CITY OF SOUTH MIAMI
INVITATION TO BID (ITB) No. PR2026-05

"SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT"

City of South Miami Commission

Mayor Javier Fernández
Vice Mayor Brian Corey
Commissioner Lisa Bonich
Commissioner Steve Calle
Commissioner Danny Rodriguez

City of South Miami City Hall
6130 Sunset Drive
South Miami, Florida 33143

ISSUE DATE: March 6, 2026

BID DUE DATE: April 3, 2026

BID DUE TIME: 10:00 AM

BID OPENING TIME: 10:30 A.M.

PUBLIC NOTICE

INVITATION TO BID (ITB) No. PR2026-5

SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT

NOTICE IS HEREBY GIVEN that the City of South Miami ("City") is soliciting bids for the **SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT**. Interested companies, firms, and individuals Bidders") may obtain a copy of **Invitation to Bid No. PR2026-05** (the "ITB") to be **issued on March 6, 2026,** at the City of South Miami 6130 Sunset Drive, South Miami, FL 33143, on the City's website at www.southmiamifl.gov, or via DemandStar at https://network.demandstar.com/. The ITB contains detailed information about the scope of work, submission requirements, and selection procedures. All notices and any addenda issued by the City with respect to the ITB will be made available on the City's website. It is the Bidder's sole responsibility to ensure receipt of any issued notice or addenda relating to this ITB once posted to the website. The bid submission shall be submitted electronically via DemandStar and marked "Bid to City of South Miami, for the **SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT.**" Bids must be received by the City by no later than **April 3, 2026 at 10:00 a.m. EST.**

E-BID OPENING VIA VIDEO CONFERENCING:

The City will only receive submittals electronically through the DemandStar Electronic Bid System (E-Bidding). To register as a business, go to https://network.demandstar.com/

Bids will be publicly opened through video conferencing using the **Zoom platform. At 10:30 AM, local time.** Members of the public are invited to view the bid opening meeting through Zoom at **https://zoom.us/j/3056636339** or by listening to the bid opening meeting on a dedicated phone line by dialing +1-786-635-1003 Meeting ID: 3056636339.

Any bid submission received after this time and date will be rejected and returned unopened. Bidders are responsible for ensuring that their bid is received in the City by the deadline.

A pre-bid conference will NOT be held for this project.

The City hereby provides notice to all Bidders of the imposition of a Cone of Silence for this solicitation, as set forth in Section 8A-7 of the City Code. "Cone of Silence," as used herein, means a prohibition on communication regarding a competitive solicitation such as a request for proposal, request for qualification, request for information or request/invitation for bid between a potential vendor, service provider, proposer or bidder, or agent, representative, lobbyist or consultant for the potential bidder; and (i) members of the City commission; (ii) the City's professional staff; or (iii) any member of the City's selection, evaluation or negotiation committee. Please contact the City Clerk and/or City Attorney with any questions on the Cone of Silence.

Date Issued: March 6, 2026

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SECTION 1.
INFORMATION FOR BIDDERS

1.1. INTRODUCTION/GENERAL BACKGROUND.

The City of South Miami, Florida (the "City") is soliciting bids for the **SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT** (the "Project"). The City hereby requests bids for the selection of one firm ("Contractor" or "Bidder") to provide the work for the Project as set forth in greater detail in **Section 3** of this Invitation to Bid ("ITB").

The Contractor awarded a contract pursuant to this ITB shall provide the services, design, labor, materials, equipment, and all incidentals necessary, as further defined in Section 3 of this ITB (the "Work" or the "Services") for the Project.

The City intends to award a contract to the lowest, responsive and responsible Bidder whose bid meets the requirements and criteria set forth in this ITB for the Work described in this ITB.

1.2. SCHEDULE OF EVENTS.

The following schedule is anticipated for this ITB process, but is subject to change by the City, in its sole discretion, at any time during the ITB procurement process.

	Event	Date*	Time* (EST)
1	**Advertisement/ Distribution of ITB**	**March 6, 2026**	**1:00 PM**
2	**Non-Mandatory Pre-Bid Meeting:**	**NONE SCHEDULED**	
3	**Deadline to Submit Questions / Requests for Clarification**	**March 20, 2026**	**10:00 AM**
4	City Issues Addenda and Responds to Questions	March 27, 2026	10:00 AM
5	**Deadline to Submit Sealed Bids – Submission Deadline**	**April 3, 2026**	**10:00 AM**
6	**E-BID OPENING VIA VIDEO CONFERENCING VIA THE ZOOM PLATFORM** at Zoom at **https://zoom.us/j/3056636339** or by listening to the bid opening meeting on a dedicated phone line by dialing +1-786-635-1003 Meeting ID: 3056636339.	**April, 3 2026**	**10:30 AM**
7	City Manager issues recommendation to City Commission	April 21, 2026	7:00 PM
8	Award Bid(s) and Agreement(s) at City Commission Meeting	April 21, 2026	7:00 PM

1.3. BID DUE DATE.

Sealed Bids must submitted electronically through the DemandStar Electronic Bid System at https://network.demandstar.com/. All sealed bids must be received by 10:00 a.m. E.S.T. on April 3, 2026 (the "Submission Deadline"). Sealed bids will be publicly opened through video conferencing using the Zoom platform. Members of the public are invited to view the bid opening meeting through Zoom at **https://zoom.us/j/3056636339** or by listening to the bid opening meeting on a dedicated phone line by dialing +1-786-635-1003 Meeting ID: 3056636339.

1.4. PRE-BID CONFERENCE AND SITE(S) VISIT.

A pre-bid conference will **NOT** be scheduled for this project.

Prior to submitting a Bid, each Bidder should visit the site and become familiar with the conditions that may, in any manner, affect the Work to be performed by the awarded contractor or the equipment, materials and labor required. The Bidder is also required to examine carefully the Scope of Work set forth in **Section 3** of this ITB and be thoroughly informed regarding any requirements or conditions that may in any manner affect the Work to be performed under the Agreement. No allowances will be made because of lack of knowledge of any conditions or requirements.

1.5. ADDENDA, CHANGES, OR REQUESTS FOR INTERPRETATION DURING BID PROCESS.

The City will not respond to oral inquiries or questions concerning this ITB. All written inquiries, requests for interpretation or clarification shall be sent to:

Steven P. Kulick
City of South Miami Chief Procurement Officer
6130 Sunset Drive
City of South Miami, FL 33143
E-Mail: Steven.Kulick@SoMiFl.gov

Any written inquiry or request for interpretation or clarification must be sent by e-mail or written correspondence and received by the City no later than **March 20, 2026 at 10:00 a.m.**

All such interpretations or clarifications will be made in writing in the form of an Addendum to this ITB issued by the City to all known and/or registered prospective Bidders. Each prospective Bidder shall acknowledge receipt of such Addenda by including it in the Bid Form. All Addenda shall be a part of this ITB and a part of the Agreement and each Bidder will be bound by such Addenda, whether or not received. It is the responsibility of each prospective Bidder to verify that it has received all Addenda issued before Bid are submitted and opened.

1.6. SUBMISSION OF BID.

Sealed Bids must submitted electronically through the DemandStar Electronic Bid System at https://network.demandstar.com/ by the Submission Deadline and must be marked as **"Bid to City of South Miami, ITB No. PR2026-05** and addressed to:

Steven P. Kulick
City of South Miami Chief Procurement Officer
6130 Sunset Drive
City of South Miami, FL 33143

E-Mail: Steven.Kulick@SoMiFl.gov

THE RESPONSIBILITY FOR OBTAINING AND SUBMITTING A BID TO THE CITY ON OR BEFORE THE SUBMISSION DEADLINE IS SOLELY AND STRICTLY THE RESPONSIBILITY OF THE BIDDER. THE CITY IS NOT RESPONSIBLE FOR ANY DELAYS THAT MAY OCCUR DURING THE SUBMISSION OF BIDS. ANY BID RECEIVED AFTER THE SUBMISSION DEADLINE STATED IN THIS ITB WILL NOT BE OPENED AND WILL NOT BE CONSIDERED. FACSIMILE AND EMAILED BID SHALL NOT BE CONSIDERED.

The Bid must be signed by an authorized officer of the Bidder who is legally authorized to bind the Bidder and enter into a contractual relationship in the name of the Bidder. The submittal of a Bid by a Bidder will be considered by the City as constituting an offer by the Bidder to perform the required Work, upon the terms and at the prices stated by the Bidder.

The City will only receive submittals electronically through the DemandStar Electronic Bid System (E-Bidding). To register as a business, go to https://network.demandstar.com/

Bids will be publicly opened through video conferencing using the Zoom platform at 10:30 AM, local time. Members of the public are invited to view the bid opening meeting through Zoom at **https://zoom.us/j/3056636339** or by listening to the bid opening meeting on a dedicated phone line by dialing +1-786-635-1003 Meeting ID: 3056636339.

Bids shall be typed or printed in ink. All blanks on the Bid form(s) must be completed. Names must be typed or printed below the signature. Bids submitted by hand-delivery, facsimile and/or email will **not** be accepted.

Only one (1) Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. If the City determines that any Bidder has interest in more than one (1) Bid for Work contemplated; all Bid in which such a Bidder is interested will be rejected. Bidder by submitting this Bid certifies that this Bid is made without previous understanding, contract, or connection with any person, firm or corporation making a Bid for the same material, supplies, equipment or services and is in all respects, fair and without collusion of fraud.

1.7. BID REQUIREMENTS & FORMAT.

Each Bidder must present its products, services, and applicable features in a clear and concise manner that demonstrates the Bidder's capabilities to satisfy the requirements of this ITB. The emphasis should be on accuracy, clarity, comprehensiveness and ease of identifying pertinent information and suitability of the Work. **Bids MUST include the following:**

1.7.1. Bid Form Package. Bidder shall provide complete and accurate copies, with all required signatures and notarizations, for all the forms in the Bid Package:

Form 1.	Bid Form Package Acknowledgement.
Form 2A.	Bidder's Certification (if Company or Corporation)
Form 2B.	Bidder's Certification (if Partnership)
Form 3.	Single Execution Affidavits
Form 4.	Dispute Disclosure
Form 5.	Certification Regarding Debarment, Suspension, & Other Responsibility Matters Primary Covered Transactions
Form 6.	Bidder's Qualifications Survey
Form 7.	Bid Form
Form 8.	Reference List
SECTION 1.7	**ALL SECTIONS**

1.7.2. Proof of Experience. Provide documentation evidencing the experience of the Bidder and demonstrating that the Bidder has successfully provided Work similar to those specified herein to other firms and/or agencies of similar size and needs as the City. The Bidder firm shall be currently engaged in Work on a full time basis and shall have been in existence and continuous operation providing the Work for a **minimum of five (5) years.**

1.7.3. Safety Record. Bidder shall provide documentation evidencing the safety and compliance record of the Bidder in performing similar Work, including information as to any safety or any noncompliance violations, assessments or citations issued by applicable governmental agencies in the past five (5) years.

1.7.4. Bidder's Qualifications. Include name, function, and qualifications of key personnel, including key subcontractors, in the organization who will be providing Work. The key person or contact assigned to the Work shall within the past **three (3) years** have conducted and been responsible for providing Work in a similar project or environment. Please note, to receive further consideration, all Bidders must provide the necessary documentation to demonstrate that they meet the following minimum qualifications:

1.7.4.1. **Service and Incorporation.** Contractor shall have been in business and continuous operation and service and incorporated in the State of Florida for a minimum of **five (5) years.**

1.7.4.2. **Licenses**. Contractor must be fully licensed with any and all applicable and required licenses, certifications and permits for Work, including government licenses, certifications, and permits from the State of Florida, Miami-Dade County, the City, and any other governing governmental regulatory authorities.

1.7.5. Insurance Certificates. Bidder shall provide certificates of insurance demonstrating compliance with the requirements set forth under Section 2 of this solicitation, including:

1.7.5.1. Commercial General Liability
1.7.5.2. Workers Compensation & Employer's Liability
1.7.5.3. Business Automobile Liability

THE CITY MAY REQUIRE HIGHER LIMITS OF INSURANCE OR ADDITIONAL COVERAGE IF DEEMED NECESSARY.

1.7.6. **Evidence of Bonding Capacity.** ***The Bidder must submit documentation from a reputable financial institution, surety company, or other authorized entity confirming the Bidder's total and single project bonding capacity to ensure that the Bidder has the ability to provide the Payment and Performance Bond required by this ITB.***

1.7.7. Bidder may provide any additional information that highlights experience or expertise, which is relevant and directly applicable to this ITB.

1.8. EVALUATION CRITERIA/AWARD OF CONTRACT.

Award shall be made to the lowest responsible and responsive Bidder whose qualifications indicate the Award will be in the best interest of the City and whose Bid complies with the requirements of this ITB.

In no case will the Award be made until all necessary investigations have been made into the responsibility of the Bidder and the City Manager is satisfied that the Bidder is qualified to do the Work and have the necessary organization, capital and equipment to carry out the Work in the specified timeframes. The responsible bidder shall be a person who has the capability in all respects to fully perform the contract requirements and the tenacity, perseverance, integrity, experience, ability, reliability, capacity, facilities, equipment, financial resources and credit which will give a reasonable expectation of good faith performance, and a person who has submitted a bid which conforms in all material respects to the ITB (the "Responsible Bidder"). In evaluating responsibility, the City may also consider previous contracts with the City, past performance and experience with other contracts, compatibility of the project team with City personnel, and any other criteria deemed relevant by the City. The City Manager or designee may reject those bids that do not meet the minimum requirements of the ITB.

If the City accepts a bid, the City will provide a written notice of award to the lowest responsible and responsive Bidder who meets the requirements of this ITB. If the successful bidder to whom the contract is awarded forfeits the award by failing to meet the conditions of this ITB, the City may, at the City's sole option, award the contract to the next lowest, responsive, and responsible bidder or reject all bids or re-advertise the Work.

Neither this ITB, nor the notice of award of the Agreement(s) constitutes an agreement or contract with the Successful Bidder(s). An agreement or contract is not binding until a written agreement or contract, in substantially the form attached hereto as **Attachment "A,"** has been executed by the City and the Successful Bidder(s) and approved as to form, content, and legal sufficiency by the City Manager and City Attorney.

1.9. CITY'S RIGHTS; WAIVER OF IRREGULARITIES.

The City reserves the right to reject any or all bids which is in any way incomplete or irregular, re-bid the entire solicitation, or enter into contracts with more than one Contractor.

The City reserves the right to accept or reject any and/or all Bid or parts of Bid, to workshop or negotiate any and all Bid, to select and award Bidder(s) for all or any of the Work, waive irregularities in Bid, to cancel or discontinue this ITB process, and to request new Bid on the required Work or services. The City Commission shall make the final determination and award of Bid(s).

All materials submitted in response to this Invitation to Bid become the property of the City and will be returned only at the option of the City. The City has the right to use any or all ideas presented in any Bid or responses to the ITB, whether amended or not, and selection or rejection of Bid does not affect this right.

1.10. CODE OF ETHICS PROVISIONS.

1.10.1. Cone of Silence.

The provisions of City's Cone of Silence are applicable to this ITB. The City's Cone of Silence provisions can be found under Section 8A-7 of the City Code of Ordinances. Questions regarding the Cone of Silence may be sent to:

Nkenga "Nikki" Payne, CMC, FCRM
City Clerk
City of South Miami
6130 Sunset Drive
South Miami, Florida 33143
Nkenga.Payne@SoMiFl.gov

The Cone of Silence as used herein means a prohibition of any communication regarding a competitive solicitation such as a request for proposal, request for qualification, request for information or invitation/request for bid, between a potential vendor, service provider, proposer or bidder (hereinafter referred to as the "potential bidder"), or agent, representative, lobbyist or consultant for the potential bidder; (hereinafter referred to as the "bidder's representative"); and

(i) Members of the City Commission; or
(ii) City's professional staff; or
(iii) Any member of the City's selection, evaluation or negotiation committee.

The provisions of the Cone of Silence shall not apply to:

(i) Communications at a duly noticed pre-bid conferences or at any duly noticed public selection or negotiation committee meeting or duly noticed public City commission meeting at which the City Manager has placed the subject of the solicitation on the agenda;
(ii) Communication regarding the solicitation at recorded contract negotiations, recorded oral presentation or recorded oral question and answer session and recorded contract negotiation strategy sessions in compliance with the exemption in F.S. § 286.0113;
(iii) Briefings made by the City Manager or his designee to the City Commissioners during a meeting following the completion of the selection or negotiation committee meetings;
(iv) Written communication at any time with any City professional staff (not including selection, evaluation or negotiation committee members), unless specifically prohibited by the applicable competitive solicitation documents. This section shall not be construed to prevent written communication between City professional staff and any City selection, evaluation or negotiation committee. A copy of any written communication made during the cone of silence shall be contemporaneously filed with the City clerk by the potential bidder or bidder's representative. The City clerk shall make copies available to any person upon request;
(v) Communication that is strictly limited to matters of those processes or procedures that are contained in the corresponding solicitation document and which communication is between any person and the City's purchasing agent or the City employee who is designated as being responsible for administering the procurement process for such solicitation;
(vi) Communications with the City attorney and his or her staff;
(vii) Communications during any duly noticed site visits to determine the competency and responsibleness of bidders regarding a particular bid during the time period between the opening of bids and the time the City Manager makes a written recommendation;
(viii) Any emergency procurement of goods or services pursuant to City code;
(ix) Responses to a request made by the City's purchasing agent, or the City employee who is designated as being responsible for administering the procurement process for such solicitation, for clarification or additional information;
(x) Communications prior to bid opening between City's professional staff and potential bidders and/or bidder's representatives to enable City staff to seek and obtain industry comment or perform market research, provided all communications related thereto between a potential bidders and/or bidder's representatives and any member of the City's professional staff including, but not limited to the City Manager and his or her staff, are in writing or are made at a duly noticed public meeting.

1.10.2. Lobbying Prohibited. All potential Bidders and their agents who intend to submit, or who submitted, a bid or response to this solicitation, are prohibited from lobbying, individually or collectively, any City Commissioner, candidate for City Commissioner, or any employee of the City in connection with this solicitation.

The term "Lobbyist" means all persons (including officers and managers of a legal entity), firms, or legal entities such as a corporation, partnership or limited liability company, employed or retained by a principal (including an officer of the principal or an employee of the principal whose duties include marketing, or soliciting business, for the principal) who seeks to encourage the passage, defeat, or modifications of (1) ordinance, resolution, action or decision of the City Commission; (2) any action, decision, recommendation of the City Manager or any City board or committee; or (3) any action, decision or recommendation of City personnel during the time period of the entire decision-making process on such action, decision or recommendation which foreseeably will be heard or reviewed by the City Commission, or a City board or committee.

Contact may only be made through regularly scheduled Commission meetings, or meetings scheduled through the Procurement Division, which is for the purpose of obtaining additional or clarifying information or as otherwise provided for in the City's Cone of Silence. Any presentation before a selection committee is considered to be lobbying; however, the presentation team may avoid formal registration by complying with section 8A-5(c)(9), of the City Code of Ordinances and completing Attachment B to this ITB. Any person who submits a proposal, whether solicited or unsolicited, on behalf of his or her principal or his or her employer is considered to be a lobbyist and must register. An officer or manager of a legal entity who is submitting a proposal, whether solicited or unsolicited, is considered to be a lobbyist. All Bidders are strongly encouraged to review Section 8A-5 of the City Code of Ordinances for further information.

To register as a lobbyist, please contact the City Clerk at:

Nkenga "Nikki" Payne, CMC, FCRM
City Clerk
City of South Miami
6130 Sunset Drive
South Miami, Florida 33143
Nkenga.Payne@SoMiFl.gov

END OF SECTION 1

SECTION 2.
TERMS AND CONDITIONS

2.1. PURPOSE OF BID.

The City requests Bids from qualified firms for the **SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT** (the "Project"). The Work to be performed includes, but is not limited to, services as further detailed in the Scope of Services provided in **Section 3** herein (the "Work" or "Services"). The frequency, nature, scope and definition of the Work desired or required by the City may change from time to time, at the City's discretion.

The City intends to secure a source of supply(s) for the Work from a qualified contractor(s) that conform to the requirements of this ITB and is most advantageous to the City and in its best interest. The City reserves the right to award the Bid(s) considered to best serve the City's interests.

2.2. DELIVERY.

All equipment, materials, and goods in connection with the Work shall be delivered F.O.B. destination (i.e., at a specific City address), and delivery costs and charges (if any) will be included in the Bid pricing. Exceptions should be noted.

