

THE CITY OF SOUTH MIAMI 6130 SUNSET DRIVE SOUTH MIAMI, FLORIDA

US.1 PEDESTRIAN OVERPASS STUDY

January 26th, 2000 July 7th, 2000 - Revised



MCHARRYASSOCIATES

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ACKNOWLEDGEMENTS THE CITY OF SOUTH MIAMI

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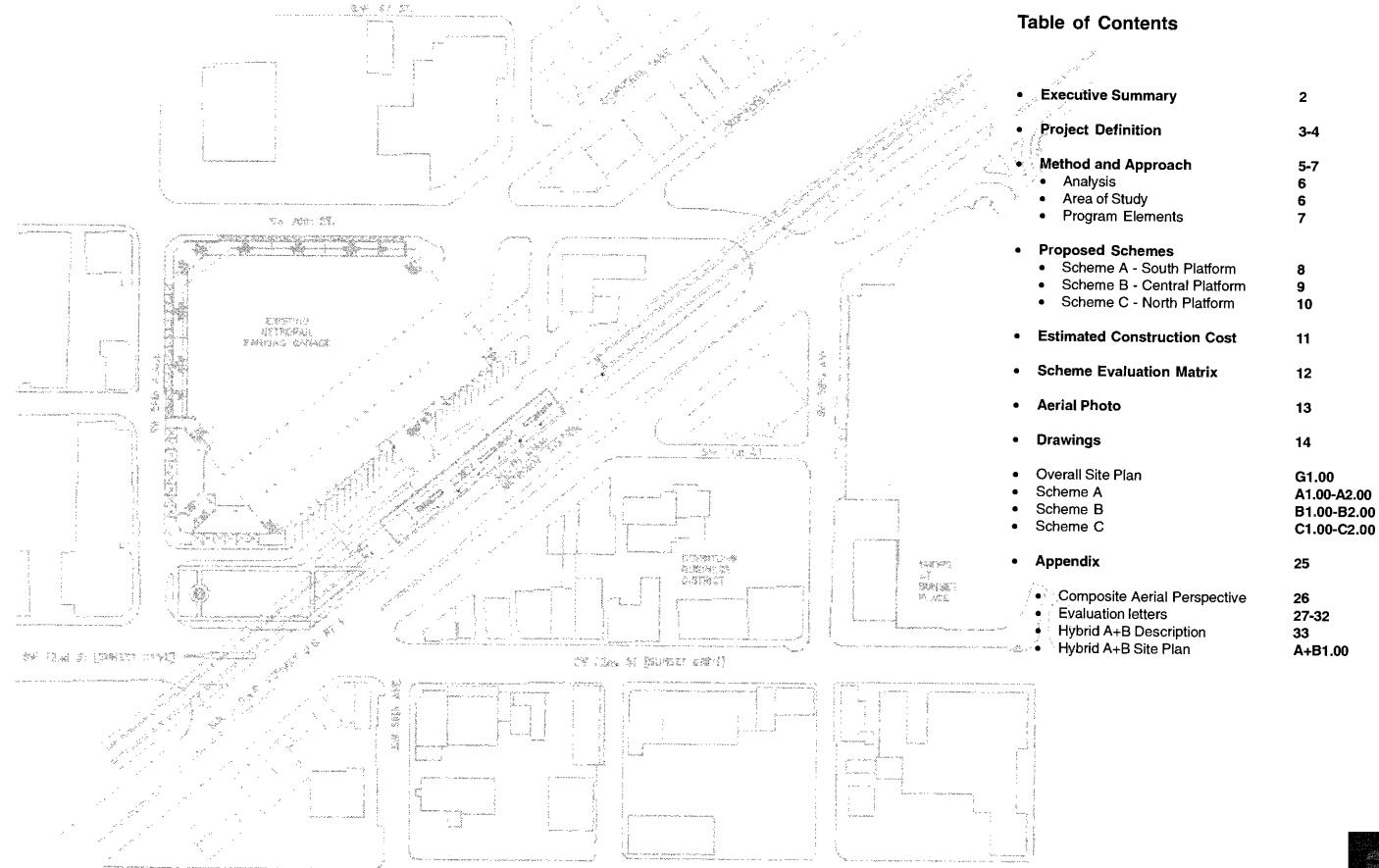
City Attorney Earl Gallop

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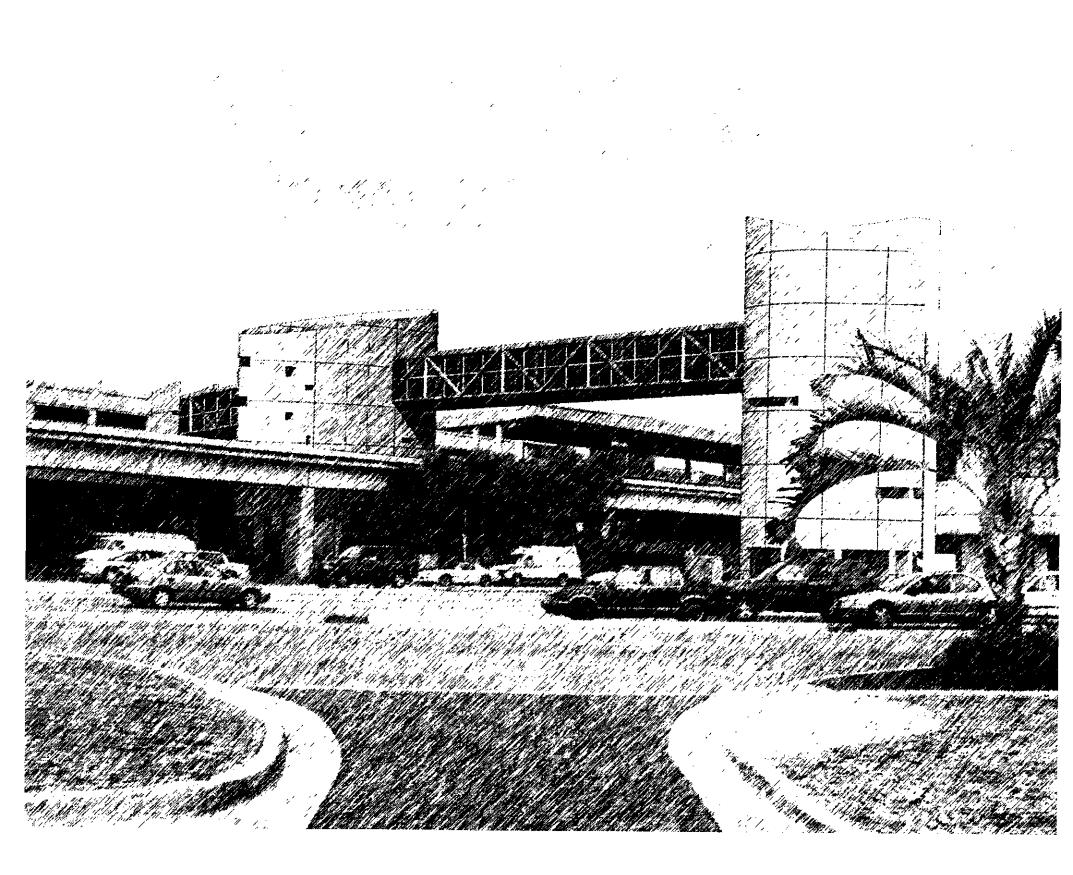
The study was funded through Metropolitan Planning Organization's (MPO) Municipal Grant Programs.





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Executive Summary -

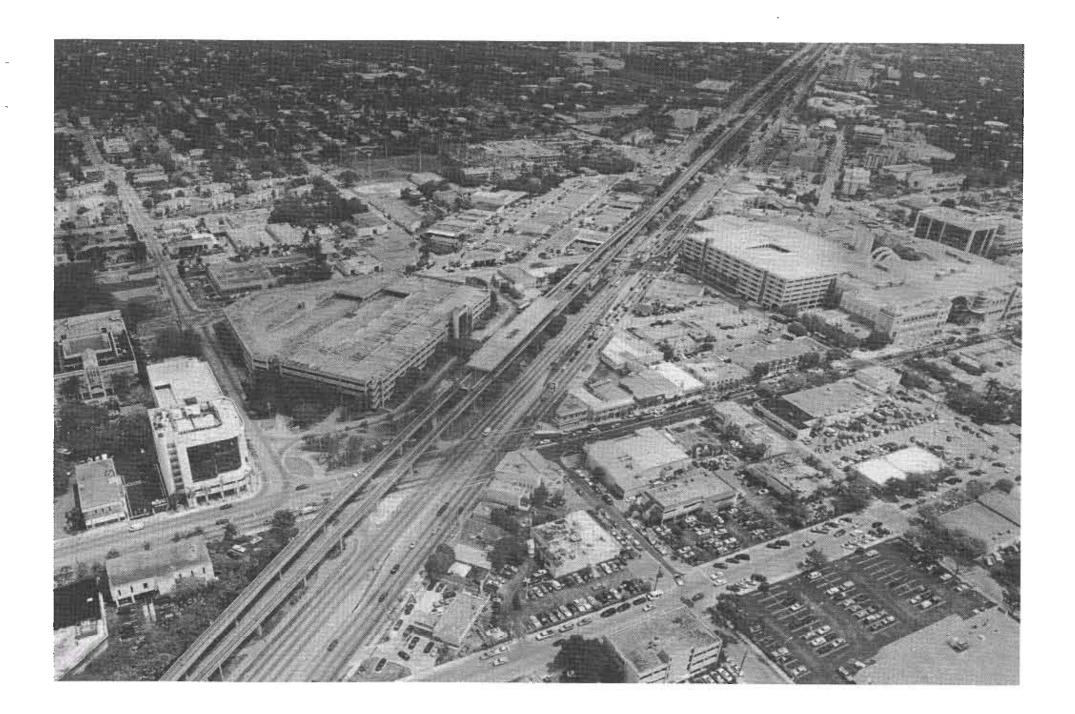
The City of South Miami's commercial district, once a small, mostly retail sector catering primarily to its residents, has become a vibrant, youthful, mixed-use downtown attracting both locals and visitors. Replete with entertainment venues, restaurants and specialty shops this rejuvenated downtown promises to sustain its growth into the foreseeable future. This popularity, however, has placed a strain on the City's ability to accommodate the increase in pedestrian and vehicular activity. Accordingly, the City of South Miami has focused attention on alleviating vehicular congestion within the downtown and neighboring residential districts by promoting mass transportation and convenient pedestrian movement as viable alternatives.

The South Miami Metrorail Station is an existing mass transportation hub including access to Metrorail, Miami-Dade buses, and the Downtown Trolley. This transportation terminal also contains a five-level parking garage. The garage is currently underutilized and could be tapped as an additional source of parking for the overburdened downtown. Unfortunately, Dixie Highway's six-lane north / south roadway impedes the City from fully utilizing both the station and the parking garage. Pedestrians are forced to quickly negotiate a lengthy crosswalk. The City of South Miami believes that a pedestrian overpass will safely and effectively mitigate the physical and psychological barrier created by US.1.

M.C. Harry & Associates, Inc., A/E/P, was commissioned to investigate and document the potential locations and configurations for a pedestrian overpass. Their analysis yielded three possible schemes, each examining a different location and alignment. A number of governmental agencies participated in the review and development of the design; among these were MDTA (Metro-Dade Transit Agency), MPO (Metropolitan Planning Organization), and FDOT (Florida Department of Transportation). Of the three schemes, scheme "A" appears to be the most viable solution, offering the best balance of simplicity, cost, convenience and accessibility.

These findings were presented at a workshop held at City Hall on February 29, 2000. Participants included City and County representatives as well as community residents. In general the participants expressed continued support for the pedestrian overpass. In evaluating the three proposed schemes, "A" and "B" were the most favored. While "A" offered a better balance of cost, accessibility, and simplicity; many felt that the location of the east tower in scheme "B" was a better solution. As a result it was recommended that a follow-on study be conducted to explore a hybrid solution integrating schemes "A" and "B". Additionally, it was requested that the follow-on study advance the architectural expression of the various bridge elements and its visual relationship to the city's "Hometown" character.





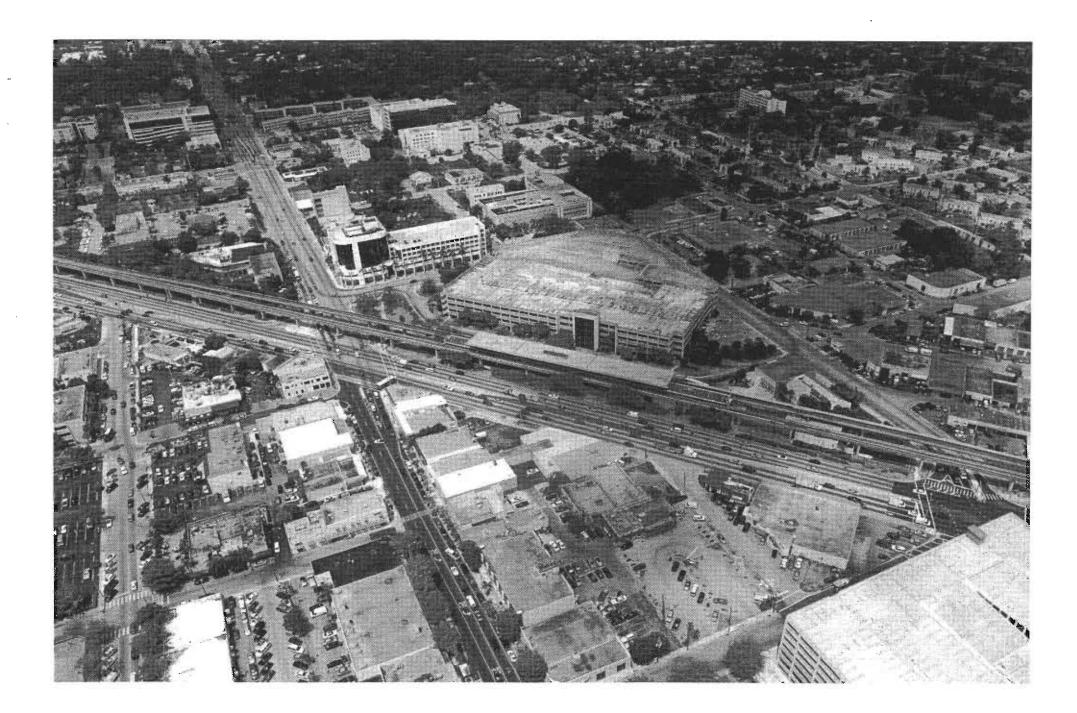
Project Definition -

The City of South Miami is a growing and dynamic city of approximately 10,500 inhabitants covering an area of approximately 2.4 square miles. South Miami has been steadily increasing in popularity as a shopping, dining and entertainment destination. The City's planning efforts and land development codes encourages mixed-use, in-fill developments and promotes the concept of "Eastward Ho", pedestrian activities and ambiance. With its hometown "Main Street" of commercial offerings along tree lined and brick-paved sidewalks, this downtown district offers a unique and leisurely shopping experience. The heart of the retail district runs along SW 72nd Street (Sunset Drive) between US.1 and 57th Avenue (Red Road).

Recently South Miami has experienced an exponential increase in retail, commercial and entertainment development. A number of new projects are on the horizon for the city including a possible redevelopment of the property immediately south of the "Shops at Sunset" parking garage. Within recent months the newly completed Shops at Sunset Place has positioned itself as a major multifaceted retail and entertainment complex attracting not only locals but residents from neighboring communities as well as tourists. This growth has placed a premium on available parking and increased the overall vehicular congestion during peak hours. South Miami is investigating ways of alleviating vehicular congestion while simultaneously promoting alternative methods of arrival to the City. One such readily available mode of transportation is the Metrorail. The Metrorail has a station directly across from the heart of the downtown area. By providing easy access to the downtown district from the Metrorail station, the City of South Miami hopes to make this mode of public transportation a safe and convenient alternative to driving.

