

Prepared By  
**Reynolds, Smith and Hills, Inc.**  
with  
Savino & Miller Design Studio  
RJ Behar & Company

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# **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

The purpose of this Basis of Design Report (BODR) is to provide the City of Miami Beach a conceptual design document that will serve as the basis for design of right-of-way infrastructure improvements. Upon approval by the City Commission, the Consultant team will be authorized to prepare contract documents for the various funded improvements outlined in this report.

The BODR is the culmination of significant public input and review. Prior to implementation of the General Obligation (GO) Bond Program and the specific neighborhood planning process, general workshops were held with residents of the City to identify needs from the residents' perspective. This public involvement has been carried through the specific neighborhood planning process in the form of two Community Design Workshops (CDW) held to reach consensus on various funded improvements. The funded (planned) improvements outlined in this report are the culmination of significant input from the City's technical staff, Program Manager, residents of La Gorce and the consultant team.

## SCOPE OF WORK

### Project Area

The La Gorce Neighborhood lies geographically in what is considered "Middle Beach". Its boundaries are Surprise Waterway to the south, Biscayne Bay to the west, Indian Creek to the east and La Gorce Island, north of 63rd Street to the north. Within the neighborhood lies the golf course and community country club known as the La Gorce Golf Course and Country Club. This neighborhood is an island within the City limits with three bridges connecting La Gorce to neighborhoods north and south. These bridges are: 1.) Alton Road at Surprise Waterway, just north of West 48th Street, 2.) Pine Tree Drive at Flamingo Waterway, just south of West 50th Street and 3.) West 63rd Street Bridge over the Indian Creek Waterway. Also three important roads traverse the La Gorce Neighborhood and serve as north/south routes for all of Miami Beach. These are: 1.) SR 907 / Alton Road. Alton Road is the primary north/south evacuation route within the City. 2.) Pine Tree Drive and La Gorce Drive (County maintained roads). Pine Tree Drive and La Gorce Drive operate as a one-way pair with Pine Tree Drive as northbound and La Gorce Drive as southbound from West 51st Terrace to North Bay Road, just north of West 63rd Street.

For purposes of this study the areas that are not within the scope of this project are:

- SR 907 / Alton Road
- SR 907 / 63<sup>rd</sup> Street

- Pine Tree Drive and La Gorce Drive
- Connecting streets between Pine Tree Drive and La Gorce Drive
- La Gorce Island (except the water service line that loops the island)
- Allison Island

**Other Neighborhood Projects**

Several projects have been identified or are currently underway in the La Gorce Neighborhood outside the auspices of the CIP program. The following is list of known projects within the La Gorce Neighborhood and funded amounts.

• Allison Island Landscaping	\$205,606
• Allison Island Utility Upgrades	\$990,000
• La Gorce Island Streetscape	\$200,000
• Alton Road Improvements (FDOT)	\$250,000
• La Gorce and Fisher Parks	\$200,000
• La Gorce/ Pine Tree Drive Traffic Calming	\$510,000
• 63 <sup>rd</sup> Street Bridge Improvements (FDOT)	\$4,714,656

**B. FUNDING**

The La Gorce Neighborhood has been allocated a net construction budget of \$2,682,324. The net construction budget is minus adjustments for design fees, program management fees, administrative costs and contingency fees (10%). Therefore, all planning and design efforts are based on this amount. It should be noted that construction and contingency budgets include an additional \$908,000 in Stormwater Bond monies and \$992,000 In Water / Sewer Bon monies. This additional funding is a result of the recently completed citywide water and stormwater improvement analysis. The funding adjustments are currently undergoing final reviews and approvals, and proposed improvements will be upgraded to reflect the additional funding source impacts during the design phase. Also note that at this time, the proposed Water and Stormwater improvements presented in the basis of design report do not reflect these additional funding levels, but will be adjusted during design. Additionally, within this amount the La Gorce Neighborhood has been allocated funds for the design and construction of the seawall rehabilitation at the Cherokee Avenue street end.

Table ES-1 provides the breakdown of the funds allocated for the neighborhood. It should also be noted that although no funds were originally allocated for water system improvements to this neighborhood, the City has committed to fund all Priority 1 and Priority 2 improvements in all neighborhoods. Although the La Gorce Neighborhood has no Priority 1 water lines, it does have Priority 2 lines. Additionally, 560 LF of sanitary sewer lines have been identified as requiring upgrade. This work will be done in conjunction with the other right-of-way improvements identified in this report. The City has identified funding for the replacement of this sewer line.

## **C. SUMMARY OF PLANNING ACTIVITIES**

As part of the first phase of this contract (Planning) several key components were established during the development of the project scope. These are: Kickoff Meeting, Site Reconnaissance, Visioning Session, Community Design Workshops (2), reviews with City and Regulatory Agencies (as appropriate). The following is a brief description of each of these activities and the date they occurred.

- **Kickoff Meeting**

This meeting took place on September 24, 2001. The Program Manager for the City, Hazen and Sawyer, PC directed the meeting. The Program Manager provided a brief overview of the program in general, specifics on the neighborhood and distributed the Program Manual to the consultant.

- **Site Reconnaissance**

A site reconnaissance meeting was held on October 1, 2001. The meeting was held with members of the Program Manager, City of Miami Beach CIP staff and the consultant team. The purpose of this review was twofold; obtain a clear understanding of the project limits and, review all existing conditions with the team members.

- **Visioning Session**

On November 15, 2001 a Visioning Session took place at the City of Miami Beach. Its purpose was to present recommended funded improvements to each of the master plan components and detail budget level funding for each component.

- **Community Design Workshop No. 1**

The first Community Design Workshop (CDW) was held at the Miami Heart Institute on December 18, 2001. At this meeting, the team provided a PowerPoint presentation and display boards of the three project components. The oral presentation covered the function of the City's CIP Office, neighborhood funding allocation and the recommended funded improvements.

- **Community Design Workshop No. 2**

CDW No. 2 was held on January 22, 2002. The consultant used the findings of CDW No.1, questions posed by attendees and input from the City to present recommendations to the neighborhood as to funded improvements.

- **Reviews with City and Regulatory Agencies**

On-going

#### **D. PROPOSED IMPROVEMENTS**

##### **1. GO BOND (STREETSCAPE IMPROVEMENTS)**

Due to the geographic layout of the La Gorce Neighborhood and limited GO Bond funds allocated, the funded improvements have been concentrated in two distinct areas, 51st Street and Cherokee Avenue into the south and the La Gorce Park area to the north. Figure ES-1 depicts the funded improvement areas for La Gorce.

##### **2. STORMWATER IMPROVEMENTS**

In 1997 The City of Miami Beach adopted a comprehensive citywide Stormwater Master Plan, prepared by CH2M Hill, Inc. (CH2). The Master Plan identified 160 drainage basins throughout the City, 34 basins identified as Priority Basins. A Priority Basin requires infrastructure upgrades due to several identified factors including:

- Poor water quality at the outfalls.
- Localized flooding due to deficient or non-existing drainage system.
- Records from the Public Works Maintenance Department indicating complaints from residents of flooding in the area.
- Other factors determined by City staff.

The La Gorce Neighborhood has three Priority Basins; Nos. 103 and 117/118. Basin No. 103 is in the south La Gorce area. Basin 117/118 is located in the north area known as La Gorce Park. Figure ES-2 depicts the Priority Basins for the La Gorce Neighborhood. At the request of the City's Public Works Department, the section of North Bay Road that lies outside the Priority Basins will be included in the design of this project. The City has allocated funding for this additional drainage system.