2.3. EQUIPMENT.

Any equipment or products used by Contractor to provide Work pursuant to this ITB shall remain the property of the Contractor. In the event equipment or products used by the Contractor are found to be defective, of unsatisfactory quality, or do not conform to the requirements of this ITB or the Specifications, the City reserves the right to reject the equipment or product(s), at the Contractor's expense.

2.4. PRICING.

The Bid form attached to this ITB under **Section 4** and to be included with each Bid shall specify the Bidder's pricing and/or fees for the equipment and Work requested herein. Bidder should include any and all applicable taxes in Bid prices. If the Bidder is awarded an Agreement pursuant to this ITB, the prices and fees quoted in the Bid shall remain fixed and firm during the term of the Agreement.

2.5. BID COSTS.

Bidders submitting Bid do so entirely at their own cost and expense. There is no expressed or implied obligation by the City to reimburse any individual or firm for any costs or expenses incurred in preparing or submitting Bid, providing additional information when requested by the City, or for participating in any selection interviews.

2.6. LICENSES AND PERMITS.

Bidder shall secure any and all necessary and required licenses, certifications and permits to conduct the Work, including, but not limited to, all Federal, State, County and City licenses and permits. All Bidders must provide the necessary documentation to demonstrate that they meet all applicable licensing and permitting requirements.

By submitting a Bid in response to this ITB, Bidder represents and warrants to the City that it holds all licenses, certifications and permits ("Licenses") required by applicable law and by any other governmental authority or agency to perform the Work. Bidder represents and warrants to the City that the Licenses shall be in full force and effect on the date of performance of the Work and further represents that it holds and will hold all Licenses throughout the term of the Agreement. Bidder shall provide the City with

copies of all Licenses and any additional permits that may be required for performance of the Work with its Bid and during the term of the Agreement.

Where the Contractor is required to enter onto City property, public rights-of-way or other property to deliver equipment or to perform the Work as a result of a Bid award, the Contractor will assume the full duty, obligation and expense of obtaining all necessary approvals, licenses, permits, inspections and insurance required. The Contractor shall be liable for any damages or loss to the City property, or other property or persons, occasioned by the acts or omissions, or the negligence of the Bidder (or their agent) or any person the Bidder has designated in the performance of the Work, as a result of the Bid.

2.7. INSURANCE.

2.7.1. If selected, the Contractor shall secure and maintain throughout the duration of the awarded contract insurance of such types and in such amounts not less than those specified below as satisfactory to City, naming the City as an Additional Insured, underwritten by a firm rated A-X or better by A.M. Best and qualified to do business in the State of Florida. The insurance coverage shall be primary insurance with respect to the City, its officials, employees, agents and volunteers naming the City as additional insured. Any insurance maintained by the City shall be in excess of the Contractor's insurance and shall not contribute to the Contractor's insurance. The insurance coverages shall include at a minimum the amounts set forth in this section and may be increased by the City as it deems necessary or prudent. Copies of Contractor's actual Insurance Policies as required herein and Certificates of Insurance shall be provided to the City, reflecting the City as an Additional Insured. Each Policy and certificate shall include no less than (30) thirty-day advance written notice to City prior to cancellation, termination, or material alteration of said policies or insurance. All coverage forms must be primary and non-contributory and the Contractor shall provide a waiver of subrogation for the benefit of the City. The Contractor shall be responsible for assuring that the insurance policies and certificates required by this Section remain in full force and effect for the duration of the Work.

2.7.1.1. Commercial General Liability coverage with limits of liability of not less than a $1,000,000 per Occurrence combined single limit for Bodily Injury and Property Damage. This Liability Insurance shall also include Completed Operations and Product Liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor. The General Aggregate Liability limit and the Products/Completed Operations Liability Aggregate limit shall be in the amount of $2,000,000 each.

2.7.1.2. Workers Compensation and Employer's Liability insurance, to apply for all employees for statutory limits as required by applicable State and Federal laws. The policy(ies) must include Employer's Liability with minimum limits of $1,000,000.00 each accident. No employee, subcontractor or agent of the Contractor shall be allowed to provide Work pursuant to this ITB who is not covered by Worker's Compensation insurance.

2.7.1.3. Business Automobile Liability with minimum limits of $1,000,000.00 per Occurrence, combined single limit for Bodily Injury and Property Damage. Coverage must be afforded on a form no more restrictive than the latest edition of the Business Automobile Liability policy, without restrictive endorsements, as filed by the Insurance Service Office, and must include Owned, Hired, and Non-Owned Vehicles.

2.7.2. The Contractor agrees to indemnify, defend and hold harmless the City from and against any and all claims, suits, judgments, losses, damages, executions and/or liabilities as to bodily injuries and/or property damage which arise or grow out of the Agreement or Contractor's performance of the Work required by this ITB.

2.7.3. The Contractor shall also, upon request by the City, provide copies of all official receipts and endorsements as verification of Contractor's timely payment of each insurance policy premium as required by the Agreement.

2.7.4. THE CITY MAY REQUIRE HIGHER LIMITS OF INSURANCE OR ADDITIONAL COVERAGE IF DEEMED NECESSARY.

2.8. BONDS. The selected Contractor must, prior to performing any portion of the Work and within three (3) days of the Effective Date of the Construction Contract, deliver to the City the Bonds required to be provided by Bidder hereunder and the Construction Contract(collectively, the "Bonds"). The City, in its sole and exclusive discretion, may also require other bonds or security, in order to guaranty that the awarded contract with the City will be fully and appropriately performed and completed. The surety providing such Bonds must be licensed, authorized, and admitted to do business in the State of Florida and must be listed in the Federal Register (Dept. of Treasury, Circular 570). The cost of the premiums for such Bonds shall be included in the contract price. If notice of any change affecting the scope of services/work, the contract price, contract time, or any of the provisions of the Construction Contract is required by the provisions of any bond to be given to a surety, the giving of any such notice shall be the selected Contractor's sole responsibility, and the amount of each applicable bond shall be adjusted accordingly. If the surety is declared bankrupt or becomes insolvent or its right to do business in Florida is terminated or it ceases to meet applicable law or regulations, the selected Contractor shall, within five (5) days of any such event, substitute another bond (or Bonds as applicable) and surety, all of which must be satisfactory to the City.

2.8.1. Performance Bond. If this provision is selected, the selected Contractor must deliver to the City a performance bond in an amount equal to 100 percent of the price specified in the contract. The performance bond shall provide that the bonding company will complete the project if the selected Contractor defaults on the contract with the City by failing to perform the contract in the time and manner provided for in the contract.

2.8.2. Payment Bond. If this provision is selected, the selected Contractor must deliver to the City a payment bond in an amount equal to 100 percent of the price specified in the contract. The payment bond shall provide that the bonding company or surety will promptly pay all persons who supply labor, materials, or supplies used directly or indirectly in the performance of the work provided for in the contract between the selected Contractor and the City if the selected Contractor fails to make any required payments only.

2.8.3. Waiver of Bonds. If this provision is selected, the City Manager has waived or limited the requirements contained herein for payment or performance bonds upon such circumstances as are deemed in the best interest of the City**. If the requirement for a payment bond is waived, the City shall select this box: ☐. If the requirement for a performance bond is waived, the City shall select this box: ☐.**

2.8.4 Bid Guarantee/Bid Bond. The Bidder, in submitting this Bid, shall include a Bid Bond in the amount of 5% of the total amount of the base Bid on the Bid Bond Form included herein. A company or personal check shall not be deemed a valid Bid Security. The successful Bidder shall execute the Contract (Agreement) and provide the required Performance Bond, Payment Bond and Certificates of Insurance within ten (10) calendar days of Notice of Award by the City. The Bidder who has the Contract awarded to him and who fails to execute the Contract and furnish the Performance and Payment Bonds and Insurance Certificates within the specified time shall forfeit the Bid Security that accompanied his Bid, and the Bid Security shall be retained as liquidated damages by the City, and it is agreed that this sum is a fair estimate of the amount of damages the City will sustain in case the Bidder fails to enter into the Contract and furnish the Bonds as herein before provided. Bid Security deposited in the form of a cashier's check drawn on a local bank in good standing shall be subject to the same requirements as a Bid Bond. **If the City Manager has waived the requirement for bid bond/bid security, the City shall select this box: ☐.**

BID OR PROPOSAL SURETY BID BOND of not less than five percent (5%) of the total actual bid in the form of **a Surety Bid Bond** made payable to the City of South Miami, Florida "Finance Department" must accompany each bid. **A Surety Bid Bond in an amount less than five percent (5%) of the actual bid will invalidate the bid.**

1. **Surety Bid Bonds May be Included with your Electronic Bid Submittal via Demand Star at https://network.demandstar.com/.**

BID BONDS SUBMITTED MUST INCLUDE:

□ Bidder's Name Shown

□ Bonding Company's Name

□ The Bond execution date

□ Surety Name, Seal, Signature of FL Licensed Insurance Agent or Attorney-in-Fact for Surety Company, Name printed with Power of Attorney form attached.

□ Ensure the bond is countersigned by a Florida Licensed Insurance Agent (if needed) with name printed to the right.

□ Include the State and County Name where the attestation is taking place.

□ Verify Notary Public expiration date is current. Re: Florida Insurance Agent personally known or ID produced, Name of Surety, City and State, Date Notarized, Signature and Seal of Notary indicating state where licensed and expiration date.

□ INCLUDE APPLICABLE POWER OF ATTORNEY

2.9. COMPLIANCE WITH LAW AND OTHER REQUIREMENTS.

Contractor shall conduct its operations in compliance with all applicable federal, State, County and City laws and regulations in providing the Work required by this ITB.

2.10. ASSIGNMENT.

The Contractor shall not transfer or assign the performance of the Work required by this ITB and the Agreement without the City's prior written consent. Any award issued pursuant to this ITB and monies which may be payable by the City, are not assignable except with the City's prior written approval.

2.11. ATTORNEY'S FEES.

If the City incurs any expense in enforcing the terms of the Agreement, whether suit be brought or not, Contractor agrees to pay all such costs and expenses including, but not limited to, court costs, interest and reasonable attorney's fees.

2.12. CONTRACTOR'S RELATION TO THE CITY.

It is expressly agreed and understood that the Contractor is in all respects an independent contractor as to all Work hereunder, and that the Contractor is in no respect an agent, servant or employee of the City. This ITB specifies the Work to be performed by the Contractor, but the method to be employed

to accomplish the Work shall be the responsibility of the Contractor, unless otherwise provided in the Agreement or by the City.

2.13. DISCRIMINATORY PRACTICES.

The Contractor shall not discriminate or deny service, deny access, or deny employment to any person on the basis of race, color, creed, sex, sexual orientation, religion or national origin. The Contractor will strictly adhere to the equal employment opportunity requirements and any applicable requirements established by the State of Florida or the Federal Government.

2.14. CANCELLATION.

Failure on the part of the Contractor to comply with the conditions, specifications, requirements and terms as determined by the City, shall be just cause for cancellation of the award, with the Contractor holding the City harmless.

2.15. INDEMNIFICATION.

The Contractor shall indemnify, save harmless and defend the City, its officers, agents and employees from and against any claims, demands or causes of action of whatsoever kind or nature arising out of any act, error, omission, negligent act, conduct or misconduct of the Contractor, its agents, servants or employees, in the performance of the Work pursuant to this ITB and/or from any procurement decision of the City including without limitation, awarding the Agreement to a Contractor.

2.16. MULTIPLE /OTHER VENDORS.

The City reserves the right to select and award multiple Bidders to provide some or all of the Work. If the selected contractors are unavailable, the City reserves the right to seek and obtain other sources.

2.17. PUBLIC ENTITY CRIME/DISQUALIFICATION.

Pursuant to Section 287.133(3)(a), Florida Statute, all Bidders are advised as follows:

"A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity and may not transact business with any public entity in excess of the threshold amount provided in s.287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list."

2.18. NO CONTINGENCY FEE.

Bidder shall warrant that it has not employed or retained any company or person, other than a bona fide employee working solely for the Bidder, to solicit or secure the Agreement and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for the Bidder, any fee, commission, percentage, gift or other consideration contingent upon or resulting from the award or making the Agreement. For the breach or violation of this provision, the City shall have the right to terminate the Agreement, without liability, at its discretion.

2.19. PUBLIC RECORDS; CONFIDENTIALITY.

Bidders are hereby notified that all information submitted as part of or in support of Bid submitted pursuant to this ITB are public records subject to public disclosure in accordance with Chapter 119, Florida Statutes. If there is any apparent conflict between Florida's Public Records Law and this ITB, Florida Law will govern and prevail.

All Bids submitted in response to this ITB shall become the property of the City. Unless the information submitted is proprietary, copyrighted, trademarked, or patented, the City reserves the right to utilize any or all information, ideas, conceptions, or portions of any Bid in its best interest. Acceptance or rejection of any Bid shall not nullify the City's rights hereunder.

Notice Pursuant to Section 119.0701(2)(a), Florida Statutes. IF THE BIDDER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE BIDDER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS SOLICITATION, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

Custodian of Records:	**Nkenga "Nikki" Payne, CMC, FCRM**
Mailing address:	**6130 Sunset Drive**
	South Miami, FL 33143
Telephone number:	**305-663-6340**
Email:	Nkenga.Payne@SoMiFl.gov

2.20. GRANT FUNDING.

By submitting a response to this solicitation, Bidders acknowledge that the Work or Services may be fully or partially funded utilizing funds from the grants listed below (the "Grant"). Accordingly, by submitting a response to this competitive solicitation, the Bidder warrants and represents that it has reviewed the terms and conditions for each Grant and will perform the Work or Services in accordance with the terms and conditions of the Grant(s).

Grant Title	Grant Agreement Attachment No.

If the Work or the Services will be funded utilizing Grant funds, the City shall select this box:☐.

END OF SECTION 2

SECTION 3.
SCOPE OF WORK, SPECIFICATIONS, AND REQUIREMENTS

3.1 GENERAL REQUIREMENTS.

The work specified in this Invitation to Bid (ITB) consists of furnishing all goods, materials, supplies, and services necessary to provide a completed project that meets all of the needs described in this Scope of Services and as otherwise described in this ITB (the "Work"). The Work is to be performed per specifications and the contract documents. The Work is to be performed in accordance with the specifications and the contract documents (as defined in the Instructions for Bidders) that are provided to the Contractor by the City as well as in accordance with those plans, drawings and specifications that are required to be produced by the Contractor and that are approved by the City. This includes but is not limited to keeping the project site clean and safe; the furnishing all labor of the Contractor and the labor of all allowable subcontractors; providing dumpster(s); disposing of materials; providing all necessary engineering and architectural plans, drawings and technical specifications; all permits; all necessary equipment, including rental equipment, machinery, tools, transportation and freight; coordination with any other City contractor, subcontractors and utility companies (i.e. power, gas, water); erecting construction safety measures, including fencing, privacy screening and cones, and ensuring that the safety measure are in place at the end of each working day; root pruning and sod restoration at affected areas to the City's satisfaction; cleaning the construction site at the end of each working day; maintenance of traffic and hiring of off duty City police officer if required by the City; and any other goods and services necessary to perform all of the Work.

Prior to any digging, Contractor must locate all underground utilities and other facilities as well as contacting **Sunshine 811** to coordinate the process between excavators and member utilities in Florida so that the utilities can mark the approximate location of all their underground facilities, including power lines, telephone lines, pipes, and cables on construction site.

In all cases, it is the responsibility of Contractor to obtain and pay for all licenses and other permits (including tree permits), provide signed and seal footing and foundation specifications for permitting, as well as all laboratory tests, engineering and architectural specifications, drawings and plans that are necessary to secure any and all permits and licenses required to complete Work. **In addition**, Contractor will be required to obtain, pay for and deliver to the City as-built plans for all of the Work. Permit fees are waived for permits required to be issued directly by the City of South Miami. Permit fees charged by other government entities, if required, are the responsibility of the Bidder/Contractor; however, in all cases; it is the responsibility of Bidder/Contractor to secure **any and all permits** that may be required for this project.

Work activity is limited to the hours from 7:00 a.m. through 4:00 p.m., from Monday through Friday

3.2 SPECIFIC REQUIREMENTS.

The City is soliciting bids from qualified firms to construct new parking lot improvements at **South Miami Park, located at 4300 SW 58 Avenue, South Miami, FL 33143 (the "Project")**. The Scope of Work for the Project includes but is not limited to general site

preparation and demolition, parking lot construction, utility and lighting upgrades, security cameras, landscaping, and entrance gate upgrades.

The selected Contractor will be responsible for providing all labor, materials, equipment, and incidentals required to complete the project in accordance with the contract documents, drawings, and specifications. All Work must comply with applicable federal, state, and local codes, including ADA requirements.

The Contractor's lump sum proposal shall include all materials, equipment, labor, and incidentals necessary to complete the Project in its entirety. This includes, but is not limited to, the following responsibilities:

- Maintaining a clean and safe job site at all times.
- Providing all required labor (including subcontractors, where permitted), tools, equipment, and transportation.
- Supplying and maintaining dumpsters, and ensuring proper disposal and recycling of all waste in accordance with applicable regulations.
- Providing and servicing portable toilets for the duration of construction.
- Preparing and submitting all necessary engineering and architectural drawings, plans, and technical specifications.
- Obtaining all required permits and licenses, including coordinating with Sunshine 811 for utility locates.
- Installing appropriate construction safety measures such as fencing, privacy screens, and traffic cones.
- Restoring any disturbed sod, landscaping, and grading to original condition or better.
- Performing daily site cleanup and ensuring all safety precautions remain in place after work hours.
- Coordinating with other City contractors, subcontractors, and utility providers (e.g., power, gas, water).
- Managing traffic control as needed, including the use of off-duty City police officers when required.
- Providing as-built drawings and all documentation required for Project closeout.
- Installing straw or hay bale barriers around yard drains to prevent sediment from entering existing catch basins.
- Performing daily site cleanup and ensuring all safety precautions remain in place after work hours, and safe unrestricted access is available to the park facilities.

- The park entrance must remain clear of any obstructions and fully operational for vehicular traffic use after work hours.

3.3 SITE LOCATION.

The Project will be held at **South Miami Park, located at 4300 SW 58 Avenue, South Miami, FL 33143. Prospective bidders are strongly encouraged to visit the Project site prior to submitting a proposal.**

3.4 PLANS AND SPECIFICATIONS.

Plans and Specifications prepared by M & J Engineering are provided as ***Attachment C & Attachment D.***

3.5 PROJECT DURATION.

After permit(s) have been secured/approved, the Bidder is responsible for completing this Project within **one-hundred eighty days (180) calendar days** from issuance of Notice to Proceed/Purchase Order/Email Notification from the City's Project Manager. **The anticipated start date is Spring 2026.**

3.5 WARRANTY.

Bidder must include a warranty and/or guarantees of all material and labor that includes:

3.5.1.1 any conditions; and
3.5.1.2 guaranteed response time for repair; and
3.5.1.3 guaranteed replacement during the warranty period; and
3.5.1.4 life expectancy under normal use; and
3.5.1.5 Failures during the warranty period must be repaired or replaced to the satisfaction of the City; and
3.5.1.6 the term of the warranty.

At a minimum, Bidder/Contractor must warrant their Work to be free of significant defects in workmanship and materials for a period of one (1) year and if General Conditions are made part of the contract documents for this Project, at a minimum, Bidder/Contractor must warrant their Work in accordance with the warranty requirements found in the General Conditions to the Contract.

If equipment is being provided, the standard manufacturer's warranty information must be provided in writing for all equipment being proposed and, if required by the warranty, such equipment must be installed by an authorized installer before final payment is made. If the manufacturer's warranty is issued to the Bidder/contractor, Bidder/Contractor must assign it to the City.

3.6 DOCUMENTATION.

A prerequisite to final payment is the execution and delivery to the City of all documents required by any governmental agency, including the City. Such documentation includes documentation for the conveyance of any property or facilities that are the subject of this Project.

BID BOND/BID GUARANTEE IS REQUIED FOR THIS PROJECT
******REFER TO SECTION 2.8.4******

PERFORMANCE AND PAYMENT BONDS ARE REQUIRED

*****PLEASE REFER TO SECTION 1.7.6 "EVIDENCE OF BONDING CAPACITY, MUST BE SUBMITTED WITH THE RESPONDENT'S PROPOSAL*****

END OF SECTION 3

SECTION 4.