Additionally, an increase in activity along Sunset Drive west of US.1, coupled with plans for future development of this area forecast significant increase in pedestrian flow across this busy federal highway. South Miami has approved a proposed mixed-use joint development adjacent to the existing 5-level parking garage located on the Metrorail station property. This project will provide approximately 120 residential units above 70,000 square feet of commercial/office spaces located at grade level. Miami-Dade Transit Agency is sponsoring this project in an effort to promote infill development at existing stations and promote transit ridership.





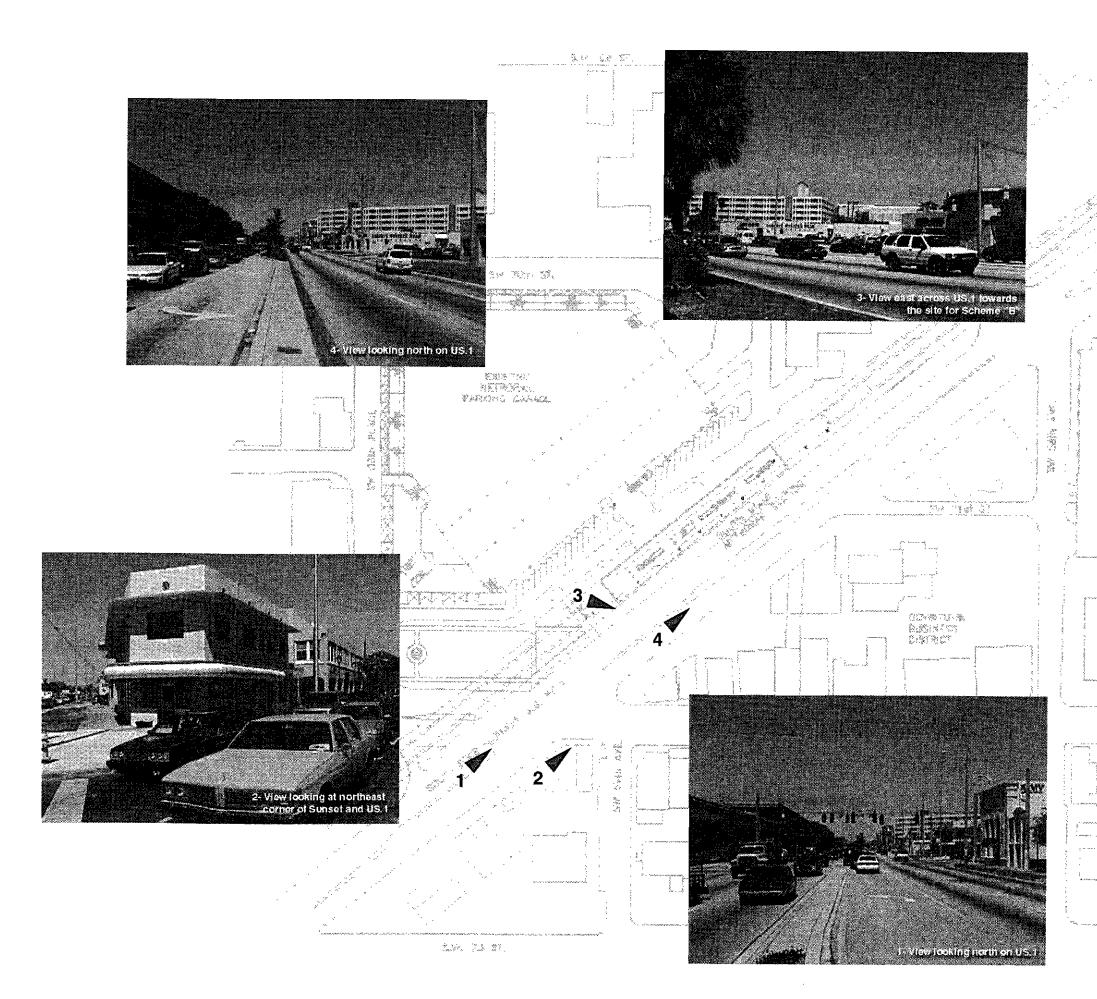
South Miami is looking for ways to link it's various land uses by providing safe and convenient access to services and facilities on either side of US.1. The City is fostering a seamless connection between the retail, offices, and residential areas predominantly to the east of US.1 with the medical facilities/offices, Civic presence (City Hall, Library, Post Office), and residential areas located west of US.1. To successfully mitigate the intrusion of this highway into the fabric of South Miami, a link must be provided that will satisfy a number of critical items. This link must first be functional for all users, while at the same time, be phenomenologically enticing, adding to the experience of the City of South Miami. Maximizing the use of the Metrorail is essential to the continued growth and development of these land use patterns.

The City of South Miami is promoting the concept of a pedestrian overpass as a viable solution to this multi-faceted problem. A pedestrian overpass would be one of many components contributing to the connection between the various land uses. The City hopes that by introducing a pedestrian overpass into the fabric of the city it will not only mend the rift caused by US.1 but also encourage the use of the Metrorail as an alternate method of transportation. Integrating the pedestrian overpass with the Metrorail station will ultimately make the project more successful.

Although this study deals with the pedestrian overpass at a conceptual level, the schemes developed accommodate existing conditions and constraints imposed by setback and clearance requirements. The use of a pedestrian *underpass* (underground connection) was precluded from this study because of the high cost and complexity associated with tunneling under an existing highway. The FDOT's "Plans Preparation Manual" also discourages the use of pedestrian underpasses as "..generally undesirable;"

M.C. Harry & Associates, Inc., A/E/P, was commissioned to investigate and document the potential locations and configurations for a pedestrian overpass. MCHA analyzed three conceptual schemes that address these objectives creatively and efficiently. The overpass fundamentally will consist of at least two discharge points, one at either side of US 1, and at least one elevated walking surface (bridge). The discharge points will serve as vertical access to the bridge and could include additional components such as limited retail space that could increase the usability of the overpass. A revenue-collecting node for Metrorail passengers has been included in each of the schemes.





Method and Approach

MCHA began the process by contacting a host of departments and agencies that would have input directly or indirectly with the design and location of the overpass. The information compiled was used to develop and evaluate the various schemes. The primary contributors were MDTA (Metro-Dade Transit Authority), MPO (Metropolitan Planning Organization), FDOT (Florida Department of Transportation) and the City of South Miami.

In order for this project to be successful it is critical that the bridge meet certain criteria. That criteria must be identified, analyzed critically, and tested using design as a tool for investigation, and present recommendations for the best possible solution along with alternatives.

The process included collecting historic information related to traffic and pedestrian circulation patterns and analyzing their impact on the project; identification and familiarity with the nature of influential components of the project, such as the Metrorail, US 1, the existing parking garage, the streets, neighborhoods, and retail area near by.

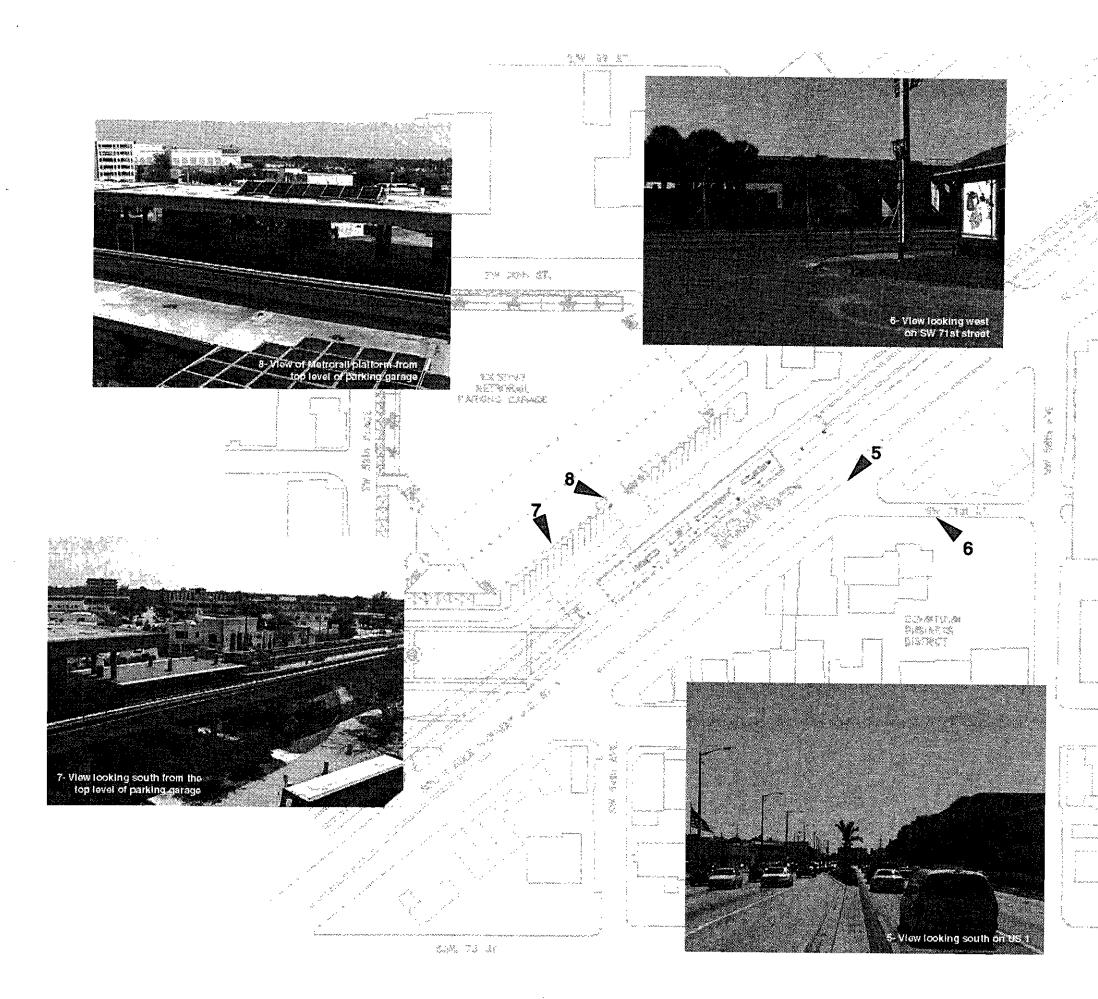
Accordingly, bridges were designed for each proposed site to the extent necessary to investigate their impact on the sites, existing buildings, Metrorail, and US. 1. By incorporating all necessary elements into the design we were able to determine the size of the site needed on either side of US. 1 and how the bridge will interface with the Metro rail and parking garage to the west. This design investigation also assisted in formulating a cost estimate.

During this process the schemes were presented to members of BPAC-Bicycle Pedestrian Advisory Committee, TPTAC-Transportation Plan Technical Advisory Committee, and MPO-Metropolitan Planning Orginazation to solicit reaction and constructive critique. The various organizations were supportive and receptive to the project.

Utilizing the historical data and information derived from the design exercise and feedback from the presentations we developed a matrix to weigh each site's advantages and disadvantages. In this way, a set of criteria was determined and then used to quantify which site best-suited user needs and requirements and the impact on available resources.

Ultimately, the report provides recommendations for the best location, identify user needs and requirements, and resources required.





Analysis -

Our analysis considered existing site conditions, regulations and guidelines imposed by the various agencies having jurisdiction, and the objectives set forth by the City of South Miami. This resulted in three schemes. Each of these schemes adheres to the guidelines set forth by the various governing agencies. In addition to satisfying the requirements of the South Florida Building Code, Florida Accessibility Code for Building Construction, and the City of South Miami zoning ordinances, the proposed pedestrian overpasses each meet Florida Department of Transportation (FDOT) and Metro-Dade Transit Agency (MDTA) design standards. MCHA consulted with the various agencies during the development of these layouts. Working within these design parameters MCHA has arrived at the following three schemes. Scheme "A" locates the overpass at the south-end of the Metrorail platform. Scheme "B" studies the possibility of creating a "hub" over the center of the Metrorail platform. Scheme "C" positions the overpass at the north end of the platform. All three schemes provide a safe and convenient means for crossing US.1, access to and from the Metrorail station and a direct link to the existing parking garage.

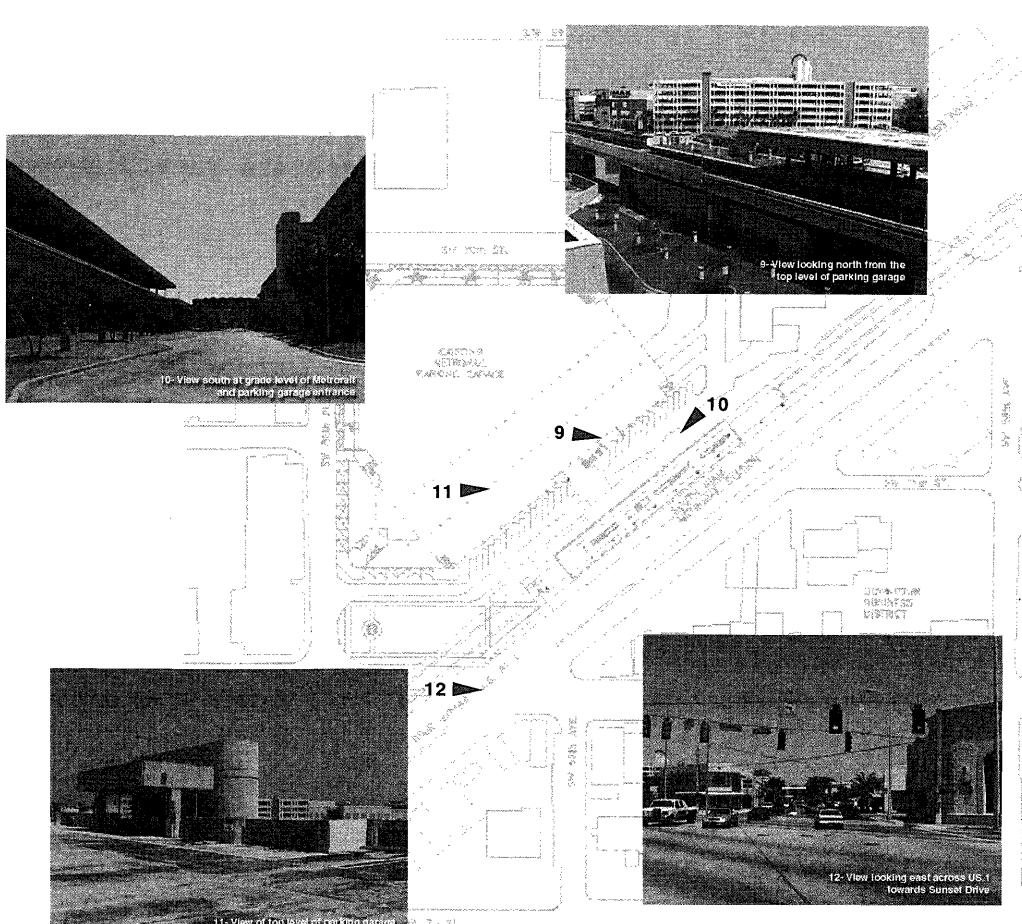
Area of Study -

Generally, the location of each overpass was situated on the property of the South Miami Metrorail Station and parking garage. This Metrorail Station is directly across from the heart of the City's downtown business district making it an ideal location for a pedestrian overpass. This area, bounded by the corner of Sunset Drive and US.1, is a gathering point for the various forms of pedestrian traffic. Metrorail passengers, pedestrians on Sunset Drive and people using the existing parking garage, converge on this signaled intersection to cross US.1.

Directly across from the Metrorail station is a trapezoid shaped city block that is bordered on the west by US.1, on the east by SW 58th Ave, on the South by SW 72th street, and on the North by SW 71st street. The south side of the block is lined with small shops that help define the retail corridor on Sunset Drive. Each of the three proposed schemes discharges its occupants at different points along the US.1 side of this city block. The location of the circulation towers within the retail district would serve as the catalyst for growth and redevelopment within the block. This redevelopment could include the redefinition of the block into a series of internal courtyards that are linked to one another while providing a filtered access to the "Main Street".

The overpass at a minimum will consist of the bridge spanning across US.1 and the two vertical circulation towers on either side of it.