The proposed improvements will upgrade the existing drainage system within these basins by the use of:

- Gravity wells for water quality purposes.
- New drainage pipes and inlets as necessary.
- Increased outfall pipe sizes to provide for increased runoff discharge

The systems will be interconnected with the Alton Road drainage system. The Florida Department of Transportation (FDOT) is upgrading this system as a comprehensive improvement to Alton Road (SR 907) from Dade Boulevard to West 63<sup>rd</sup> Street. The City of Miami Beach and the FDOT are working on developing a Joint Project Agreement (JPA) for the funding arrangement and required work by each party to interconnect the systems. The Consultant will assist the City in the developing the requisite JPA. This report assumes that the systems will be interconnected.

### **3. WATER SYSTEM IMPROVEMENTS**

In 1994, the City of Miami Beach adopted comprehensive Water and Sewer Master Plan, developed by Camp, Dresser & McKee (CDM), Inc. The Master Plan looked at the City's water and sewer infrastructure from a citywide perspective and made various recommendations. These recommendations subsequently became part of the Bond Issue approved by the voters of the City of Miami on November 2, 1999. In effect, it became the blueprint for the neighborhood right-of-way improvement program that each of the thirteen neighborhoods within the city is participating in.

Based on the CDM Master Plan three levels of priorities were established. Priority 1 lines are those water and sewer lines that are considered critical for citywide distribution purposes. La Gorce has no Priority 1 lines identified. The existing water system in the La Gorce Neighborhood has two parts; galvanized water lines of varying size, ranging from 2 to 4 inches in diameter and 6 and 8-inch water mains for distribution purposes. According to the CDM Master Plan, the galvanized water lines were identified as Priority 2 and the 6 and 8-inch diameter lines are identified as Priority 3. All Priority 2 lines will be replaced as part of the funded improvements. The Public Works Department is currently implementing a series of field tests to determine, which Priority 3 lines must be replaced at this time.

During the Design Phase each individual lot where service lines will be replaced will be inspected to determine the best route for relocation of the service connection. The Contract Documents will also contain specific language for the Contractor regarding restoration of each property (driveways, plant materials, sod, fixtures, etc.) to its existing condition or better. Residents will be notified prior to any construction affecting their properties or street access via the City's Public Information Office using flyers and through the use of the City's local Community Access Channel (Channel 20).

#### **E. BUDGET LEVEL COST ESTIMATE**

All probable opinions of cost for improvements are based on the format provided by the City's Program Manager pursuant to Task 1.6 of the Scope of Services for this project.

Opinions of probable cost are provided for all funded improvements. The construction cost estimate meets "Budget" level cost estimate criteria of +30%, -15% as defined by the American Association of Cost Engineers. Table ES-3 has been prepared in accordance with this format. It should be noted that final costs of improvements will be dependent on actual labor costs, materials, actual site conditions and competitive market conditions at the time of bid award.

#### **SCHEDULE FOR PROJECT AND IMPLEMENTATION PLAN**

The scope of this contract requires that the GO Bond Oversight Committee and the City Commission approve the BODR prior to proceeding with the remaining project phases. Table ES-5 outlines the anticipated schedule for the remaining phases including construction. The suggested timeline is subject to adjustments based on potential impacts associated with the City Board review process. It should also be noted that all proposed improvements covered herein are subject to Design Review Board, G.O. Bond Oversight Committee and City Commission approval.



# **SECTION I BACKGROUND**

## **BACKGROUND**

### **A. OVERVIEW OF PROCESS**

The City of Miami Beach has adopted a comprehensive Capital Improvements Program (CIP) to improve the quality of life for its residents. The voters of Miami Beach approved issuance of approximately \$92 million in General Obligation (GO) Bonds on November 2, 1999 for neighborhoods, parks and fire safety improvements. Of the \$92 million, \$48 million has been earmarked for right-of-way infrastructure improvements. In addition to the GO Bond program, the City has also earmarked approximately \$187 million of the Water/Sewer and Stormwater Bonds for right-of-way infrastructure improvements, to be implemented over the next 6 years.

This program has three basic components: water/sewer, stormwater and streetscape. The funding for the water/sewer and stormwater components are based on master plans approved in years past. These master plans are the basis for the planning and design of these two components. The City approved the Water/Sewer Master Plan in 1994. Subsequently, the Stormwater Master Plan was approved in 1997. The streetscape component was approved under a separate bond program and adopted simultaneously for implementation with the Water/Wastewater and Stormwater components. The General Obligation (GO) Bond program provides for specific improvements and enhancement to city neighborhoods throughout Miami Beach.

### **B. SUMMARY OF PLANNING ACTIVITIES**

As part of the first phase of this contract (Planning) several key components were established during the development of the project scope. These components are: Kickoff Meeting, Site Reconnaissance, Visioning Session, Community Design Workshops (2), reviews with City and Regulatory Agencies (as appropriate). The following is a brief description of each of these activities and the date they occurred.

- Kickoff Meeting

This meeting took place on September 24, 2001. The Program Manager for the City, Hazen and Sawyer, PC directed the meeting. The Program Manager provided a brief overview of the program in general, specifics on the neighborhood and distributed the Program Manual to the consultant. The general schedule and tasks were discussed including milestones and deliverables.

- Site Reconnaissance

A site reconnaissance meeting was held on October 1, 2001. The meeting was held with members of the Program Manager, City of Miami Beach CIP staff and the consultant team. The purpose of this review was twofold; obtain a clear understanding of the project limits and, review all existing conditions with the team members. The consultant prepared notes that are attached as Appendix A.

- Visioning Session

On November 15, 2001 a Visioning Session took place at the City of Miami Beach. Its purpose was to present preliminary alternatives to each of the master plan components and detail budget level funding for each component. The result of this meeting was to produce a consensus among the team as to recommended funded improvements that would be presented at the Community Design Workshops. The Appendix contains the minutes of this meeting.

- Community Design Workshop No. 1

The first Community Design Workshop (CDW) was held at the Miami Heart Institute on December 18, 2001. At this meeting, the team provided a PowerPoint presentation and display boards of the three project components. The oral presentation covered the function of the City's CIP Office, neighborhood funding allocation and the recommended funded alternatives. At the conclusion of the meeting, attendees were afforded the opportunity to ask questions and/or voice their concerns. The Appendix contains the minutes of this meeting.

- Community Design Workshop No. 2

CDW No. 2 was held on January 22, 2002. The consultant used the findings of CDW No.1, questions posed by attendees and input from the City to present to the neighborhood the recommended funded improvements. The Appendix contains the minutes of this meeting.

- Reviews with City and Regulatory Agencies

On-going

## **C. SCOPE OF WORK**

### **1. Project Area**

The La Gorce Neighborhood lies geographically in what is considered "Middle Beach". Its boundaries are Surprise Waterway to the south, Biscayne Bay to the west, Indian Creek to the east and La Gorce Island, north of 63<sup>rd</sup> Street to the north. Within the neighborhood lies the private golf course and community country club known as the La Gorce Golf Course and Country Club. This neighborhood is an island within the City limits with three bridges connecting La Gorce to neighborhoods north and south. These bridges are: 1.) Alton Road at Surprise Waterway, just north of West 48<sup>th</sup> Street, 2.) Pine Tree Drive at Flamingo Waterway, just south of West 50<sup>th</sup> Street and 3.) West 63<sup>rd</sup> Street Bridge over the Indian Creek Waterway. Also three important roads traverse the La Gorce Neighborhood and serve as north/south routes for all of Miami Beach. These are: 1.) SR 907 / Alton Road. Alton Road is the primary north/south evacuation route within the City. 2.) Pine Tree Drive and La Gorce Drive (County maintained roads). Pine Tree Drive and La Gorce Drive operate as a one-way pair with Pine Tree Drive as northbound and La Gorce Drive as southbound from West 51<sup>st</sup> Terrace to North Bay Road, just north of West 63<sup>rd</sup> Street.