BID FORM PACKAGE

As provided in the ITB, the following items must be attached to this Bid including **Section 1.7 "Bid Requirements and Format," ALL sections in this Section.**

FORMS	STATUS
Form 1 – Bid Form Package Acknowledgement	√
Form 2A. Bidder's Certification (if Company or Corporation)	√
Form 2B. Bidder's Certification (if Partnership)	√
Form 3. Single Execution Affidavits	√
Form 4. Dispute Disclosure	√
Form 5. Certification Regarding Debarment, Suspension, & Other Responsibility Matters Primary Covered Transactions	√
Form 6. Bidder's Qualifications Survey	√
Form 7. Bid Form/Schedule of Values	√
Form 8. Reference List	√
Section 1.7 "Bid Requirements and Format," All Sections	√
Attachment A: Sample Contract MUST Be Signed and Returned as a part of the Bid Submittal confirming the Bidders Agreement to the Terms and Conditions Herin	√

ATTACHMENTS

This competitive solicitation incorporates the following attachments, which should be reviewed thoroughly and, if applicable, completed prior to submitting a response to this competitive solicitation.

The City is attaching the following Attachments:

Attachment A. **Sample Contract**

NOTE: Sample Construction Contract MUST Be Signed and Returned as a part of the Bid Submittal confirming the Respondents Agreement to the terms and conditions contained herin.

Attachment B: **Declaration /Affidavit of Representation**

Attachment C: **Design Plans Prepared By M & J Engineering**

Attachment D **South Miami Park Parking Lot Improvements Specifications Prepared By M & J Engineering**

Attachment E: **Form Payment and Performance Bonds**

FORM 1

BID FORM PACKAGE ACKNOWLEDGEMENTS

I hereby propose to furnish the goods and services specified in **the Invitation to Bid, ITB No. PR2026-05.** I agree that my Bid will remain firm for a period of 180 days after opened by the City in order to allow the City adequate time to evaluate the Bid.

I certify that all information contained in this Bid is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this Bid on behalf of the Firm named as the Proposing Firm and that said Firm is ready, willing, and able to perform if awarded the Agreement.

I further certify, under oath, that this Bid is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a Bid; no officer, employee or agent of the City of South Miami or any other Bidder has an interest in said Bid. Furthermore, I certify that the undersigned executed this Bid Form with full knowledge and understanding of matters therein contained and was duly authorized.

I further certify that the Bidder acknowledges receipt of all Addenda issued by the City in connection with the ITB (Check the box next to each addendum received).

_____ Addendum 1	_____ Addendum 6
_____ Addendum 2	_____ Addendum 7
_____ Addendum 3	_____ Addendum 8
_____ Addendum 4	_____ Addendum 9
_____ Addendum 5	_____ Addendum 10

Attached hereto are the following forms/documents which form a part of this Bid including **ALL** sections in **Section 1.7**:

- ❑ Form 1. Proposal Form Package Acknowledgement.
- ❑ Form 2A. Bidder's Certification (if Company or Corporation)
- ❑ Form 2B. Bidder's Certification (if Partnership)
- ❑ Form 3. Single Execution Affidavits
- ❑ Form 4. Dispute Disclosure
- ❑ Form 5. Certification Regarding Debarment, Suspension
- ❑ Form 6. Bidder's Qualifications Survey
- ❑ Form 7. Bid Form/Schedule of Values
- ❑ Form 8. Reference List
- ❑ **Section 1.7 Bid Requirements and Format, <u>All Sections</u>**
- ❑ **Attachment A: <u>Sample Contract Returned Signed</u>**

FORM I
BID FORM PACKAGE ACKNOWLEDGEMENTS (CONTINUED)

_____
NAME OF BIDDER FIRM

_____
SIGNATURE OF BIDDER

_____
NAME & TITLE, TYPED OR PRINTED

MAILING ADDRESS
_____

_____

(____) _____
TELEPHONE NUMBER

State of Florida
County of _____

The foregoing instrument was acknowledged before me by means of ___ physical presence or __ online notarization, this _____ day of _____, 20___, by_____ (name of person) as _____ (type of authority) for _____ _____(name of party on behalf of whom instrument is executed).

_____
Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

FORM 2A
BIDDER'S CERTIFICATION

(if Company or Corporation)

CERTIFICATE

STATE OF _____)
) SS
COUNTY OF _____)

I HEREBY CERTIFY that a meeting of the Board of Directors of

_____

a corporation or company existing under the laws of the State of _____, held on _____, 2026, the following resolution was duly passed and adopted:

RESOLVED, that, as _____of the Corporation/Company, be and is hereby authorized to execute the Bid dated, _____, 2026 to the City of South Miami for **ITB No. PR2026-05 SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT** and that this execution thereof, attested by the Secretary of the Corporation/Company, and with the Corporate/Company Seal affixed, shall be the official act and deed of this Corporation/Company.

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of corporation/company on this the _____ of _____, 2026.

_____
Secretary

(SEAL)

FORM 2B
BIDDER'S CERTIFICATION

(if Partnership)

CERTIFICATE

STATE OF _____)
) SS
COUNTY OF _____)

I HEREBY CERTIFY that a meeting of the Partners of _____ _____, a partnership existing under the laws of the State of _____, held on _____, 2026, the following resolution was duly passed and adopted:

"RESOLVED, that _____, as _____ of the Partnership, be and is hereby authorized to execute the Bid dated _____, 2023, to the City of South Miami for **ITB No. PR2026-05 SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT** from this partnership and that his execution of thereof, attested by the shall be the official act and deed of this Partnership."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of _____, 2026.

_____
Secretary

(SEAL)

FORM 3
SINGLE EXECUTION AFFIDAVITS
THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

THIS FORM COMBINES SEVERAL AFFIDAVIT STATEMENTS TO BE SWORN TO BY THE BIDDER OR BIDDER AND NOTARIZED BELOW. IN THE EVENT THE BIDDER OR BIDDER CANNOT SWEAR TO ANY OF THESE AFFIDAVIT STATEMENTS, THE BIDDER OR BIDDER IS DEEMED TO BE NON-RESPONSIBLE AND IS NOT ELIGIBLE TO SUBMIT A BID/BID. THESE SINGLE EXECUTION AFFIDAVITS ARE SUBMITTED TO THE CITY OF SOUTH MIAMI AND ARE STATEMENTS MADE:

By: _____

For (Name of Proposing or Bidding Entity): _____

Whose business address is:_____

And (if applicable) its Federal Employer Identification Number (FEIN) is: _____

(if the entity does not have an FEIN, include the Social Security Number of the individual signing this sworn

statement. SS#:_____)

Americans with Disabilities Act Compliance Affidavit

The above named firm, corporation or organization is in compliance with and agrees to continue to comply with, and assure that any subcontractor, or third party contractor under this Project complies with all applicable requirements of the laws listed below including, but not limited to, those provisions pertaining to employment, provision of programs and services, transportation, communications, access to facilities, renovations, and new construction.

- The American with Disabilities Act of 1990 (ADA), Pub. L. 101-336, 104 Stat 327, 42 USC 12101122213 and 47 USC Sections 225 and 661 including Title I, Employment; Title II, Public Services; Title III, Public Accommodations and Services Operated by Private entities; Title IV, Telecommunications; and Title V, Miscellaneous Provisions.
- The Florida Americans with Disabilities Accessibility Implementation Act of 1993, Section 553.501-553.513, Florida Statutes:
- The Rehabilitation Act of 1973, 229 USC Section 794;
- The Federal Transit Act, as amended 49 USC Section 1612;
- The Fair Housing Act as amended 42 USC Section 3601-3631.

_____
Bidder Initials

Public Entity Crimes Affidavit

I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentations.

I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

1. A predecessor or successor of a person convicted of a public entity crime; or
2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, and partners, shareholders, employees, members, and agents who are active in management of an entity.

Based on information and belief, the statement, which I have marked below, is true in relations to the entity submitting this sworn statement.

(INDICATE WHICH STATEMENT APPLIES.)

☐ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with ad convicted of a public entity crime subsequent to July 1, 1989.

☐ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

☐ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida , Division of Administrative Hearings and the final Order entered by the Hearing Officer determined that

it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list (attach a copy of the final order).

I understand that the submission of this form to the contracting officer for the public entity identified in paragraph 1 above is for that public entity only and that this form is valid through December 31 of the calendar year in which it is filed. I also understand that I am required to inform the public entity prior to entering into a contract in excess of the threshold amount provided in Section 287.017, Florida Statutes for category two of any change in the information contained in this form.

_____

Bidder Initials

No Conflict of Interest or Contingent Fee Affidavit

Bidder warrants that neither it nor any principal, employee, agent, representative nor family member has paid or will pay any fee or consideration that is contingent on the award or execution of a contract arising out of this solicitation. Bidder also warrants that neither it nor any principal, employee, agent, representative nor family member has procured or attempted to procure this contract in violation of any of the provisions of the Miami-Dade County and City of South Miami conflict of interest or code of ethics ordinances. Further, Bidder acknowledges that any violation of these warrants will result in the termination of the contract and forfeiture of funds paid or to be paid to the Bidder should the Bidder be selected for the performance of this contract.

_____

Bidder Initials

Business Entity Affidavit

Bidder hereby recognizes and certifies that no elected official, board member, or employee of the City of South Miami (the " City") shall have a financial interest directly or indirectly in this transaction or any compensation to be paid under or through this transaction, and further, that no City employee, nor any elected or appointed officer (including City board members) of the City, nor any spouse, parent or child of such employee or elected or appointed officer of the City, may be a partner, officer, director or proprietor of Bidder or Vendor, and further, that no such City employee or elected or appointed officer, or the spouse, parent or child of any of them, alone or in combination, may have a material interest in the Vendor or Bidder. Material interest means direct or indirect ownership of more than 5% of the total assets or capital stock of the Bidder. Any exception to these above described restrictions must be expressly provided by applicable law or ordinance and be confirmed in writing by City. Further, Bidder recognizes that with respect to this transaction or bid, if any Bidder violates or is a party to a violation of the ethics ordinances or rules of the City, the provisions of Miami-Dade County Code Section 2-11.1, as applicable to City, or the provisions of Chapter 112, part III, Fla. Stat., the Code of Ethics for Public Officers and Employees, such Bidder may be disqualified from furnishing the goods or services for which the bid or Bid is submitted and may be further disqualified from submitting any future bids or Bid for goods or services to City.

_____

Bidder Initials

Anti-Collusion Affidavit

1. Bidder/Bidder has personal knowledge of the matters set forth in its Bid/Bid and is fully informed respecting the preparation and contents of the attached Bid/Bid and all pertinent circumstances respecting the Bid/Bid;

2. The Bid/Bid is genuine and is not a collusive or sham Bid/Bid; and
3. Neither the Bidder/Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including Affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder/Bidder, firm, or person to submit a collusive or sham Bid/Bid, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder/Bidder, firm, or person to fix the price or prices in the attached Bid/Bid or of any other Bidder/Bidder, or to fix any overhead, profit, or cost element of the Bid/Bid price or the Bid/Bid price of any other Bidder/Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City or any person interested in the proposed Contract.

_____
Bidder Initials

Scrutinized Company Certification

1. Bidder certifies that it and its subcontractors are not on the Scrutinized Companies that Boycott Israel List. Pursuant to Section 287.135, F.S., the City may immediately terminate the Agreement that may result from this ITB at its sole option if the Bidder or its subcontractors are found to have submitted a false certification; or if the Bidder, or its subcontractors are placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of the Agreement.
2. If the Agreement that may result from this ITB is for more than one million dollars, the Bidder certifies that it and its subcontractors are also not on the Scrutinized Companies with Activities in Sudan, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria as identified in Section 287.135, F.S. pursuant to Section 287.135, F.S., the City may immediately terminate the Agreement that may result from this ITB at its sole option if the Bidder, its affiliates, or its subcontractors are found to have submitted a false certification; or if the Bidder, its affiliates, or its subcontractors are placed on the Scrutinized Companies with Activities in Sudan List, or Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria during the term of the Agreement.
3. The Bidder agrees to observe the above requirements for applicable subcontracts entered into for the performance of work under the Agreement that may result from this ITB. As provided in Subsection 287.135(8), F.S., if federal law ceases to authorize the above-stated contracting prohibitions then they shall become inoperative.

_____
Bidder Initials

Drug-Free Workplace Affidavit

Bidder hereby recognizes that, pursuant to F.S. § 287.087, preference shall be given to businesses with drug-free workplace programs when two bids/Bid are equal with respect to price, quality, and service. Bidder understands that in order to qualify as a drug-free workplace, Bidder must:

a) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

b) Inform employees about the dangers of drug abuse in the workplace, the Bidder's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee

assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

1) Give each employee engaged in providing commodities or contractual services under the ITB a copy of the statement specified in subsection (1).
2) Notify employees that, as a condition of working on the commodities or contractual services under the ITB, the employee must abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
3) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
4) Make a good faith effort to continue to maintain a drug-free workplace through the implementation of this section.

Based on information and belief, the statement, which I have marked below, is true in relations to the entity submitting this sworn statement.

(INDICATE WHICH STATEMENT APPLIES.)

☐ The entity submitting this sworn statement is a drug-free workplace and is in full compliance with the requirements set forth under F.S. § 287.087.

☐ The entity submitting this sworn statement is not a drug-free workplace.

_____
Bidder Initials

City Non-Discrimination Requirements Affidavit

Bidder understands that pursuant to Section 3-1.1 of the Code of the City of South Miami, the City will not enter into or award a contract to an entity engaged in a boycott.

Bidder understands that "Boycott" as defined under Section 3-1.1 of the Code of the City of South Miami means to blacklist, divest from, or otherwise refuse to deal with a nation or country, or to blacklist or otherwise refuse to deal with a person or entity when the action is based on race, color, national origin, religion, sex, gender identity, sexual orientation, marital or familial status, age, or disability in a discriminatory manner. The term boycott does not include a decision based upon business or economic reasons, or boycotts, embargoes, trade restrictions, or divestments that are specifically authorized or required by federal law or state law.

Bidder certifies that it is not engaged in a boycott, and is in full compliance with Section 3-1.1 of the Code of the City of South Miami.

_____
Bidder Initials

Acknowledgment, Warranty, and Acceptance

1. Contractor warrants that it is willing and able to comply with all applicable state of Florida laws, rules and regulations.

2. Contractor warrants that it has read, understands, and is willing to comply with all requirements of **ITB No. 2023-06** and any addendum/addenda related thereto.
3. Contractor warrants that it will not delegate or subcontract its responsibilities under an agreement without the prior written permission of the City Commission or City Manager, as applicable.
4. Contractor warrants that all information provided by it in connection with this Bid is true and accurate.

_____
Bidder Initials

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK.
SIGNATURE PAGE FOLLOWS.]

In the presence of:

Signed, sealed and delivered by:

_____

Witness #1 Print Name: _____

_____

Witness #2 Print Name: _____

_____

Print Name: _____

Title: _____

ACKNOWLEDGMENT

State of Florida
County of _____

The foregoing instrument was acknowledged before me by means of ___ physical presence or __ online notarization, this _____ day of _____, 20___, by_____ (name of person) as _____ (type of authority) for _____ _____(name of party on behalf of whom instrument is executed).

_____

Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

FORM 4
DISPUTE DISCLOSURE

Answer the following questions by placing an "X" after "Yes" or "No". If you answer "Yes", please explain in the space provided, or on a separate sheet attached to this form.

1. Has your firm or any of its officers, received a reprimand of any nature or been suspended by the Department of Professional Regulations or any other regulatory agency or professional associations within the last five (5) years?

YES _____ NO _____

2. Has your firm, or any member of your firm, been declared in default, terminated or removed from a contract or job related to the services your firm provides in the regular course of business within the last five (5) years?

YES _____ NO _____

3. Has your firm had against it or filed any requests for equitable adjustment, contract claims, Bid protests, or litigation in the past five (5) years that is related to the services your firm provides in the regular course of business?

YES _____ NO _____

If yes, state the nature of the request for equitable adjustment, contract claim, litigation, or protest, and state a brief description of the case, the outcome or status of the suit and the monetary amounts of extended contract time involved.

I hereby certify that all statements made are true and agree and understand that any misstatement or misrepresentation of falsification of facts shall be cause for forfeiture of rights for further consideration of this Bid or Bid for the City of South Miami.

ACKNOWLEDGMENT

State of Florida
County of _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20___, by_____ (name of person) as _____ (type of authority) for _____ _____ (name of party on behalf of whom instrument is executed).

_____
Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

FORM 5
CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
PRIMARY COVERED TRANSACTIONS

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 13 CFR Part 145. The regulations were published as Part VII of the May 26, 1988 *Federal Register* (pages 19160-19211). Copies of the regulations are available from local offices of the U.S. Small Business Administration.

(1) The prospective primary participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective primary participant shall attach an explanation to this Statement of Qualifications.

Entity Name: _____

Date: _____ By:_____
Signature of Authorized Representative

_____
Name and Title of Authorized Representative

FORM 6
BIDDER'S QUALIFICATIONS SURVEY

COMPANY QUALIFICATIONS QUESTIONNAIRE

Please complete this Company Qualifications Questionnaire. By completing this form and submitting a response to the ITB, you certify that any and all information contained in the bid is true, that your response to the ITB is made without prior understanding, agreement, or connections with any corporation, firm or person submitting a response to the ITB for the same materials, supplies, equipment, or services, is in all respects fair and without collusion or fraud, that you agree to abide by all terms and conditions of the ITB, and certify that you are authorized to sign for the Bidder's firm.

Some responses may require the inclusion of separate attachments. Separate attachments should be as concise as possible, while including the requested information. In no event should the total page count of all attachments to this Form exceed five (5) pages. Some information may not be applicable; in such instances, please insert "N/A".

_____
Firm Name

_____
Principal Business Address

_____
Telephone Number Facsimile Number

_____
Email Address

_____
Federal I.D. No. or Social Security Number

_____
Municipal Business Tax/Occupational License No.

FIRM HISTORY AND INFORMATION

How many years has the firm has been in business under its current name and ownership? _____

Please identify the Firm's document number with the Florida Division of Corporations and date the Firm registered/filed to conduct business in the State of Florida:

_____
Document Number Date Filed

Please identify the Firm's category with the Florida Department of Business Professional Regulation (DBPR), DBPR license number, and date licensed by DBPR:

_____
Category License No. Date Licensed

Please indicate the type of entity form of the Firm (if other, please describe):
□ Individual □ Partnership □ Corporation □ LLC □ LLP □ Other_____

Please identify the Firm's primary business:_____
_____

Please identify the number of continuous years your Firm has performed its primary business: __

Please list all professional licenses and certifications held by the Firm, its Qualifier/Principal, and any Key Staff, including any active certifications of small, minority, or disadvantaged business enterprise, and the name of the entity that issued the license or certification:

License/Certification Type	Name of Entity Issuing License or Certification	License No.	License Issuance Date

Please identify the name, license number, and issuance date of any prior companies that pertain to your Firm:

License/Certification Type	Name of Entity Issuing License or Certification	License No.	License Issuance Date

Please identify all individuals authorized to sign for the entity, their title, and the threshold/level of their signing authority:

Authorized Signor's Name	Title	Signing Authority Threshold (All, Cost up to $X-Amount, No Cost, Other)

Please identify the total number of Firm employees, managerial/administrative employees, and identify the total number of trades employees by trade (e.g., 20 electricians, 5 laborers, etc.):

Total No. of Employees	
Total No. of Managerial/Administrative Employees	
Total No. of Trades Employees by Trade	

INSURANCE INFORMATION

Please provide the following information about the Firm's insurance company:

Insurance Carrier Name Insurance Carrier Contact Person

Insurance Carrier Address Telephone No. Email

Has the Firm filed any insurance claims in the last five (5) years? □ No □ Yes If yes, please identify the type of claim and the amount paid out under the claim: _____

FIRM OWNERSHIP

Please identify all Firm owners or partners, their title, and percent of ownership:

Owner/Partner Name	Title	Ownership (%)

Please identify whether any of the owners/partners identified above are owners/partners in another entity: □ No □ Yes If yes, please identify the name of the owner/partner, the other entity's name, and percent of ownership held by the stated owner/partner:

Owner/Partner Name	Other Entity Name	Ownership (%)

RECENT CONTRACTS

Please identify the five (5) most recent contracts in which your Firm has provided services to other public entities:

Public Entity	Contact Person	Telephone No.	Email Address	Date Awarded

By signing below, Bidder certifies that the information contained herein is complete and accurate to the best of Bidder's knowledge.

Firm: _____

Authorized Signature: _____ Date: _____

Print or Type Name: _____ Title: _____

FORM 7
BID FORM/SCHEDULE OF VALUES

All sections of the Bid Form and Schedule of Values must be completed in their entirety. The quantities provided are for reference only; it is the contractor's responsibility to independently verify all quantities and take-offs based on the provided plans and specifications.

The total bid amount must comprehensively cover all improvements shown, specified, or described in the construction documents and Project scope—without exception, omission, or assumption of exclusion.

All unit and estimated prices submitted will be considered firm and binding. The total sum costs shall remain valid for **180 days** from the bid opening date and will apply to any authorized modifications or expansions of the Project scope.