Program Elements -

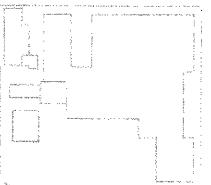
There are two essential horizontal links to the overpass. The first, and most important, is the connector spanning over US.1. The second ties into the existing 5-level parking garage. This secondary link increases the viability of this underutilized parking garage, thus becoming an additional source of parking spaces for the retail district.

The basic components of the vertical circulation are stairs, elevators, and escalators

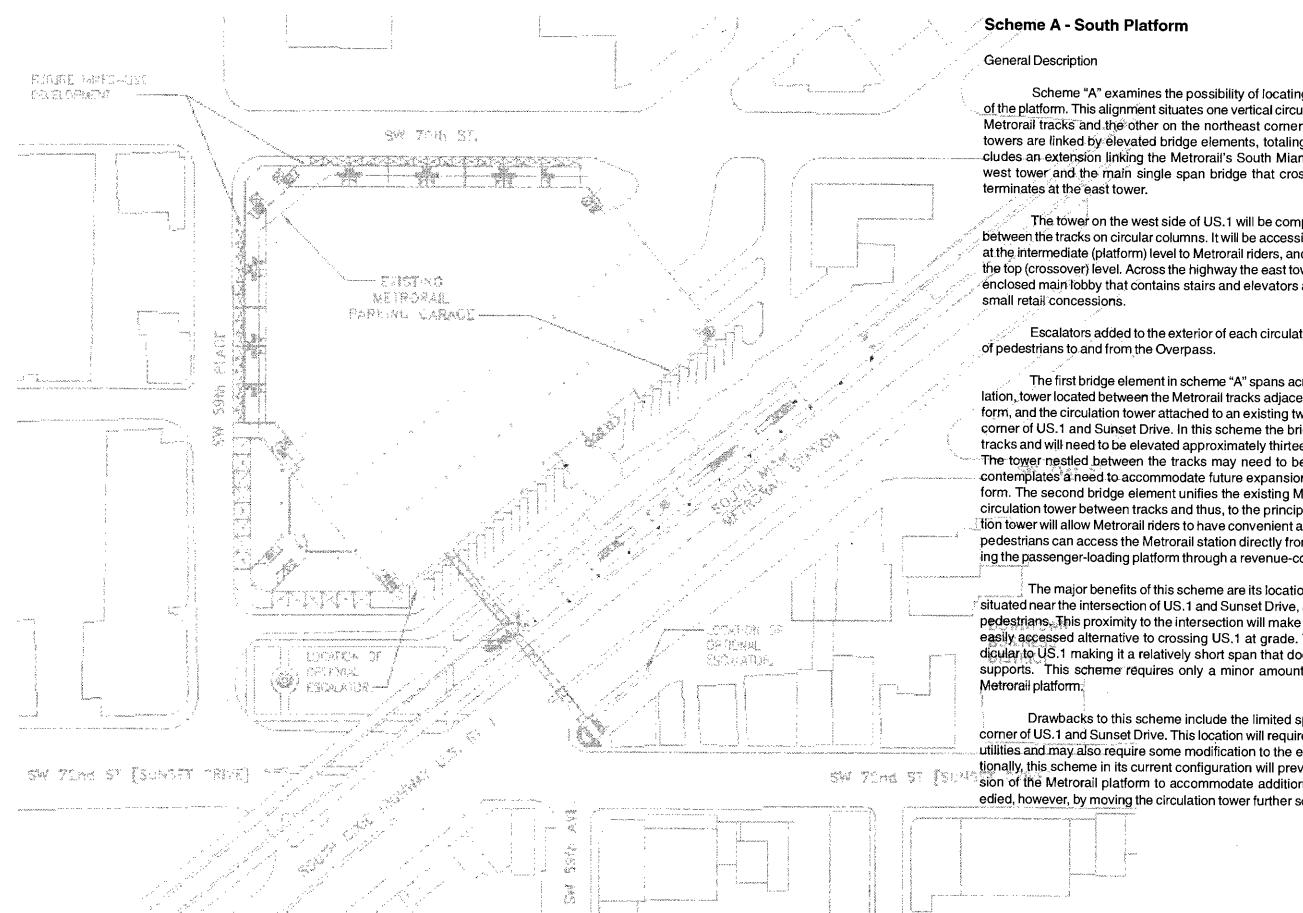
The stairs are the primarily required to meet emergency egress requirements. The stairs are also necessary during mechanical failure or routine maintenance of the elevator or escalators. Because of the height of the bridge however, most people will find the stairs too strenuous or time consuming to undertake. The elevator will satisfy accessibility requirements for the physically disabled, while providing safe transportation for elderly people and small children. Depending on the amount of people using the facility at one time, elevators might impede the flow of circulation. This can be remedied somewhat by providing multiple elevator cabs. Escalators provide a seamless method of transporting pedestrians from street to bridge level and conversely. Although the escalator is best suited for maintaining an uninterrupted flow of pedestrians, it has a high initial and maintenance cost and is less reliable than the elevator.

Effective ventilation of the bridge is also an important consideration. A comfortable environment will be a more attractive alternative to crossing at grade level and therefore worth the additional effort. Ventilation can be achieved by mechanical or natural means. A naturally ventilated environment will most likely require some form of mechanical supply or exhaust air to maintain constant air circulation. The openings required for a naturally ventilated system will require barriers to prevent people from throwing objects onto the Metrorail tracks and US.1. Natural ventilation will require the use of interior materials and finishes that are moisture resistant. Air-conditioning the overpass will provide the greatest degree of comfort for pedestrians looking for temporary relief from the heat. Air-conditioning the overpass allows it to be completely enclosed thus eliminating any opportunity for throwing objects below.

The following is a detailed description of each schematic concept.







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Scheme "A" examines the possibility of locating the Overpass at the South end of the platform. This alignment situates one vertical circulation tower between the existing Metrorail tracks and the other on the northeast corner of US.1 and Sunset Drive. The towers are linked by elevated bridge elements, totaling approximately 280 LF. This includes an extension linking the Metrorail's South Miami Station parking garage to the west tower and the main single span bridge that crosses perpendicular to US,1 and

The tower on the west side of US.1 will be completely open at grade level rising between the tracks on circular columns. It will be accessible at grade level to pedestrians. at the intermediate (platform) level to Metrorail riders, and access to the parking garage at the top (crossover) level. Across the highway the east tower will greet pedestrians with an enclosed main lobby that contains stairs and elevators as well as the potential for some

Escalators added to the exterior of each circulation tower could facilitate the flow

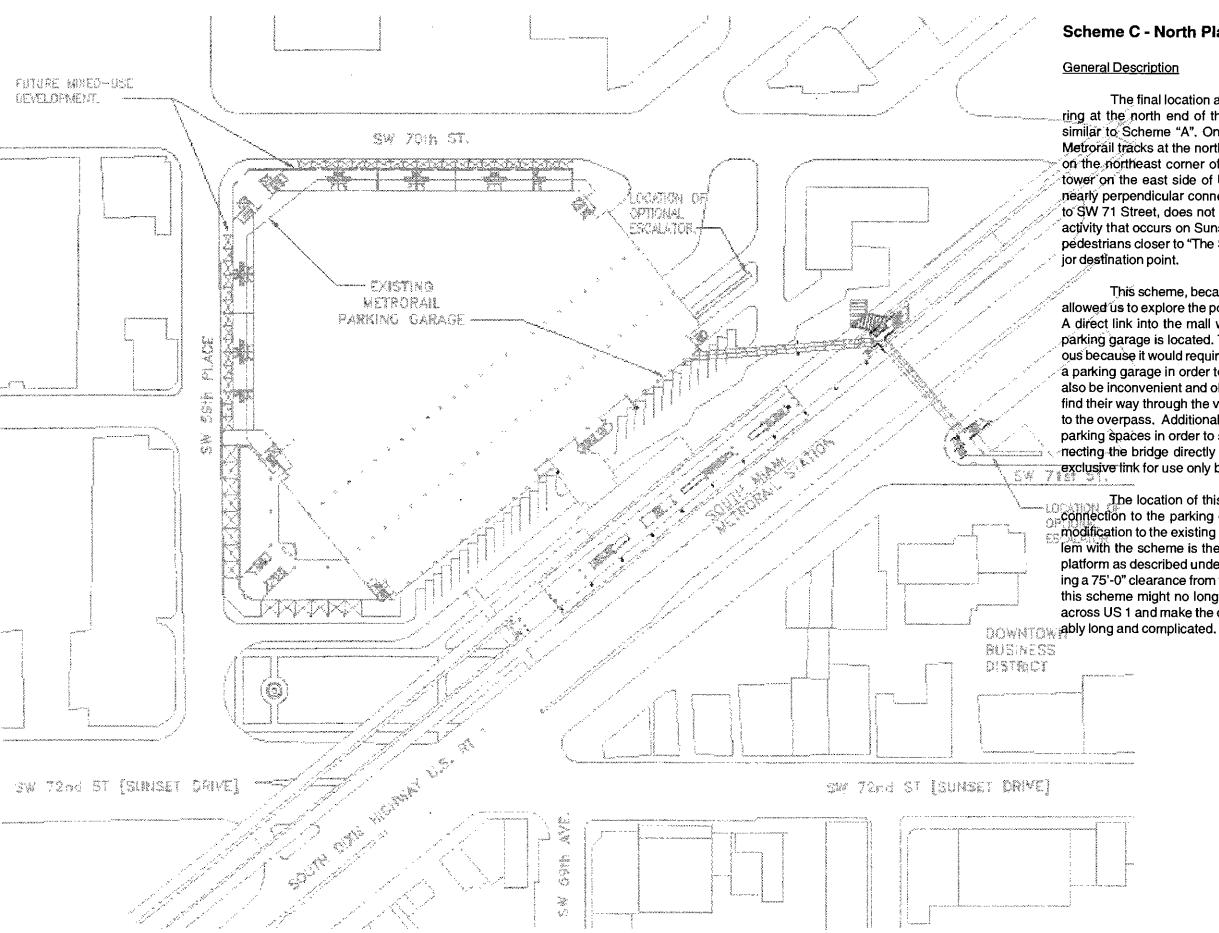
The first bridge element in scheme "A" spans across US.1 from the vertical circulation, tower located between the Metrorail tracks adjacent to the passenger-loading platform, and the circulation tower attached to an existing two-story building at the northeast corner of US.1 and Sunset Drive. In this scheme the bridge will cross over the Metrorail tracks and will need to be elevated approximately thirteen feet above the top of the rails. The tower nestled between the tracks may need to be located further south if MDTA contemplates a need to accommodate future expansion of the passenger-loading platform. The second bridge element unifies the existing Metrorail parking garage with the circulation tower between tracks and thus, to the principal bridge structure. This circulation tower will allow Metrorail riders to have convenient access to the bridge, Conversely, pedestrians can access the Metrorail station directly from the circulation tower by entering the passenger-loading platform through a revenue-collecting node inside the tower.

The major benefits of this scheme are its location and simplicity. This scheme is situated near the intersection of US.1 and Sunset Drive, a natural crossing point for most pedestrians. This proximity to the intersection will make the Overpass a convenient and easily accessed alternative to crossing US.1 at grade. The Overpass crosses perpendicular to US.1 making it a relatively short span that does not require any intermediate supports. This scheme requires only a minor amount of modification to the existing

Drawbacks to this scheme include the limited space available on the northeast corner of US.1 and Sunset Drive. This location will require the relocation of some existing utilities and may also require some modification to the existing two-story building. Additionally, this scheme in its current configuration will prevent the proposed future expansion of the Metrorail platform to accommodate additional train cars. This can be remedied, however, by moving the circulation tower further south, approximately 75'-0".



Scheme B - Central Platform **General Description** PUTURE WIXED-USE DEVELOPMENT. Scheme "B" takes a different approach to the way in which the overpass interacts with the Metrorail station. The bridge is located above the center SW 701h 5T. of the passenger-loading platform canopy. It has two main segments that make up the bridge. The first spans from the existing parking garage over the Metrorail station and across the southbound lanes of US.1 to the median. At this point the first link ends and the second bridge segment begins, spanning across the northbound lanes towards the circulation tower located approximately at the center of the block. The "crossroads" of these two bridge segments occurs over the central supporting pier located in the US.1 median. The first bridge segment cantilevers beyond the support pier creating an observation deck. EXISTING Another noticeable difference with scheme "B" is the hub occurring METRURAL. over the Metrorail loading-platform canopy. This hub will be the transitional point PARKING GARAGE where pedestrians can walk east towards the South Miami retail district, west to access the parking garage, or take the elevator down to the Metrorail. A revenue-collecting gate would be located within this hub to control access to the station. This scheme depends on its connection to the existing parking garage near the circulation core. This location allows the bridge to make use of the existing parking garage stairs and elevators. Although this scheme is remotely located from Sunset Drive, making it slightly more inconspicuous for pedestrians it is better integrated and convenient to the underutilized parking garage. Accessibility to pedestrians can be improved by adding escalators that begin at the southeast corner of the parking garage and continue up along the east Taçade of the garage towards the top level of the parking garage with intermediate landings located at each parking level. The escalators also provide a smooth and continuous flow up to the bridge. The intermediate landings at each parking level provide additional access points to the bridge. The circulation tower on the east side of US.1 is centrally located adjacent to an existing parking lot. This location although removed from Sunset Drive. positions the circulation tower near the middle of the block. This opens the possibility to having the block redevelop into an internalized retail environment, consisting of a series of courtyards that allow pedestrians to meander onto Sunset Drive, also increasing the amount of retail frontage. DISTRICT LOCATION OF This layout will require modifications to the existing Metrorail passen-CPTIONAL ger-loading platform. Sections of the roof will need to be removed to allow ac-ESTALATOR.cess to the bridge above. The existing elevator will need to be replaced and the shaft modified so that it can serve both the Metrorail platform and the pedestrian overpass above. LOCATION OF This scheme requires the greatest amount of structural framework to 5w 72nd ST ISUNSET DRIVED on the various elevated components. This includes twin piers rising from SW 72nd ST [SUNSET DRIVE] OPTUNAL ESCALATOR. the existing US.1 median to support the intersection of bridge elements and smaller support columns on either side of the platform to support the transition hub above the station. This scheme is the most complex because of the numer-ous supports and the extent of modifications required to integrate the overpass with the existing Metrorail station.



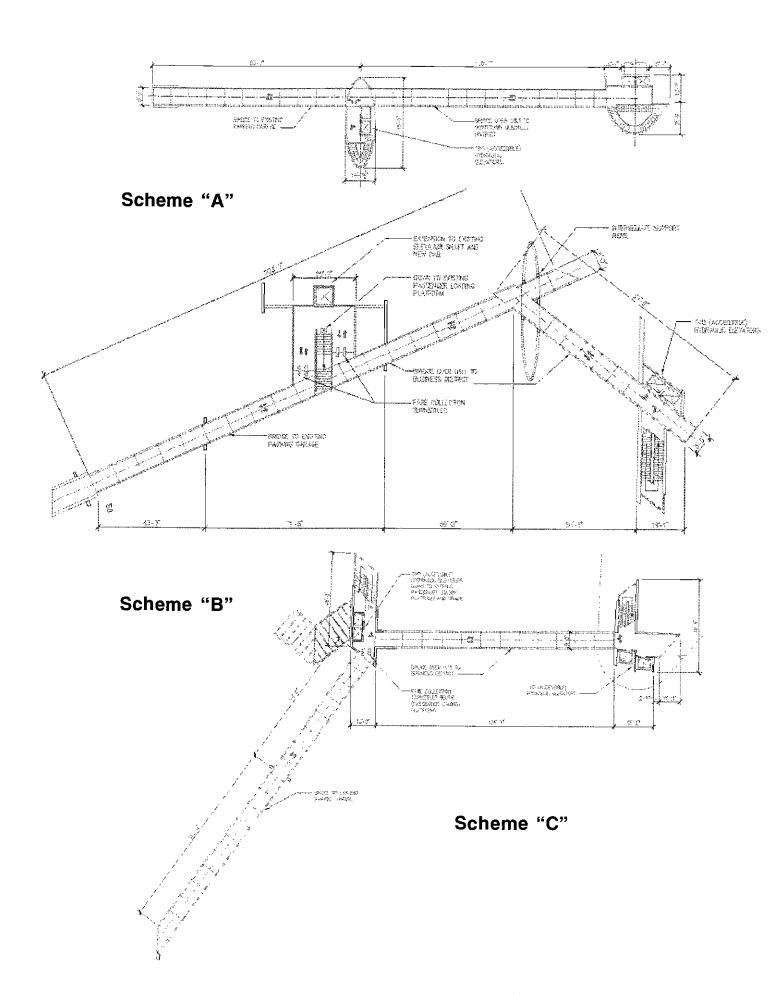
Scheme C - North Platform

The final location and configuration analyzed was a link occurring at the north end of the Metrorail platform. This scheme is very similar to Scheme "A". One circulation tower is located between the Metrorail tracks at the north end of the platform, and the other located on the northeast corner of US 1 and SW 71 Street. The circulation tower on the east side of US.1 is positioned on the corner making a nearly perpendicular connection across US 1. This location, adjacent to SW 71 Street, does not have the same concentration of pedestrian activity that occurs on Sunset Drive, however this scheme discharges pedestrians closer to "The Shops at Sunset", which has become a ma-

This scheme, because of its proximity to the "Shops at Sunset". allowed us to explore the possibility of a direct connection into the mall. A direct link into the mall would occur on the west façade where the parking garage is located. This appears to be impractical and dangerous because it would require pedestrians to negotiate their way through a parking garage in order to get to the stair and elevator core. It would also be inconvenient and obscure for pedestrians to enter the mall and find their way through the various parking levels to locate the entrance to the overpass. Additionally, it would require the "Shops" to relinquish parking spaces in order to safely discharge pedestrians. Also, by conmeeting the bridge directly to the mall it could be misconstrued as an exclusive link for use only by patrons of the "Shops at Sunset".