For purposes of this study the areas that are not within the scope of this project are:

- SR 907 / Alton Road (FDOT Project)
- SR 907 / 63<sup>rd</sup> Street (FDOT Project)
- Pine Tree Drive and La Gorce Drive (Miami-Dade County Project)
- Connecting streets between Pine Tree Drive and La Gorce Drive
- La Gorce Island (except the water service line that loops the island)
- Allison Island

## 2. Other Neighborhood Projects

Several projects have been identified or are currently underway in the La Gorce Neighborhood outside the auspices of the CIP program. The following is list of known projects within the La Gorce Neighborhood and funded amounts.

- |  |             |
|--|-------------|
| • Allison Island Landscaping                         | \$205,606   |
| • Allison Island Utility Upgrades                    | \$990,000   |
| • La Gorce Island Streetscape                        | \$200,000   |
| • Alton Road Improvements                            | \$250,000   |
| • La Gorce and Fisher Parks                          | \$200,000   |
| • La Gorce/ Pine Tree Drive Traffic Calming          | \$510,000   |
| • 63 <sup>rd</sup> Street Bridge Improvements (FDOT) | \$4,714,656 |

## D. PURPOSE FOR THE BASIS OF DESIGN REPORT

The Basis of Design Report (BODR) will serve as the blueprint for the City technical staff, Program Manager and City Commission to approve the conceptual design elements presented to the residents of the La Gorce Neighborhood. Upon approval of this document, the City Commission will authorize commencement of design and construction of the specified funded elements. The funded (planned) improvements outlined in this report are the culmination of significant input from the City's technical staff, Program Manager, residents of La Gorce and the consultant team. The BODR represents consensus reached with the residents of La Gorce on the recommended funded improvements outlined herein.

# **SECTION II**

## **CURRENT FUNDING**

## **CURRENT FUNDING**

### **A. OVERVIEW**

In order to establish a consistent infrastructure improvement program throughout the City of Miami Beach, the City has been divided into thirteen distinct neighborhoods, each receiving a level of improvement commensurate with the funds allocated for each specific neighborhood. The funding allocation process was part of the City's original planning process with the residents and voters of the City. These neighborhoods will all receive some level of improvement over the next six years. For example, projects may include; streetscape, traffic calming, stormwater upgrades, water and sewer upgrades and street resurfacing. Some neighborhoods may receive some but not all of the previously described components.

The La Gorce Neighborhood has been allocated a net construction budget of \$2,682,324. The net construction budget is minus adjustments for design fees, program management fees, administrative costs and contingency fees (10%). Therefore, all planning and design efforts are based on this amount. It should be noted that construction and contingency budgets include and additional \$908,000 in Stormwater Bond monies and \$992,000 In Water / Sewer Bond monies. This additional funding is a result of the recently completed citywide water and stormwater improvement analysis. The funding adjustments are currently undergoing final reviews and approvals, and proposed improvements will be upgraded to reflect the additional funding source impacts during the design phase. Also note that at this time, the proposed Water and Stormwater improvements presented in the basis of design report do not reflect these additional funding levels, but will be adjusted during design.

Additionally, within this amount the La Gorce Neighborhood has been allocated funds for the design and construction of the seawall rehabilitation at the Cherokee Avenue street end. It should be noted that the contingency budget is to allow for a 10% change order budget that is generally an industry standard for projects of similar type and scope. The City intends to use all available funding within the neighborhood. Therefore, if the contingency budget is not used in its entirety for change orders at the completion of construction, said available funds would be used to complete ancillary improvements that will be identified and implemented.

Table II-1 provides the breakdown of the funds allocated for the neighborhood. It should also be noted that although no funds were originally allocated for water system improvements to this neighborhood, the City has committed to fund all Priority 1 and Priority 2 improvements in all neighborhoods. Although the La Gorce Neighborhood has no Priority 1 water lines, it does have Priority 2 lines. Additionally, 560 LF of sanitary sewer lines have been identified as requiring upgrade. This work will done in conjunction with the other right-of-way improvements identified in this report. The City has identified funding for the replacement of this sewer line.

## **B. STORMWATER BONDS**

The Stormwater improvements funded under the Stormwater Revenue Bonds will total approximately \$48 million for right-of way improvements for all neighborhoods. These improvements include new stormwater collection systems and disposal systems, new outfalls or upgrades to existing, swale regarding or re-establishment. The basis for all improvements is the approved Stormwater Master Plan developed by CH2M Hill, Inc. (CH2) and subsequently adopted by the City in 1997. This Master Plan analyzed the 160 drainage basins and ranked 34 as priority basins or requiring critical improvements. The La Gorce Neighborhood has 3 Priority basins, Nos. 103 and 117/118. Reimbursement for the Stormwater Bonds is provided through the establishment of the stormwater utility rate billed monthly to customers of the City.

## **C. WATER/SEWER BONDS**

Similar to the GO Bonds for street improvements, the Water/Sewer Revenue Series 2000 Bonds totaling approximately \$26 million for right-of way improvements are schedule to provide improvements over a six year period to the water and sewer infrastructure of the City of Miami Beach. The improvements under this bond issue include upgrades of deficient water and sewer mains, replacements of water service lines to ensure that adequate water pressure is provided. These funds also include the associated restoration costs. The basis for this bond issue is the master plan adopted by the City of Miami Beach in 1994, performed by the consulting firm of Camp, Dresser & McKee, Inc. (CDM).

## **D. STREETScape GENERAL OBLIGATION (GO) BONDS**

The voters of Miami Beach approved a major bond issue on November 2, 1999 to the amount of \$92 million In GO Bonds, of which \$48 million was specifically allocated for the right-of-way infrastructure program. These components include, landscaping, street signs, repaving of roads, new sidewalks or repair of existing sidewalks, street lighting and other above ground enhancements. It does not include undergrounding of utilities, such as electric and/or telephone lines. The cost and method for undergrounding of said utilities is based on individual neighborhoods collectively establishing their own financing district to pay for the cost of said improvements. It must also be approved separately from these capital projects.

# **SECTION III**

# **STORMWATER**

# STORMWATER IMPROVEMENTS

## A. OVERVIEW

In 1997 The City of Miami Beach adopted a comprehensive citywide Stormwater Master Plan, prepared by CH2M Hill, Inc. (CH2). The Master Plan identified 160 drainage basins throughout the City, 34 basins identified as Priority Basins. A Priority Basin requires infrastructure upgrades due to several identified factors including:

- Poor water quality at the outfalls.
- Localized flooding due to deficient or non-existing drainage system.
- Records from the Public Works Maintenance Department indicating complaints from residents of flooding in the area.
- Other factors determined by City staff.

The La Gorce Neighborhood has three Priority Basins; Nos. 103 and 117/118. Basin No. 103 is in the south La Gorce area. Basin 117/118 is located in the north area known as La Gorce Park.

La Gorce neighborhood includes all of the area from Surprise Lake, north to La Gorce Island, and from Biscayne Bay east to Indian Creek waterway. La Gorce Island and Allison Island are part of the neighborhood; however improvements to the island are not encompassed by the City's program.

In preparation for this BODR we have studied the project area through site visits, studied the Stormwater Master Plan (SWMP), collected information such as maps of existing systems, aerial photos, FDOT roadway plans, and publications by agencies such as Miami-Dade Public Works manuals and others. For the La Gorce Neighborhood a 5-year frequency level of service was established in the SWMP. Meetings were held with the Miami-Dade County Department of Environmental Resource Management (DERM) to obtain the permitting criteria for the project. In general DERM will allow upgrading of the storm drain systems (additional discharge) but water quality must be provided prior to discharge. The goal is to obtain 1-inch of water quality treatment over the basin encompassed by the right-of way areas.