ITEM NO.	DESCRIPTION	UNIT	TOTAL QTY.	UNIT PRICE	AMOUNT
1	AS-BUILT	LS	1	$	$
101-1	MOBILIZATION (10%)	LS	1	$	$
102-1	MAINTENANCE OF TRAFFIC (2.5%)	LS	1	$	$
104-10-3	SEDIMENT BARRIER	LF	860	$	$
104-18	INLET PROTECTION	EA	5	$	$
110-15	CLEARING AND GRUBBING (1.5%)	LS	1	$	$
110-15-2	EXISTING TREE PROTECTION AND PRESERVATION	LS	1	$	$
110-15-4	TREE RELOCATION	EA	14	$	$
110-23	TREE REMOVAL	EA	7	$	$
120-71	EARTHWORK	LS	1	$	$
160-4	TYPE B STABILIZATION, 12" THICK	SY	1,600	$	$

210-2	LIMEROCK BASE 6" PRIMED	SY	1,700	$	$
334-112	2" SUPERPAVE ASPHALTIC CONCRETE SP-9.5	TN	740	$	$
400-13	CONCRETE STEPS AND RAMP	CY	35	$	$
436-1	FURNISH AND INSTALL TRENCH DRAIN	LF	15	$	$
515-1-2	PIPE HANDRAIL	LF	450	$	$
519-78	REMOVABLE BOLLARDS	EA	12	$	$
520-2-2	CONCRETE CURB TYPE B	LF	45	$	$
520-2-4	CONCRETE CURB TYPE D	LF	1,400	$	$
522-1	CONCRETE SIDEWALK-4" THICK	SY	210	$	$
522-2	CONCRETE DUMPSTER PAD- 6" THICK	SY	20	$	$
527-2	DETECTABLE WARNING	SF	130	$	$
542-70	CONCRETE WHEEL STOPS	EA	23	$	$
542-70-1	CONCERTE WHEEL STOPS- ADA SPACES	EA	3	$	$
550-10	CHAINLINK FENCE, TYPE B	LF	430	$	$
550-60-223	FENCE GATE, TYPE B	EA	1	$	$
550-60-924	ENTRANCE GATE AND FENCE	LS	1	$	$
570-1-2	SODDING	SY	1,700	$	$

580-1	LANDSCAPING, NEW TREES	EA	27	$	$
580-2	LANDSCAPING, NEW SHRUBS	EA	105	$	$
580-3	LANDSCAPING, GROUND COVERS	EA	580	$	$
630-2-11	CONDUITS, FURNISH AND INSTALL OPEN TRENCH	LF	3,600	$	$
630-2-12	CONDUITS, FURNISH AND INSTALL DIRECTIONAL BORE	LF	0	$	$
633-8-11	FUNISH AND INSTALL CAT6	LF	1,270	$	$
635-3-13	PULL BOXES	EA	17	$	$
639-2-1	ELECTRICAL WIRE SERVICE	LF	2,350	$	$
639-8-1	REMOVE FPL LIGHT POLE AND REMOVE/RELOCATE	EA	1	$	$
639-9	LIGHT FIXTURES	LS	1	$	$
641-1	PRESTRESSED CONCRETE POLE	EA	15	$	$
682-1	SECURITY CAMERAS	EA	17	$	$
700-1-40	IN GROUND SIGN POST ASSEMBLY	EA	15	$	$
711-11-121	THERMOLASTIC PAVEMENT MARKING (WHITE) 6"	LF	3,500	$	$
711-11-123	THERMOLASTIC PAVEMENT MARKING (WHITE) 12"	LF	90	$	$
711-11-125	THERMOLASTIC PAVEMENT MARKING (WHITE) 24"	LF	70	$	$
711-11-160	ADA PARKING SYMBOL PAINTED	EA	7	$	$

711-11-170	THERMOLASTIC, STANDARD, WHITE ARROW	EA	6	$	$
711-11-421	THERMOPLASTIC, STANDARD BLUE, SOLID 6"	LF	252	$	$
TOTAL CONSTRUCTION BID PRICE					**$**

SUBMITTED THIS _____ DAY OF _____ 20____.

PROPOSAL SUBMITTED BY:

Company	Telephone Number
Name of Person Authorized to Submit Proposal	Fax Number
Signature	Email Address
Title	

FORM 8
REFERENCE LIST
IN ADDITION TO THE INFORMATION REQUIRED ON THIS FORM, BIDDER SHALL PROVIDE A MINIMUM OF THREE REFERENCE LETTERS.

REFERENCE #1

Public Entity Name: _____

Reference Contact Person/Title/Department: _____

_____

Contact Number & Email _____

_____

Public Entity Size/Number of Residents/Square Mileage:_____

_____

Event(s) Completed (include Name of Project/Event, Date of Event Start/Completion, Details on

Size/Scope of Work/Complexity) _____

_____

_____

_____

Is the Contract still Active? Yes _____ No _____

REFERENCE #2

Public Entity Name: _____

Reference Contact Person/Title/Department: _____

_____

Contact Number & Email _____

_____

Public Entity Size/Number of Residents/Square Mileage:_____

_____

Event(s) Completed (include Name of Project/Event, Date of Event Start/Completion, Details on

Size/Scope of Work/Complexity) _____

_____

_____

_____

Is the Contract still Active? Yes _____ No _____

REFERENCE #3

Public Entity Name: _____

Reference Contact Person/Title/Department: _____

_____

Contact Number & Email _____

_____

Public Entity Size/Number of Residents/Square Mileage:_____

_____

Event(s) Completed (include Name of Project/Event, Date of Event Start/Completion, Details on

Size/Scope of Work/Complexity) _____

_____

_____

_____

Is the Contract still Active? Yes _____ No _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I,_____, certify that I am the Secretary of the Corporation named as Principal in the within Bond; that_____who signed the said bond on behalf of the Principal, was then___ _____of said Corporation; that I know his/her signature, and his/her signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

(Affix Corporate Seal) _____

_____

Corporate Secretary

In the presence of:

_____

Witness #1 Print Name: _____

_____

_____

Witness #2 Print Name: _____

_____

Signed, sealed and delivered by:

_____

Print Name: _____

Title: _____

Firm: _____

State of Florida
County of _____

Before me, a Notary Public, duly commissioned, qualified and acting, appeared _____ _____ by means of ☐ physical presence or ☐ online notarization who being by me first duly sworn upon oath, says that s/he is the Attorney-in-Fact, for the_____and that s/he has been authorized by_____to execute the foregoing bond on behalf of the Contractor named therein in favor of the City of South Miami, Florida

Sworn and subscribed to before me this _____ day of _____, 20____.

_____

Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

(Attach Power of Attorney)

END OF SECTION 4

ATTACHMENT A
SAMPLE OF CONTRACT

NOTE: THE CONTRACTOR MUST EXECUTE THE SIGNATURE PAGE INCLUDED IN THIS IS SAMPLE AGREEMENT. THE TERMS OF THE AGREEMENT MAY ONLY BE NEGOTIATED AT THE CITY MANAGER OR DESIGNEE'S SOLE AND ABSOLUTE DISCRETION.

CONTRACT FOR CONSTRUCTION

THIS CONTRACT FOR CONSTRUCTION (this "Contract") is made this _____ day of _ _____, 2026 (the "Effective Date") by and between the **CITY OF SOUTH MIAMI, FLORIDA**, a Florida municipal corporation, (the "City"), and **[INSERT CONTRACTOR'S NAME_____],** a **[_____INSERT TYPE OF ENTITY]** (the "Contractor").

WHEREAS, the City issued Invitation to **Bid No. PR2026-05 (the "ITB")** for construction of **(SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT)** (the "Project"), which ITB is incorporated herein by reference and made a part hereof as Exhibit "A"; and

WHEREAS, in response to the City's ITB, the Contractor submitted a bid for the Project ("Bid"), which Bid is incorporated herein by reference and made a part hereof as **Exhibit "B";** and

WHEREAS, Contractor submitted the lowest, responsive and responsible bid in the amount of [$_____] in response to the ITB and was selected and awarded this Contract pursuant to **Resolution No.**_____ for performance of the Work (as hereinafter defined); and

WHEREAS, Contractor has represented to the City that it possesses the necessary qualifications, experience and abilities to perform the Work or the Project, and has agreed to provide the Work on the terms and conditions set forth in this Contract.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, the Contractor and the City agree as follows:

1. SCOPE OF WORK

1.1. Scope of Work. Contractor hereby agrees to furnish all of the labor, materials, equipment, services and incidentals necessary to perform all of the work described in the Contract Documents (the "Work" or the "Project") including, without limitation as described in the approved plans, drawings and/or specifications prepared by **N/A** (the "Project Consultant") attached hereto as Exhibit "A" (the "Plans") and any other documents incorporated herein by reference and made a part of this Contract for the following Project:

SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS PROJECT

1.2. Pre-Construction Conference. Within fourteen (14) calendar days after this Contract is executed by both parties, and before any Work has commenced, a pre-construction conference will be held between the City, the Contractor, and the Project Consultant. The Contractor must submit its Project schedule and schedule of values, if applicable, prior to this conference.

1.3. Project Schedule. Contractor must submit a proposed Project Schedule as follows:

1.3.1. Schedule must identify the schedule for each location comprising the Project. The proposed Project schedule must be submitted within ten (10) calendar days from the date this Contract is executed by both parties for the review and approval of the Project Consultant or City as applicable. This initial schedule shall establish the baseline schedule for the Project.

1.3.2. All updates of schedules must be tracked against the baseline schedule and must be at a minimum submitted with each pay application. An updated schedule tracked against the baseline must also be submitted upon execution of each Change Order that impacts the Contract Time. Failure to submit such schedules will result in the rejection of any submitted payment application.

1.3.3. All Project Schedules must be prepared in Microsoft Project or approved equal by the City. At the time of submission of schedules, Contractor must submit a hard copy as well as an electronic version. Electronic versions must not be submitted in a .pdf format.

1.4. Records.

1.4.1. As-Built Drawings. During the Work, Contractor must maintain records of all deviations from the Drawings as approved by the Project Consultant and prepare two copies of As-Built Record Drawings showing correctly and accurately all changes and deviations made during construction to reflect the Work as it was actually constructed. It is the responsibility of the Contractor to check the As-Built Drawings for errors and omissions prior to submittal to the City and to certify in writing that the As-Built Record Drawings are correct and accurate, including the actual location of all infrastructure, internal piping, and electrical/signal conduits in or below the concrete floor (indicating the size, depth, and voltage in each conduit). To record actual construction, Contractor must legibly mark on-site structures and site Work as follows:

1.4.1.1. Depths of various elements of foundation in relation to finish first floor datum.

1.4.1.2. All underground piping and ductwork with elevations and dimensions and locations of valves, pull boxes, etc. Changes in location. Horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements. Actual installed pipe material, class, etc.

1.4.1.3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure. Air conditioning ducts with locations of dampers, access doors, fans and other items needing periodic maintenance.

1.4.1.4. Field changes in dimensions and details.

1.4.1.5. Changes made by Project Consultant's written instructions or by Change Order.

1.4.1.6. Details not on original Contract Drawings.

1.4.1.7. Equipment, conduit, electrical panel locations.

1.4.1.8. Project Consultant's schedule changes according to Contractor's records and shop drawings.

1.4.1.9. Specifications and Addenda: Legibly mark each section to record:

1.4.1.9.1. Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.

1.4.1.9.2. Changes made by Project Consultant's written instructions or by Change Order.

1.4.1.10. Approved Shop Drawings: Provide record copies for each process, equipment, piping, electrical system and instrumentation system.

1.4.1.10.1. As-built documents must be updated monthly as a condition precedent to payment. A final survey signed and sealed by a surveyor must be provided to the City at no additional cost, including digital I (CAD and PDF) versions.

1.4.1.10.2. For construction of new building, or building additions, field improvements, and or roadway improvements, as-built drawings must be signed and sealed by a Florida Licensed Registered Land Surveyor.

1.4.2. Record Set. Contractor must maintain in a safe place one record copy and one permit set of the Contract Documents, including, but not limited to, all Drawings, Specifications, amendments, COs, RFIs, and field directives, as well as all written interpretations and clarifications issued by the Project Consultant, in good order and annotated to show all changes made during construction. The record documents must be continuously updated by Contractor throughout the prosecution of the Work to accurately reflect all field changes that are made to adapt the Work to field conditions, changes resulting from COs and/or field directives as well as all written interpretations and clarifications, and all concealed and buried installations of piping, conduit and utility services. Contractor must certify the accuracy of the updated record documents. The record documents must be clean, and all changes, corrections and dimensions must be given in a neat and legible manner in red. Upon Final Completion and as a condition precedent to Contractor's entitlement to final payment, the Record Set must be delivered to the Project Consultant by the Contractor. The Record Set of Drawing must be submitted in both hard copy and as electronic plot files.

1.4.3. Construction Photographs. Prior to commencement of the Work the Contractor must take digital photographs and color audio-video recording to document existing conditions and submit copies in an acceptable format to the City. Contractor must submit with each application for payment photographs that accurately reflect the progress of all aspects of the Work. The number of photographs to be taken will be based on the magnitude of the Work being performed. Contractor must submit one copy of each photograph in print and digitally. The photographs must be printed on 8" X 10" high resolution glossy commercial grade and weight color photographic print paper or in a format acceptable to the City. Each photograph must be imprinted on its face with the title of the Project, the date, and time the picture was taken. Digital photographs must be taken using .jpeg format and will be submitted through a file-sharing site (such as Dropbox) or on a CD-ROM or flash drive clearly identifying the name of the Project, the name of the Contractor, and the timeframe in which the pictures were taken. Initial set up prints will be submitted in a three-ring binder with each picture protected by a clear plastic sleeve. Subsequent prints are to be submitted in clear plastic sleeves that can be added to the binder. The three-ring binder must be of such size to be able to hold all print pictures.

1.5. <u>Staging Site.</u>

1.5.1. The Contractor is solely responsible for making all arrangements for any staging site(s) that may be necessary for the performance of the Work and the Contractor is responsible for all site security, including any fencing of the site, and any loss, damage or theft to its equipment and materials. Any fencing of the Staging Site is subject to the prior written approval of the City.

1.5.2. The City at its sole discretion may make a staging site available for use by the Contractor. If such site is made available by the City, the City assumes no responsibility or liability for the equipment or materials stored on the site, and the Contractor will be solely responsible for any loss, damage or theft to its equipment and materials. The Contractor must restore the site to its pre-existing condition prior to the Contractor's use of the site.

1.5.3. The Contractor may be required to provide or may choose to use an office trailer for the duration of the Project. The Contractor must have the prior written approval of the City as to the use of any office trailer and the placement location for the office trailer. The Contractor must obtain all required permits from the appropriate regulatory agencies.

1.5.4. No parking is permitted at a City provided staging site without the prior written approval of the City.

1.6. Purchase and Delivery, Storage and Installation. All materials must be F.O.B. delivered and included in the cost of the Work. The Contractor is solely responsible for the purchase, delivery, off-loading and installation of all equipment and material(s). Contractor must make all arrangement for delivery. Contractor is liable for replacing any damaged equipment or material(s) and filing any and all claims with suppliers. All transportation must comply with all federal, state (including FDOT), Miami-Dade County, and local laws, rules and regulations. No materials will be stored on-site without the prior written approval of the City.

1.7. Approval of Subcontractors. For any scope of work that the Contractor will utilize a subcontractor, the Contractor may only retain or utilize the services of the particular subcontractor with the prior written approval of the City Manager, which approval may be granted or withheld in the City Manager's sole and absolute discretion. The Contractor shall provide at least fourteen (14) days notice to the City Manager and the Project Consultant of its intent to retain or utilize a subcontractor.

1.8. Project Signage. Contractor must furnish and install two (2) Project signs at the Project Site in accordance with the requirements provided by the Project Consultant or the City as applicable.

2. CONTRACT TIME

2.1. Contractor shall be instructed to commence the Work by written instructions in the form of a Notice to Proceed providing a commencement date and issued by the City Manager or designee. The Notice to Proceed will not be issued until Contractor's submission to City of all required documents and after execution of this Contract.

2.2. Time is of the essence throughout this Contract. The Contractor shall prosecute the Work with faithfulness and diligence and the **Work shall be substantially completed within one-hundred and eighty (180) calendar days from the date specified in the Notice to Proceed ("Contract Time").** Substantial Completion shall be defined for this purpose as the date on which City receives beneficial use of the Project. **The Work shall be fully completed in accordance with the Contract Documents within one-hundred and eighty (180) calendar days from the date specified in the Notice to Proceed ("Final Completion Time").** The Final Completion date is defined as the date determined by the City when all Work, including punch list items, has been completed in accordance with the Contract Documents and Contractor has delivered to City all documentation required herein.

2.3. Upon failure of Contractor to substantially complete the Work as defined in this Agreement within the Contract Time, Contractor shall pay to City the sum of **$1,699.00 SUBSTANTIAL COMPLETION LIQUIDATED DAMAGES** for each calendar day after the expiration of the Contract Time that the Contractor fails to achieve Substantial Completion up until the date that the Contractor achieves Substantial Completion. Upon failure of Contractor to fully complete the Work and achieve Final Completion within the Final Completion Time, Contractor shall pay to City the sum of **$1699.00 FINAL COMPLETION LIQUIDATED DAMAGES** for each calendar day after expiration of the Final Completion Time that the Contractor fails to achieve Final Completion up until the date that the Contractor achieves Final Completion. These amounts are not penalties but are liquidated damages payable by Contractor to City for the failure to provide full beneficial occupancy and use of the Project as required. Liquidated damages are hereby fixed and agreed upon between the parties who hereby acknowledge the

difficulty of determining the amount of damages that will be sustained by City as a consequence of Contractor's delay and failure of Contractor to complete the Work on time. The above-stated liquidated damages shall apply separately to each phase of the Project for which a time for completion is given.

2.4. City is authorized to deduct the liquidated damages from monies due to Contractor for the Work under this Contract. In case the liquidated damage amount due to City by Contractor exceeds monies due Contractor from City, Contractor shall be liable and shall immediately upon demand by City pay to City the amount of said excess.

3. CONTRACT PRICE AND PAYMENT PROCEDURES

3.1. Guaranteed Maximum Price. The City shall pay the Contractor an amount not to exceed $_____ for the performance of the Work in accordance with the line items and unit prices included in **Exhibit "B"** (the "Contract Price"). The Contract Price shall be full compensation for all services, labor, materials, equipment, and costs, including overhead and profit, associated with completion of all the Work in full conformity with the Contract Documents and adjusted only by written change orders signed by both parties and approved as required by local law. The Contract Price shall include all applicable sales taxes as required by law.

3.2. Schedule of Values. The Contractor must submit two copies of schedule of values within ten (10) calendar days from the date this Contract is executed by both parties. The schedule of values shall indicate a complete breakdown of labor and material of all categories of Work on the Project. Contractor's overhead and profit must be listed as separate line items. Each line item must be identified with the number and title of the major specification section or major components of the items. The Project Consultant or City as applicable may require further breakdown after review of the Contractor's submittal. The City reserves the right to require such information from the Contractor as may be necessary to determine the accuracy of the schedule of values. The combined total value for mobilization under the Schedule of Values shall not exceed 5% of the value of the Contract. The accepted Schedule of Values must be incorporated into the Contractor's payment application form. The Contractor guarantees that each individual line item contained in the schedule of values submitted as part of a competitive solicitation shall not be increased without written approval by the City Manager.

3.3. Payment Application Procedures. City shall make progress payments, deducting the amount from the Contract Price above on the basis of Contractor's Applications for Payment on or before twenty (20) days after receipt of the Pay Application. Rejection of a Pay Application by the City shall be within twenty (20) days after receipt of the Pay Application. Any rejection shall specify the applicable deficiency and necessary corrective action. Any undisputed portion shall be paid as specified above. All such payments will be made in accordance with the Schedule of Values established in the Contract Documents or, in the event there is no Schedule of Values, as otherwise provided in the Contract Documents. In the event the Contract Documents do not provide a Schedule of Values or other payment schedule, Applications for Payment shall be submitted monthly by Contractor on or before the 10th of each month for the prior month to the Project Consultant. Progress payments shall be made in an amount equal to the percentage of Work completed as determined by the City or City's Project Consultant, but, in each case, less the aggregate of payments previously made and less such amounts as City shall determine or City may withhold taking into account the aggregate of payments made and the percentage of Project completion in accordance with the Contract Documents and Schedule of Values, if any. The Contractor agrees that five percent (5%) of the amount due for each progress payment or Pay Application (the "Retainage") shall be retained by City until final completion and acceptance of the Work by City. In the event there is a dispute between Contractor and City concerning a Pay Application, dispute resolution procedures shall be conducted by City commencing within 45 days of receipt of the disputed Payment Application. The City shall reach a conclusion within 15 days thereafter and promptly notify Contractor of the outcome, including payment, if applicable.