The location of this scheme makes for a somewhat awkward connection to the parking garage. This scheme requires only minor modification to the existing Metrorail station; however, a potential problem with the scheme is the possible future expansion of the Metrorail platform as described under Scheme "A". If MDTA insists on maintaining a 75'-0" clearance from the end of the platform for future expansion. this scheme might no longer be feasible. It would increase the span across US 1 and make the connection to the parking garage unreason-





PEDESTRIAN OVERPASS ESTIMATED CONSTRUCTION COST

BASE BUILDING	Scheme "A"	Scheme "B"	Scheme "C"
structure/finishes SQ. FT.	3068	3825	4140
Price per Sq.Ft.	\$495	\$495	\$495
TOTAL	\$1,518,660.00	\$1,893,375.00	\$2,049,300.00
SITE IMPROVEMENTS			
(4)Elevators	\$1,208,000.00	\$ *604,000.00	\$1,208,000.00
(2)Moving walks total, 1 each way	\$ 386,100.00	\$ 912,000.00	\$ 501,000.00
Escalators up and down	\$ 660,000.00	\$ 600,000.00	\$ 660,000.00
lighting	\$ 33,769.00	\$ 33,769.00	\$ 42,298.00
HVAC system	\$ 168,454.00	\$ 168,454.00	\$ 210,997.00
Sprinkler system	\$ 15,549.00	\$ 19,582.00	\$ 19,476.00
TOTAL	\$2,471,872.00	\$2,337,805.00	\$2,641,771.00
METRORAIL STATION MODIFICATIONS			
Platform access	\$ 460,700.00	\$ 872,500.00	\$ 460,700.00
Elevator	na	\$ 332,200.00	na
revenue collection	\$ 120,000.00	\$ 120,000.00	\$ 120,000.00
TOTAL	\$ 580,700.00	\$1,324,700.00	\$ 580,700.00
GRAND TOTAL	\$4,571,232.00	\$5,555,880.00	\$5,271,771.00

NOTES:

*Only 2 new elevators

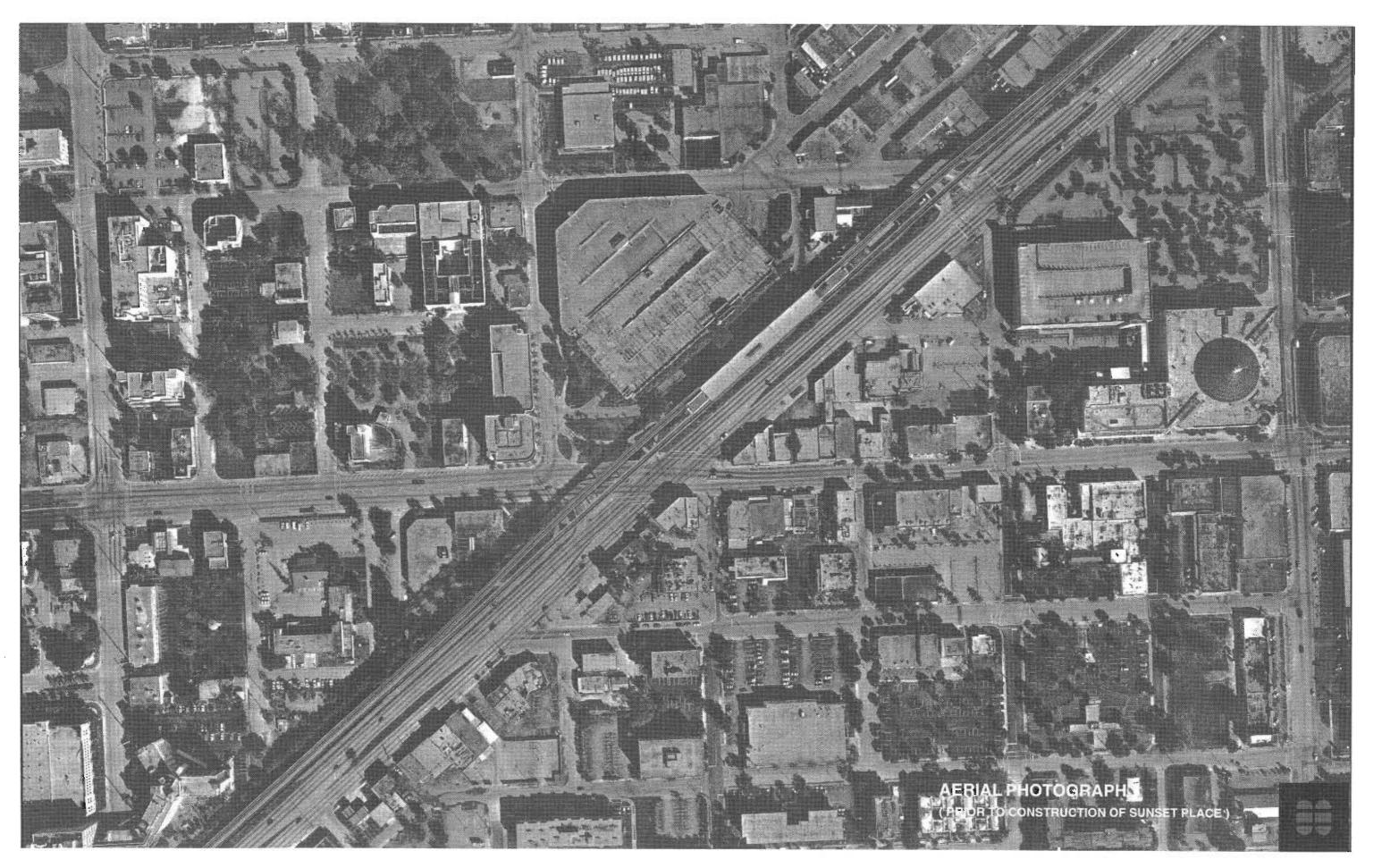


PEDESTRIAN OVERPASS SCHEME EVALUATION

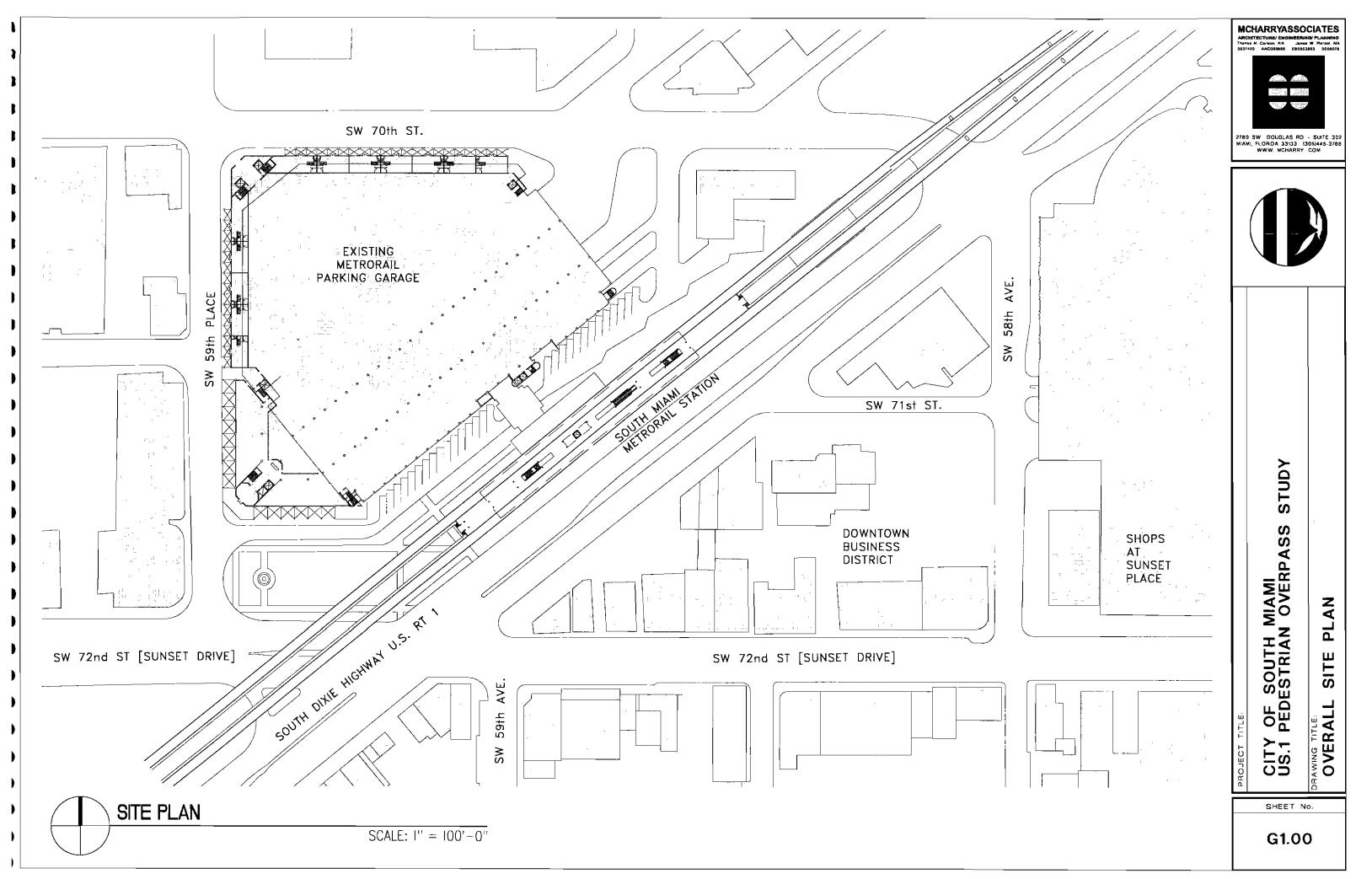
	SOUTH	₩			SCHEME "C"
	300111		CENTRAL		NORTH
PEDESTRIAN SAFETY	4		4		4
SEAMLESS PEDESTRIAN FLOW	4		2		2
PARKING GARAGE CONVENIENCE	3		4		3
METRORAIL CONVENIENCE	4		3		4
BICYCLE CONVENIENCE	3		2		3
DISTANCE FROM NEAREST "SAFE" CROSSING	4		2		3
PATH DIRECTNESS / TRAVEL DISTANCE	4		2		3
A second of the					
ACCESSIBILTY TO COMMERCIAL DISTRICT	4		4		3
ACCESSIBILTY TO PARKING GARAGE	3		4		3
ACCESSIBILTY TO WEST/EAST RESIDENTIAL DISTRICT	3		3		2
MINIMIZE IMPACT ON US.1 HIGHWAY	4		1		4
MINIMIZE IMPACT ON PRIVATELY OWNED PROPERTY	2		3		2
MINIMIZE IMPACT ON EXISTING OPERATIONS					
PARKING GARAGE	3		3		3
METRORAIL STATION	3		1		3
MINIMIZE IMPACT ON EXISTING STRUCTURES					
PARKING GARAGE	4		4		4
METRORAIL STATION	4		1		4
SIDEWALKS, CURBS, PAVED SURFACES,					
LANDSCAPING	3		3		3
INITIAL CAPITAL OUTLAY	4		2		4
CONSTRUCTABILITY	4		2		4
				•	
TOTAL SCORE	67		50		61

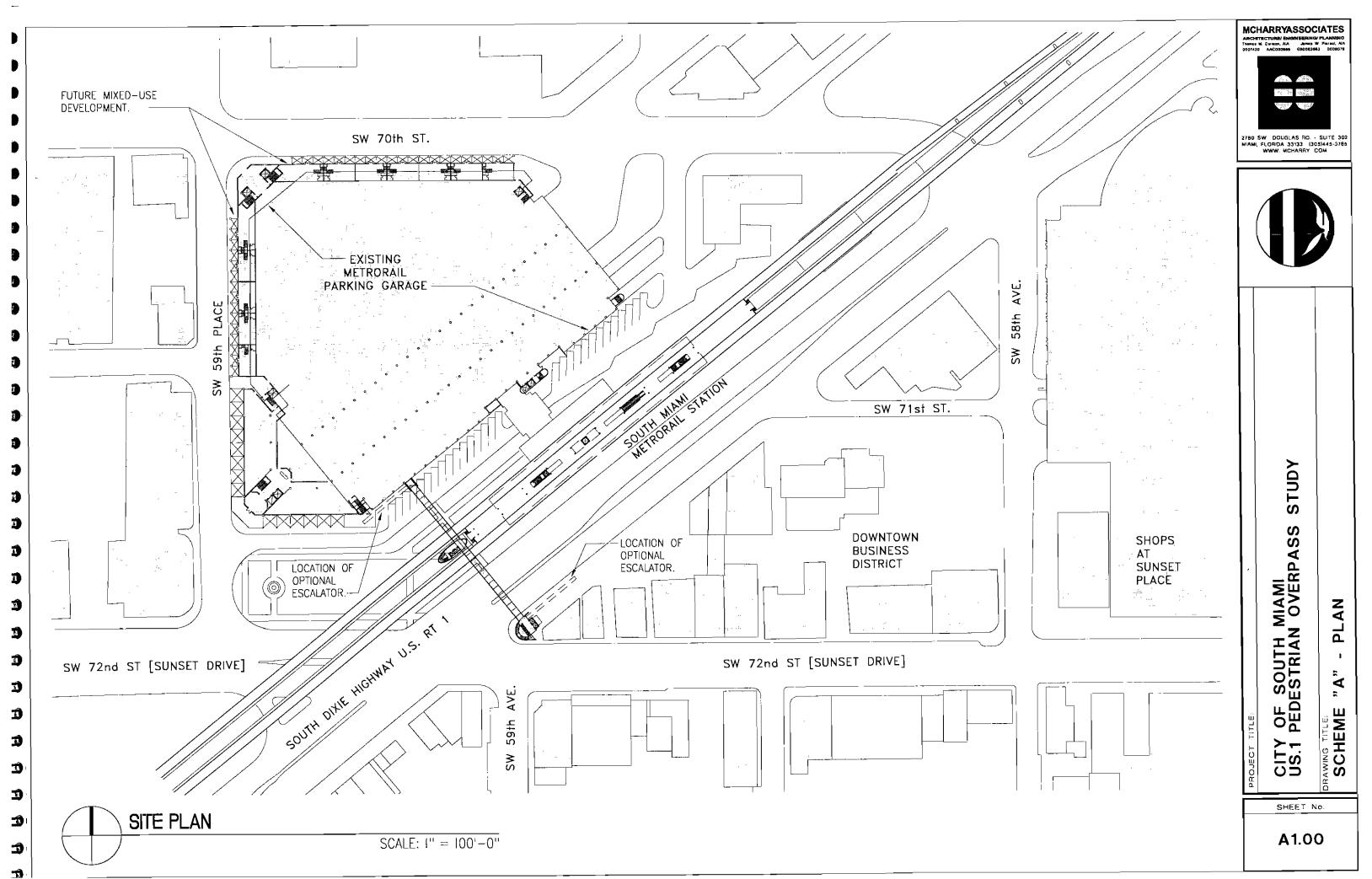
SCORING: EXCELLENT=4; GOOD=3; FAIR=2; POOR=1