The process followed included estimating the hydraulic capacity of the existing storm drain systems in order to develop a basis for the proposed improvements. In general several alternatives have been analyzed to meet the project goals. Maps are presented in the following discussion of the proposed improvements. A budget of \$ 1,632,085 (Stormwater Bond) has been allocated for stormwater improvements in the Priority Basins within the La Gorce neighborhood. The City is currently reviewing all available stormwater funds and the possibility exists that additional funds may be allocated for improvements to North Bay Road outside the limits of the Priority Basins. The Consultant is aware of this and will work with the City to design this system in conjunction with the current funded improvements.

Figure III-1 depicts the general location map and Figure III-2 depicts the Priority Basins.

Three priority basins were identified in the SWMP for the La Gorce neighborhood, Basins 118, 117 and 103. Basin 103 is located at the southern end of the neighborhood. For Basin 103 located between Cherokee Avenue, 51<sup>st</sup> Street, North Bay Road and Lake View Drive, the recommended improvements will include a collection system along 51<sup>st</sup> Street, crossing Alton Road south along Delaware Avenue, east along Lake View Drive, and south along Cherokee Avenue with an outfall into Surprise Waterway. The required water quality is provided with the use of injection wells. Basins 117 and 118 are located north of W 63<sup>rd</sup> Street between Indian Creek and Biscayne Bay. The recommended improvements to this area include construction of collection systems from Pine Tree Drive and Pine Tree Drive Circle across North Bay Road with an outfall into La Gorce Canal.

Basin 103 is crossed by Alton Road, which is a state road maintained by the Florida Department of Transportation. The FDOT is currently proposing improvements along SR 907 / Alton Road as part of a Resurfacing and Restoration project.

## **B. EXISTING CONDITIONS**

All the existing systems for the three basins work by gravity discharge of the runoff collected to waterways without prior water quality treatment. The system for **Basin 103** consists of an 18-inch pipe running along Delaware Avenue, and two branches of pipes, one of them of 12-inch on Alton Road and another 10 inch along W 51<sup>st</sup> Street from Alton Road to North Bay Road. The runoff is collected by the pipes mentioned above and discharged through a 24-inch outfall to the Surprise Waterway near Delaware Avenue. Sporadic inlets are mostly located on Delaware Avenue. Refer to Figure 3-1.

The drainage system for **Basin 117** consists of 15-inch and 12-inch pipes, running from east to west near the southern boundary of Basin 118. Both systems are shown in Figure 3-2. Finally the runoff collected is discharged to Biscayne Bay through a 15-inch outfall. Sporadic inlets are located along the storm sewer system. The existing drainage system for **Basin 118** consists of 10, and 12-inch pipes running from east to west along Pine Tree Drive Circle to North Bay Road. A 15-inch outfall discharges the runoff to the La Gorce Canal. Only 5 inlets are located in this basin.

Analysis of existing conditions was performed using the Advance Interconnected Channel and Pond Routing hydrologic and hydraulic model (AdICPR). The model can analyze the systems taking into consideration storage (flooding) in the streets. The model is capable of analyzing pumping as well as retention/detention systems to maximize their use and be able to reduce the size of proposed outfalls. A 5 year, 1 hour storm has been used for our analysis. The 1-hour storm event proved to be the most critical when we completed the drainage design for the FDOT Alton Road project. Information for the analysis was based on existing street plans and some existing system profiles. Assumptions were made regarding elevations and these will be confirmed with the topographic surveys when they become available. We have assumed that the elevations available in the atlases and existing plans are referenced to Bay Datum since this is the datum used by the City of Miami Beach.

The water table and tide elevation used was 1.6-foot NGVD or 2.38 Bay Datum. Values of exfiltration rates for French Drain analysis were obtained from data by the FDOT for the Alton Road project.

The analysis of the existing systems showed that the systems are inadequate to handle the flows of a 5-year storm. This corroborates the findings of the city's SWMP.

### **C. PRIORITY BASINS**

The Priority Basins are described as follows:

- **Basin 103.** Basin 103 is located in the south area of the La Gorce neighborhood and has approximately 22.68 acres of drainage area. This basin is bounded by Cherokee Avenue on the East, Surprise Waterway on the South, North Bay Road on the West, and the Northern boundary between W 51<sup>st</sup> and W 52<sup>nd</sup> Streets. Basin 103 encompass an area of 3.15 acres at the intersection of Alton Road and W 51<sup>st</sup> Street.
- **Basin 117/118** is located in the north area of the La Gorce neighborhood (known as La Gorce Park) and has approximately 15.97 acres of drainage area. This basin is bounded by Indian Creek on the East, W. 63<sup>rd</sup> Street on the South, Biscayne Bay on the West, and the La Gorce Canal on the North.

### **D. RECOMMENDED IMPROVEMENTS AND LEVEL OF SERVICE**

This project was divided in three basins following the criteria used in the Miami Beach Stormwater Master Plan. Basin 103 was calculated independently. The calculations for Basins 117 and 118 were combined. The proposed improvements include new manholes, inlets, and pipes, which will replace the existing structures and additional inlets for areas where none exist. Gravity wells and French drains have been considered as alternative to provide required water quality treatment. The use of retention swales has not been considered as an option for water quality treatment due to the lack of topographic data. This option may be considered during final design once the topographic surveys are available.

The basis of the analysis has been based on determining the size of the system to provide a 5-year level of service.

**Basin 103.** A gravity system was evaluated for Basin 103. The proposed drainage system includes upgrading the system with new pipes that range between 18-inch to 66-inch along North Bay Road, W 51<sup>st</sup> Street, crossing Alton Road, Delaware Avenue, and Lake View Drive. A new 66-inch outfall will be located on Cherokee Avenue and will be discharged to Surprise Waterway (see Figure 3-3). Seven gravity wells are proposed for water quality. The estimated cost for Basin 103 is \$ 974,557. This system includes an area of Alton Road (FDOT project), which has four catch basins that will be connected to the proposed gravity system of Basin 103. The incremental cost of including Alton Road is \$ 31,458. FDOT will reimburse the City for this incremental cost.

**Basin 117/118.** For Basin 117/118 we propose a gravity system with French Drain to handle water quality. The gravity alternative with wells was not considered due to

the low ground elevations. The solution for Basin 117/118 (see Figure 3-4) includes 260 linear feet of French Drain, and new outfall of 54-inch will be discharged to the La Gorce Canal. The pipe system will be used both for French drain and for conveyance. The cost for this alternative is \$ 359,480.

Based on the analyses performed the available funding can provide for construction of the trunk lines to a level of flood protection for the 5 year storm on Basins 103 and 117/ 118 with 1 inch of total water quality treatment.

An estimated cost of \$ 266,590 will be allocated for stormwater improvements for the area along North Bay Road between Basin 103 and Basin 117. The total estimated cost is \$ 1,632,085.

Figure III-6 depicts a typical gravity well and Figure III-7 depicts a typical French drain section.

**SECTION IV**  
**WATER SYSTEM**

# WATER SYSTEM

## A. OVERVIEW

Similar to the GO Bonds for street improvements, the Water/Sewer Revenue Series 2000 Bonds totaling approximately \$26 million for right-of-way improvements are scheduled to provide improvements over a six year period to the water and sewer infrastructure of the City of Miami Beach. The improvements under this bond issue include upgrades of deficient water and sewer mains, replacements of water service lines to ensure that adequate water pressure is provided.

In 1994, the City of Miami Beach adopted comprehensive Water and Sewer Master Plan, developed by Camp, Dresser & McKee (CDM), Inc. The Master Plan looked at the City's water and sewer infrastructure from a citywide perspective and made various recommendations. These recommendations subsequently became part of the Bond Issue approved by the voters of the City of Miami on November 2, 1999. In effect, it became the blueprint for the neighborhood right-of-way improvement program that each of the thirteen neighborhoods within the city is participating in.