3.4. Progress Payment Applications. Each progress payment application submitted to the City must include:

3.4.1. A sworn and certified progress payment affidavit indicating that all laborers, material suppliers, and subcontractors dealing with the Contractor were paid in full as it relates to all Work performed up to the time of the request for payment;

3.4.2. Partial conditional releases or waivers of lien by the Contractor, material suppliers, subcontractors, and any lienors serving a Notice to the City and evidence of proof of payment of any indebtedness incurred with respect to the Work of the Contractor as may be required by the City;

3.4.3. Evidence that all Work was fully performed as required by the Contract Documents up to the time of the request for payment and that the Work was inspected and accepted by the City and any other governmental authorities required to inspect the Work; and

3.4.4. An updated Project schedule, including a two-week look-ahead schedule, as approved in writing by the City Manager.

3.4.5. All Buy-Out Savings, including supporting documentation relating to the calculation of the Buy-Out Savings.

3.5. Final Payment. Upon Final Completion of the Work by Contractor in accordance with the Contract Documents and acceptance by the City, and upon receipt of consent by any surety, City shall pay the remainder of the Contract Price (including Retainage) as recommended by the City's Project Consultant and Building Official. Final payment is contingent upon receipt by City from Contractor of:

3.5.1. An affidavit that payrolls, bills for materials, equipment, and other indebtedness were paid in full as it relates to all Work performed under this Contract;

3.5.2. A certificate evidencing that insurance required by the Contract Documents shall remain in effect after final payment is made;

3.5.3. A written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents;

3.5.4. Documentation of any special warranties, including, but not limited to, any manufactures' warranties or specific subcontractor warranties;

3.5.5. Evidence that all Punch List items have been fully completed to the satisfaction of the City;

3.5.6. All previously undelivered manufacturer and subcontractor guarantees, warranties, and manuals and documents required by the Contract Documents;

3.5.7. Final releases of lien, waivers of claim, satisfactions of liens or claims, and such other affidavits as may be reasonably required by the City to assure a lien-free and claim-free completion of the Work;

3.5.8. Evidence that the Contractor has fully cleaned and restored the site, including removal of all rubbish and debris;

3.5.9. At least one complete set of as-built plans, reflecting an accurate depiction of Contractor's Work;

3.5.10. .Such other documents necessary to show that the Contractor has complied with all other requirements of the Contract Documents; and

3.5.11. Cost Savings, including supporting documentation used to calculate the Cost Savings.

3.6. Payment Withholding. The City may withhold any payment, including a final payment, for application to such extent as may be necessary, as determined by the City's Project Consultant, to protect the City from loss for which the Contractor is responsible in the event that:

3.6.1. The Contractor performs defective Work and such Work has not been corrected, provided that the amount withheld shall be limited to the amount sufficient to cover such defective Work;

3.6.2. A third-party files a claim or lien in connection with the Work or this Contract;

3.6.3. The Contractor fails to make payments properly to subcontractors or suppliers for labor, materials, or equipment which has been paid by the City, provided that the amount withheld shall be limited to the amount sufficient to cover such payments to subcontractors or suppliers for labor, materials, or equipment;

3.6.4. The City has reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

3.6.5. The Contractor, its employees, subcontractors, or agents have damaged the City;

3.6.6. The City has reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover liquidated damages for the anticipated delay;

3.6.7. The Contractor has failed to progress the Work satisfactorily and/or according to the Contract Schedule;

3.6.8. The Contractor has failed to carry out the Work in accordance with the Contract Documents;

3.6.9. The Contractor has failed to provide requisite releases of lien for each payment application in accordance with the Contract Documents; and/or

3.6.10. Any other failure to perform a material obligation contained in the Contract Documents.

3.7. No Waiver of City Rights. The payment of any Application for Payment by the City, including the final request for payment, does not constitute approval or acceptance by the City of any item of the Work reflected in such Application for Payment, nor shall it be construed as a waiver of any of the City 's rights hereunder or at law or in equity.

3.8. Payment to Sub-Contractors; Certification of Payment to Subcontractors. The term "subcontractor," as used herein, includes persons or firms furnishing labor, materials or equipment incorporated into or to be incorporated into the Work or Project. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts as a condition precedent to payment to

Contractor by the City. The Contractor shall also return all retainage withheld to the subcontractors within 30 days after the subcontractor's work is satisfactorily complete and accepted by the City.

3.9. Cost Savings and Value Engineering.

3.9.1. Cost Savings. In the event the Contractor rebids or renegotiates with any subcontractor to reduce subcontractor costs for the performance of the Work, then the difference between (i) the sum of the subcontractor costs used to establish the Contract Price, as set forth in the Schedule of Values, and (ii) the sum of the revised subcontractor costs, including any early payment or similar discounts (the "Cost Savings"), shall revert to the City. The Contract Price shall be adjusted in accordance with any Cost Savings through a Change and the Schedule of Values shall also be revised to reflect the new Contract Price.

3.9.2. Value Engineering. Contractor shall participate in Value Engineering the Contract Documents with the City and the Architect with the goal of finding acceptable means for reducing the cost of the Work. Upon acceptance by the City of recommendation for Value Engineering, the Contract Documents shall be modified to reflect such changes. All savings in connection with Value Engineering of the Work shall revert to City.

4. CONTRACT DOCUMENTS

4.1. The Contract Documents, which comprise the entire agreement between the City and the Contractor concerning the Work, consist of this Contract for Construction (including any change orders and amendments thereto), the Plans and Specifications attached hereto as Exhibit "A" (the "Plans and Technical Specifications"), the ITB and any Bidding Documents or procurement documents for the Project, the Contractor's Bid for the Project (including the Schedule of Bid Items-Pricing) attached hereto as Exhibit "B", the Bonds (defined herein), Insurance Certificates, the Notice of Award, and the Notice to Proceed, all of which are deemed incorporated into and made a part of this Contract by this reference and govern this Project.

4.2. This Contract incorporates and includes all prior negotiations, correspondence, conversations, agreements, or understandings applicable to the matters contained herein and the parties agree that there are no commitments, agreements, or understandings concerning the subject matter of these Contract Documents that are not contained herein. Accordingly, it is agreed that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written.

4.3. The Contract Documents shall remain the property of the City. The Contractor shall have the right to keep one record set of the Contract Documents upon completion of the Project; however in no circumstances shall the Contractor use, or permit to be used, any or all of such Contract Documents on other Projects without the City's prior written authorization.

4.4. Conflicts; Order of Priority. This document without exhibits is referred to as the "Base Agreement." In the event of a conflict between the terms of this Base Agreement and any exhibits or attachments hereto, or any documents incorporated herein by reference, the conflict shall be resolved in the following order of priorities and the more stringent criteria for performance of the Work shall apply:

4.4.1. First Priority: Change Orders with later date taking precedence;

4.4.2. Second Priority: This Base Agreement;

4.4.3. Third Priority: Exhibit "A," the Plans and Technical Specifications;

4.4.4. Fourth Priority: Exhibit "B," the Bid; and

4.4.5. Fifth Priority: Contract Documents, excluding this Base Agreement and Exhibits listed in this Section.

5. INDEMNIFICATION

5.1. To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold harmless the City, its officers, agents, consultants, and employees, from and against any and all demands, claims, losses, expenses, suits, liabilities, causes of action, judgment or damages, including but not limited to legal fees and costs and through appeal, arising out of, related to, resulting from, or in any way connected with Contractor's negligence, recklessness, or intentional misconduct in the Contractor's performance or non-performance of this Contract, Contractor's obligations, or the Work related to the Contract, including but not limited to by reason of any damage to property, or bodily injury or death incurred or sustained by any person, or to injury to or destruction of tangible property or any other property (other than the Work itself) including the loss of use resulting therefrom, caused in whole or in part by any willful, wanton, or negligent, or grossly negligent acts or omissions of Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by applicable law and regardless of the negligence of any such party.. Additionally, the Contractor shall defend, indemnify, and hold the City harmless from all losses, injuries or damages and wages or overtime compensation due its employees in rendering services pursuant to this Contract, including payment of reasonable attorneys' fees and costs in the defense of any claim made under the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans with Disabilities Act or any other employment related litigation or worker's compensation claims under federal, state, or local law.

5.2. Nothing herein is intended to serve as a waiver of sovereign immunity by the City nor shall anything included herein be construed as consent to be sued by third parties in any matter arising out of this Agreement or any other contract. The City is subject to section 768.28, Florida Statutes, as may be amended from time to time.

5.3. The provisions of this section shall survive termination of this Contract.

6. INSURANCE AND BONDS

6.1. Insurance.

6.1.1. Contractor shall secure and maintain throughout the duration of this Contract insurance of such types and in such amounts not less than those specified below as satisfactory to the City, naming the City as an Additional Insured, underwritten by a firm rated A-X or better by Bests Rating and qualified to do business in the State of Florida. Certificates of Insurance shall be provided to the City, reflecting the City as an Additional Insured, no later than ten (10) days after award of this Contract and prior to the execution of this Contract by City and prior to commencing any Work. Each certificate shall include no less than (30) thirty-day advance written notice to City prior to cancellation, termination, or material alteration of said policies or insurance. The insurance coverage shall be primary insurance with respect to the City, its officials, employees, agents and volunteers naming the City as additional insured. Any insurance maintained by the City shall be in excess of the Contractor's insurance and shall not contribute to the Contractor's insurance. The insurance coverages shall include at a minimum the amounts set forth in this Section 6.1.

6.1.1.1. Commercial General Liability coverage with limits of liability of not less than a $1,000,000 per Occurrence combined single limit for Bodily Injury and Property Damage. This Liability Insurance shall also include Completed Operations and Product Liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor. The General Aggregate Liability limit (except for Products/Completed Operations) shall be in the amount of $2,000,000.

6.1.1.2. Workers Compensation and Employer's Liability insurance, to apply for all employees for statutory limits as required by applicable State and Federal laws. The policy(ies) must include Employer's Liability with minimum limits of $1,000,000.00 each accident. No employee, subcontractor or agent of the Contractor shall be allowed to provide Services pursuant to this Agreement who is not covered by Worker's Compensation insurance. In order for this requirement to be waived, Contractor must provide proof of exemption from such laws. Information regarding eligibility for an exemption from the State of Florida Workers' Compensation Law is available at:

https://www.myfloridacfo.com/Division/wc/PublicationsFormsManualsReports/Brochures/Key-Coverage-and-Eligibility.pdf.

Exemptions may be applied for online through the Florida Department of Financial Services, Division of Workers' Compensation at:

https://www.myfloridacfo.com/Division/wc/Employer/Exemptions/default.htm.

6.1.1.3. Business Automobile Liability with minimum limits of $1,000,000 per Occurrence, combined single limit for Bodily Injury and Property Damage. Coverage must be afforded on a form no more restrictive than the latest edition of the Business Automobile Liability policy, without restrictive endorsements, as filed by the Insurance Services Office, and must include Owned, Hired, and Non-Owned Vehicles.

6.1.1.4. Builder's Risk property insurance upon the entire Work to the full replacement cost value thereof. This insurance shall include the interest of City and Contractor and shall provide All-Risk coverage against loss by physical damage including, but not limited to, Fire, Extended Coverage, Theft, Vandalism and Malicious Mischief. **If Builder's Risk insurance is not required for this Project, the City shall select this box: ☒.**

6.1.1.5. Contractor acknowledges that it shall bear the full risk of loss for any portion of the Work damaged, destroyed, lost or stolen until Final Completion has been achieved for the Project, and all such Work shall be fully restored by the Contractor, at its sole cost and expense, in accordance with the Contract Documents.

6.1.2. Certificate of Insurance. On or before the Effective Date of this Contract, the Contractor shall provide the City with Certificates of Insurance for all required policies. The Contractor shall be responsible for assuring that the insurance certificates required by this Section remain in full force and effect for the duration of this Contract, including any extensions or renewals that may be granted by the City. The Certificates of Insurance shall not only name the types of policy(ies) provided, but also shall refer specifically to this Contract and shall state that such insurance is as required by this Contract. The City reserves the right to inspect and return a certified copy of such policies, upon written request by the City. If a policy is due to expire prior to the completion of the Work, renewal Certificates of Insurance shall be furnished thirty (30) calendar days prior to the date of their policy expiration. Each policy certificate shall be endorsed with a provision that not less than thirty (30) calendar days' written notice shall be provided to

the City before any policy or coverage is cancelled or restricted. Acceptance of the Certificate(s) is subject to approval of the City.

6.1.2.1. Additional Insured. The City is to be specifically included as an Additional Insured for the liability of the City resulting from Work performed by or on behalf of the Contractor in performance of this Contract. The Contractor's insurance, including that applicable to the City as an Additional Insured, shall apply on a primary basis and any other insurance maintained by the City shall be in excess of and shall not contribute to the Contractor's insurance. The Contractor's insurance shall contain a severability of interest provision providing that, except with respect to the total limits of liability, the insurance shall apply to each Insured or Additional Insured (for applicable policies) in the same manner as if separate policies had been issued to each.

6.1.2.2. Deductibles. All deductibles or self-insured retentions must be declared to and be reasonably approved by the City. The Contractor shall be responsible for the payment of any deductible or self-insured retentions in the event of any claim.

6.1.3. The provisions of this section shall survive termination of this Contract.

6.2. Bonds. Prior to performing any portion of the Work the Contractor shall deliver to City the Bonds required to be provided by Contractor hereunder (the bonds referenced in this Section are collectively referred to herein as the "Bonds"). Pursuant to and in accordance with Section 255.05, Florida Statutes, the Contractor shall obtain and thereafter at all times during the performance of the Work maintain a separate performance bond and labor and material payment bond for the Work, each in an amount equal to one hundred percent (100%) of the Contract Price and each in the form provided in the Contract Documents or in other form satisfactory to and approved in writing by City and executed by a surety of recognized standing with a rating of B plus or better for bonds up to Two Million Dollars. The surety providing such Bonds must be licensed, authorized and admitted to do business in the State of Florida and must be listed in the Federal Register (Dept. of Treasury, Circular 570). The cost of the premiums for such Bonds is included in the Contract Price. If notice of any change affecting the Scope of the Work, the Contract Price, Contract Time or any of the provisions of the Contract Documents is required by the provisions of any bond to be given to a surety, the giving of any such notice shall be Contractor's sole responsibility, and the amount of each applicable bond shall be adjusted accordingly. If the surety is declared bankrupt or becomes insolvent or its right to do business in Florida is terminated or it ceases to meet applicable law or regulations, the Contractor shall, within five (5) days of any such event, substitute another bond (or Bonds as applicable) and surety, all of which must be satisfactory to City**. As authorized by Section 255.05(1)(a), Florida Statutes, if this Project is exempt from posting of a payment and performance bond, the City shall select this box: ☐.**

7. CONTRACTOR'S REPRESENTATIONS AND WARRANTIES

7.1. In order to induce the City to enter into this Contract, the Contractor makes the following representations and warranties:

7.1.1. Contractor represents the following:

7.1.1.1. Contractor has examined and carefully studied the Contract Documents and the other data identified in the bidding documents, including, without limitation, the "technical data" and plans and specifications and the Plans.

7.1.1.2. Contractor has visited the Project site and become familiar with and is satisfied as to the general and local conditions and site conditions that may affect cost, progress, performance or furnishing of the Work.

7.1.1.3. Contractor is familiar with and is satisfied as to all federal, state and local laws, regulations and permits that may affect cost, progress, performance and furnishing of the Work. Contractor agrees that it will at all times comply with all requirements of the foregoing laws, regulations and permits.

7.1.1.4. Contractor has made, or caused to be made, examinations, investigations, tests and/or studies as necessary to determine surface and subsurface conditions at or on the site. Contractor acknowledges that the City does not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to underground or ground facilities at, contiguous or near the site or for existing improvements at or near the site. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities and improvements) at, contiguous or near to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

7.1.1.5. Contractor is aware of the general nature of Work to be performed by the City and others at the site that relates to the Work as indicated in the Contract Documents.

7.1.1.6. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

7.1.1.7. Contractor has given City written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by City is acceptable to Contactor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

7.1.1.8. The Contractor agrees and represents that it possesses the requisite qualifications and skills to perform the Work and that the Work shall be executed in a good and workmanlike manner, free from defects, and that all materials shall be new and approved by or acceptable to City, except as otherwise expressly provided for in the Contract Documents. The Contractor shall cause all materials and other parts of the Work to be readily available as and when required or needed for or in connection with the construction, furnishing and equipping of the Project.

7.2. <u>No recovery for changed market conditions.</u>

7.2.1. In entering into the Contract, Contractor represents and warrants that it has accounted for any and all inflation-related events, recession, labor or material shortages, supply chain disruptions, delivery lead time, or price increases that may be caused by local and or national conditions, whether known or unknown at the time of entering into the Contract (the "Market

Conditions"). Contractor further specifically represents and warrants that it has considered all impacts and potential impacts, including any current and future supply chain disruptions and labor shortages, associated with the following events: (1) worldwide pandemics including, but not limited to, COVID-19 and Monkey Pox (the "Pandemics") and (2) the current military conflict involving Russia and the Ukraine (the "Ukraine Military Conflict"). Contractor also represents and warrants that in determining time requirements for procurement, installation, and construction completion, Contractor has taken into account the impacts of Market Conditions, the Pandemics, and the Ukraine Military Conflict, and has included all of those factors in the Construction Schedule and Contract Sum.

7.2.2. Contractor shall not seek any price increases or time extensions relating to or arising from the impacts of any Market Conditions, the Pandemics or Ukraine Military Conflict.

7.2.3. The City shall not make any adjustment in the Contract Sum or grant an extension to the Contract Time in connection with any failure by the Contractor to comply with the requirements of this Section.

7.3. Contractor warrants the following:

7.3.1. Anti-Discrimination. Contractor agrees that it will not discriminate against any employees or applicants for employment or against persons for any other benefit or service under this Contract because of race, color, religion, sex, national origin, or physical or mental handicap where the handicap does not affect the ability of an individual to perform in a position of employment, and agrees to abide by all federal and state laws regarding non-discrimination.

7.3.2. Anti-Kickback. Contractor warrants that no person has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, and that no employee or officer of the City has any interest, financially or otherwise, in the Project. For breach or violation of this warranty, the City shall have the right to annul this Contract without liability or, in its discretion, to deduct from the Contract Price or consideration, the full amount of such commission, percentage, brokerage or contingent fee.

7.3.3. Licensing. Contractor represents that it is a properly qualified and licensed contractor in good standing within the jurisdiction within which the Project is located. Contractor warrants that it shall have, prior to commencement of Work under this Contract and at all times during said Work, all required licenses from the federal, state, Miami-Dade County, City, or other governmental or regulatory entity. Contractor acknowledges that it is the obligation of Contractor to obtain all licenses required for this Project, including City building permits. Prior to commencement of the Work, the Contractor shall provide the City with copies of all required licenses.

7.3.4. Permits. Contractor warrants that it shall have, prior to commencement of Work under this Contract and at all times during said Work, all required permits from the federal, state, Miami-Dade County, City, or other governmental or regulatory entity with jurisdiction over the site that are necessary to perform the Work. Contractor acknowledges that it is the obligation of Contractor to obtain all permits required for this Project, including City building permits. Prior to commencement of the Work, the Contractor shall provide the City with copies of all required permits. City building permit fees may be waived for this Project. If permits are required by any other governing body or agency, the Contractor shall be obligated to pay the fees.

7.4. <u>Defective Work; Warranty and Guarantee.</u>

7.4.1. City shall have the authority to reject or disapprove Work which the City finds to be defective. If required by the City, Contractor shall promptly either correct all defective Work or remove such defective Work and replace it with non-defective Work. Contractor shall bear all direct, indirect and consequential costs of such removal or corrections including cost of testing laboratories and personnel.

7.4.2. Should Contractor fail or refuse to remove or correct any defective Work or to make any necessary repairs in accordance with the requirements of the Contract Documents within the time indicated in writing by the City or its designee, City shall have the authority to cause the defective Work to be removed or corrected, or make such repairs as may be necessary at Contractor's expense. Any expense incurred by City in making such removals, corrections or repairs, shall be paid for out of any monies due or which may become due to Contractor. In the event of failure of Contractor to make all necessary repairs promptly and fully, City may declare Contractor in default.