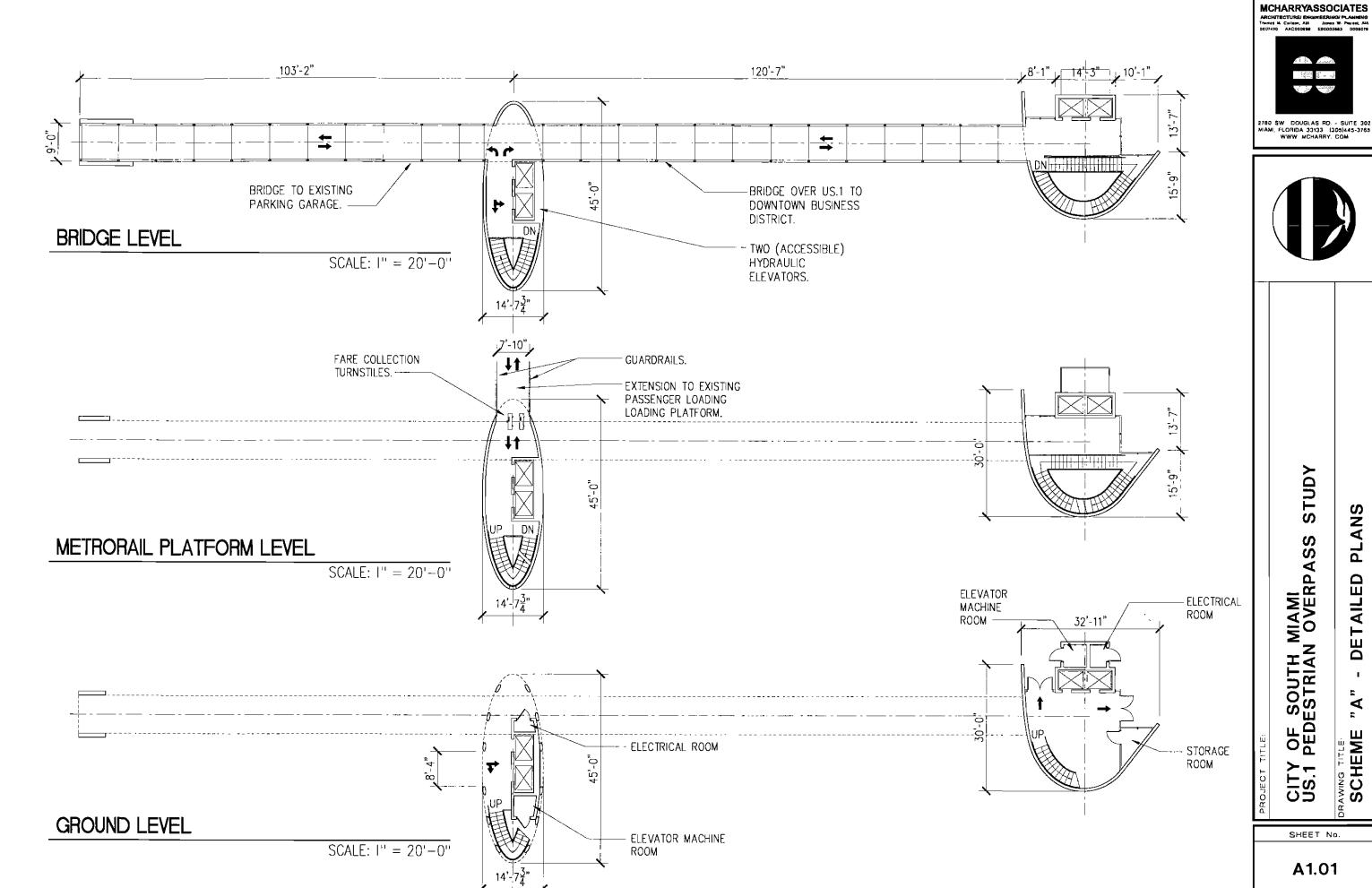




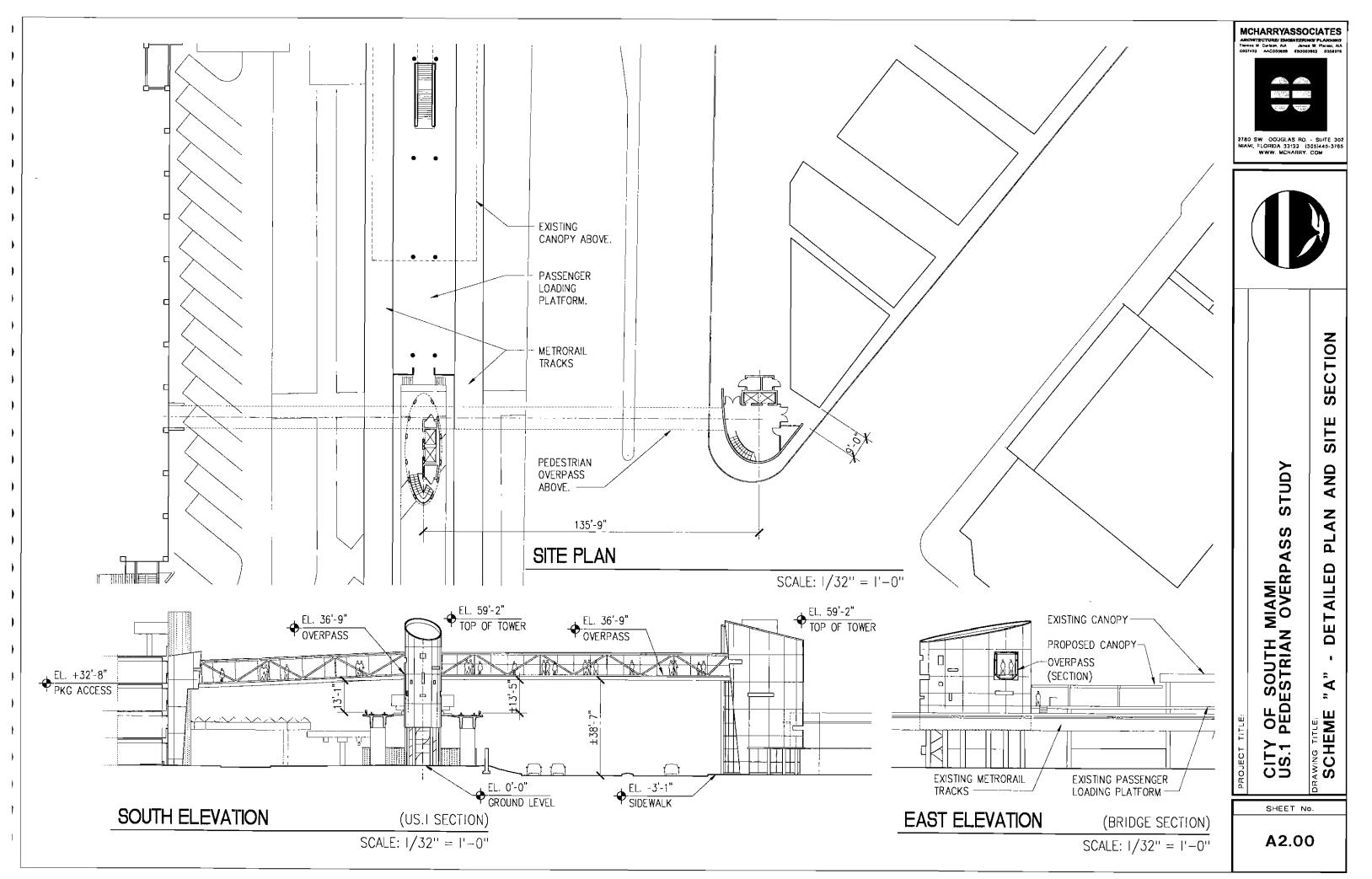


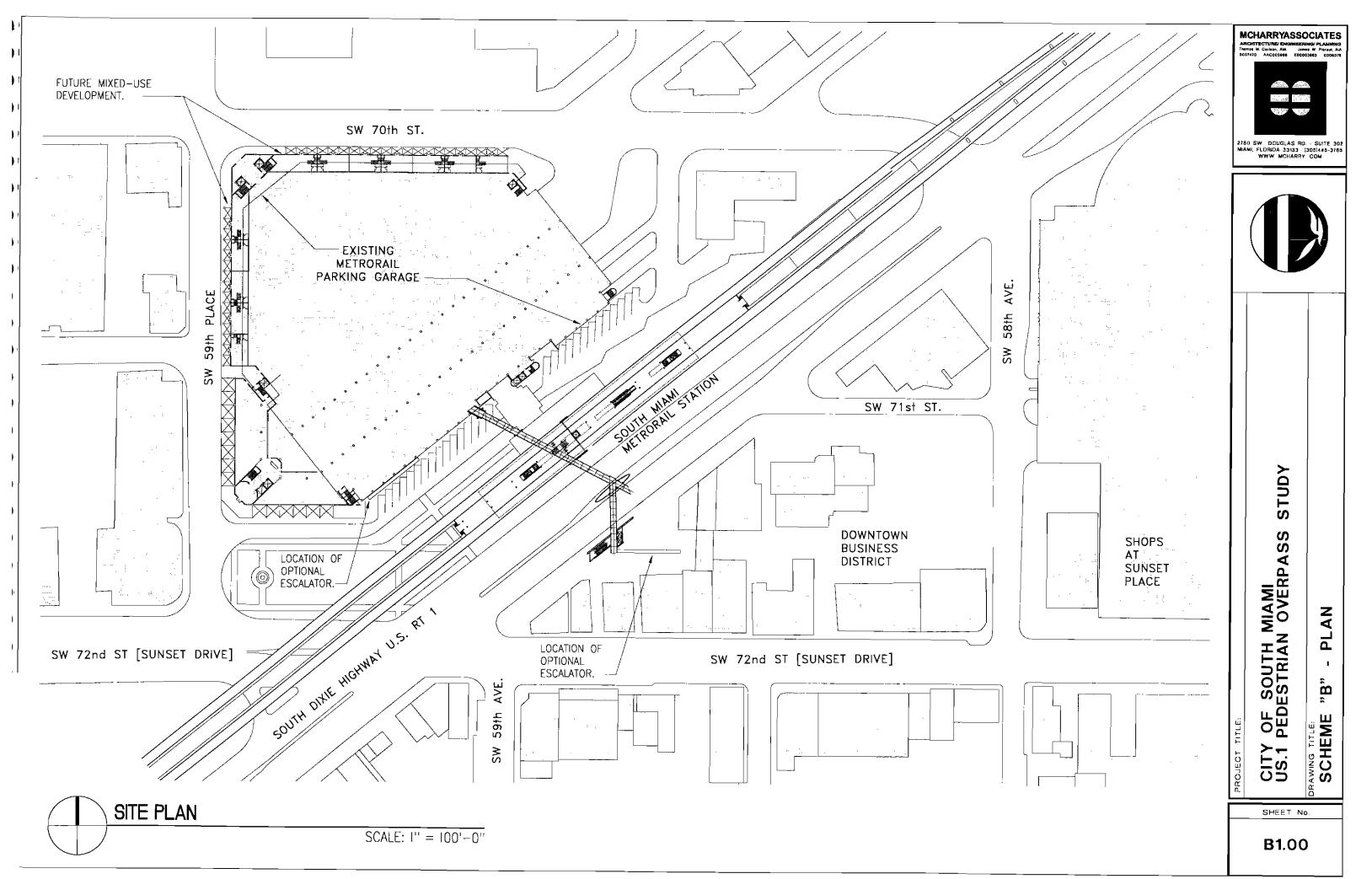


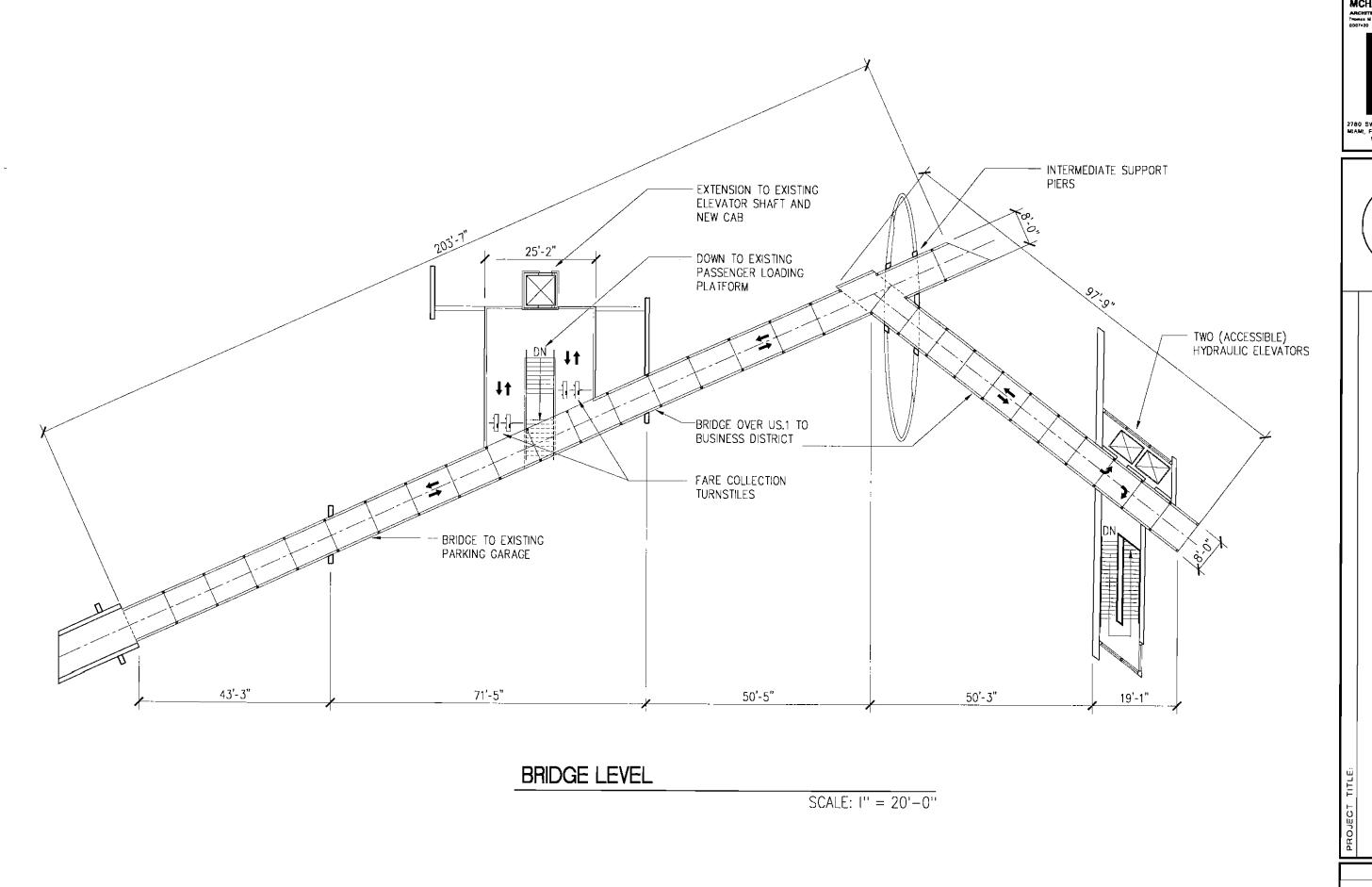












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STUDY OF SOUTH MIAMI PEDESTRIAN OVERPASS