The CDM Water/Sewer Master Plan classified three types of priorities as follows:

- Priority 1- Water and Sewer Mains that are critical to the overall supply and distribution of water and sewer as well as fire flow needs. These lines are typically identified as mains that are greater than 12 inches in diameter. The La Gorce Neighborhood has no Priority 1 lines identified.
- Priority 2- Galvanized Water Lines that provide water distribution to homes and businesses throughout the City. These lines are identified as being galvanized iron pipes, many over 30 years or more of age and ranging in size from 2 inches to 4 inches. The Master Plan consultant, CDM noted many of these lines were installed without cement lining. As such, they have been deteriorating and are undersized under current standards. This neighborhood has approximately 5200 LF of galvanized water lines. The majority of these lines are located in rear lot easements abutting two rows of residential lots from street to street. Service connections extend from these service lines to each individual property. Although no funding was allocated to this neighborhood for the replacement of Priority 2 lines, the City has committed to funding this replacement. For purposes of this report, we have assumed Priority 2 lines as funded improvements.
- Priority 3- These lines are identified as local neighborhood distribution lines that are 6 inches to 8 inches in diameter, mostly cast iron pipe (CIP), although some asbestos cement pipe has been identified on the as-built plans provided by the City. The La Gorce Neighborhood has approximately 27,700 LF of 6 inch and 8 inch diameter mains. The City is currently conducting a citywide main replacement analysis in an effort to identify which, if any Priority 3 lines will be

replaced. When this study is complete, the design scope for this project will be adjusted accordingly.

- Existing Sewer Mains- Through efforts by the City, 560 LF of existing 12' sewer main has been identified as needing replacement under this project. Due to existing conditions, this pipe will be replaced using technology referred to as "Pipe Bursting". This "Pipe Bursting" will upsize the existing 12' sewer line to a 15" size, providing additional flow capacity for the area. This technique will also minimize any impacts to existing structures or utilities. During the design phase, the Consultant will work closely with the City to determine the design parameters for this replacement.

## **B. EXISTING CONDITIONS**

The consultant team met with City staff, conducted various field reviews and obtained and reviewed all available water and sewer atlas and improvement plans on file with the City's Public Works Department.

The existing water system in the La Gorce Neighborhood has two parts; galvanized water lines of varying size, ranging from 2 to 4 inches in diameter and 6 and 8-inch water mains for distribution purposes. According to the CDM Master Plan, the galvanized water lines were identified as Priority 2 and the 6 and 8-inch diameter lines are identified as Priority 3. All Priority 2 lines will be replaced as part of the funded improvements. According to the CDM Master Plan, galvanized (Priority 2) lines must be replaced due to the following reasons:

Galvanized pipe corrodes rapidly in wet soil conditions, which are prevalent in Miami Beach.

Miami-Dade Water and Sewer Department standards no longer permit the use of galvanized pipes.

Most of the galvanized pipes have become tuberculated (clogged) and thus many residents have experienced a drop in water pressure.

## **C. PRIORITY REPLACEMENTS (P1, P2 AND P3 Lines)**

As previously discussed only Priority 2 water lines will be replaced in the La Gorce Neighborhood. Figure IV-1 shows all Priority 2 water lines to be replaced, shown as orange.

### **1. PRIORITY 2, GALVANIZED WATER LINES**

The galvanized water lines were identified in the Master Plan as requiring replacement for the following reasons:

- Corrosion- particularly due to the very aggressive coastal environment of the City of Miami Beach, these pipes are susceptible to breaks and leaks causing loss of water pressure.

- Standards- The Miami-Dade Water and Sewer Department (MDWASD) and the Miami-Dade County Department of Environmental Resources Management (DERM) no longer allow the installation of galvanized water lines.
- Cost- The galvanized pipe material cost to replace them in kind is prohibitive.

These pipes will be generally replaced as follows:

- Pipes 3 inches or less in diameter- Polyethylene (PE) pipe material approved by American Water Works Association (AWWA) Standards (C900-96).
- Pipes 4 inches or greater- Polyvinyl chloride (PVC) pipe, AWWA Standards (C-900-97).

These technical specifications have been adopted by the Miami-Dade Water and Sewer Department and are generally in compliance with most local municipalities.

The City is currently completing its citywide analysis of available funding and specific

## **D. RECOMMENDED IMPROVEMENTS AND SPECIALTY INSTALLATION REQUIREMENTS**

### **1. ALTERNATIVES FOR GALVANIZED WATER LINE REPLACEMENT**

As previously discussed, our research of the existing plans and field reconnaissance determined that most of the existing galvanized water lines are located within rear yard easements that abut residential lots. To replace the existing service lines alternatives have been reviewed experienced contractors and regulatory personnel. Consideration as to minimizing inconvenience to the property owner was also important in the development of alternatives. The various methods investigated are described below.

Open Trench -This method is very disruptive to the residents and difficult for the contractor due to limited space in the easement. This alternative was not selected.

Directional Bore (Trenchless) - This method is less disruptive than the Open Trench method. However, due to the equipment necessary to perform this type of work, the costs of this method become prohibitive. This alternative was not selected.

Relocation of Service Lines to Front of Properties (Selected Alternative) - Due to space limitations with the rear yards and cost considerations this alternative was presented by the Consultant team and endorsed by the residents as the preferred alternative. The service lines will be relocated to the front of the properties within existing City right-of-way. This alternative will allow for easier access to water meters and is less disruptive should maintenance of the line be necessary.

## **2. SPECIALTY INSTALLATION REQUIREMENTS**

During the Design Phase each individual lot where service lines will be replaced will be inspected to determine the best route for relocation of the service connection. Sketches will be prepared. All potential obstructions and conflicts will be noted on these sketches. The information from these sketches will be incorporated in the Contract Documents. The Contract Documents will also contain specific language for the Contractor regarding restoration of each property (driveways, plant materials, sod, fixtures, etc.) to its existing condition or better.

The following guidelines will generally be used during design and construction to ensure consistency in design and that residents are kept apprised of all construction activities affecting their properties.

- Location of water services: Under the scope of services for this project, the limits of the survey will extend 25 feet on both sides of the right-of-way. The Consultant will field verify this information and prepare sketches that includes information outside of the 25 feet that is pertinent to the water service relocation. The Contractor will also be required to field verify all information provided by use of an independent surveyor.
- Tie-ins to new water service mains: The contract documents and specifications will provide instructions to the Contractor for:
  - Scheduling tie-ins at appropriate times during the day that minimize disruption to the residents
  - Notifications will be provided 48 hours in advance of possible service disruptions by use of door-to-door flyers, posting the schedule on the City's CIP website and through notification on the City's Local Cable Access Channel (Channel 20).
- Reviews with the Residents: During the Design Phase, two (2) Community Design Workshops will be held; at 50% complete and 90% complete. This will allow the City and the Consultant to interact with the residents affected by the proposed improvements and incorporate all necessary revisions. This will include modifying as appropriate re-routing of water service lines when a substantial amount of specialty paving or other valuable assets may be impacted. In cases where no other practical solution exists, the City and the Consultant will explore other options. The residents will be apprised of the potential for inadvertent damage to their existing services during construction. Although this is a minimal risk, the Contractor will be directed to repair all damage to service lines immediately to an equal or better condition than prior to construction.
- Restoration after construction: The Contract Documents will contain specific language referencing restoration of all landscaping and areas of work to equal or better than existing conditions. This restoration has been factored into the budget estimates for the water line replacement.

- Estimated schedule for water service replacement: During the Design Phase, the Consultant will develop an estimated timeframe for the connection per residence to the water service line. Although this will be a general estimate based on general conditions, the Residents will be provided these general timeframes during the CDWs during the Design Phase.

# **SECTION V**

# **STREETSCAPE**

## STREETSCAPE

### A. REVIEW OF AREA

Due to the geographic layout of the La Gorce Neighborhood and limited GO Bond funds allocated, the funded improvements have been concentrated in two distinct areas, 51st Street and Cherokee Avenue to the south and the La Gorce Park area to the north.