7.4.3. The Contractor shall unconditionally warrant and guarantee all labor, materials and equipment furnished and Work performed for a period of three (3) years from the date of Substantial Completion. If, within three (3) years after the date of substantial completion, any of the Work is found to be defective or not in accordance with the Contract Documents, Contractor, after receipt of written notice from City, shall promptly correct such defective or nonconforming Work within the time specified by City without cost to City. Should the manufacturer of any materials and equipment furnished provide for a longer warranty, then the Contractor shall transfer such warranty to the City prior to Final Completion. Nothing contained herein shall be construed to establish a period of limitation with respect to any other obligation which Contractor might have under the Contract Documents including but not limited to any claim regarding latent defects. Contractor shall provide and assign to City all material and equipment warranties upon completion of the Work hereunder.

7.4.4. Failure to reject any defective Work or material shall not in any way prevent later rejection when such defect is discovered.

8. DEFAULT, TERMINATION, AND SUSPENSION; REMEDIES

8.1. Termination for Cause. If Contractor fails to timely begin the Work, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work within the Contract Time or Final Completion Time as specified in Section 2, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if the Contractor shall fail to perform any material term set forth in the Contract Documents or if Contractor shall become insolvent or be declared bankrupt, or commit any act of bankruptcy or insolvency, or shall make an assignment for the benefit of creditors, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, City may, upon seven (7) days after sending Contractor a written Notice of Termination, terminate the services of Contractor, exclude Contractor from the Project site, provide for alternate prosecution of the Work, appropriate or use any or all materials and equipment on the Project site as may be suitable and acceptable, and may finish the Work by whatever methods it may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the Project is completed. All damages, costs and charges incurred by City, together with the costs of completing the Project, shall be deducted from any monies due or which may become due to Contractor. In case the damages and expenses so incurred by City shall exceed monies due Contractor from City, Contractor shall be liable and shall pay to City the amount of said excess promptly upon demand therefore by City. In the event it is adjudicated that City was not entitled to terminate the Contract as described hereunder for default, the Contract shall automatically be deemed terminated by City for convenience as described below.

8.2. Termination for Convenience. This Contract may be terminated by the City for convenience upon seven (7) calendar days' written notice to the Contractor. In the event of such a termination, the Contractor shall incur no further obligations in connection with the Project and shall, to the extent possible, terminate any outstanding subcontractor obligations. The Contractor shall be compensated for all services performed to the satisfaction of the City. In such event, the Contractor shall promptly submit to the City its Application for Payment for final payment which shall comply with the provisions of the Contract Documents.

8.3. Suspension of Contract. This Contract may be suspended for convenience by the City upon seven (7) calendar days' written notice to the Contractor or immediately if suspended in connection with a local or state declaration of emergency. Suspension of the Work will entitle the Contractor to additional Contract Time as a non-compensable, excusable delay.

8.4. Termination Due to Lack of Funding. This Contract is subject to the conditions precedent that: (i) City funds are available, appropriated, and budgeted for the Work, the Project, and/or Contract Price; (ii) the City secures and obtains any necessary proceeds, grants, and/or loans for the accomplishment of the Work and/or the Project pursuant to any borrowing legislation adopted by the City Council relative to the Project; and (iii) City Council enacts legislation which awards and authorizes the execution of this Contract if such is required.

8.5. No Damages for Delay. No claim for damages or any claim, other than for an extension of time shall be made or asserted against City by reason of any delays. Contractor shall not be entitled to an increase in the Contract Price or payment or compensation of any kind from City for direct, indirect, consequential, impact or other costs, expenses or damages, including but not limited to, costs of acceleration or inefficiency, arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference or hindrance be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable or whether or not caused by City. Contractor shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay.

8.6. Waiver of Consequential Damages. Contractor assumes all risks for the following items, none of which shall be the subject of any Change Order or Claim and none of which shall be compensated for except as they may have been included in the Contractor's Contract Price as provided in the Contract Documents: Loss of any anticipated profits, loss of bonding capacity or capability losses, loss of business opportunities, loss of productivity on this or any other Project, loss of interest income on funds not paid, inefficiencies, costs to prepare a bid, cost to prepare a quote for a change in the Work, costs to prepare, negotiate or prosecute Claims, and loss of Projects not bid upon, or any other indirect and consequential costs not listed herein. No compensation shall be made for loss of anticipated profits from any deleted Work.

8.7. Litigation of Claims. Mediation shall not be required before either party may proceed to litigation.

8.8. Rights and Remedies. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder and in accordance with this Contract shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

9. CHANGES IN THE WORK

9.1. Change Orders.

9.1.1. Without invalidating the Contract Documents, and without notice to any Surety, the City reserves the right to make increases, decreases or other changes in the character or quantity of the Work under the Contract Documents as may be considered necessary or desirable to complete the

Work in a manner satisfactory to the City. The City reserves the right to order changes, which may result in additions to or reductions from the amount, type or value of the Work shown in the Contract, and which are within the general scope of the Contract Documents, and all such changes will be authorized only by a change order ("CO") approved in advance, and issued in accordance with provisions of the Contract Documents.

9.1.2. For Contractor initiated change orders, the Contractor is required to provide the Project Consultant with a detailed Request for Change Order ("RCO") in a form approved by the City, which must include the requested revisions to the Contract, including, but not limited to, adjustments in the Contract Price and/or Contract Time. The Contractor must provide sufficient supporting documentation to demonstrate the reasonableness of the RCO. The City may require Contractor to provide additional data including, but not limited to, a cost breakdown of material costs, labor costs, labor rates by trade, work classifications, and overhead rates to support the RCO. If applicable, the RCO must include any schedule revisions accompanied by an explanation of the cost impact of the proposed change. Failure to include schedule revisions in an RCO will be deemed as the Contractor's acknowledgement that the changes included in an RCO will not affect the Project schedule.

9.1.3. Any modifications to the Contract Work, Contract Time, or Contract Price, must be effectuated through a written CO executed by both parties and, if required by the City Code of Ordinances, approved by the City Council.

9.1.4. In the event a satisfactory adjustment cannot be reached, and a CO has not been issued, given that time is of the essence, the City reserves the right, at its sole option, to direct the Contractor to proceed on a time and materials basis or make such arrangements as may be deemed necessary to complete the proposed additional Work at the unit prices provided in the Contract Documents. Where the City directs the Contractor to proceed on a time and materials basis, the City shall impose a maximum not-to-exceed amount and the Contractor must maintain detailed records of all labor and material costs including but not limited to payroll records and material receipts. Contractor must demonstrate its costs with sufficient evidence to be entitled to compensation from the City.

9.2. Continuing the Work. Contractor must continue to perform all Work under the Contract Documents during all disputes or disagreements with City, including disputes or disagreements concerning an RCO. Contractor shall not delay any Work pending resolution of any disputes or disagreements.

10. MISCELLANEOUS

10.1. No Assignment. Neither party shall assign the Contract or any sub-contract in whole or in part without the written consent of the other, nor shall Contractor assign any monies due or to become due to it hereunder, without the previous written consent of the City Manager.

10.2. Contractor's Responsibility for Damages and Accidents.

10.2.1. Contractor shall accept full responsibility for the Work against all loss or damage of any nature sustained until final acceptance by City and shall promptly repair any damage done from any cause.

10.2.2. Contractor shall be responsible for all materials, equipment and supplies pertaining to the Project. In the event any such materials, equipment and supplies are lost, stolen, damaged or destroyed prior to final acceptance by City, Contractor shall replace same without cost to City**.**

10.3. Governing Law. This Contract shall be construed in accordance with and governed by the laws of the State of Florida. Venue for any litigation arising out of this Contract shall be proper exclusively in Miami-Dade County, Florida.

10.4. Waiver of Jury Trial. CITY AND CONTRACTOR KNOWINGLY, IRREVOCABLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHT EITHER MAY HAVE TO A TRIAL BY JURY IN STATE AND OR FEDERAL COURT PROCEEDINGS IN RESPECT TO ANY ACTION, PROCEEDING, LAWSUIT OR COUNTERCLAIM BASED UPON THE CONTRACT FOR CONSTRUCTION, ARISING OUT OF, UNDER, OR IN CONNECTION WITH THE CONSTRUCTION OF THE WORK, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS OR ACTIONS OR INACTIONS OF ANY PARTY.

10.5. Prevailing Party; Attorneys' Fees. In the event of any controversy, claim, dispute or litigation between the parties arising from or relating to this Contract (including, but not limited to, the enforcement of any indemnity provisions), the prevailing party shall be entitled to recover from the non-prevailing party all reasonable costs, expenses, paralegals' fees, experts' fees and attorneys' fees including, but not limited to, court costs and other expenses through all trial and appellate levels. In addition, the prevailing party shall be entitled to recover from the non-prevailing party all litigation costs associated with discovery, processing, management, hosting, and production of electronically stored information (ESI).

10.6. Compliance with Laws. The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities in carrying out Services under this Agreement, and in particular shall obtain all required permits from all jurisdictional agencies to perform the Services under this Agreement at its own expense. Any mandatory clauses which are required by applicable law shall be deemed to be incorporated herein.

10.7. Examination and Retention of Contractor's Records.

10.7.1. The City or any of its duly authorized representatives shall, for five (5) years after final payment under this Contract, have access to and the right to examine any of the Contractor's books, ledgers, documents, papers, or other records involving transactions related to this Contract for the purpose of making audit, examination, excerpts, and transcriptions. In addition, the Contractor agrees to comply specifically with the provisions of Section 119.0701, Florida Statutes.

10.7.2. The Contractor agrees to include in any subcontractor contracts for this Project corresponding provisions for the benefit of City providing for retention and audit of records.

10.7.3. The right to access and examination of records stated herein and in any subcontracts shall survive termination or expiration of this Contract and continue until disposition of any mediation, claims, litigation or appeals related to this Project.

10.7.4. The City may cancel and terminate this Contract immediately for refusal by the Contractor to allow access by the City Manager or designees to any Records pertaining to work performed under this Contact that are subject to the provisions of Chapter 119, Florida Statutes.

10.8. Authorized Representative.

10.8.1. Before commencing the Work, Contractor shall designate a skilled and competent authorized supervisor and representative ("Authorized Representative") acceptable to City to represent and act for Contractor and shall inform City, in writing, of the name and address of such representative together with a clear definition of the scope of his authority to represent and act for Contractor. Contractor shall keep City informed of any subsequent changes in the foregoing. Such representative shall be present or duly represented at the Project site at all times when Work is actually in progress. All notices, determinations, instructions and other communications given to the authorized representatives of Contractor shall be binding upon the Contractor.

10.8.2. The Authorized Representative, Project managers, superintendents and supervisors for the Project are all subject to prior and continuous approval of the City. If, at any time during the

term of this Contract, any of the personnel either functionally or nominally performing any of the positions named above, are, for any reasonable cause whatsoever, unacceptable to the City, Contractor shall replace the unacceptable personnel with personnel acceptable to the City.

10.9. Taxes. Contractor shall pay all taxes, levies, duties and assessments of every nature which may be applicable to any Work under this Contract. The Contract Price and any agreed variations thereof shall include all taxes imposed by law at the time of this Contract. Contractor shall make any and all payroll deductions required by law. Contractor herein indemnifies and holds the City harmless from any liability on account of any and all such taxes, levies, duties and assessments.

10.10. Utilities. Contractor shall, at its expense, arrange for, develop and maintain all utilities at the Project to perform the Work and meet the requirements of this Contract. Such utilities shall be furnished by Contractor at no additional cost to City. Prior to final acceptance of the Work, Contractor shall, at its expense, satisfactorily remove and dispose of all temporary utilities developed to meet the requirements of this Contract.

10.11. Safety. Contractor shall be fully and solely responsible for safety and conducting all operations under this Contract at all times in such a manner as to avoid the risk of bodily harm to persons and damage to property and in full compliance with Occupational Safety and Health Act requirements and all other similar applicable safety laws or codes. Contractor shall continually and diligently inspect all Work, materials and equipment to discover any conditions which might involve such risks and shall be solely responsible for discovery and correction of any such conditions. Contractor shall have sole responsibility for implementing its safety program. City shall not be responsible for supervising the implementation of Contractor's safety program, and shall not have responsibility for the safety of Contractor's or its subcontractor's employees. Contractor shall maintain all portions of the Project site and Work in a neat, clean and sanitary condition at all times. Contractor shall assure that subcontractors performing Work comply with the foregoing safety requirements.

10.12. Cleaning Up. Contractor shall, at all times, at its expense, keep its Work areas in a neat, clean and safe condition. Upon completion of any portion of the Work, Contractor shall promptly remove all of its equipment, construction materials, temporary structures and surplus materials not to be used at or near the same location during later stages of Work. Upon completion of the Work and before final payment is made, Contractor shall, at its expense, satisfactorily dispose of all rubbish, unused materials and other equipment and materials belonging to it or used in the performance of the Work and Contractor shall leave the Project in a neat, clean and safe condition. In the event of Contractor's failure to comply with the foregoing, the same may be accomplished by City at Contractor's expense.

10.13. Liens. Contractor shall not permit any mechanic's, laborer's or materialmen's lien to be filed against the Project site or any part thereof by reason of any Work, labor, services or materials supplied or claimed to have been supplied to the Project. In the event such a lien is found or claimed against the Project, Contractor shall within ten (10) days after notice of the lien discharge the lien or liens and cause a satisfaction of such lien to be recorded in the public records of Miami-Dade County, Florida, or cause such lien to be transferred to a bond, or post a bond sufficient to cause the Clerk of the Circuit Court of Miami-Dade County, Florida, to discharge such lien pursuant to Chapter 713.24, F.S. In the event Contractor fails to so discharge or bond the lien or liens within such period as required above, City shall thereafter have the right, but not the obligation, to discharge or bond the lien or liens. Additionally, City shall thereafter have the right, but not the obligation, to retain out of any payment then due or to become due Contractor, one hundred fifty percent (150%) of the amount of the lien and to pay City 's reasonable attorneys' fees and costs incurred in connection therewith.

10.14. State Required Affidavits. By entering into this Agreement, the Contractor agrees to review and comply with the following state affidavit requirements:

10.14.1. Public Entity Crimes Affidavit. Contractor shall comply with Section 287.133, Florida Statutes (Public Entity Crimes Statute), notification of which is hereby incorporated herein by reference, including execution of any required affidavit.

10.14.2. Scrutinized Companies. Consultant certifies that it is not on the Scrutinized Companies that Boycott Israel List or engaged in a boycott of Israel. Pursuant to section 287.135, Florida Statues, the Village may immediately terminate this Agreement at its sole option if the Consultant is found to have submitted a false certification; or if the Consultant is placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of the Agreement. If this Agreement is for more than one million dollars, the Consultant certifies that it is also not on the Scrutinized Companies with Activities in Sudan, Scrutinized Companies with Activities in the Iran Terrorism Sectors List, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria as identified in Section 287.135, Florida Statutes. Pursuant to Section 287.135, Florida Statutes, the Village may immediately terminate this Agreement at its sole option if the Consultant is found to have submitted a false certification; or if the Consultant is placed on the Scrutinized Companies with Activities in Sudan List, Scrutinized Companies with Activities in the Iran Terrorism Sectors List, Scrutinized Companies with Activities in Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria during the term of the Agreement.

10.14.3. E-Verify Affidavit. In accordance with Section 448.095, Florida Statutes, the Village requires all contractors doing business with the Village to register with and use the E-Verify system to verify the work authorization status of all newly hired employees. The Village will not enter into a contract unless each party to the contract registers with and uses the E-Verify system. The contracting entity must provide of its proof of enrollment in E-Verify. For instructions on how to provide proof of the contracting entity's participation/enrollment in E-Verify, please visit: https://www.e-verify.gov/faq/how-do-i-provide-proof-of-my-participationenrollment-in-e-verify. By entering into this Agreement, the Contractor acknowledges that it has read Section 448.095, Florida Statutes; will comply with the E-Verify requirements imposed by Section 448.095, Florida Statutes, including but not limited to obtaining E-Verify affidavits from subcontractors; and has executed the required affidavit attached hereto and incorporated herein.

10.14.4. Noncoercive Conduct Affidavit. Pursuant to Section 787.06, Florida Statutes, a nongovernmental entity executing, renewing, or extending a contract with a governmental entity is required to provide an affidavit, signed by an officer or a representative of the nongovernmental entity under penalty of perjury, attesting that the nongovernmental entity does not use coercion for labor or services as defined in Section 787.06(2)(a), Florida Statutes. By entering into this Agreement, the Contractor acknowledges that it has read Section 787.06, Florida Statutes, and will comply with the requirements therein, and has executed the required affidavit attached hereto and incorporated herein.

10.14.5. Prohibition on Contracting with Entities of Foreign Concern. Pursuant to Section 287.138, Florida Statutes (which is expressly incorporated herein by reference), a governmental entity may not knowingly enter into a contract with an entity which would give access to an individual's personal identifying information if (a) the entity is owned by the government of a foreign country of concern; (b) the government of a foreign country of concern has a controlling interest in the entity; or (c) the entity is organized under the laws of or has its principal place of business in a foreign country of concern. By entering into this Agreement, the Contractor acknowledges that it has read Section 287.138, Florida Statutes, and complies with the requirements therein, and has executed the required affidavit attached hereto and incorporated herein.

10.15. Independent Contractor. The Contractor is an independent contractor under the Contract. This Contract does not create any partnership nor joint venture. Services provided by the Contractor shall be by employees of the Contractor and subject to supervision by the Contractor, and not as officers, employees, or agents of the City. Personnel policies, tax responsibilities, social security and health insurance, employee benefits, purchasing policies and other similar administrative procedures, applicable to services rendered under the Contract shall be those of the Contractor.

10.16. Notices/Authorized Representatives. Any notices required by this Contract shall be in writing and shall be deemed to have been properly given if transmitted by hand-delivery, by registered or certified mail with postage prepaid return receipt requested, or by a private postal service, addressed to the parties (or their successors) at the addresses listed on the signature page of this Contract or such other address as the party may have designated by proper notice.

10.17. Ownership and Access to Records and Audits.

10.17.1. Contractor acknowledges that all inventions, innovations, improvements, developments, methods, designs, analyses, drawings, reports, compiled information, and all similar or related information (whether patentable or not) which relate to Services to the City which are conceived, developed or made by Contractor during the term of this Contract ("Work Product") belong to the City. Contractor shall promptly disclose such Work Product to the City and perform all actions reasonably requested by the City (whether during or after the term of this Contract) to establish and confirm such ownership (including, without limitation, assignments, powers of attorney and other instruments).

10.17.2. Contractor agrees to keep and maintain public records in Contractor's possession or control in connection with Contractor's performance under this Contract. The City Manager or her designee shall, during the term of this Contract and for a period of five (5) years from the date of termination of this Contract, have access to and the right to examine and audit any records of the Contractor involving transactions related to this Contract. Contractor additionally agrees to comply specifically with the provisions of Section 119.0701, Florida Statutes. Contractor shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed, except as authorized by law, for the duration of the Contract, and following completion of the Contract until the records are transferred to the City.

10.17.3. Upon request from the City's custodian of public records, Contractor shall provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided by Chapter 119, Florida Statutes, or as otherwise provided by law.

10.17.4. Unless otherwise provided by law, any and all records, including but not limited to reports, surveys, and other data and documents provided or created in connection with this Contract are and shall remain the property of the City.

10.17.5. Upon completion of this Contract or in the event of termination by either party, any and all public records relating to the Contract in the possession of the Contractor shall be delivered by the Contractor to the City Manager, at no cost to the City, within seven (7) days. All such records stored electronically by Contractor shall be delivered to the City in a format that is compatible with the City's information technology systems. Once the public records have been delivered upon completion or termination of this Contract, the Contractor shall destroy any and all duplicate public records that are exempt or confidential and exempt from public records disclosure requirements.

10.17.6. Any compensation due to Contractor shall be withheld until all records are received as provided herein.

10.17.7. Contractor's failure or refusal to comply with the provisions of this section shall result in the immediate termination of this Contract by the City.

10.17.8. Notice Pursuant to Section 119.0701(2)(a), Florida Statutes. IF THE BIDDER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE BIDDER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS SOLICITATION, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

Custodian of Records:	**Nkenga "Nikki" Payne, CMC, FCRM**
Mailing address:	**6130 Sunset Drive**
	South Miami, FL 33143
Telephone number:	**305-663-6340**
Email:	**Nkenga.Payne@SoMiFl.gov**

11. SPECIAL CONDITIONS

The following provisions in this Section 10 supersede any other provisions contained in this Contract only to the extent of any conflict with same. These provisions are particular to a given transaction and are transaction specific:

11.1. Unsatisfactory Personnel.

11.1.1. Contractor must at all times enforce strict discipline and good order among its employees and subcontractors at the Project(s) site(s) and must not employ on any Work any unfit person or anyone not skilled in the Work to which they are assigned.