PLAN

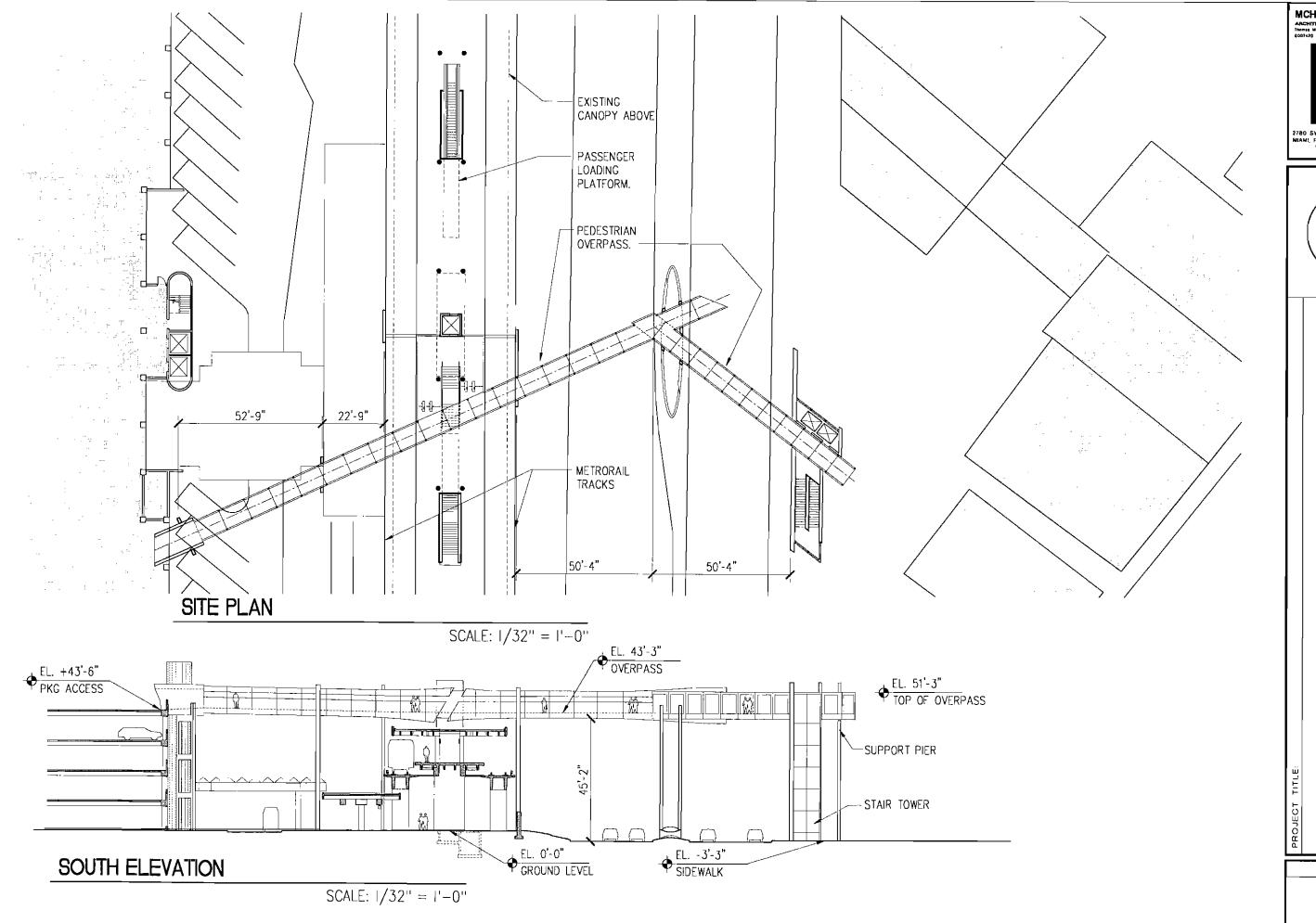
DETAILED

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SCHEME CITY US.1

SHEET No.

B1.01



MCHARRYASSOCIATES





SECTION SITE AND DETAILED PLAN

STUDY

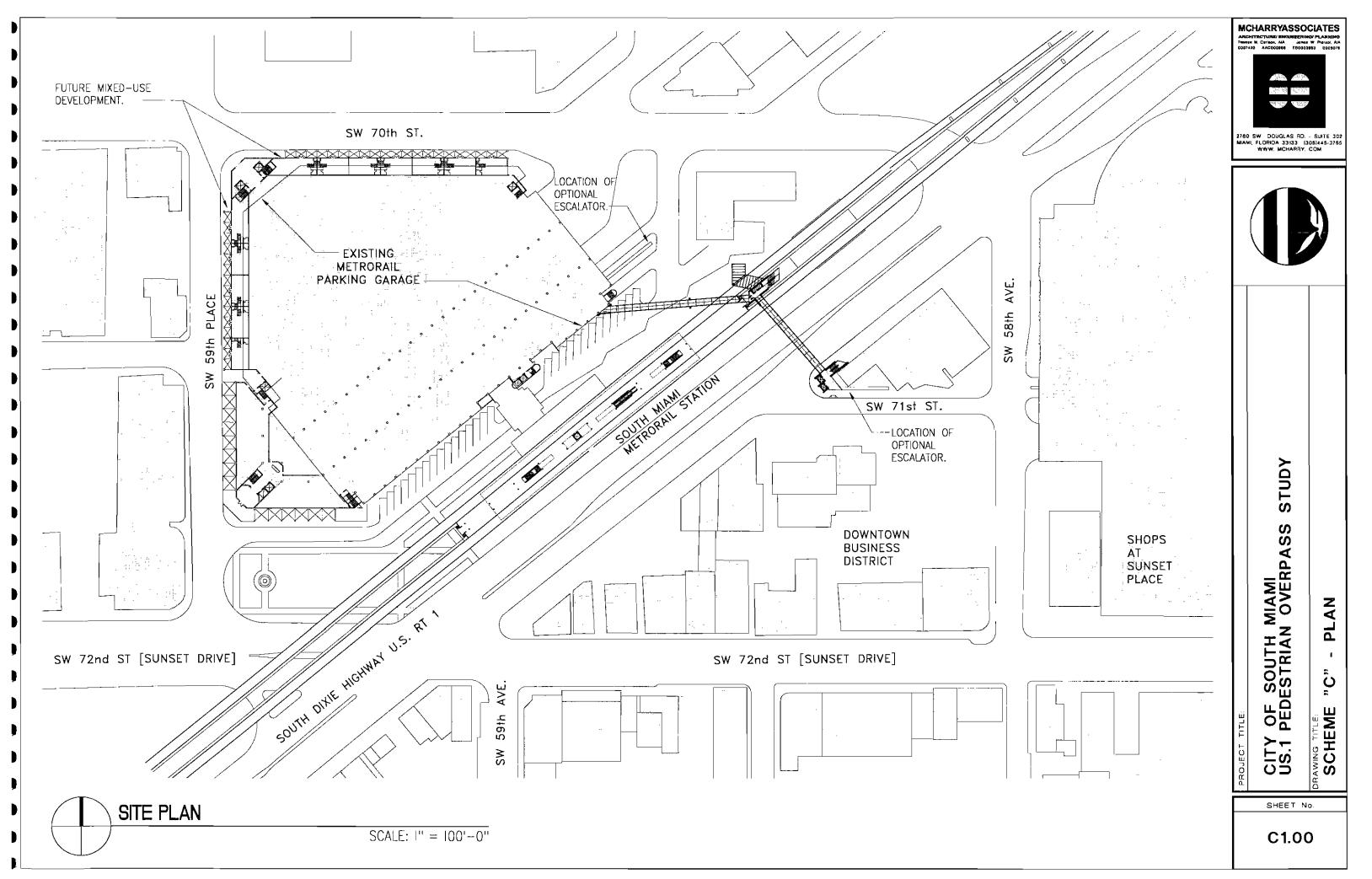
OF SOUTH MIAMI PEDESTRIAN OVERPASS

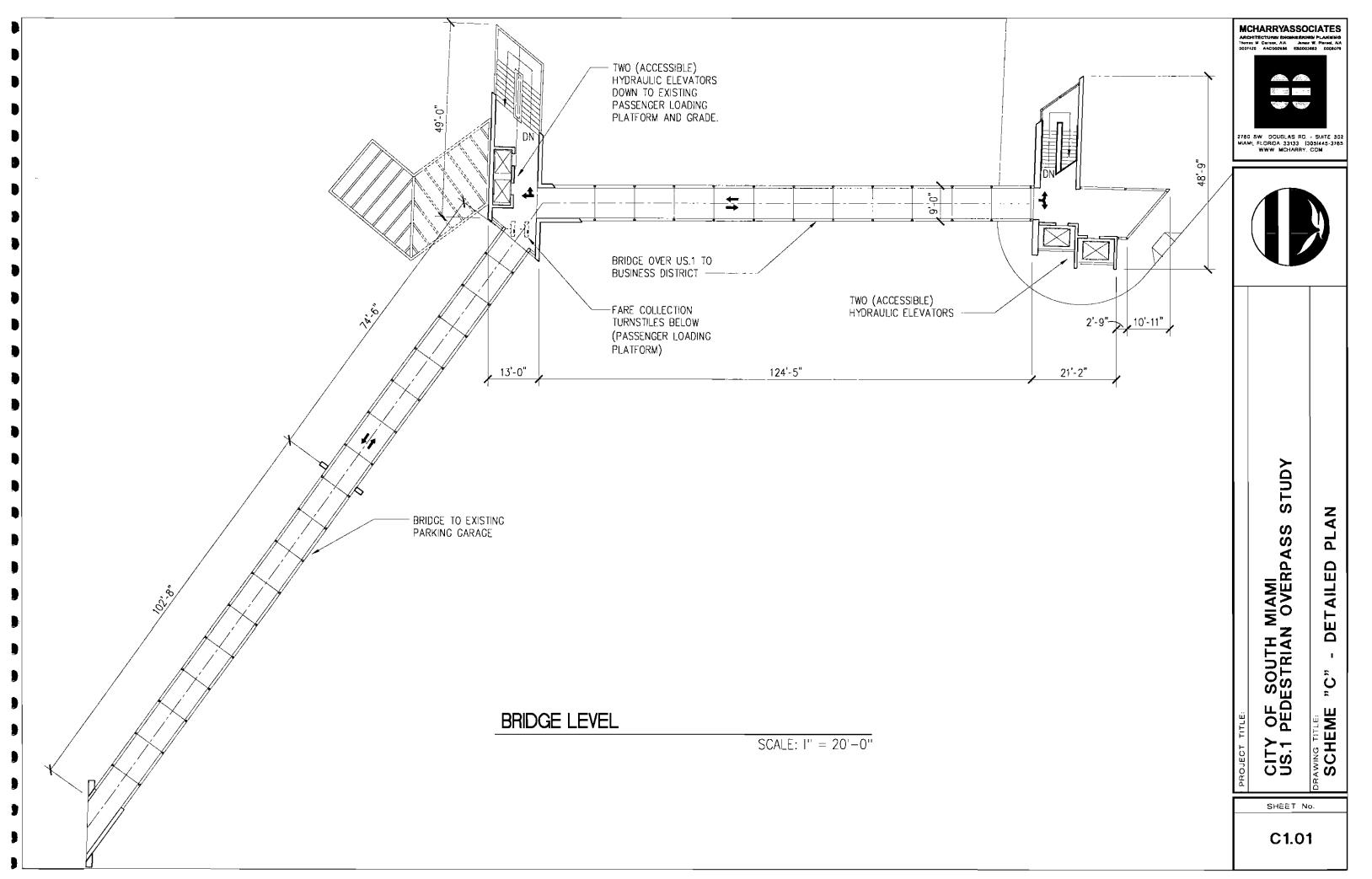
SCHEME CITY US.1

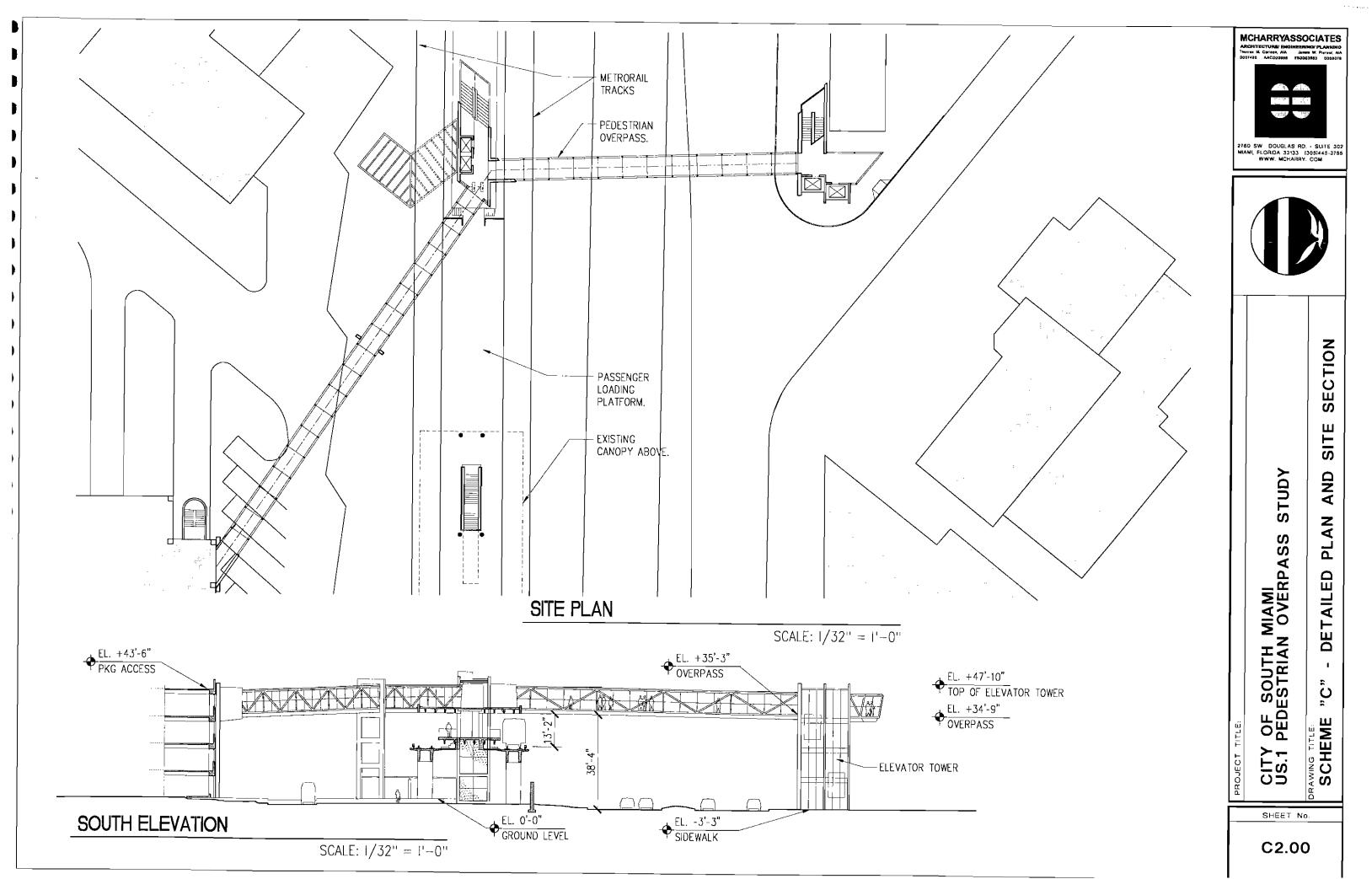
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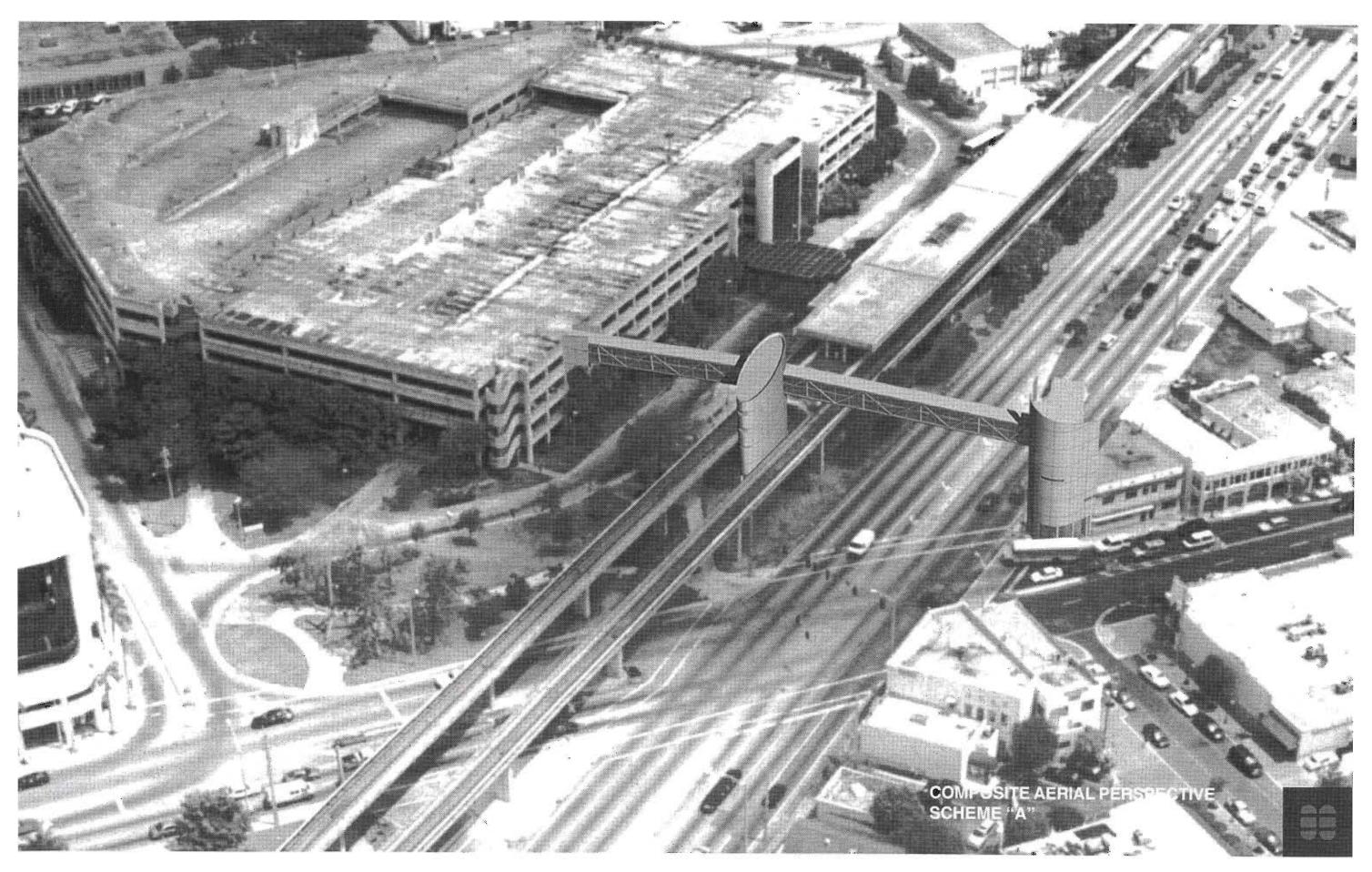
B2.00











