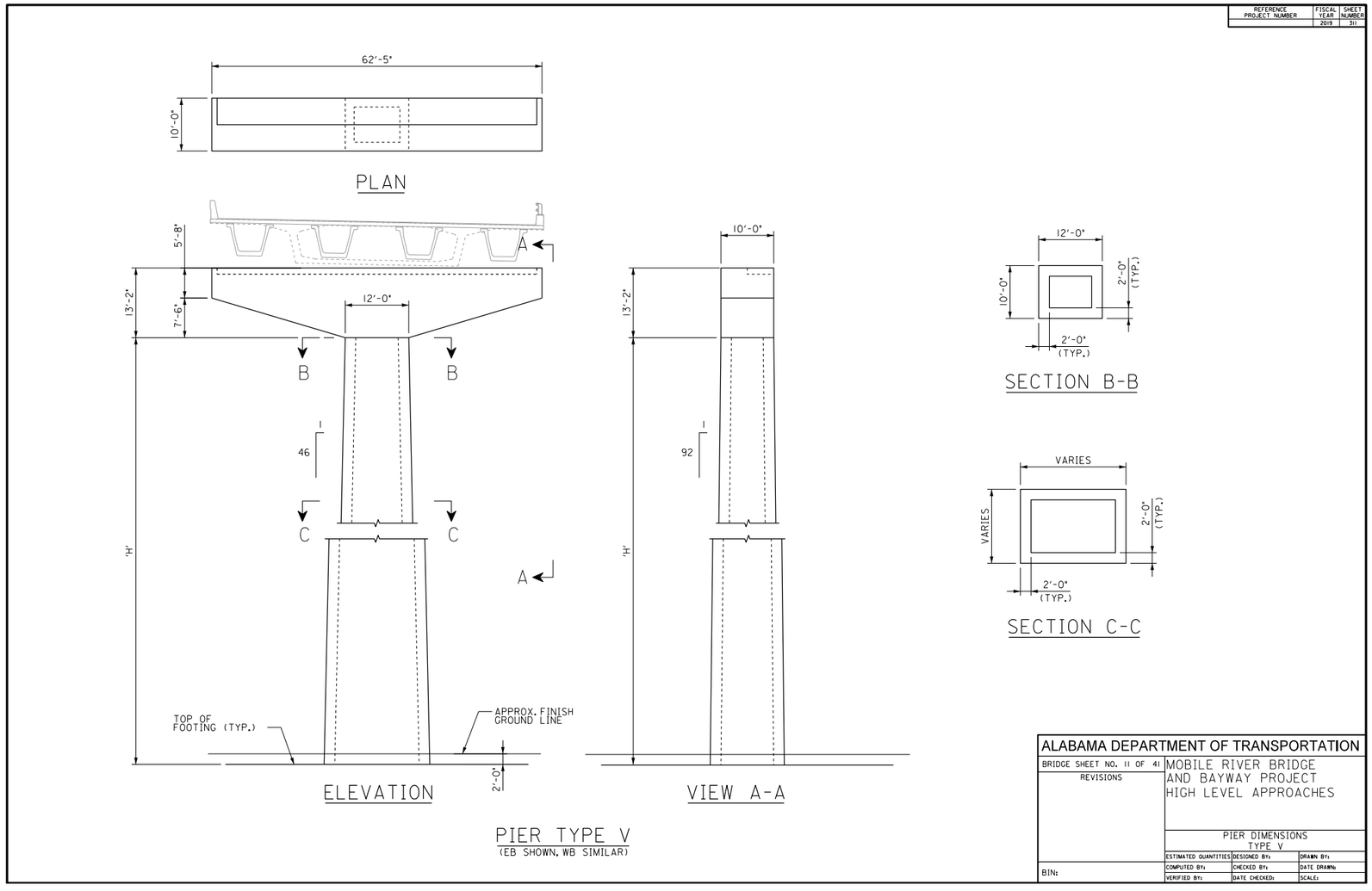
The straddle bents are located in a transition area between the overpasses and low-level structures and the high-level approaches. The use of straddle bents is primarily to keep the existing I-10 operational while the new structures are being constructed overhead. In the current layout, this construction methodology will create a large 'enclosed' area that will be unique to the region. The number and size of the straddle bents used for the permanent configuration shall be minimized. In areas where straddle bents are required, framing the superstructure depth within the depth of the straddle bent should be considered in order to avoid increasing the overall depth.

The straddle bents should have no ornamentation. Clean lines and designs that cradle the upper structures (rather than those that just sit) are preferred.

HIGH-LEVEL APPROACHES

The high-level approaches are the approach structures leading to the main-span. The roadway will be very high above ground plane and therefore outside of the street level viewshed. The concept of Skyscape is appropriate in the area between the high-level approaches on both sides and including the main-span portion of the project. The high-level approaches will utilized a concrete closed cell system, avoiding visual clutter.