The character of the La Gorce Neighborhood is primarily residential with the La Gorce Golf Course and Country Club lying in the middle of the neighborhood. A small commercial area exists along 51<sup>st</sup> Street just to the west of Alton Road.

### B. OVERVIEW OF NEEDS / IMPROVEMENTS

In order to provide its citizens improvements to neighborhoods and improve the quality of life, the citizens of Miami Beach voted to self-assess for improvements. The City established GO Bonds that are collected as part of the property tax bill, but are not of themselves, property taxes. These bonds are used to implement non-revenue producing projects, such as street improvements, streetscape and landscaping, parks, public safety and beaches.

The voters of Miami Beach approved a major bond issue on November 2, 1999 to the amount of \$92 million In GO Bonds, of which \$48 million was specifically allocated for the right-of-way infrastructure program.

Table V-1 outlines the proposed improvements for the neighborhood both funded and future (unfunded). The funded improvements represent those proposed by the Consultant team and endorsed by the residents and the City technical staff. Future improvements are those that proposed and endorsed but due to funding constraints, must be implemented at a future date. All finalization of funded improvements is based on upcoming permitting reviews. All Planning efforts detailed herein are limited to areas within the project scope and exclude County and State right-of-ways previously noted in this report.

### C. EXISTING CONDITIONS

- 1. Location** - The La Gorce neighborhood is the general area of land located between Biscayne Bay to the west, Pine Tree Drive to the east, Biscayne Bay to the north and Surprise Lake to the south. La Gorce consists primarily of single-family residences. One commercial use can be found along the south side of 51<sup>st</sup> Street. Open space and public parks are found throughout the neighborhood. Fisher Park is located in the south portion of La Gorce to the west of Delaware Avenue. La Gorce Park is located in the north portion of La Gorce north of 63<sup>rd</sup> Street.
- 2. Identity** – Aside from existing street signage, La Gorce lacks a visible identity. There is no signage that identifies the neighborhood as La Gorce.

- 3. Vehicular Circulation** – Most of the streets in the La Gorce neighborhood vary in width, from 18'-28'. Today's standard for residential street widths ranges between 18' for neighborhood streets and 24' for collector streets, although there are exceptions. (Figure V-1)
- 4. Pedestrian Circulation** – Existing sidewalks can be found throughout the neighborhood on one if not both sides of the street and vary between 4' and 5' in width. However, these sidewalks do not extend to the street pavement at intersections (Figure V-2). Therefore, a continuous paved pedestrian access route from block to block does not exist. Improvements call for new sidewalk extensions at all intersections where necessary. No new sidewalks will be constructed, however approximately 2,075 linear feet of existing sidewalks will be repaired where necessary.
- 5. Lighting** – Two basic types of lighting exist in the La Gorce Neighborhood. These are cobra lights (Figure V-3) and acorn lights (Figure V-4). Cobra heads are generally mounted on wood utility poles at a height of approximately 20' and are operated and maintained by FPL. Acorn lights are the preferred decorative lighting treatment and can be found in select locations throughout the neighborhood and Miami Beach. Acorn lights are typically mounted on decorative poles, at a height of approximately 12' and are operated and maintained by the City of Miami Beach.
- 6. Utilities** – Overhead utilities can be found throughout La Gorce, usually only on one side of the street at the edge of the right of way. In addition to overhead lines running parallel to the street, there are also residential service lines that cross perpendicular to the street and into the residential lots. In some instances shade trees have grown in close proximity to street lights. Where this occurs, the amount of ambient light that is reflected onto the street is greatly reduced.
- 7. Landscape** – The overall landscape character in La Gorce is lacking. There are trees and palms planted randomly throughout the neighborhood, however continuous tree/palm lined streets do not exist. The predominant existing shade trees in the La Gorce neighborhood include, Black Olive, Live Oak, Mahogany, and Ficus species. The predominant existing flowering tree is the Royal Poinciana. Predominant existing palms include the Coconut Palm and Royal Palm. These trees and more can be found planted sporadically throughout the neighborhood. There is a tremendous opportunity to plant additional trees and palms throughout the neighborhood. The Pump Station at 51<sup>st</sup> Street/ La Gorce Drive is an example of areas that lack in buffering landscape.

## D. EXISTING ROW ENCROACHMENTS

During the Planning Phase various encroachments on City right-of-way were noted. Some of these include paved swale areas, built-up swales, fixtures, etc. It is the intent of this program to reclaim public right-of-way as improvements are implemented. During the design process, encroachments will be reviewed on a case-by-case basis using the following criteria:

- 1) Does the encroachment interfere with the planned improvements?
- 2) Is the encroachment properly permitted through the City's Public Works Department?
- 3) Does the encroachment need to be removed?

The Consultant team will provide detailed documentation during the Design Phase. Each property owner will be properly notified through the City's Community Information Program.

Throughout La Gorce there are various right of way encroachments that have been installed by residents throughout the years.

- **Parking and Paving** - The first and perhaps most noticeable encroachment is where paving exists within the swale. These paved areas are most commonly used for parking. Some of the existing paved swales will be removed (the only exception being decorative concrete or paved driveway aprons) only on streets where improvements are proposed. The Consultant in consultation with the City, shall elect to remove or preserve the swale paving based on the following criteria:

- 1) It's impact to street drainage.
- 2) It's aesthetic value, asphalt vs. decorative pavers.
- 3) It's size vs. lot width.

The Miami Beach Code states that a revocable permit is required for swale parking. Residents who are approved for this permit must also adhere to the City approved swale-parking standards that are currently being developed. These include specific surface treatment guidelines, and angle or parallel parking requirements depending on location. The City Commission will be reviewing this issue in the coming months and a citywide policy will be developed. These standards will assist neighborhoods such as La Gorce define its visual character. This treatment will also aid in soil permeability, as the swales primary function is temporarily storage of water during heavy rains.

- **Planting** - Other right of way encroachments in La Gorce include existing tree and plant material. Although in some cases this planting is aesthetically

pleasing, some planting may require removal to regrade the swale and improve drainage. Similar encroachments include swale berms and/or curbing. In most cases, this negatively affects water drainage from the adjacent street. Where necessary, swale berms and curbs will be removed to facilitate drainage. A survey will be used to determine locations of desirable existing trees and palms, or other significant desirable improvements, which do not negatively impact roadway drainage or the neighborhood character. This survey will help to identify vegetation to preserve. Sufficient notice shall be given to the homeowner, should swale drainage improvements be necessary, allowing time for plant and/or tree relocation by owner if desired. New planting will be installed based upon the following criteria:

- 1) Where no landscaping currently exists.
- 2) Where non-desirable trees and palms currently exist, remove plant materials and re-plant.
- 3) Where minimal plant material exists (shrubs, etc.) fill in with like material or remove them if necessary.
- 4) Where drainage improvements necessitate the removal of existing berms.
- 5) Additional planting improvements to existing landscape, based on funding availability.

## **E. PROPOSED IMPROVEMENTS BY SPECIALTY TARGET AREAS**

Proposed funded streetscape improvements will be distributed in the northern and southern portions of the neighborhood based upon the input received at the two Community Design Workshop meetings.

Funded streetscape improvements include:

### **1. 51<sup>ST</sup> STREET IMPROVEMENTS (Figure V-7)**

- **Planting within the Right-of-Way** – Shade and/or flowering trees (at a height of 10'-14' and a spread of 6'-8') and palms will be installed on the existing swale (between existing trees) to create a future, continuous shade canopy, and at the Cherokee Avenue and 51<sup>st</sup> Street intersection in the expanded corner bump-outs.
- **Sidewalk Extensions** – Existing sidewalks will be extended to the edge of street pavement at intersections where necessary (Figure V-6), to allow for improved pedestrian circulation throughout the La Gorce and surrounding neighborhoods.
- **Street and Driveway Apron Resurfacing** – The entire length of 51<sup>st</sup> Street will be milled and resurfaced with 1" asphalt surface course. Additionally asphalt, grass, or gravel driveway aprons will be replaced with new asphalt driveway aprons. Existing paver, or decorative concrete driveway aprons will not be resurfaced.