11.1.2. The City may make written request to the Contractor for the prompt removal and replacement of any personnel employed or retained by the Contractor, or any or Subcontractor engaged by the Contractor to provide and perform services or Work pursuant to the requirements of the Contract Documents. The Contractor must respond to the City within five (5) calendar days of receipt of such request with either the removal and replacement of such personnel or written justification as to why that may not occur. The City will make the final determination as to the removal of unsatisfactory personnel from the Work. The Contractor agrees that the removal of any of such individual(s) does not require the termination or demotion of said individual(s).

11.2. Hours of Work. Contractor shall conform to and obey all applicable laws, regulations, or ordinances with regard to labor employed, hours of Work and Contractor's general operations. Contractor shall conduct its operations so as not to interfere with or close any thoroughfare, without the written consent

of the City or governing jurisdiction. Work is anticipated to be performed Monday through Friday in accordance with the requirements and limitations of applicable law including, without limitation, the City Code of Ordinances. The Contractor shall not perform Work beyond the time and days provided above without the prior written approval of the City.

11.3. Maintenance of Traffic. Whenever required by the scope of Work, by federal, state, or local law, or requested by the City to protect the public health, safety, and welfare, a Maintenance of Traffic ("MOT") must be performed in accordance with the applicable FDOT Index Numbers (600 Series) and as further stated herein. The manual on Uniform Traffic Control Devises for Streets and Highways (U.S. Department of Transportation, FHWA), must be followed in the design, application, installation, maintenance and removal of all traffic control devices, warning devices and barriers necessary to protect the public and workmen from hazards with the Project limits. Pedestrian and vehicular traffic must be maintained and protected at all times. Prior to commencement of the Work, Contractor must provide the City with a proposed MOT plan for review. The City may require revisions to the proposed MOT plan. The MOT plan must be updated by the Contractor every two weeks. Failure to provide an MOT plan may result in the issuance of a stop work order. The Contractor will not be entitled to additional Contract Time for delays resulting from its failure to provide the required MOT plan.

11.4. Royalties and Patents. All fees, royalties, and claims for any invention, or pretended inventions, or patent of any article, material, arrangement, appliance, or method that may be used upon or in any manner be connected with the Work or appurtenances, are hereby included in the prices stipulated in the Contract for said Work.

11.5. Substitutions. Substitution of any specified material or equipment requires the prior written acceptance of the Project Consultant. It is the sole responsibility of the Contractor to provide sufficient information and documentation to the Project Consultant to allow for a thorough review and determination on the acceptability of the substitution. Approval of a substitution does not waive or mitigate the Contractor's responsibility to meet the requirements of the Contract Documents. The City may require an adjustment in price based on any proposed substitution.

11.6. Severe Weather Preparedness. During such periods of time as are designated by the United States Weather Bureau or Miami-Dade County as being a severe weather event, including a hurricane watch or warning, the Contractor, at no cost to the City, must take all precautions necessary to secure any Work in response to all threatened storm events, regardless of whether the Contractor has been given notice of same, in accordance with the Miami-Dade County Code. Compliance with any specific severe weather event or alert precautions will not constitute additional work. Suspension of the Work caused by a threatened or actual storm event, regardless of whether the City has directed such suspension, will entitle the Contractor to additional Contract Time as non-compensable, excusable delay.

11.7. Grant Funding. The Contractor acknowledges that the Work may be fully or partially funded utilizing funds from the grants listed below (each a "Grant"). Accordingly, the Contractor warrants and represents that it has reviewed the terms and conditions for each Grant and will perform the Work in accordance with the terms and conditions of the Grant. If the Work will be funded utilizing Grant funds, the City shall select this box: ☐.

Grant Title	Grant Agreement Exhibit

If the Work will be funded utilizing Grant funds, the City shall select this box:☐.

11.8. DBE Contract Assurance.

11.8.1. The City affirms it has encouraged women-owned, minority-owned, and disadvantaged businesses of the Project and be responsive to the opportunity of the award of this Contract.

11.8.2. Contractor, or any subcontractor performing Work under this Contract, shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out all applicable requirements of 49 CFE Part 26 in the award and administration of this Contract. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the City deems appropriate.

11.9. Scrutinized Companies.

11.9.1. Contractor certifies that it and its subcontractors are not on the Scrutinized Companies that Boycott Israel List. Pursuant to Section 287.135, F.S., the City may immediately terminate this Agreement at its sole option if the Contractor or its subcontractors are found to have submitted a false certification; or if the Contractor, or its subcontractors are placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of the Agreement.

11.9.2. If this Agreement is for more than one million dollars, the Contractor certifies that it and its subcontractors are also not on the Scrutinized Companies with Activities in Sudan, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria as identified in Section 287.135, F.S. Pursuant to Section 287.135, F.S., the City may immediately terminate this Agreement at its sole option if the Contractor, its affiliates, or its subcontractors are found to have submitted a false certification; or if the Contractor, its affiliates, or its subcontractors are placed on the Scrutinized Companies with Activities in Sudan List, or Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria during the term of the Agreement.

11.9.3. The Contractor agrees to observe the above requirements for applicable subcontracts entered into for the performance of work under this Agreement.

11.9.4. As provided in Subsection 287.135(8), F.S., if federal law ceases to authorize the above-stated contracting prohibitions then they shall become inoperative.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed the day and year as first stated above.

CITY OF SOUTH MIAMI

By: _____
Genaro "Chip" Iglesias
City Manager

Attest:

By: _____
Nkenga "Nikki" Payne, CMC, FCRM
City Clerk

Approved as to form and legal sufficiency:

By: _____
Weiss Serota Helfman Cole & Bierman, P.L.
City Attorney

Addresses for Notice:
Genaro "Chip" Iglesias
City of South Miami
Attn: City Manager
6130 Sunset Drive
South Miami, FL 33143
305-668-2510 (telephone)
305-663-6345 (facsimile)
chip@southmiamifl.gov (email)

With a copy to:
Weiss Serota Helfman Cole & Bierman, P.L.
Attn: Lillian Arango, Esq.
City of South Miami Attorney
2800 Ponce de Leon Boulevard, Suite 1200
Coral Gables, FL 33134
larango@wsh-law.com (email)

CONTRACTOR

By: _____

Name: _____

Title: _____

Entity: _____

Addresses for Notice:

_____
_____
_____
_____
_____(telephone)
_____(email)

With a copy to:

_____
_____
_____
_____
_____(telephone)
_____(email)

E-VERIFY AFFIDAVIT

In accordance with Section 448.095, Florida Statutes, the City requires all contractors doing business with the City to register with and use the E-Verify system to verify the work authorization status of all newly hired employees. The City will not enter into a contract unless each party to the contract registers with and uses the E-Verify system.

The contracting entity must provide of its proof of enrollment in E-Verify. For instructions on how to provide proof of the contracting entity's participation/enrollment in E-Verify, please visit: https://www.e-verify.gov/faq/how-do-i-provide-proof-of-my-participationenrollment-in-e-verify

By signing below, the contracting entity acknowledges that it has read Section 448.095, Florida Statutes and will comply with the E-Verify requirements imposed by it, including but not limited to obtaining E-Verify affidavits from subcontractors.

☐ **Check here to confirm proof of enrollment in E-Verify has been attached to this Affidavit.**

In the presence of:

_____

Witness #1 Print Name: _____

_____

Witness #2 Print Name: _____

Signed, sealed and delivered by:

_____

Print Name: _____

Title: _____

Entity Name: _____

ACKNOWLEDGMENT

State of Florida
County of _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20____, by_____ (name of person) as _____ (type of authority) for _____ _____ (name of party on behalf of whom instrument is executed).

_____
Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

AFFIDAVIT ATTESTING TO NONCOERCIVE CONDUCT FOR LABOR OR SERVICES

Effective July 1, 2024, Section 787.06, Florida Statutes, a nongovernmental entity executing, renewing, or extending a contract with a governmental entity is required to provide an affidavit, signed by an officer or a representative of the nongovernmental entity under penalty of perjury, attesting that the nongovernmental entity does not use coercion for labor or services as defined in Section 787.06(2)(a), Florida Statutes.

By signing below, **I hereby affirm under penalty of perjury that**:

1. I have read Section 787.06, Florida Statutes, and understand that this affidavit is provided in compliance with the requirement that, upon execution, renewal, or extension of a contract between a nongovernmental entity and a governmental entity, the nongovernmental entity must attest to the absence of coercion in labor or services.

2. I am an officer or representative of _____, a nongovernmental entity.

3. _____ does not use coercion for labor or services as defined in the relevant section of the law.

In the presence of:

_____
Witness #1 Print Name: _____

_____
Witness #2 Print Name: _____

Under penalties of perjury, I declare that I have read the foregoing and the facts stated in it are true:

_____
Print Name: _____
Title: _____
Entity Name: _____

OATH OR AFFIRMATION

State of Florida
County of _____

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20____, by_____ (name of person) as _____ (type of authority) for _____ _____ (name of party on behalf of whom instrument is executed).

_____
Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

AFFIDAVIT REGARDING PROHIBITION ON CONTRACTING WITH ENTITIES OF FOREIGN COUNTRIES OF CONCERN

Pursuant to Section 287.138, Florida Statutes (which is expressly incorporated herein by reference), a governmental entity may not knowingly enter into a contract with an entity which would give access to an individual's personal identifying information if (a) the entity is owned by ethe government of a foreign country of concern; (b) the government of a foreign country of concern has a controlling interest in the entity; or (c) the entity is organized under the laws of or has its principal place of business in a foreign country of concern.

This affidavit must be completed by an officer or representative of an entity submitting a bid, proposal, or reply to, or entering into, renewing, or extending, a contract with a governmental entity which would grant the entity access to an individual's personal identifying information.

1. _____ ("entity") does not meet any of the criteria in paragraphs (2)(a)-(c) of Section 287.138, F.S.

In the presence of:

Under penalties of perjury, I declare that I have read the foregoing and the facts stated in it are true:

_____
Witness #1 Print Name: _____

_____
Witness #2 Print Name: _____

_____
Print Name: _____
Title: _____
Entity Name: _____

OATH OR AFFIRMATION

State of Florida
County of _____

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20___, by_____ (name of person) as _____ (type of authority) for _____ _____ (name of party on behalf of whom instrument is executed).

_____
Notary Public (Print, Stamp, or Type as Commissioned)

_____Personally known to me; or
_____Produced identification (Type of Identification:_____)
_____Did take an oath; or
_____Did not take an oath

ATTACHMENT B

DECLARATION/AFFIDAVIT OF REPRESENTATION

This Affidavit is not required for compliance with the City's Solicitation; however, it may be used to avoid the need to register members of your presentation team as lobbyists. Pursuant to City Ordinance 28-14-2206 (c)(9), any person who appears as a representative for an individual or firm for an oral presentation before a City certification, evaluation, selection, technical review, or similar committee, must list on an affidavit provided by the City staff, all individuals who may make a presentation. The Affidavit must be filed by with the City Clerk's office at the time the a bid or proposal is submitted to the City. For the purpose of this solicitation only, the members listed for the presentation team, with the exception of any person otherwise required to register as a lobbyist, shall not be required to pay any registration fees. No person may appear before any committee on behalf of an anyone unless he or she has been listed as part of the firm's presentation team pursuant to this Affidavit or unless he or she is registered with the City Clerk's office as a lobbyist and has paid all applicable lobbyist registration fees.

Pursuant to Section 92.525(2), Florida Statutes, the undersigned, _____, makes the following declaration under penalties of perjury:

Listed below are all individuals who may make a presentation on behalf of the entity that the affiant represents.

NAME	TITLE

Under penalties of perjury, I declare that I have read the foregoing declaration and that the facts stated in it are true and specifically, that the persons listed above are the members of the presentation team of the entity listed below.

ATTACHMENT C

DESIGN PLANS

PREPARED BY:

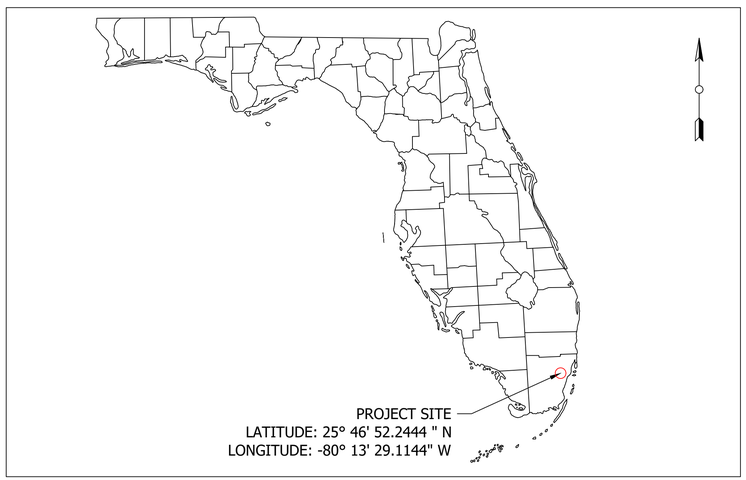
M & J Engineering

CITY OF SOUTH MIAMI

South Miami
THE CITY OF PLEASANT LIVING

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS

FEBRUARY 2026



REGIONAL MAP
N.T.S

LOCATION MAP
TOWNSHIP 54S -RANGE 40E- SECTION 24
N.T.S

JAVIER FÉRNANDEZ
MAYOR

BRIAN COREY
VICE MAYOR

DANNY RODRIGUEZ
COMMISSIONER

STEVE CALLE
COMMISSIONER

LISA BONICH
COMMISSIONER

QUENTIN POUGH CPRP
DIRECTOR OF PARKS AND RECREATION

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440
MIAMI, FL 33156

JOHN SCHRECK
LICENSE
No 66972
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PRINT: 2/10/2026 9:38 AM \\192.168.1.15\MJDRIVE\PROJECTS\MJ 2023-246-000 CITY OF SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS\3.0 DESIGN PHASE\3.5 DRAWINGS\PLOTSHEETS\TITLE SHEET.DWG

I. GENERAL NOTES

A. PRIOR TO BID, THE CONTRACTOR SHALL VISIT THE SITE AND SHALL BECOME FULLY ACQUAINTED WITH EXISTING CONDITIONS AND THE POTENTIAL IMPACT THEREOF UPON THE EXECUTION OF THE CONSTRUCTION WORK UNDER THIS CONTRACT.

B. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES, OMISSIONS, CONFLICTING STATEMENTS OR QUESTION OF INTENT WITHIN THE CONSTRUCTION DOCUMENTS, HE SHALL IMMEDIATELY NOTIFY THE CITY OF SOUTH MIAMI PROJECT MANAGER.

C. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD AND SHALL NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES, OMISSIONS AND/OR ANY OTHER CONFLICTS OR IRREGULARITIES PRIOR TO THE COMMENCEMENT OF ANY WORK.

D. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF SOUTH MIAMI, MIAMI-DADE COUNTY D.E.R.M (DIVISION OF ENVIRONMENTAL RESOURCES MANAGEMENT), F.D.O.T. DESIGN STANDARDS 19-2023, FLORIDA BUILDING CODE AND ALL OTHER LOCAL, STATE, AND FEDERAL CODES WHERE APPLICABLE.

E. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1970, AS WELL AS ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.

F. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, (N.G.V.D.), UNLESS OTHERWISE NOTED.

G. REGULATORY SPEED ESTABLISHED WITHIN THE WORK ZONE TRAVEL WAYS SHALL BE REDUCED TO 10 M.P.H. REGULATORY SPEED SIGNS SHALL BE INSTALLED ON SEPARATE POSTS IN ACCORDANCE WITH THE STANDARD INDEXES AND M.U.T.C.D. AND MUST BE COORDINATED WITH THE CITY OF SOUTH MIAMI IN ADVANCE.

II. PRECONSTRUCTION RESPONSIBILITIES

A. UPON THE RECEIPT OF "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE THE CITY OF SOUTH MIAMI PROJECT REPRESENTATIVE AND THE ENGINEER OF RECORD.

B. THE CONTRACTOR SHALL OBTAIN A "SUNSHINE STATE ONE-CALL OF FLORIDA, INC." CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION OPERATIONS.

C. ALL UTILITY EASEMENTS ARE TO BE SECURED PRIOR TO CONSTRUCTION (IF REQUIRED.)

D. LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER & THE CITY ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN OR FOR ANY FACILITY NOT SHOWN. SHOULD AN UNANTICIPATED EXISTING FACILITY BE DISCOVERED UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN REGARDING CONFIRMATION AND VERIFICATION OF SAID EXISTING FACILITIES PRIOR TO PERFORMANCE OF FURTHER CONSTRUCTION WORK AT THE INVOLVED LOCATION.

E. ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOW; CORNERS AND MONUMENTS IN CONFLICT WITH THE WORK AND IN DANGER IF BEING DAMAGES, DESTROYED, OR OVERED SHALL BE PROPERLY REFERENCED BY A REGISTERED-LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYOR TO REFERENCE, AND RESTORE UPON COMPLETION OF THE WORK, ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO THE CITY OF MIAMI A SIGNED AND SEALED COPY OF THE LAND SURVEYORS'S REFERENCE DRAWING. COST OF WORK SHALL BE DEEMED INCIDENTAL TO THE PROJECT COST.

F. ANY DRIVEWAY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN KIND AND TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

G. CONTRACTOR SHALL SECURE THE WORK SITE TO PROTECT THE PUBLIC HEALTH AND WELFARE.

H. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A PROPER MATERIAL AND EQUIPMENT STAGING AREA, AND NO STAGING SHALL OCCUR ON ADJACENT PRIVATE PROPERTY WITHOUT THE OWNER'S WRITTEN APPROVAL. STOCKPILING OF MATERIAL IN ROADWAY IS NOT ALLOWED.

I. CONTRACTOR SHALL ASSIST THE CITY WITH THE HANDLING OF THE PUBLIC INFORMATION MATERIALS, INCLUDING CITIZEN NOTIFICATION LETTERS AND PROJECT SIGNS, PRIOR TO START OF EACH SIGNIFICANT PHASE OF CONSTRUCTION. THE COST OF THIS WORK SHALL BE INCLUDED IN THE MAINTENANCE OF TRAFFIC (MOT) ITEM.

J. LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN OR FOR ANY FACILITY NOT SHOWN. VERIFY THE ELEVATION TYPE OF PIPES AND LOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION. IF AN EXISTING FACILITY IS FOUND TO CONFLICT WITH THE PROPOSED CONSTRUCTION UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE PROBLEM. CONTRACTOR TO NOTIFY OWNER AND SUNSHINE STATE ON CALL OF FLORIDA, INC @811 AT LEAST FORTY EIGHT (48) HOURS PRIOR TO EXCAVATING. EVIDENCE OF SUCH NOTICE SHALL BE FURNISHED TO THE CITY AND M&J PRIOR TO EXCAVATING.

III. PERMITS

A. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY REQUIRED PERMITS.

IV. INSPECTIONS

A. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD & THE CITY OF SOUTH MIAMI AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE:
1. CLEARING AND GRUBBING
2. EXCAVATION
3. PAVING AND MILLING
4. CONCRETE WORK
5. STRIPING
6. FINAL INSPECTION

V. SHOP DRAWINGS

A. PRIOR TO CONSTRUCTION OR INSTALLATION OF ALL MATERIALS, EQUIPMENT, FIXTURES AND STRUCTURES, SHOP DRAWINGS SHALL BE SUBMITTED AS REQUIRED TO THE ENGINEER OF RECORD FOR APPROVAL.

VI. DURING CONSTRUCTION

A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR AND/OR SUPPLY TEMPORARY FACILITIES FOR WATER SERVICE, ELECTRICITY AND SANITATION.

B. TRAFFIC REGULATION -

1. THE MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), FDOT, AND THE CITY OF SOUTH MIAMI STANDARDS AND REQUIREMENTS. THE REGULATORY SPEED DURING CONSTRUCTION IS TO BE 10 MPH.

2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.

3. NO TRENCHES OR HOLES DEEPER THAN 3 FT. ARE TO BE LEFT OPEN DURING THE NIGHT/NON-WORKING HOURS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE CITY REPRESENTATIVE.

4. CONTRACTOR SHALL PROVIDE A MOT PLAN TO THE ENGINEER FOR APPROVAL FOUR (4) WEEKS IN ADVANCE. FDOT STANDARDS MAY BE REFERENCED (EX. 601, 602, 603).