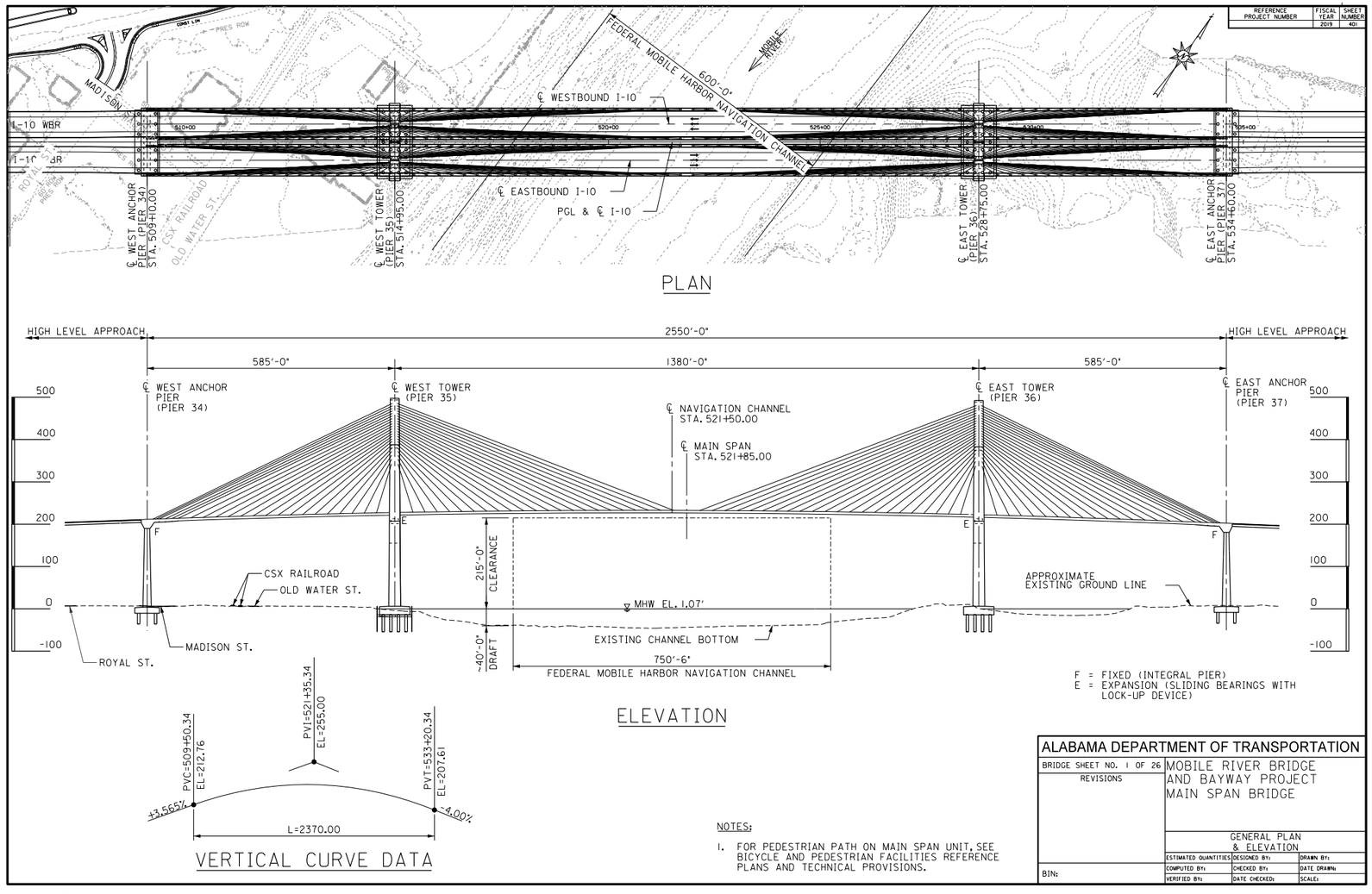
Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.



PIER TYPE V
(EB SHOWN, WB SIMILAR)

Illustrative drawing for High-level Approach Pier

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.



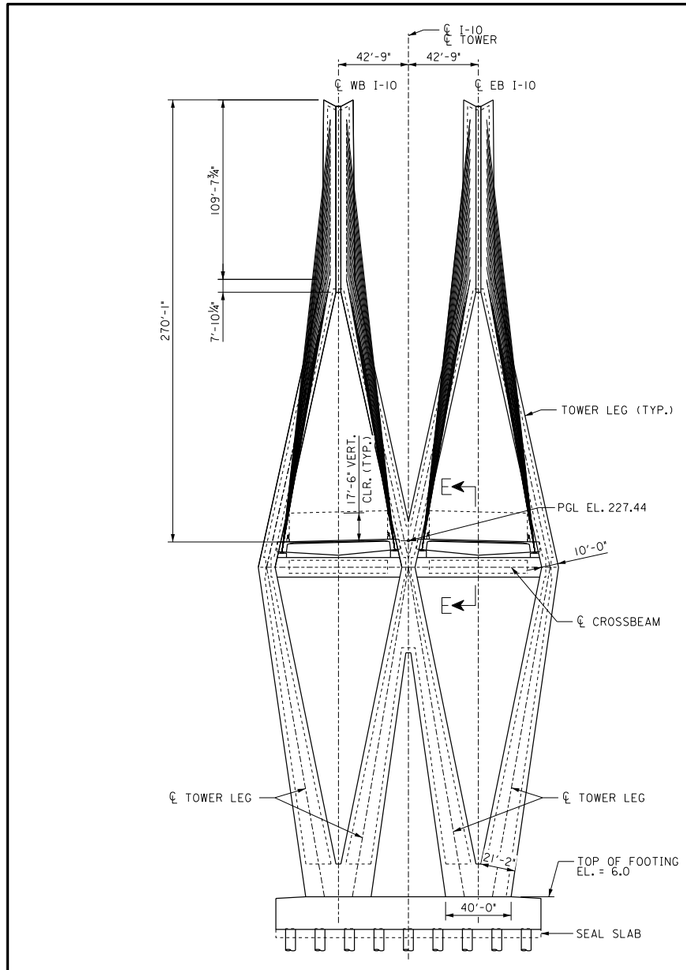
Illustrative Drawing for Main-span

MAIN-SPAN

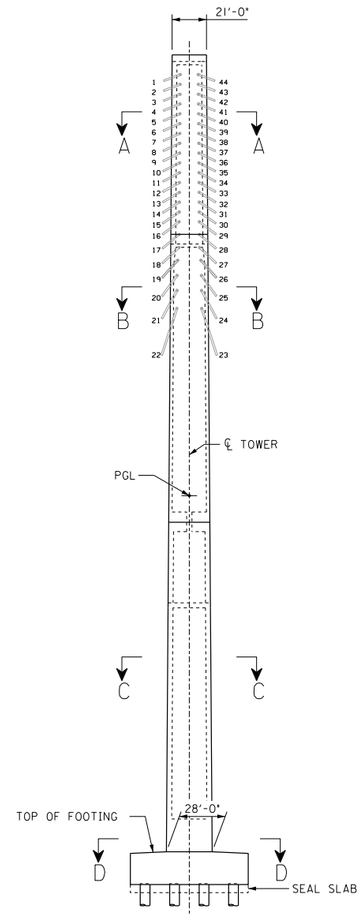
Structural performance of the concrete main-span is the driver in aesthetics. The bridge deck is wide in order to accommodate future travel demands. The structure will be subject to high wind loads. There is a disparity of pier sizes between the various conditions. The straddle bents and high-level approach piers will have similarly sized piers, whereas the tie-down and main-span piers will require much larger piers. Faceting of the piers, especially in the transverse elevation, is a cost-effective manipulation of form that breaks down the perceived mass and creates form commonality among the piers.