Florida Department of Transportation 1000 N.W. 111 th. Avenue, Room 6111 Miami, Florida 33172

THOMAS F. BARRY, JR. SECRETARY

June 10, 1999

JEB BUSH GOVERNOR

> Mr. Sergio Pendas, R.A. Project Manager M.C. Harry & Associates 2780 S.W. Douglas Road, Suite 302 Miami, Florida 33133

RE: City of South Miami, Pedestrian Overpass At South Dixie Highway (US-1) near Sunset Drive

Dear Mr. Pendas

We have reviewed the meeting minutes dated May 3, 1999 (revised May 11, 1999) and the drawings showing the three (3) potential US-3 crossover locations. We offer the following comments:

- Scheme "A" in Sheet A-1 and Scheme "B" in Sheet A-2 seem to meet FDOT criteria for horizontal and vertical clearances.
- Scheme "C" in Sheet A-3 does not appear to meet FDOT required horizontal clearance at the center support. In addition, we foresee a major disruption of traffic on South Dixie Highway during the construction of this center support. We recommend that this scheme or any others with intermediate support in the median of South Dixie Highway, are not considered in your study.
- All three (3) schemes do not show what type of foundation is used at each support. We understand that these are preliminary drawings, but we would like to remind you that FDOT does not allow the use of auger cast piles for the foundation.

The attached copies (pages 2-58 & 2-61) of FDOT Plans Preparation Manual, showing the design criteria for vertical and horizontal clearance, are for your information.

www.dot.state.fl.us

Should you have any questions, please feel free to call me at (305) 470-5250.

Cincaraly

Pelix A. Blaneo, P.E. District Design Engineer ECENED D

(S) RECYCLED PAPER

Design Geometrics & Criteria

Plans Preparation Manual - Metric

Topic #625-000-005

January 1998

2.10 Vertical Clearances

Table 2.10.1 Vertical Clearances for Bridges

	CLEARANCE (,4,s (METERS)			
FACILITY TYPE	Roadway Or Railroad Over Roadway z	Roadway Over Rallroad 3,4	Pedestrian Over Roadway 2	Pedestrlan Over Railroad ₃
Freeways, Arterials Collectors & Others	5.05 16.5T	7.16 23.49	5.35 \7,55'	7.53 ·24.7 <i>6</i>

Clearance Measurement:

The least vertical distance between the bridge structure and the surface of the roadway (traffic lanes and shoulders) or the top of the highest rail.

- Includes Future Underpass Resurfacing:
 150 mm over pavements
- Includes Rail Resurfacing (Track Raised):
 305 mm for conventional railroads
 Others-see footnote No. 4 and Section 6.3.5 of Chapter 6
- Over High Speed Rail Systems:
 See Department guidelines and specifications for Intermediate Class Rail Operations entitled Standard Specifications For The Design And Construction Of Railways.
- Clearance Over Waterways:

 See Department Drainage Manual, Topic No. 625-040-001, Chapter 4
 and Section 2.10.1 of this chapter.

Topic #625-000-005
Plans Preparation Manual, Volume I - Metric

January 1998 Revised 1/99

2.11 Horizontal Clearances

Table 2.11.4 Horizontal Clearance to Signal Poles and Controller Cabinets for Signals

Shall not be located in medians.

Should be located as far from traffic lanes as practical. Placement within sidewalks shall be such that an unobstructed sidewalk width of 1.2 m or more (not including the width of curb) is provided.

Table 2.11.5 - Horizontal Clearance to Trees

Minimum Horizontal Clearance to trees where the diameter is or is expected to be greater than 100 mm measured 150 mm above the ground shall be:

Flush Shoulders:

Outside the clear zone

Curb or Curb and Gutter: 1.2 m from face of outside curbs

1.8 m from edge of inside traffic lane where median curb is present

able 2:11.6 Horlzontal Cléarance to Bridge Piers and Abulments

Minimum Horizontal Clearance to Bridge Piers and Abulments:

Flush Shoulders:

Outside the clear zone

Curb or Curb and Gutter:

16.88 4.9 m from the edge of the travel lane

a---

Table 2.11.7 Horizontal Clearance to Railroad Grade Crossing
Traffic Control Devices

Placement shall be in accordance with the Roadway and Traffic Design Standards.

Table 2.11.8 Horizontal Clearance to Other Roadside Obstacles

Minimum Horizontal Clearance to other roadside obstacles:

Flush Shoulders:

Oulside the clear zone

Curb or Curb and Gutter:

1.2 m back of face of curb. May be 0.8 m back of face of curb when all other alternatives are deemed impractical.

Design Geometrics & Criteria

2-61



SEP-01-1999 08:33

CITY OF SOUTH MIAMI BZCD

P. 01



METROPOLITAN PLANNING ORGANIZATION (MPO) SECRETARIAT

August 31, 1999

OFFICE OF COUNTY MANAGER
SUITE 910
111 N.W. FIRST STREET
MIAMI, FLORIDA 33128-1904
(305) 375-4507
FAX: (305) 375-4950

Subrata Basu Assistant City Manager City of South Miami 6130 Sunset Drive South Miami, FL 33143

Dear Subrata:

Thank you for inviting us to comment. Below are a few comments on the preliminary report for the City of South Miami US 1 Pedestrian Overpass Study, dated August 25, 1999. I have also attached for your information a rewriting of the informal comments I gave you at the August 6th meeting with the consultants. I hope these are of help in your review process.

Please note that these comments are mine. I believe that David Henderson, our Bicycle/Pedestrian Coordinator said that he would prepare a letter with BPAC comments. As you go through the various MPO committees, you will probably get additional comments. Please note that minutes are not prepared for the TPTAC, and the TPC minutes do not include detail.

I would like to request four more copies of your report, one for each of the committee files, and one to pass around to MPO to solicit additional comments, if you wish.

The City of South Miami US 1 Pedestrian Overpass Study - Comments August 31, 1999

These comments are based the preliminary study report, dated August 25, 1999.

General Comments:

It was not clear to me whether the connection to the South Miami MetroRail Station Garage is included as part of all the Schemes, and of all the cost estimates, or not. I recall you saying they were, and p.5, paragraph 5 indicates that the connection to the garage is one of the two essential links of the bridge. Howeven the last paragraph under Scheme A on p. 6 says that the second component to the garage can be added later. The same is said of Scheme C on p.8, paragraph 2. For Scheme B the point is made on p. 7, paragraph 4, that all components need to be included in the final design. If the connection is included in all, the text should be changed for Schemes A and C.

A-MISC9/OVERPASS chemo8-17b lwp

SEP-01-1999 00:34

CITY OF SOUTH MIAMI BZCD

P.02

I realize that decisions about public involvement belong entirely to the City. However, in general, I suggest that public involvement be done early, so as not to lock into decisions before the public has an opportunity to comment. This should include residents, potential users and the business community.

Specific Comments:

- p. 4 The second paragraph may need to be updated to reflect the fact that a revenue collecting node is part of all the schemes and cost estimates. Currently the text mentions these nodes as potential additional functions of the structures.
- Jp. 7 Scheme C What is meant by "final scheme" in the second line? Perhaps "Scheme A" should be substituted.
- p. 8 Scheme C Paragraph 1 says that the bridge will require support in the US 1 median. I believe that is an error, since the schematic for C does not show that, nor do I remember any mention of it during any meeting or discussion.

Suggestion for Photograph Pages:

- Label
- Number

Were you planning to try to overlay photographs with outline of the structures?

Once again, thanks for the opportunity to comment. Please contact me at (305) 375-4507 if you have any questions about this.

Sincerely

Susan Schreiber
Transportation Analyst

Attachment

A: MISC9/OVERPASS/mmos-276 lwp



28

SEP-01-1999 0B:34

CITY OF SOUTH MIGHT BZCD

P.03

The City of South Miami US 1 Pedestrian Overpass Study MPO Liaison's Questions and Comments August 6, 1999

These questions and comments were for discussion purposes and not meant to be formal comments. However, they were given to the City representative in rough form for his reference, at a meeting between the City, MDTA, and MPO representatives and the consultant on August 6, 1999.

The MPO is requesting a brief status report to the BPAC, August 26th, at 7:00 PM in South Miami and TPC on September 13th at 2:00 PM in the Miami-Dade Government Center, 18th Floor Conf. Room 4. In addition we may ask for the same for TPTAC on Sept. 1 (sic) at 10:00 AM Government Center, 18th Floor Conf. Room 1. Also for City of South Miami to note that as soon as the item gets into conceptual/preliminary design of structures, it should go to TARC.

Have any funds been located to continue planning this?

How do these plans relate to the Hometown Plan?

What did the South Miami Hometown Plan include besides the street improvements? Did it have a physical plan for future development which would show, for example, the Courtyards referred to in scheme 2 or the land use and building footprints for the large triangular block, r.

Has there been Public Involvement? Has the Business Community been consulted? Do they favor any alternative over the others? Has their willingness to contribute to the costs, been explored?

Do all alternatives allow for direct access from the overpass to the Metrorail platform via a fare gate within the vertical structure?

How many flights of stairs for the lower alternatives?

I would recommend a matrix of some kind evaluating how well each of the schemes service each of the populations who do cross or would cross the highway. This might be defined by various combinations of departure points and destinations. Or the matrix could show how each scheme serves different modes and mode combinations. (If data were available for the number of patrons of downtown South Miami; of the South Miami Metrorail Station, and of Sunset Place, those could be part of ranking as well. Another set of criteria could rate how well each would meet the various goals of the project.

Would the City maintain all components of the structure?

Do we know of any studies examining pedestrian behavior as far as preference for using overpass vs. crossing at grade where possible?

A.\MISC9\OVERPASS/comin799.lwp

SEP-01-1995 08:35

CITY OF SOUTH MIAMI BOOD

P.04

Scheme I (later Scheme A):

This Scheme would serve more of the existing pedestrians. Drivers and pedestrians going to commercial area of Sunset would prefer A-1; and residents who live south of Sunset, walking to rail, may also prefer A-1.

Jae Manzella of our bicycle/pedestrian program prefers this option because a) it is the intersection with the most problems and currently more pedestrians.

Scheme 2 (later Scheme C):

This mainly serves those going to and from Metrorail, Buses, or Parking Garage, & pedestrians crossing from 70th St. to east side of US 1.

Are there two exits from the structure on the Metrorail side; one for the platform and one for ground level?

If there is connection to the platform, would provision be made to have covering from the structure to the "roof" of the platform?

Is scheme two (C) showing a canopy at west vertical structure?

What are current and planned uses of the structure and surrounding sites E. of US 1?

To encourage drivers going to Sunset Place to park at MetroRail this would probably be preferred. For pedestrians simply trying to cross US 1 along Sunset, it would not be convenient. They would probably continue to use the intersection.

Jae Manzella of our Bicycle/Pedestrian program indicates that this is a low pedestrian zone, and suggests that there is really no immediate destination on the east side.

Scheme 3 (later Scheme B):

This one is better for drivers, but not convenient for people who are only traveling by foot (not car or train) and trying to cross US 1.

Mr. Manzella's commented that this scheme forces pedestrians to enter the garage and also has no immediate clear destination.

Susan Schreiber MPO

8/6/99, Rev. 8/31/99

A:\MISC9\OVERPASS/contfm799.hup

TOTAL F. 84



29

Florida Department of Transportation

JEB BUSH GOVERNOR THOMAS F. BARRY, JR. SECRETARY

M.C. HARRY & ASSOCIATES 2780 SW DOUGLAS ROAD, SUITE 302 MIAMI, FL. 33133

ATTN: SERGIO PENDAS, PROJECT MANAGER

FROM: LOUIS FORTI, P.E. ASS'T. DISTRICT DESIGN ENGINEER

SUBJECT: CITY OF SOUTH MIAMI OVERPASS STUDY

COPIES: F. BLANCO, K. SAING, FILE

With reference to your memo of 3/15, please be advised that the clearance criteria shown therein is correct.

I am returning one copy of your memo and clearance diagram with the approval comments of the District's Structural Engineer, together with some additional structural info you will need Should you have additional structural questions, you may contact Kim Saing, P.E. at 470-5254

The City will be required to obtain a District Permit for this structure and enter into a maintenance agreement. For permit questions, you may contact Wahid Nor, P.E. the District's Permit Engineer at 470-5367.



www.dot.state.fl.us

RECYCLED PAPER

MCHARRYASSOCIATES

MEMORANDUM

DATE:

March 15, 1999

TO:

Mr. Lou Forti

RE:

.Clty of South Miami Overpass Study

SM-OVERPAS

Dear Mr. Forti,

M.C. HARRY & ASSOCIATES, INC.