- **Street Narrowing** – The entire length of 51<sup>st</sup> Street will be reduced in width from 28' to 24', with two 10' wide travel lanes and a 4' bike lane on the north side of the street. Street narrowing should function to calm the flow of traffic along 51<sup>st</sup> Street, by reducing the amount of pavement upon which to drive. Street narrowing will also increase the amount of swale area, thus increasing planting area, allowing more flexibility in tree and palm installation. In addition, all non-curbed intersection radii will be reduced to 15'. This should function to reduce the speed of vehicles that are making turns.
- **Four Way Stop Sign** – A four way stop sign is proposed at the intersection of 51<sup>st</sup> Street and Cherokee Avenue and 51<sup>st</sup> Street and Blackhawk Avenue (subject to Miami-Dade County approval). The proposed stop sign, in conjunction with street narrowing should provide a reduction in the operating speeds of vehicles on 51<sup>st</sup> Street.
- **Intersection Improvements** – The southbound La Gorce Drive sweeping curve to 51<sup>st</sup> Street will be removed. All vehicular traffic will be forced to make a 90° turn at the intersection of La Gorce Drive and 51<sup>st</sup> Street. This should function to increase pedestrian safety by reducing the speed of vehicles that are making turns onto 51<sup>st</sup> Street. During the Design Phase, The Consultant team will perform traffic counts to support Miami-Dade County's permit requirements regarding traffic calming and street closures. Intersection and traffic calming improvements are all subject to Miami-Dade County approval.

## 2. CHEROKEE AVENUE STREET END IMPROVEMENTS

- **Sidewalk Access** – A new 5' wide sidewalk will be added to the east side of Cherokee Avenue from Lake View Drive to the south end of asphalt pavement on Cherokee Avenue. The sidewalk will be located adjacent to the existing edge of road, to minimize encroachment on existing right of way landscaping.
- **Seawall Repair** – The damaged seawall located at the end of Cherokee Avenue will be repaired to meet current DERM (Department of Environmental Resource Management) and State of Florida requirements. Should these requirements not be acceptable to area residents, the City of Miami Beach will apply for a variance.
- **Tree Removal and Planting Improvements** – The large Sea Mahoe tree will be removed, to avoid further destruction of the seawall. Additional landscape material will be planted at the street end, in areas that will not affect the panoramic view of the bay. Based upon community input received at the Community Workshops, no street furniture is proposed (i.e. benches, tables, etc.)

### 3. LA GORCE PARK IMPROVEMENTS

- **GENERAL** – The La Gorce Park area is characterized by a group of streets (Alton Road extension, La Gorce Drive extension, Pine Tree Drive extension, North Bay Road, and Pine Tree Drive Circle) intersecting at varying angles into a single geographic area. This confluence of streets creates a poor visual identity and open space quality. The initial designs presented at the Community Design Workshops called for the following:
  - **Street Narrowing** - Street narrowing will increase the amount of swale area, allowing more flexibility in tree and palm installation, especially adjacent to overhead utility lines. In addition, all intersection radii will be reduced to 15'-25'. This should function to reduce the speed of vehicles in the area. In addition, the existing square footage of asphalt that now visually dominates the area will be reduced where acceptable and with appropriate landscape material.
  - **Pine Tree Drive Intersection** – The pavement width at the north intersection of Pine Tree Drive and 63<sup>rd</sup> Street will be reduced in width from 22' to 12' (See Figure V-8), creating an “Entry Only” into the La Gorce Park/La Gorce Island, while preventing traffic from exiting the La Gorce Park area from Pine Tree Drive onto 63<sup>rd</sup> Street.
  - **Alton Road Extension Cul-de-sac** – The portion of Alton Road north of 63<sup>rd</sup> Street will be closed and a cul-de-sac created (See Figure V-9). This will eliminate entry/exit into the neighborhood from this street. This not only stops a potentially dangerous traffic movement onto Alton Road (drivers have to look over their left shoulder to check west-bound traffic on Alton Road) but also creates a safer pedestrian access to the adjacent open space area.
  - **La Gorce Drive Intersection** – The La Gorce Drive extension – as the sole means of exit from the neighborhood, will be reconfigured north of 63<sup>rd</sup> Street to accommodate a new right-turn only lane to go west on Alton Road.
  - **Planting within the Right-of-Way** – Canopy and/or flowering trees will be installed (at a height of 10'-14' and a spread of 6'-8') on swales with no overhead utilities – to reduce long-term maintenance and conform to FPL standards - and few or no existing trees. Large palms/small trees will be installed on swales with overhead utilities and few or no existing trees, and will help to screen utility poles and overhead wires from view. The final planting budget will be determined once the street reconfiguration/closure issues are resolved.
  - **Sidewalk Extensions** – Existing sidewalks will be extended to the edge of street pavement at intersections where necessary (See Figure V-7), to allow for improved pedestrian circulation throughout the La Gorce and surrounding neighborhoods.

At a recent follow-up meeting with the residents of the La Gorce Park neighborhood, the rationale for the proposed street closure/reconfiguration was discussed at length. Residents were divided over the traffic implications of the proposal, mostly dependent on which side of the neighborhood they

lived: those on the Pine Tree Drive extension side preferred this intersection be closed (despite the greater probability the County would reject the closure); those on the Alton Road extension side of the neighborhood preferred the closure be on their side. Many agreed that a more defined and beautiful entrance at the La Gorce Drive intersection should be developed.

The meeting concluded with no clear consensus. However, it was agreed that these various options would be analyzed with a traffic study performed in the design phase of the project. After a clear picture of the scenarios emerges, the residents could more objectively select the preferred alternate.

**SECTION VI  
BUDGET LEVEL  
COST ESTIMATE**

## **BUDGET LEVEL COST ESTIMATE (BY FUNDING SOURCE)**

All probable opinions of cost for improvements are based on the format as provided by the City's Program Manager. Opinions of probable cost are provided for all funded improvements. Table VI-1 has been prepared in accordance with this format and meets the criteria of +30%, -15% as defined by the American Association of Cost Engineers. Opinions of Costs have been prepared for guidance during the Planning Phase and based on information available at the time this report was prepared. It should be noted that final costs of improvements will be dependent on actual labor costs, materials, actual site conditions and competitive market conditions at the time of bid award.

**SECTION VII**  
**PROJECT IMPLEMENTATION**  
**PLAN**

# PROJECT IMPLEMENTATION PLAN

## A. INTRODUCTION

The Project Implementation Plan will provide guidance for the Consultant team, Program Manager, City Staff and residents as to the remaining phases for project completion and any critical items that need to be coordinated and addressed. As with any Implementation Plan it must be flexible and updated continuously to ensure success.

The FDOT has two projects that will be ongoing during the construction of the improvements to the La Gorce neighborhood. They are:

- Alton Road (SR 907): This is on-going project to provide drainage improvements, street resurfacing and traffic calming along Alton Road. The Consultant team is working closely with the both the City and the FDOT to ensure project coordination during design and construction. The City of Miami Beach and the FDOT are working on developing a Joint Project Agreement (JPA) for the funding arrangement and required work by each party to interconnect the systems. The Consultant will assist the City in the development of the requisite JPA. This report assumes that the systems will be interconnected.
- 63<sup>rd</sup> Street (SR 907) Bridge Rehabilitation and Flyover: This project is schedule for construction in FY 2003 / 2004. During the design Phase, the Consultant will meet with the FDOT to ensure that coordination takes place early in the design process.