As shown in the illustrative set, the main-span has four planes of cable, one cable to the exterior of each roadway section. The combination of the double inverted Y shaped tower, slightly twisted plane, and cathedral effect of the cables makes this a unique tower configuration.

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.



TRANSVERSE SECTION AT TOWER



LONGITUDINAL ELEVATION AT TOWER

NOTES:

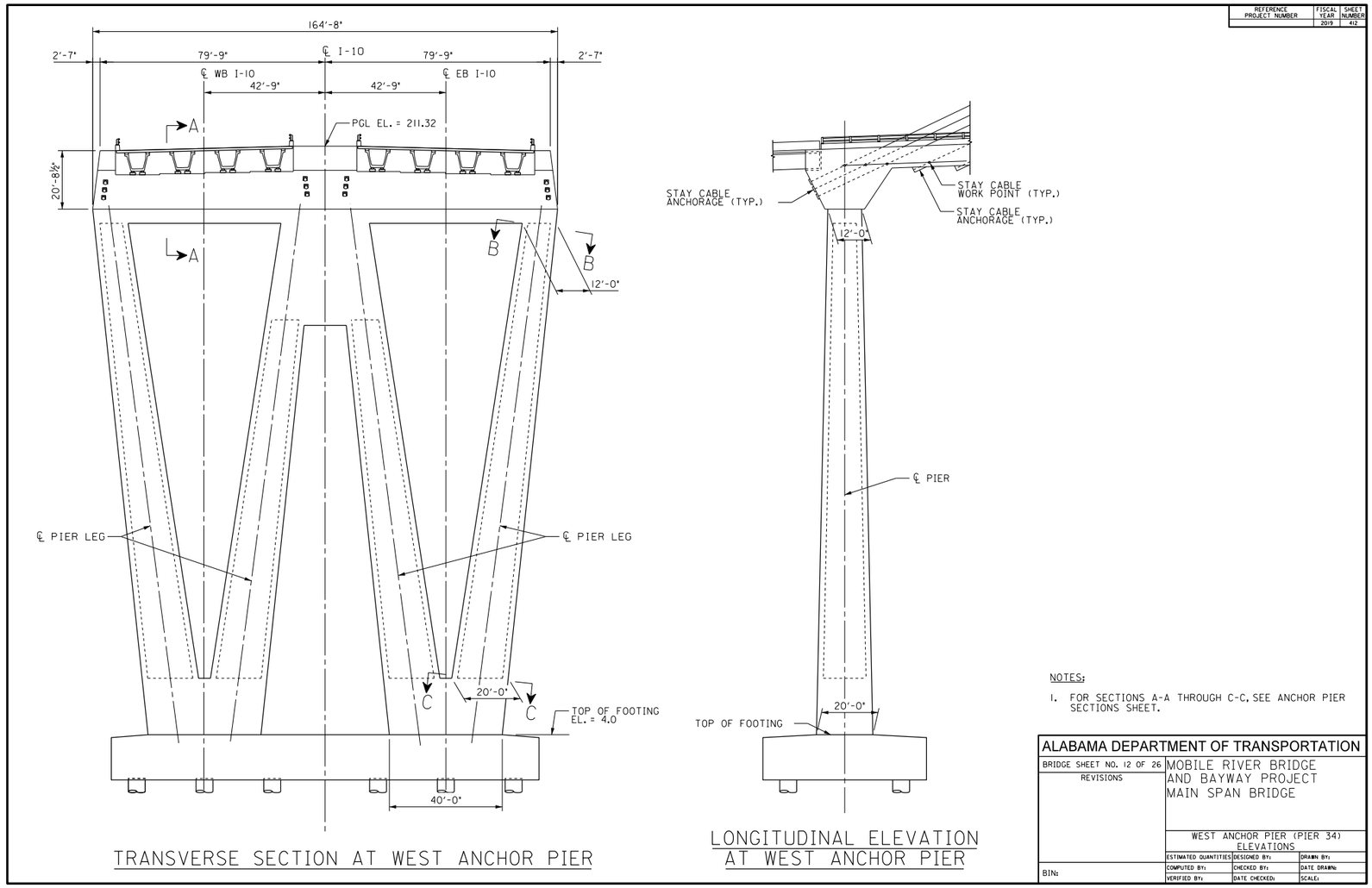
1. FOR SECTIONS A-A THROUGH E-E, SEE TOWER SECTIONS SHEET.

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
	2019	407

ALABAMA DEPARTMENT OF TRANSPORTATION			
BRIDGE SHEET NO. 7 OF 26	MOBILE RIVER BRIDGE AND BAYWAY PROJECT MAIN SPAN BRIDGE		
REVISIONS	WEST TOWER (PIER 35) ELEVATIONS		
	ESTIMATED QUANTITIES BY:	DESIGNED BY:	DRAWN BY:
BIN:	COMPUTED BY:	CHECKED BY:	DATE DRAWN:
	VERIFIED BY:	DATE CHECKED:	SCALE:

Illustrative set transverse and longitudinal elevation of the Main-span Tower

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.



Illustrative set drawing for Tie-down Pier

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.