Project Manager

CHAY COCUMENTS EN OP MENCE 1949 200

Per our conversation last week, the following represents our findings for the dimensional criteria regulating the pedestrian overpass at the South Miami MetroRail station and US-1. The two basic requirements are:

• Minimum vertical elegrance 5.35m (17'-7") Table 2.10.1

Minimum donizontal clearance 4.9m (16'-1") Table 2.16.6

Please review the attached sketch illustrating these clearances and make any necessary comments or corrections.

Additionally. FDOT criteria (chapter 8, section 8.6) requires that the pedestrian overpass have a minimum interior clear width of 2.4m (7'-11"). Section 8.6 also requires that "Pedestrian ramps should be provided at all pedestrian separation structures. When possible, a stairway can be provided in addition to a ramp." We would like to know if ramp only access to the padestrian overpass is mandatory or if there can be an exception allowing access to the bridge by means of stairs and elevator only.

If there is any additional FDCT criteria that would be relevant to the design, orientation, or configuration of the overpass please contactine or fax the information to me at your earliest convenience.

We appreciate your time and assistance in this matter and look forward to hearing from you soon.

Lou:

THE CRITERIA SHOWN ABOVE TO CORRECT. PLEASE FIND THEORY OF CHAPTER ATTACHED COPY OF CHAPTER IN THE STRUCTURES DESKIN GUIDELINES FOR YOUR INFO.

IN MY OPINION THE APPROACH RAMP IS REQUIRED FOR CHILDREN AND HANDICAPS OR SENIOR CITIZEN. A COMBINATION OF STAIRS AND ELEVATORS SHOULD

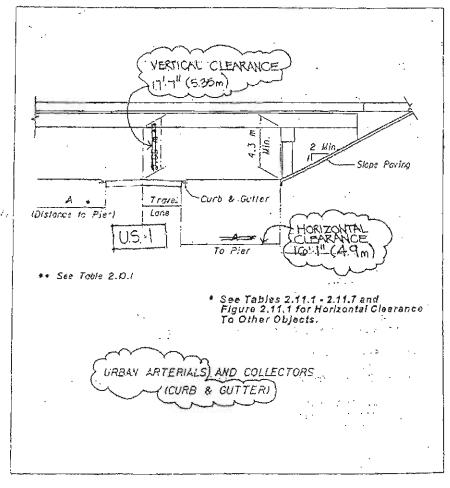
DO THE JOB.

in Jain 3/15/

Topic #625-000-005
Plans Preparation Manual - Metric

January 1998

Figure 2.10.4 Clearances





MCHARRYASSOCIATES

MEETING MINUTES

DATE:

May 3, 1999

PROJECT; PROJECT NO.: Revised May 1101999 City of South Miami, Pedestrian Overpass

PROJECT NO.:

SM-OVPASS MCHA Offices

A meeting was held at 10:00 AM on May 30, 1999 at the offices of MCHA to discuss the proposed schemes locating the pedestrian overpass across US.1. Representatives of Metro-Dade Transit Authority (MDTA) and Florida Department of Transportation (FDOT) were invited together with Mr. Subrata Basu, Planning Director and Assistant City Manager for the City of South Miami, to review and comment on the various layouts. Representatives of FDOT did not arrive until 2:00 PM and were therefore not part of the group discussion. However, they did briefly review and comment on the layouts.

The following were in attendance:

Subrata Başu	CSM	305-663-6344
Maria C. Batista	MDTA/Transit Dev.	305-375-1497
Juan Cueto	MDTA/Property	305-375-3013
Alberto Urrechaga	MDTA/Engineering	305-375-4504
Lee Vega	MDTA/Safety	305-375-4240
Tom Carlson	MCHA	305-445-3765
Wyatt Porter-Brown	MCHA	305-445-3765
Sergio Pendas	MCHA	305-445-3765

- 1. Mr. Basu opened the meeting by describing the objectives for the pedestrian overpass. He expressed the desire to unify Sunset Drive at the point where it is bisected by US.1. The importance of providing a safe, efficient and seamless method of transporting pedestrians across the busy federal highway was emphasized. Additionally, Mr. Basu believes a pedestrian overpass would help stimulate growth on the North and South side of Sunset Drive. Ultimately, the pedestrian overpass would promote the downtown retail district as a desirable and easily accessible destination.
- 1.1. A potential benefit to browding an effective overpass to the South Mammetal district You'd be an increase in Morora I Ridership due to the ingreat convenit not and accessibility to be revital set storppy constitution.
- Mr. Basu requested that MCHA invite Mr. Oscar Camejo of MPO to the next meeting. According to Mr. Basu, MPO is providing funding for this study and should be included in the review process.
- Mr. Basu asked the participants to review the proposals at a conceptual level. The purpose is to determine the probability that the scheme(s) could evolve into a workable solution.
- Aerial photos of the site commissioned by MCHA were distributed to acquaint the participants with the area and it's surroundings.
- MCHA presented the three schemes illustrating potential US.1 crossover locations and arrangements. All schemes have a connection to the existing parking garage and access for Metrorali riders to access the bridge and, conversely, allow individuals to access the Metrorali through revenue-collecting checkpoint.

- 5.1. The first scheme illustrated a vertical circulation element between the tracks at the south end of the Metrorail platform and crossing perpendicular to US.1 at the southeast corner of US.1 and Sunset Driva.
- 5.2. The second scheme locates the overpass above the existing platform canopy and discharges it's occupants in a parking area at mid-block directly across from the station. This area could then develop into a series of courtyards filtering the pedestrians through the shops and onto Sunset Drive.
- 5.3. The third scheme was similar to the first except that the vertical circulation element was located at the north end of the Metroral platform. The overpass discharges tt's occupants at the southwest corner of SW 71st street and US.1.
- 6. Mr. Basu re-emphasized the importance of providing a "seamless" flow of pedestrian movement across US.1 to the retail district. Mr. Basu believes the best way to accomplish this is to introduce escalators in addition to the required stairs and elevators. MCHA noted that the height of the bridge coupled with the escalator slope would generate an escalator with a run of over 90°-0°. It was also pointed out that the size of the escalator and its exposure to the elements would make it expensive and costly to maintain. MCHA will further investigate the possibility of Integrating an escalator Into the various schemes.
- 7. MDTA is receptive to some form of connection across US.1. They are currently involved in a retail / residential development that will occur at the perimeter of the existing South Miaml Station parking garage. This "Liner" development has a strong possibility of progressing bayond the conceptual phase.
- 8. MDTA expressed a desire to integrate the proposed overpass with this new development.
- 9. MCHA will illustrate the "Liner" development on the site plan background,
- 10. MCHA will Issue sets of the proposed schemes to each of the MDTA representatives for review and comment. The drawings will include some general dimensions and clearances, and will be labeled as schemes "A through C". Each department will review the drawings and develop a list of general comments outlining the positive and negative aspects of each scheme as relates to their jurisdiction. The comments should be generic and conceptual in nature and not focus on specific components of the design. The purpose of the review is to identify MDTA constraints, which must be adhered to, to achieve an acceptable design concept(s).

The representatives from FDOT errived at 2:00 PM and an informal meeting was held to review the layouts.

The following were in attendance:

 Felix Blanco
 FDOT/District Design
 305-470-5250

 Kim Saing
 FDOT/District Struct, Eng.
 305-470-5254

 Sergio Pendas
 MCHA
 305-445-3765

- 1. The three schemes were shown to the representatives of FDOT.
- MCHA explained that during the earlier meeting we had decided to provide the participants with copies of the drawings and requested that they review and comment on each of the layouts. Their comments should be generic and conceptual in nature and not focus on specific components of the design.
- 3. MCHA asked It FDOT would allow a bridge support pier to be located in the US.1 median. FDOT was not definitive on whether it would be acceptable or not. MCHA cited the Viscaya Overpass as a precedent for this arrangement. FDOT stated that the Viscaya Overpass was not a valid example and should not be relied upon. It did appear however, that some variance could be achieved that would allow an intermediate bridge support in the widest portion of the existing US.1 median.
- FDOT stated that US.1 could not be shutdown for any extended period of time or during peak hours.

- Although FDOT has no specific criteria for the structural system of the bridge it does not allow the use of auger cast piles for the foundation.
- FDOT concurred that the bottom of the bridge would be well above the mandated minimum height over US.1 when complying with the minimum required clearance over the elevated Metrorail tracks.
- 7. MCHA will issue copies of the drawings to Mr. Blanco's attention for review within his department. As with the other participants it is expected that FDOT develop a list of general comments outlining the positive and negative aspects of each scheme as relates to their jurisdiction. The purpose of the review is to identify FDOT constraints, which must be adhered to, to achieve an acceptable design concept(s).

It is the responsibility of all meeting attendees to bring all omissions and/or corrections in these minutes to the attention of the undersigned within 10 days of receipt.

Sincerely,

M.C. Harry & Associates, Inc.

Sergio Pendas, R.A. Project Manager

SP/sp



South Miami Overpass Study

MPO requesting a brief status report to the BPAC, August 26th, at 7:00 PM in South Miami and TPC on September 13th at 2:00 PM in the Miami-Dade Government Center, 18th Floor Conf.

Room 4. Possibly TPTAC on Sept. 1 at 10:00 AM Government Center, 18th Floor Conf. Room 1. Also for City of South Miami to note that as soon as the item gets to conceptual/preliminary design of structures, it should go to TARC. (Miches first Weds of the most Conf. 3:3) Four to Canter 18 Conf. 1200.13

Have any funds been located to continue planning this?

How do these plans relate to the Hometown Plan?

What did the South Miami Hometown Plan include besides the street improvements? Did it have a plan for physical plan for future development which would show for example the land use and building footprints for the large triangular block. Or the Courtyards referred to in scheme 2.

Public Involvement?

Business Community? Favor?, Willing to Contribute?

Do all alternatives allow for direct access from the overpass to the Metrorail platform via a fare gate within the vertical structure?

How many flights of stairs for the lower alternatives?

I would recommend a matrix of some kind evaluating how well each of the schemes service each of the populations who do cross or would cross the highway. Might be defined by various combinations of departure points and destinations. Or show how each scheme serves different modes and mode combinations. It would also help to have numbers: Patrons of downtown SM; of Metrorail at that station and of Sunset Place. Or how well each achieve the various goals of the project.

The City would maintain?

Schemel:

Do we know of any studies examining ped , behavior as far as preference for using overpass vs. crossing at grade where possible, unless it were to go directly into at least one structure.

Jae Manzella of our bicycle ped program prefers this option because a) it is the intersection with the most problems and currently more pedestrians.

Would serve more of the existing pedestrians. Drivers and peds going to commercial area of Sunset would prefer A-1; and residents who live south of Sunset walking to rail may also prefer A-1.

A:MISC9\OVERPASS\Comments8-6-99.1wp

Stairway structure in existing locker area?

Scheme 2: (= C

Are there two exits from the structure on the Metrorail side: one for the platform and one for ground level? This mainly serves those to and from Metrorail, Buses, or Parking Garage, & pedestrians crossing from 70th St. to commercial east side of US 1.

If connection to platform would provision be made to have covering from the structure to the "roof" of the platform?

Is scheme two showing a canopy at west vertical structure?

Do we know of any studies examining ped behavior as far as selection of overpass vs. crossing at grade where possible, unless it were to go directly into at least one structure.

What are current and planned uses of the structure and surrounding sites E. of US1?

To encourage drivers going to Sunset Place to park at metro rail this would probably be preferred.

For pedestrians simply trying to cross US 1 along Sunset it would not be convenient. They would probably continue to use the intersection.

Jae:

Low Pedestrian traffic zone Drop off to nowhere

Scheme 3:

This one is better for drivers, but not convenient for people who only are traveling by foot (not car or train) and trying to cross US 1.

What are current and planned uses of the structure and surrounding sites E. of US1?

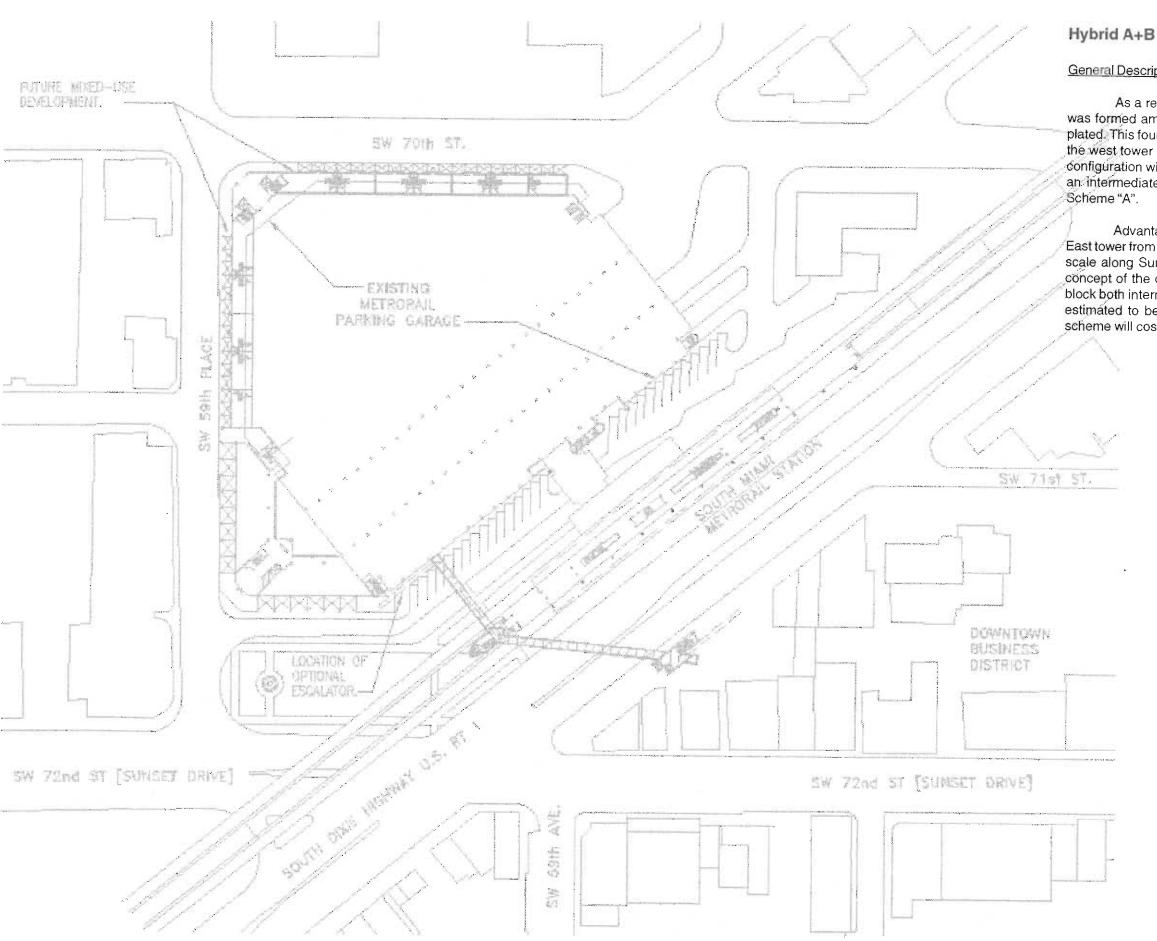
Jae:

Force Peds to enter the garage Drop off to nowhere Overhang?

A:\MISC9\OVERPASS\Comments8-6-99Jwp

TOTAL P.13





h

General Description

As a result of the workshop held February 2000, a consensus was formed among the participants that a fourth scheme be contemplated. This fourth scheme is a hybrid developed from the integration of the west tower of scheme "A" with the east tower of scheme "B". This configuration will have a longer span across US.1 without the benefit of an intermediate support making it moderately more expensive than Scheme "A".

Advantages of this hybrid over "A" include the remoteness of the East tower from the streetscape, helping to preserve the current building scale along Sunset street. Additionally, this location will promote the concept of the overpass as a catalyst for redevelopment of the retail block both internally and along US.1. The cost of this hybrid scheme is estimated to be approximately \$5 million dollars. It comparison this scheme will cost more than "A" but less than either scheme "B" or "C".