## B. PROPOSED SCHEDULE

The scope of this contract requires that the GO Bond Oversight Committee and the City Commission approve the BODR prior to proceeding with the remaining project phases. Table VII-1 outlines the anticipated schedule for the remaining phases including construction. This construction time will be reviewed and refined during the Design Phase.

The following is a brief description of the activities for each of the remaining phases.

- **Design**

Contract Documents will be prepared as required in the Program Work Plan manual provided to the Consultant team at the Kickoff meeting. Plans will be submitted for review at 30, 60, 90 and 100 percent phase for Program Manager and City staff review. In addition, the community will have opportunities to review the design plans as two Design Review Meetings will be held: at 60 and 90 percent phases.

- **Bid and Award**

Upon completion of the Contract Documents, the plans will be distributed to the Program Manager and the City for final processing and distribution. The Consultant team will assist in bid analysis and review and provide any required clarifications during the bid phase that will ensure accurate and complete bids.

- **Construction**

The Consultant team will provide support for the various preconstruction activities including; preconstruction conferences, the Notice to Proceed meeting with the selected Contractor. The Consultant team will also provide full time construction observation services during the life of the construction activities. This will ensure that the proper and accurate documentation is kept to final project closeout.

## **C. CRITICAL ITEMS**

As previously discussed careful coordination is and will continue to take place with the FDOT regarding the Alton Road project. The details regarding phasing and interconnection of the drainage improvements will be established during the early phases of this design project.

In any urban construction project that has multiple components, the Contract Documents must clearly address the following items:

- **Construction Sequencing**

During design, determinations will be made, at a minimum, as to number of construction phases, work zones, hours of operation and restoration requirements. The Consultant team will also investigate if “train” construction or moving work zones are appropriate. These items will be specifically incorporated in the Contract Documents through general and specific notes, Technical Special Provisions and the actual drawings. All these items will take into account minimizing disruptions to the community and providing the most expedient method of construction.

- **Maintenance of Traffic**

Maintaining traffic during construction that is safe to both the residents and construction workers is extremely important. Plans will be prepared by a Certified Work Zone Traffic Control Engineer. Sequences will be reviewed with construction inspection personnel as well as local contractors.

Based on the scope of work for the infrastructure work, we propose the following minimums guidelines:

- Length of open trench will not exceed 1000 feet at any given time.
- Open cut trenches across collector roads will either be covered with plates during non working hours or traffic will be re-routed if the operation cannot be completed by end of the work day. Traffic will only be re-routed if access is provided to the residents in the affected area at all times.
- Closures will have a minimum 1-week advance notice to the community unless otherwise approved by the Director of Public Works.

During the Design Phase, detailed Traffic Control Plans (TCP) that detail the required Maintenance of Traffic phases will be reviewed with City staff, Program Manager and residents to ensure that all are aware of the unavoidable impacts caused by construction operations.

## **D. DESIGN AND PERMITTING REVIEWS**

### **1. DESIGN REVIEWS**

The Consultant team is aware that proper coordination will be necessary during the Design Phase to ensure that comments are received from all applicable City Departments. This will prevent duplication of efforts or incompatible designs with other on-going projects. Therefore plans will be distributed for comments to the following City Departments:

- Fire Department –emergency access, fire truck access and fire flow connections
- Police – maintenance of traffic, emergency access
- Parks and Recreation- on-going activities at La Gorce Park area
- Parking – on street parking impacts at commercial area on 51<sup>st</sup> Street
- Building and Zoning – permitted projects such as driveways, entry features and additions and/or renovations that may affect water service location

## 2. PERMITS REVIEWS

The following is a brief listing of potential permits that may be required during design and construction:

- **Design**
    - a) City of Miami Beach Public Works Department – Water system permit
    - b) Miami-Dade DERM – Water system permits and Class II and Class III Drainage Permits. Final water plan fee is approximately \$90.
    - c) State of Florida DEP – General Permit for work in Outstanding Florida Waters (Biscayne Bay) both for drainage and seawall work.
    - d) City of Miami Beach Fire Marshall- Water system permit
    - e) State of Florida Health Department – Water System Permits. Review fee is approximately \$500.
    - f) Miami-Dade County Public Works Department – Traffic calming requires submission of traffic study. No fee assessed at this time.
  - **Construction**
    - a) Florida Department of Transportation – Drainage and Utility work. The City, not the Contractor must be the applicant. No fee.
    - b) City of Miami Beach Building Department – Plumbing connection permits for all service connections. The fee is approximately \$40 per service connection. The contractor may also be required to obtain permits from Planning and Zoning, Engineering and Electrical (if any). These will be identified during the early stages of the design process.
- State of Florida DEP – Class V Well construction permit

**SECTION VIII  
OPERATION AND  
MAINTENANCE ISSUES**

## **OPERATION AND MAINTENANCE ISSUES**

In addition to the significant capital investment associated with this project, the City must also allocate funds for operation and maintenance of the various components. At present the City is developing its database of accurate historical numbers in order to make the budgetary projections.

Some of the items that will require routine maintenance are:

- Tree Canopy Pruning – normal pruning cycles are typically 4 to 6 months.
- Asphalt and Pavement Markings – The life cycle of a resurfaced road is 8 to 15 years depending on traffic conditions. Pavement markings typically require re-painting every 5 years (depending on traffic conditions).
- Drainage Wells- Annual or bi-annual flushing may be needed. However many gravity wells are in constant service and do not need to be flushed.
- Water Service Lines- Poly Vinyl Chloride (PVC) and Polyethylene (PE) pipes essentially are maintenance free.

During the Design Phase, as quantities are developed detailed O&M costs will be generated consistent with the City's historical database.

**SECTION IX**  
**OPPORTUNITIES FOR**  
**“ART IN PUBLIC PLACES”**

## **OPPORTUNITIES FOR “ART IN PUBLIC PLACES”**

In 1984, the City of Miami Beach adopted its Art in Public Places Program. The program assesses a 1.5 percent cost to all City owned building construction projects or additions to existing city owned building construction projects, such as some of the CIP projects, for art opportunities in public places. Opportunities are reviewed and evaluated by the “Art in Public Places Committee” for the various projects. It is noted that no funding is available for this program under the CIP’s project funding.

The La Gorce Neighborhood may provide opportunities to incorporate some of these works at the various entry points in the neighborhood.

- 51<sup>st</sup> Street Intersection with La Gorce Drive – entry signs or textured pavers at the crosswalks. The Consultant is aware that citywide signage is under the jurisdiction of the City’s Planning Department.
- La Gorce Park- sculpture or other entry feature at the park in conjunction with the existing and proposed landscaping.
- La Gorce Drive / Pine Tree Drive Intersection- opportunities exist at this location to accentuate this important neighborhood focal point.

The Consultant team will work with the City staff and the Committee to identify other potential sites.

**SECTION X  
UNFUNDED MASTER PLAN  
RECOMMENDATIONS  
FOR  
CIP OFFICE**

## **UNFUNDED MASTER PLAN RECOMMENDATIONS FOR CIP OFFICE**

As part of the planning process, the Consultant team has developed a Master Plan comprised of both funded and future (unfunded) improvements. Many of these future improvements were either proposed by the Consultant team and/or identified by residents of the neighborhood through the community involvement process. These future improvements are consistent with the overall vision of the master plan and can be implemented at later dates as funding becomes available.

The following is a brief list of potential future improvements:

- Street Lighting along 49<sup>th</sup> Street, 50<sup>th</sup> Street, 51<sup>st</sup> Street and Delaware Avenue. These street lights will be of the acorn type at a pedestrian scale.
- Enhanced street signage. The City's Planning Department is currently assessing this on a citywide basis.
- Replace and/or refurbish Priority 3 water lines. The City is currently assessing those Priority 3 lines, if any that will be replaced under the scope of this project or those that will be replaced at future date.