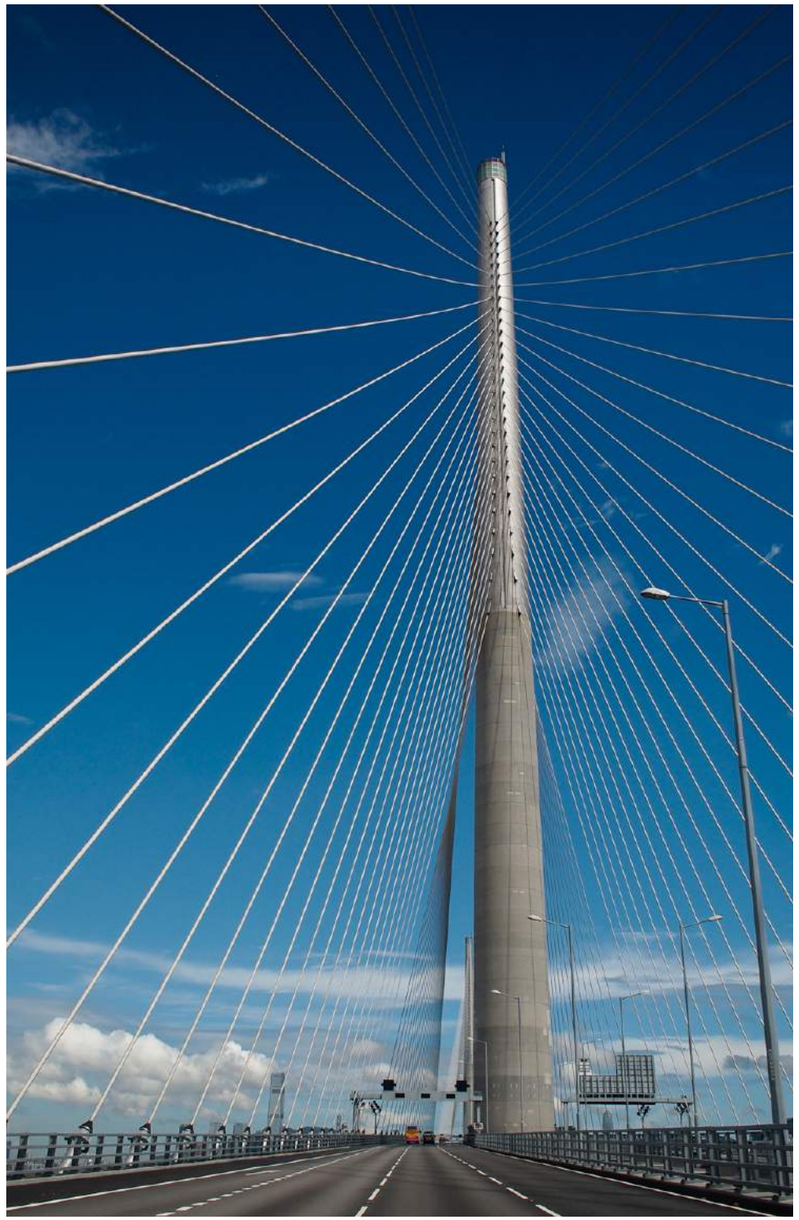
Aerial Rendering of the Main-span and Tie-down Pier with faceted form

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.

Water level rendering of the Main-span and Tie-down Piers with Faceted form

Note: Illustrative set ahead of drawings and renderings in the Aesthetic Guidelines.

Deck level view of the main-span towers with faceted form



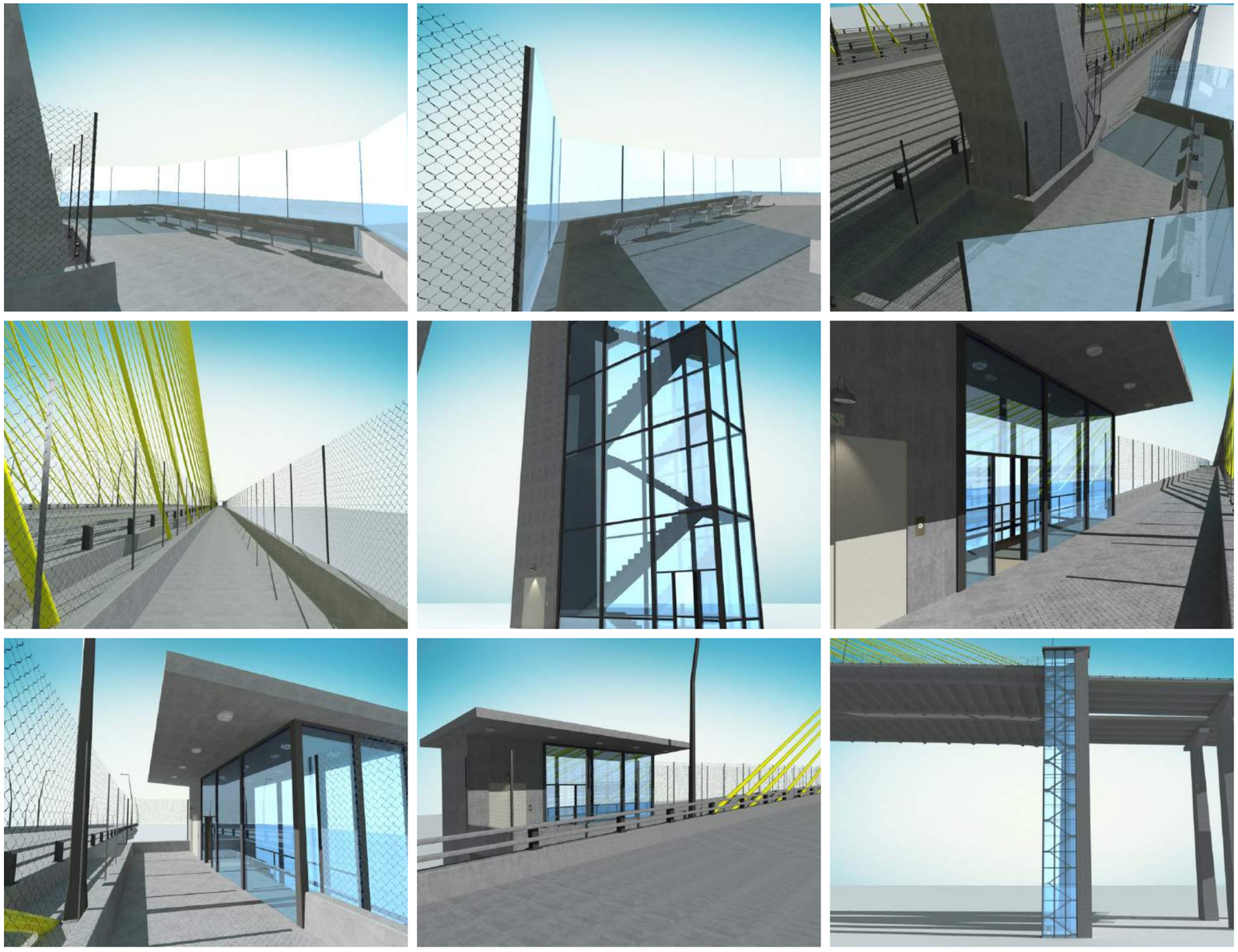
Left: Center Cable Arrangement sample is not preferred | Right: Examples of Cathedral Space of the main-span, preferred configuration

REVISION 2, JULY 11 2018

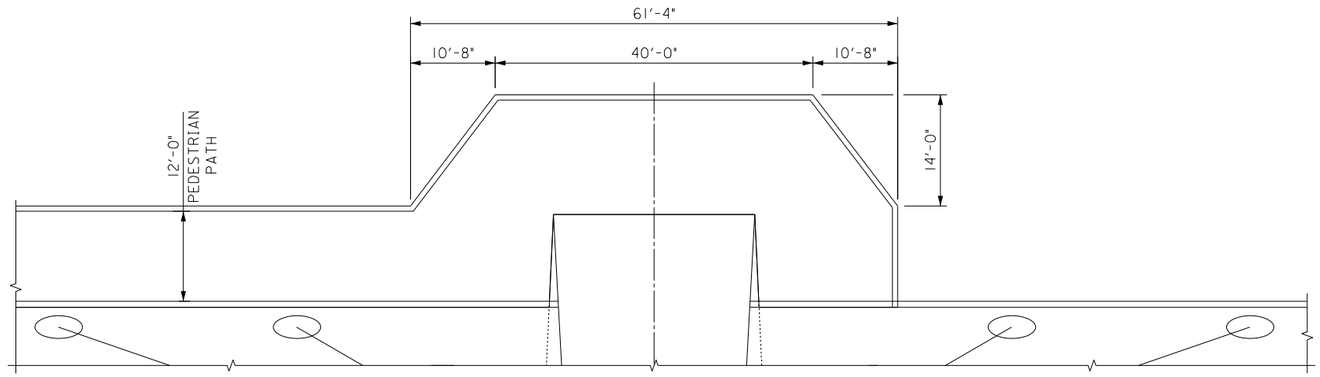
BICYCLE & PEDESTRIAN INFRASTRUCTURE

The baseline project will include pedestrian access on the west main span anchor pier on the west side of the Mobile River. Access to the deck level observation area will be via an elevator and set of stairs. The observation area will provide residents and visitors panoramic views of the Bay and surrounding landscape. The urban design of the right of way to remain should provide clear and direct access from downtown Mobile to the vertical circulation to the observation level.

Protective fencing should allow for clear views with low maintenance and add minimal wind loading to the structural system.



All: Views of the vertical circulation and pedestrian overlook



BELVEDERE DETAIL

BASE REQUIREMENT A SHOWN

PEDESTRIAN PATH ACCESS DETAIL

Main-span Pedestrian Facility Access Detail

VII LIGHTING

INTRODUCTION

In the 1980's, a grassroots movement formed to protect the night sky from artificial light. Architecturally illuminating lighting our streets and buildings generates stray light that lightens the sky, rendering the stars and moon invisible in dense urban areas, and confusing nocturnal birds and animals.

Many towns across the United States have adopted civic ordinances to reduce the amount of light-spill into the sky. Such Dark-Sky tactics are rooted in the idea of lighting only what is absolutely needed to be seen; avoiding spreading light that misses its intended target also conserves energy.

Protecting the night sky has grown to include protecting the water as well. Light in the water distracts aquatic life from their natural migrations because they confuse natural light and manmade light. The first level of correcting light spill in the water is to avoid doing so. If complete avoidance is not possible, lighting must be in accordance with U.S. Fish & Wildlife Service and Federal Aviation Administration permit requirements.

During the project's environmental process, concerns about lighting were noted by the public and by the regulatory and resource agencies. A primary concern is the amount of light spill the project could potentially generate, given its high-level approaches and required roadway lighting; upon both the night sky and toward the adjacent neighborhoods. Also of concern is the amount of light spill into Mobile Bay, negatively impacting aquatic behavior. Both of these concerns must be addressed in the lighting design for the project.

ROADWAY LIGHTING

To minimize light spill and create a strong common element throughout the corridor, all roadways should be lit from the center (median or gap between roadways) only. Light poles should be low and arranged in a boulevard formation. LED or metal halide light sources should be implemented. Cutoffs should be included in elevated sections to minimize unwanted light spill.

Lighting of roadway signage should utilize down lighting. High-pressure sodium light sources should not be proposed. High mast lighting is not preferred but is allowable at interchanges where necessary.

REVISION 3,OCT 9 2018

Non-Preferred Examples

Preferred examples

Left: Samples of High Pressure Sodium and LED/Metal Halide | Middle: Example for High Pressure Sodium | Right: Example of LED and High Pressure Sodium

Top left: Example of no form commonality | Top right: Example og lighting that is too busy | Bottom Left: Example of too many large fixtures | Bottom right 1: Example of lighting too tall | Bottom Right 3: Example of lighting too tall with light spill

Top left: Example of Lighting at the right location ,too tall and overly lit | Top right: Example of too much lighting | Bottom Left: Too much light reflected into water | Bottom Right: Example of right configuration, too tall

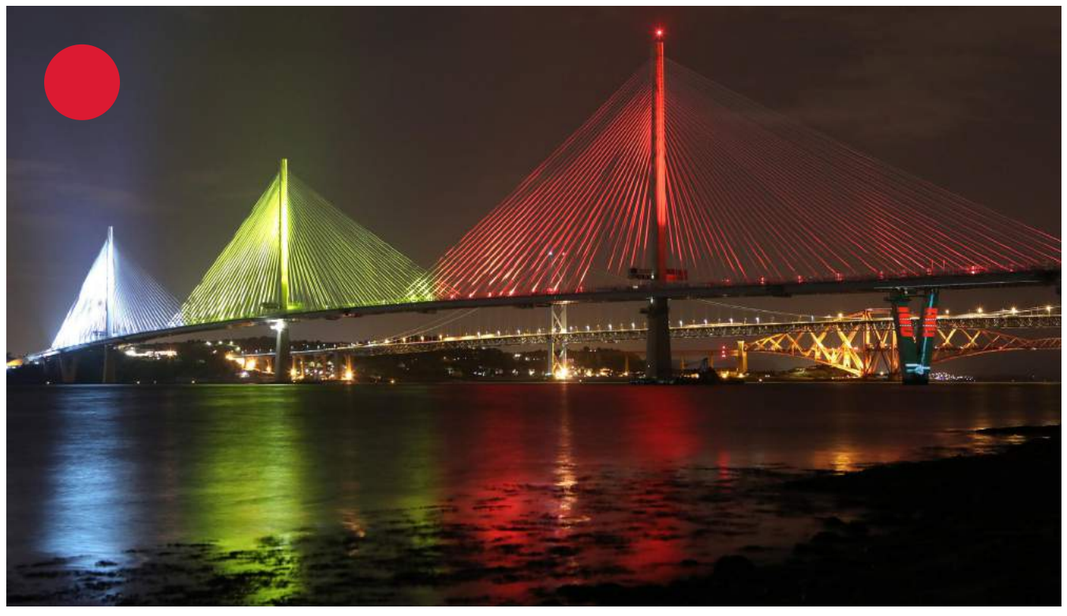
Top : Uneven Light | Bottom left: Warm light into water: confuse aquatic life | Bottom right: Great concept except for warm light in water

AESTHETIC LIGHTING

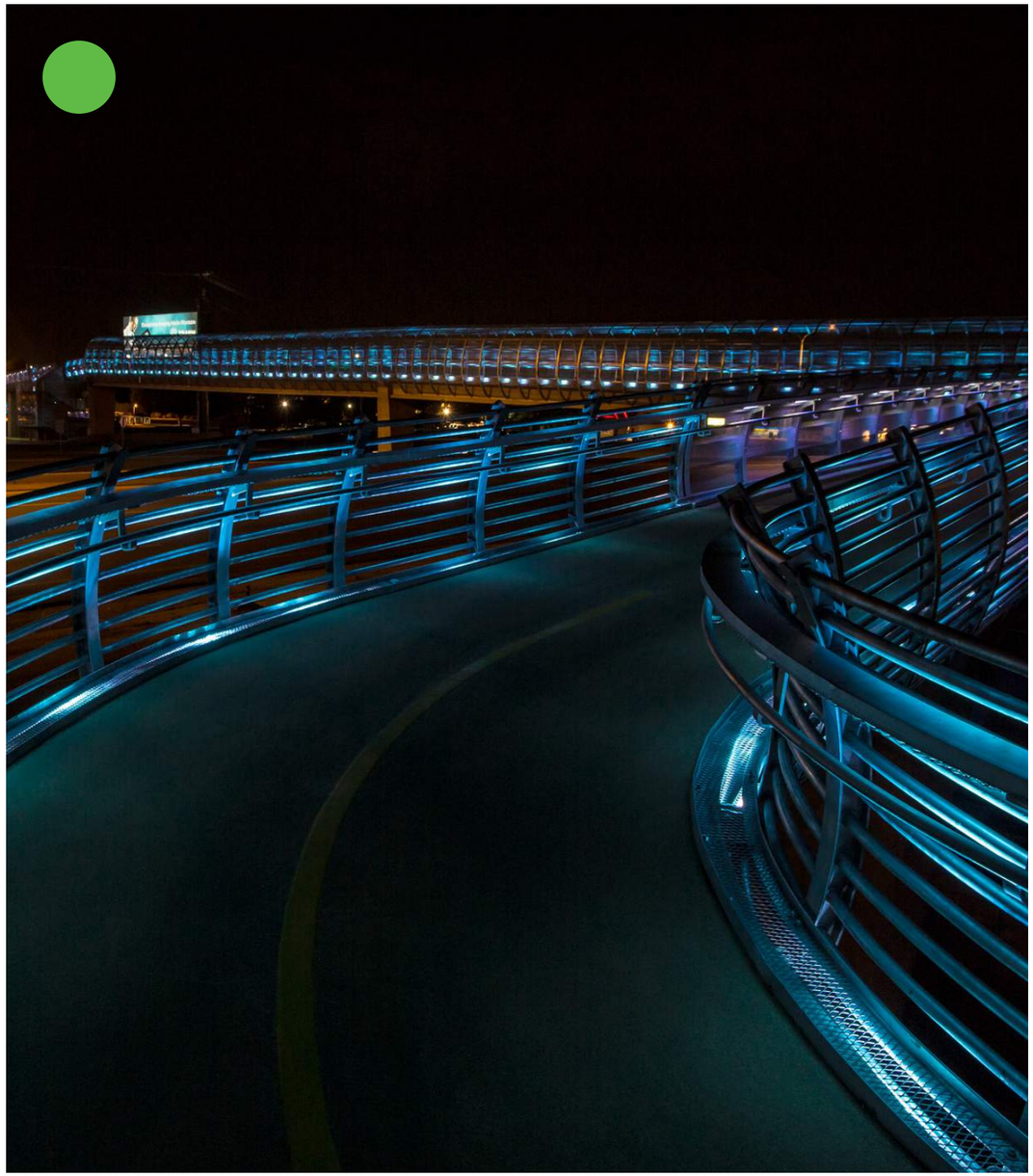
The City of Mobile has a successful program of coordinated lighting of the buildings in downtown. Currently, the City does not have a Dark-Sky ordinance.

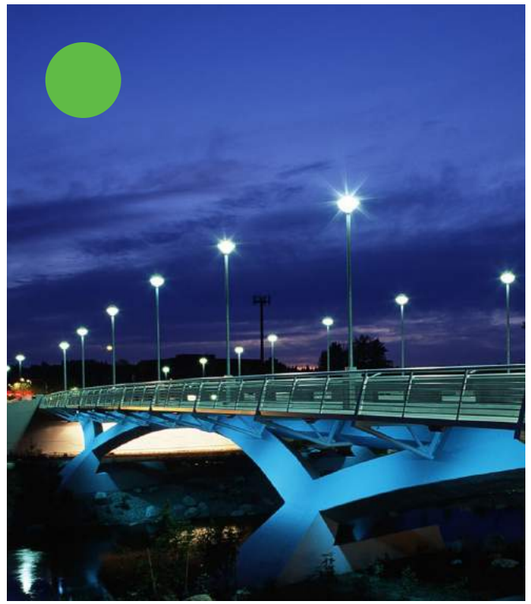
Based on the scale of the tower in relationship to the buildings of downtown and the complexity of the cables supporting the deck, it is recommended that color changing LED offset lighting of the towers and the tie-down piers be utilized. Effort should be made to explore opportunities to light the underside of the main-span and the high-level approaches. Efforts should be made to coordinate the bridge lighting schemes with the City of Mobile.

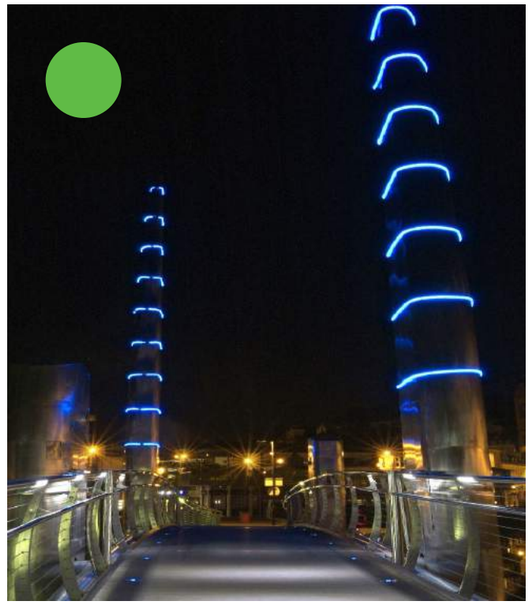
All aesthetic lighting should avoid spill into the sky or water. All lighting shall be coordinated with the U.S. Fish & Wildlife Service and FAA to meet permit requirements. Down or offset lighting throughout the corridor is the preferred manner of providing aesthetic lighting.

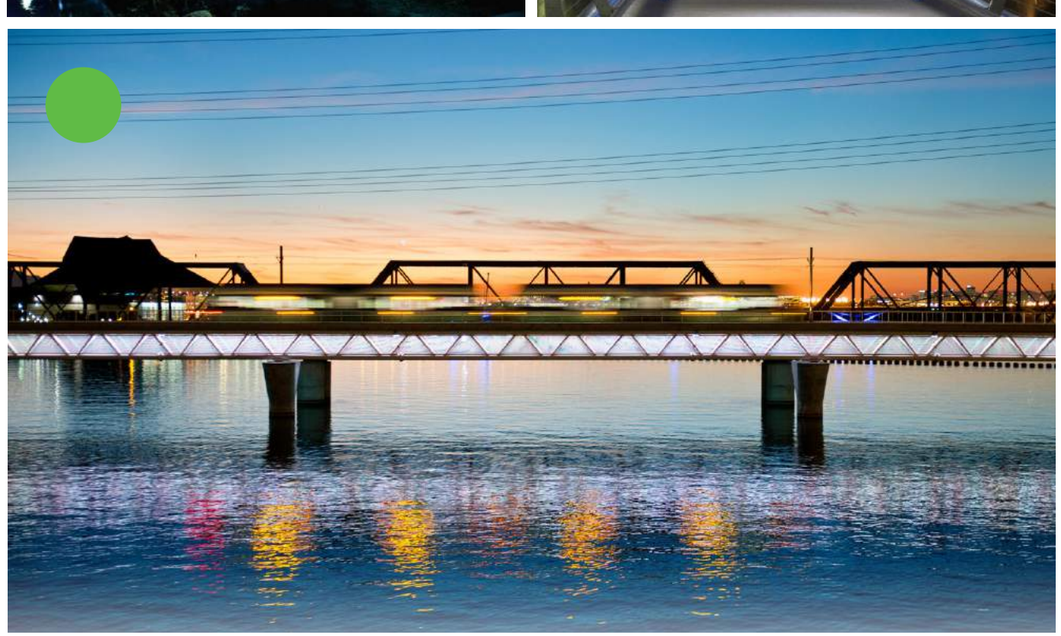


Top: Cold light on tower and warm light in water | Bottom left: example of too much light in water | Bottom Right: Too much light

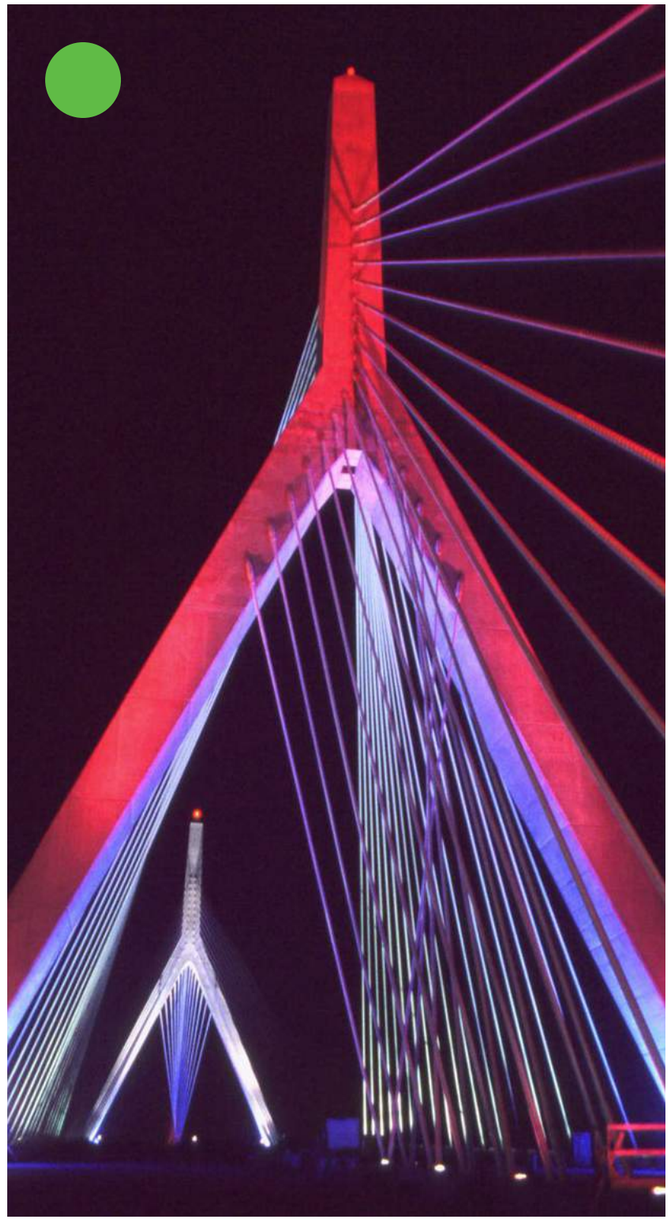


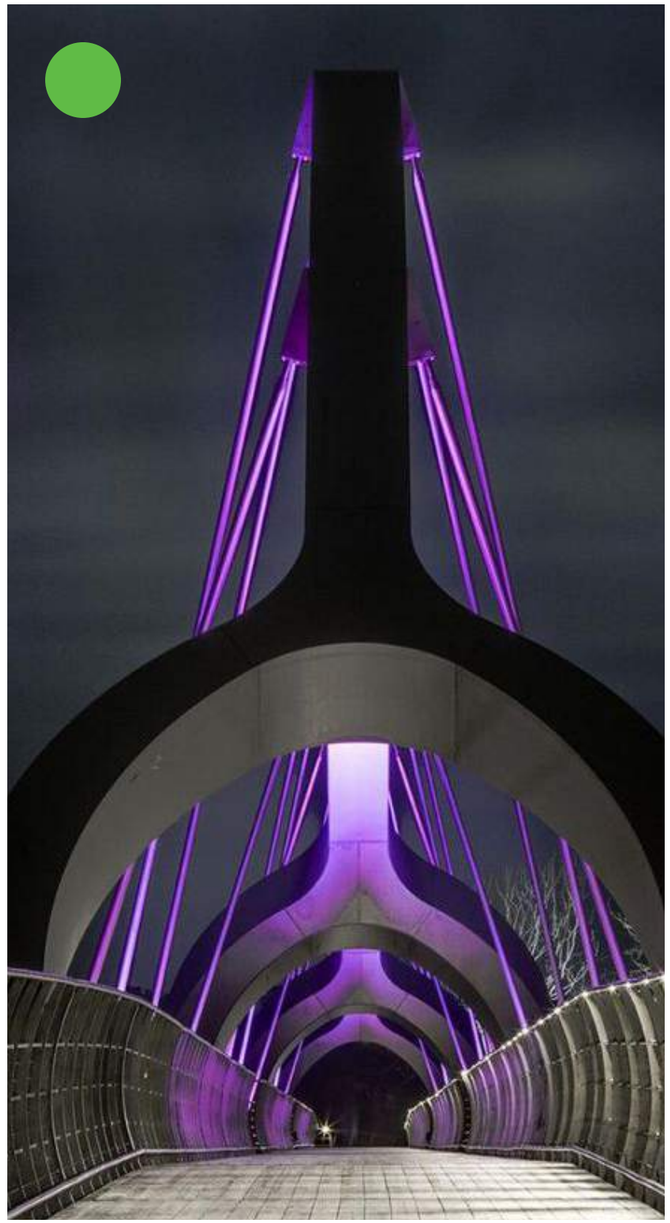




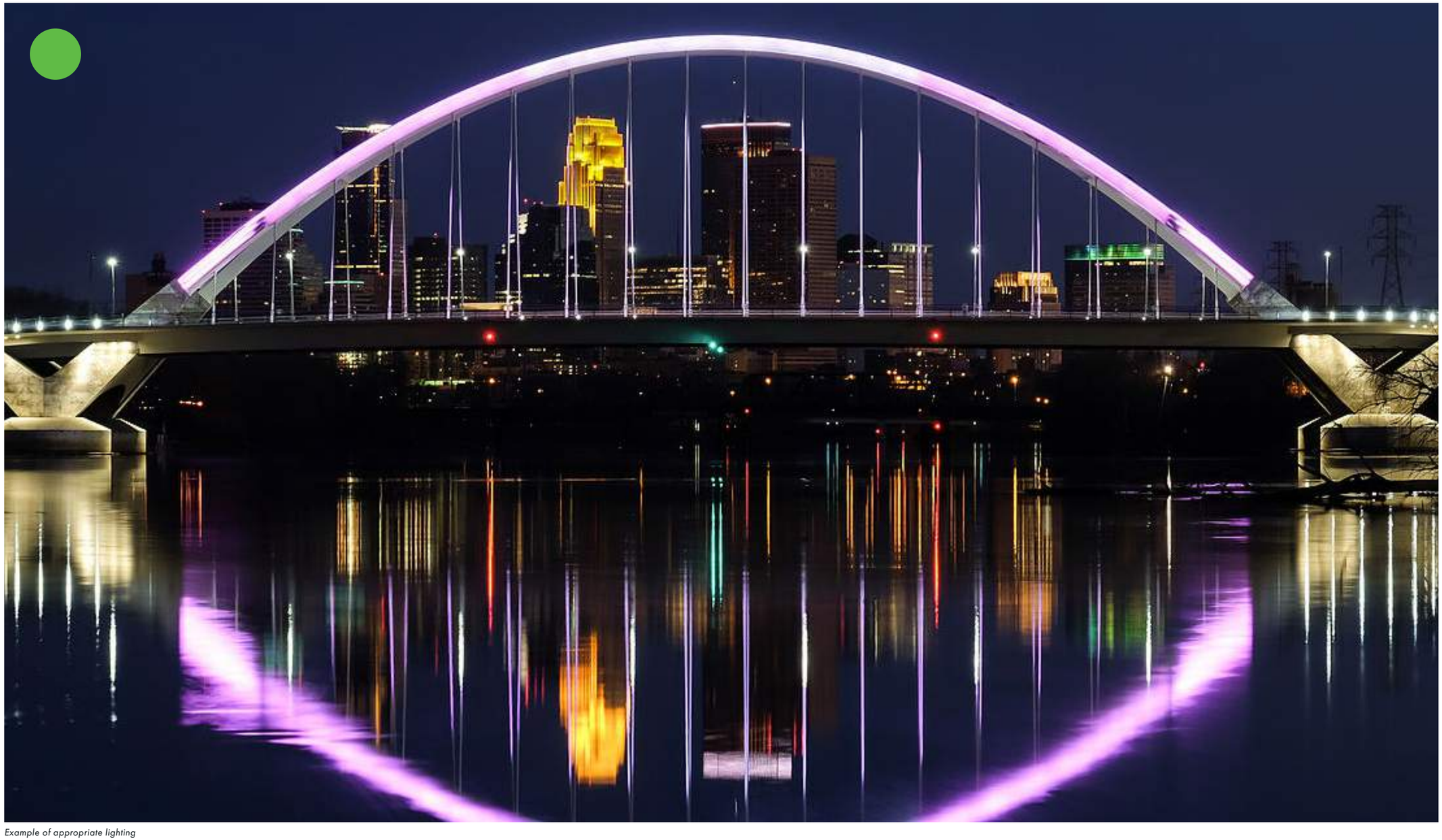


Left: Appropriate lighting | Top Left: Example of appropriate lighting | Top Right: Example of Entrance monument | Bottom Right: Appropriate lighting using color changing LED





Top left: Great example for skyscape | Bottom Left: Appropriate Lighting | Middle: Good lighting on tower | Right: Example of Well done



Example of appropriate lighting

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