5. CONTRACTOR SHALL REMOVE, RELOCATE OR COVER ANY EXISTING OR PROPOSED SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. WHEN THE CONFLICT NO LONGER EXISTS, THE CONTRACTOR SHALL RESTORE THE SIGNS TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY COVERING OR REMOVING/RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

C. ALL EXISTING MANHOLE TOPS, CATCH BASIN GRATES, VALVE BOX TOPS, AND WATER METER TOPS WITHIN THE PROJECT AREA SHALL BE ADJUSTED TO MATCH FINISHED GRADE BY THE CONTRACTOR. PLANS MAY NOT SHOW ALL LOCATIONS NECESSARY FOR ADJUSTMENTS. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL NECESSARY UTILITY TOPS TO BE ADJUSTED.

D. IN OBSERVANCE OF THE SCHOOL HOURS, CONTRACTOR SHALL SCHEDULE DELIVERIES BETWEEN THE HOURS OF 9AM TO 4PM. CONTRACTOR IS TO AVOID DELIVERIES DURING HIGH TRAFFIC DROP OFF AND PICKUP TIMES FROM ADJACENT PROPERTY DAVID FAIRCHILD ELEMENTARY SCHOOL AS FOLLOWS:

SCHOOL DROP OFF/PICKUP PEAK HOURS	
DAY	TIME
MONDAY, TUESDAY, THURSDAY, FRIDAY	7:00 AM -9:00 AM 1:00 PM - 4:00 PM
WEDNESDAY	7:00 AM - 9:00 AM 1:00 PM - 3:00 PM

VII. EARTHWORK

A. ALL TOPSOIL, VEGETATION AND HEAVY ROOT MATS SHALL BE STRIPPED TO AT LEAST 5" BEYOND THE PERIMETER OF THE PROPOSED CONSTRUCTION AREA.

B. FILL AND BACKFILL SHALL BE SAND, SAND-ROCK MIXTURE OR CRUSHED ROCK HAVING LESS THAN 10% SILT, 1% ORGANICS AND ROCK SIZES LESS THAN 3" IN DIAMETER.

VIII. PAVING

A. GENERAL
1. ALL CURBS SHALL BE COMPLETED AND GATE AND OTHER FOUNDATIONS, ECT.
2. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF LIMEROCK BASE.
3. ALL EXISTING PAVEMENT CUT OR DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE PROPERLY RESTORED AT THE CONTRACTORS EXPENSE.
4. WHERE ANY PROPOSED PAVEMENT IS TO MEET THE EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.
5. ALL PAVEMENT DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR LIP OF GUTTER UNLESS OTHERWISE STATED.

B. MATERIALS

1. THE BASE COURSE SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM. (60% FOR LOCAL STREETS & PARKING AREAS).

2. ASPHALT SURFACES SHALL BE SP-9.5 AND FC-9.5 FOR ROADWAY, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

C. INSTALLATION AND COMPACTION:

1. INSTALLATION OF THE WEARING SURFACE SHALL CONFORM THE REQUIREMENTS OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2016 OR LATEST.

D. TESTING

1. ALL TESTING COSTS (PAVING) SHALL BE PART OF THE CONTRACTOR QA/QC PROCESS. RESULTS MUST BE PROVIDED TO THE CITY AND THE CITY CAN PERFORM QUALITY ASSURANCE TESTING AT ITS CONVENIENCE.

IX. PEDESTRIANS, BICYCLES AND WHEELCHAIRS

A. AT THE END OF EACH WORKDAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP OFF ADJACENT TO PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH SAID PATHS OR PROTECTED WITH BARRICADES, TEMPORARY CONCRETE BARRIER, OR APPROVED HANDRAIL COST OF BACKFILLING DROP OFF SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

B. PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAFFIC SHALL BE MAINTAINED AND GUIDED USING APPROVED WARNING LIGHTS, SIGNING AND CHANNELIZATION DEVICES ON AT LEAST ONE SIDE OF THE PROJECT AT ALL TIMES THROUGHOUT THE PROJECT LIMITS. THE TRAVEL PATH SHALL BE A MINIMUM OF 4 FEET WIDE WITH A SMOOTH SURFACE THAT IS NOT SLICK AND IT SHOULD BE RAMPED AS NECESSARY FOR CONTINUITY. COST TO CONSTRUCT AND MAINTAIN THE TRAVEL PATH AS REQUIRED SHALL EB INCLUDED IN THE MAINTENANCE OF TRAFFIC PAY ITEM.

X. PROJECT CLOSEOUT

A. CLEANING UP
1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN CONDITION, AND UPON FINAL CLEAN-UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEPT BROOM CLEAN.

2. THE CONTRACTOR SHALL RESTORE/REPLACE WHEN AND AS DIRECTED, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT OR EMPLOYEES, BACK TO A CONDITION EQUAL OR BETTER THAN THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF HIS OPERATIONS. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH DRIVEWAY, WALKWAY AND LANDSCAPING RESTORATIONS AT NO ADDITIONAL COST TO THE CITY.

3. ANY MATERIAL OR DEBRIS THAT HAS WASHED OR FLOWED INTO, OR HAS BEEN PLACED IN WATERCOURSES, DITCHES, DRAINS, CATCH BASINS OR ELSEWHERE DURING THE CONTRACTOR'S OPERATIONS SHALL BE SATISFACTORILY DISPOSED OF DURING THE PROGRESS OF THE WORK. THE PROJECT AREA SHALL BE KEPT IN A CLEAN AND NEAT CONDITION.

B. ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTORS EXPENSE.

C. ALL UNPAVED SURFACES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE CONSTRUCTION COMMENCED.

D. PROJECT RECORD DOCUMENTS
1. DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON THEIR SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.

2. UPON THE COMPLETION OF CONSTRUCTION, AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF ALL AS-BUILT CONTRACT DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS--BUILT" CONSTRUCTION CHANGES, DIMENSIONS, LOCATIONS, AND ELEVATIONS OF ALL IMPROVEMENTS.

3. ALL "AS-BUILT" INFORMATION ON ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.

XI. ENVIRONMENTAL

A. NO STAGING OR OTHER ACTIVITIES FOR THIS PROJECT SHOULD OCCUR WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN.

B. THE CONTRACTOR MUST TAKE ALL MEASURES NECESSARY TO PREVENT DAMAGE TO TREES AND PLANTERS WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT'S RIGHT-OF-WAY.

C. CRITICAL AREAS TO BE PROTECTED WILL BE DETERMINED DURING A PRE-CONSTRUCTION SURVEY. WHEN NECESSARY, THE CONTRACTOR SHALL INSTALL A PHYSICAL AND HIGHLY VISIBLE BARRIER AROUND TREES REQUIRING PROTECTION USING DURABLE FENCING MATERIAL SUCH AS PLASTIC CONSTRUCTION FENCING OR EQUIVALENT MATERIAL.

D. TREE PROTECTION SHALL BE INSTALLED AROUND TREES TO REMAIN LOCATED ADJACENT TO CONSTRUCTION ACTIVITIES.

E. THE CONTRACTOR SHALL NOT REMOVE, RELOCATE OR PRUNE ANY TREES WITHOUT PRIOR APPROVAL FROM THE CITY. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT PRIOR TO ANY TREE REMOVAL/RELOCAT1ON.

F. THE CONTRACTOR SHALL REVIEW THE ENVIRONMENTAL REQUIREMENTS OF ANY PROPOSED STAGING AREAS WITH THE PROJECT ENGINEER AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO USE.

G. THE CONTRACTOR MUST HAVE AN ARBORIST PRESENT AT ALL TIMES DURING ANY ROOT PRUNING WORK, TREE RELOCATION, AND ANY TREE-PROTECTION INSTALLATION WORK.

H. THE CONTRACTOR WILL BRACE ALL EXISTING LANDSCAPING TO REMAIN PRIOR TO BEGINNING ANY WORK AND WILL ENSURE THEIR STABILIZATION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EXISTING SOD DISTURBED BY CONSTRUCTION THAT IS NOT AFFECTED BY PROPOSED GRADING WILL BE RESTORED TO ITS ORIGINAL STATE UPON COMPLETION OF CONSTRUCTION. SODDED SLOPES THAT ARE STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL WILL BE PEGGED.

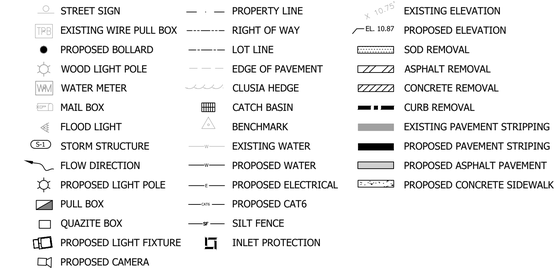
I. ANY MATERIAL TO BE STOCKPILED, OUTSIDE OF ROADWAY AREA, FOR PERIODS GREATER THAN 24 HOURS SHALL BE PROTECTED BY APPROPRIATE EROSION CONTROL DEVICES.

J. ALL WASTE GENERATED DURING CONSTRUCTION SHALL BE DISCARDED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS, ALL OF WHICH THE CONTRACTOR MUST BE FAMILIAR WITH PRIOR TO CONSTRUCTION COMMENCEMENT. SUCH REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE DEPARTMENT OF ENVIRONMENTAL RESOURCE MANAGEMENT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

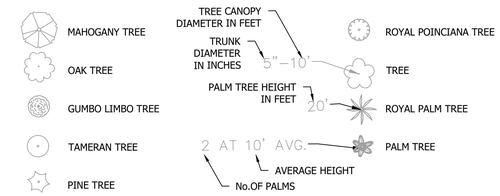
K. TO ENSURE THAT OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST IS MINIMIZED, THE CONTRACTOR SHALL PUT INTO PRACTICE THE METHODS DETAILED IN FDOT INDEX 105 (LATEST VERSION).

L. DUST GENERATION RESULTING FROM CONSTRUCTION ACTIVITIES MUST BE MINIMIZED THROUGH USAGE OF A WATER TRUCK FOR SITE CLEANING AT THE END OF EACH WORKDAY. THE DISPOSAL OF ANY EXCESS MATERIAL MUST OCCUR WITHIN SEVENTY-TWO (72) HOURS OF ITS GENERATION.

SYMBOL LEGEND:



TREE LEGEND:



ABBREVIATIONS:

R/W - RIGHT-OF-WAY
P.B. - PLAT BOOK
PG. - PAGE
D.C.R. - DADE COUNTY RECORDS
℄ - CENTERLINE

SHEET INDEX

SHEET NUMBER	DRAWING NUMBER	SHEET DESCRIPTION
--		Cover
2	GN1	GENERAL NOTES, ABBREVIATIONS, LEGEND, AND SHEET INDEX
3	ECS	EROSION CONTROL AND SEDIMENT PLAN
4	ECD	EXISTING CONDITIONS AND DEMOLITION PLAN
5	SCP	SEQUENCING, COORDINATION, STAGING, AND STORAGE PLAN
6	GP	GENERAL PLAN
7	LP	LAYOUT PLAN
8	PMS	PAVEMENT MARKING AND SIGNAGE PLAN
9	GDP	GRADING AND DRAINAGE PLAN
10	TS1	TYPICAL SECTIONS
11	TS2	TYPICAL SECTIONS
12	EP	ELECTRICAL PLAN
13	TDP	TREE DISPOSITION PLAN
14	LPN	LANDSCAPE NOTES
15	LDP	LANDSCAPING PLAN
16	PLI	PLANT LIST IMAGES
17	D1	DETAILS
18	D2	DETAILS
19	D3	DETAILS
20	D4	DETAILS
21	D5	DETAILS
22	D6	DETAILS

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN SCHRECK ON THE DATE ADJACENT TO THE SEAL PRINTED COPIES IF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

GENERAL NOTES, ABBREVIATIONS, LEGEND, AND SHEET INDEX

DRAWING NUMBER
GN1

SHEET 2 OF 22

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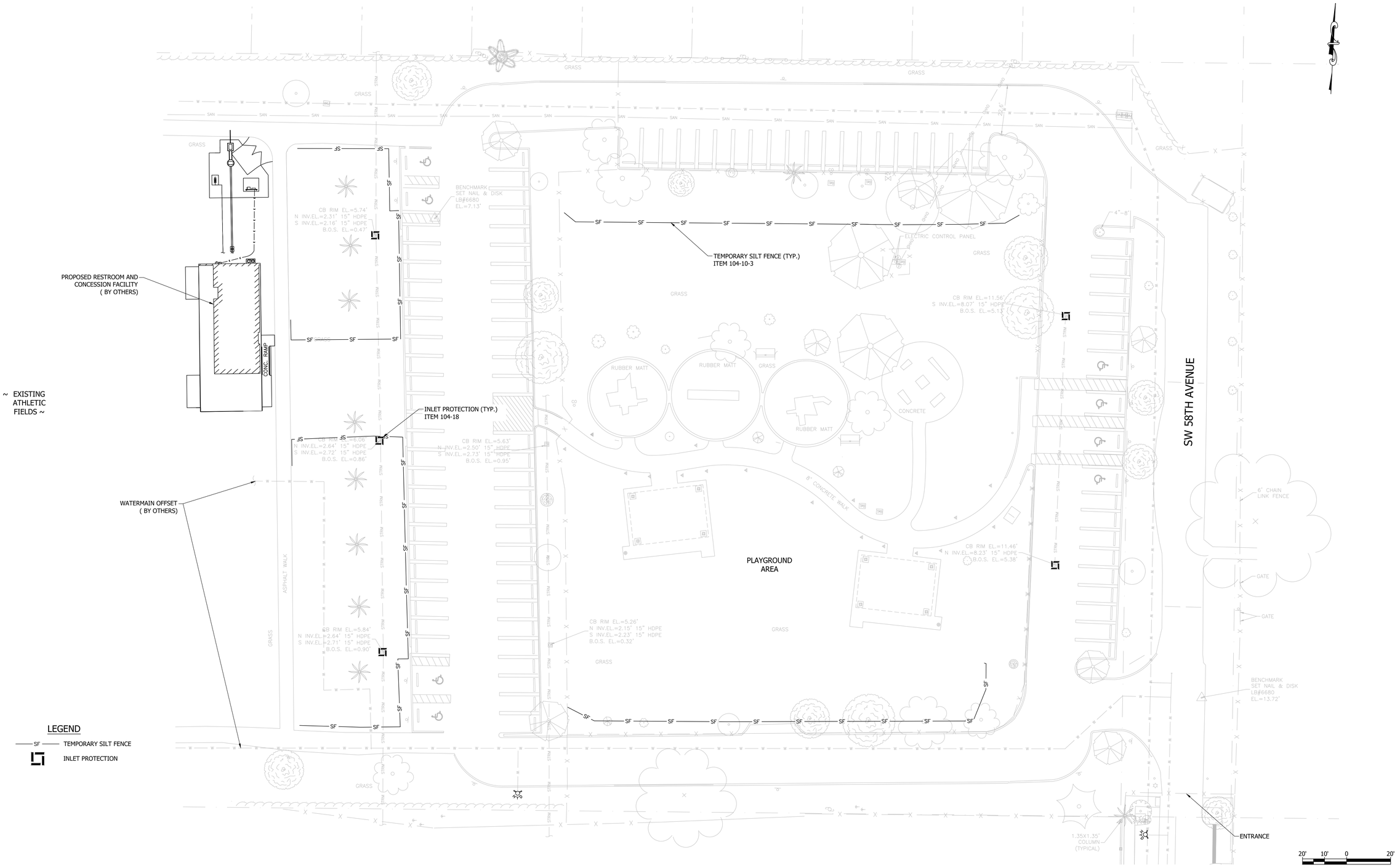

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M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

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EROSION CONTROL AND SEDIMENT PLAN

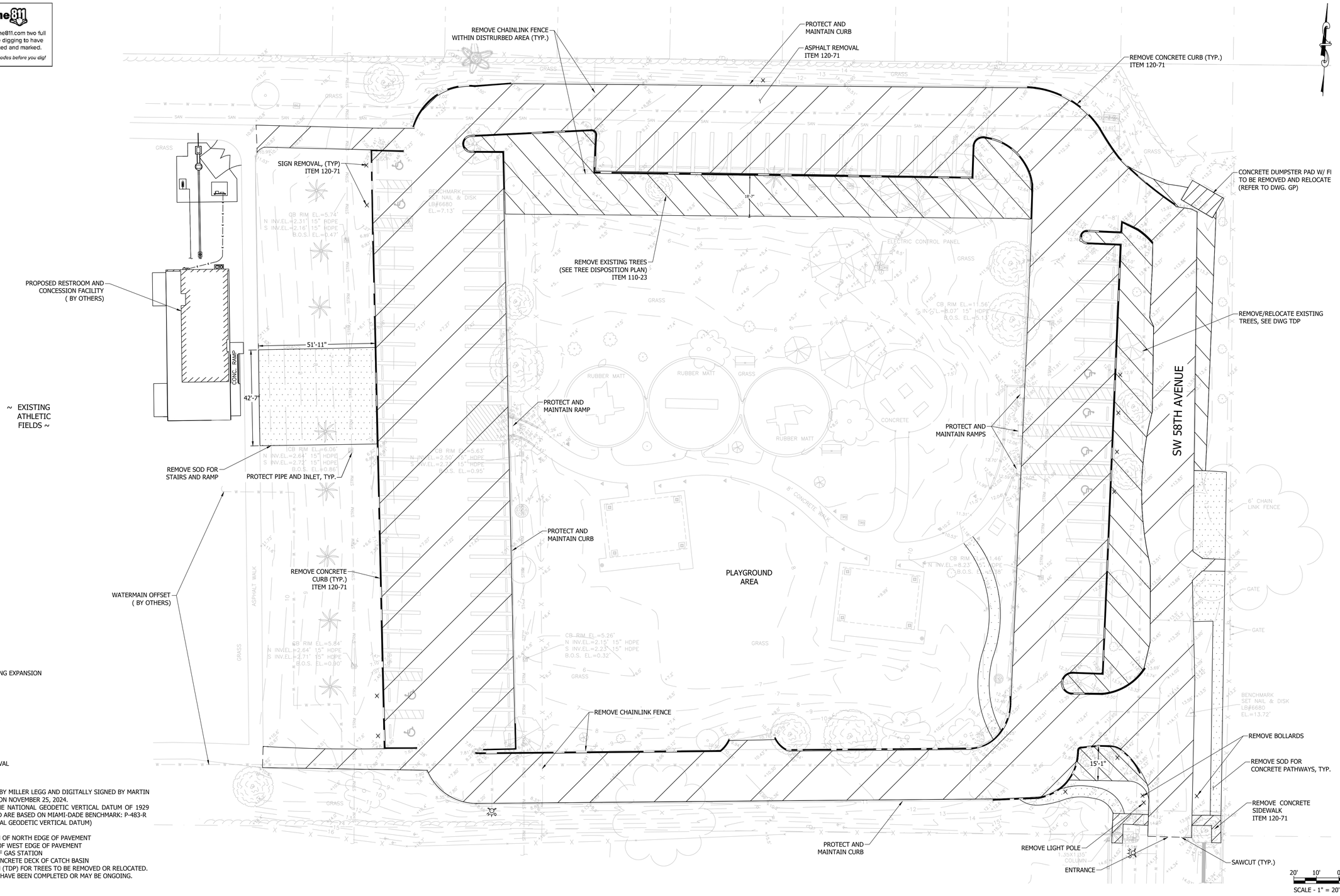
DRAWING NUMBER ECS

SHEET 3 OF 22

Sunshine811

Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.

Check positive response codes before you dig!



LEGEND

- REMOVAL FOR PARKING EXPANSION
- SOD REMOVAL
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- CURB REMOVAL
- SAWCUT
- × SITE FEATURE REMOVAL

NOTES:

1. TOPOGRAPHIC SURVEY PREPARED BY MILLER LEGG AND DIGITALLY SIGNED BY MARTIN P. ROSSI. LS (FLORIDA NO. 5857) ON NOVEMBER 25, 2024.
2. ELEVATIONS ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29), ARE SHOWN THUS: AND ARE BASED ON MIAMI-DADE BENCHMARK: P-483-R
   ELEVATION: 13.31' FEET (NATIONAL GEODETIC VERTICAL DATUM)
   LOCATION:
   40TH STREET ---- 79 FEET NORTH OF NORTH EDGE OF PAVEMENT
   57TH AVENUE----2.3 FEET WEST OF WEST EDGE OF PAVEMENT
   63.9 FEET EAST OF SE CORNER OF GAS STATION
   PK NAIL IN BRASS WASHER IN CONCRETE DECK OF CATCH BASIN
3. REFER TO TREE DISPOSITION PLAN (TDP) FOR TREES TO BE REMOVED OR RELOCATED.
4. PROPOSED WORK BY OTHERS MAY HAVE BEEN COMPLETED OR MAY BE ONGOING.

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EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWING NUMBER ECD

SHEET 4 OF 22

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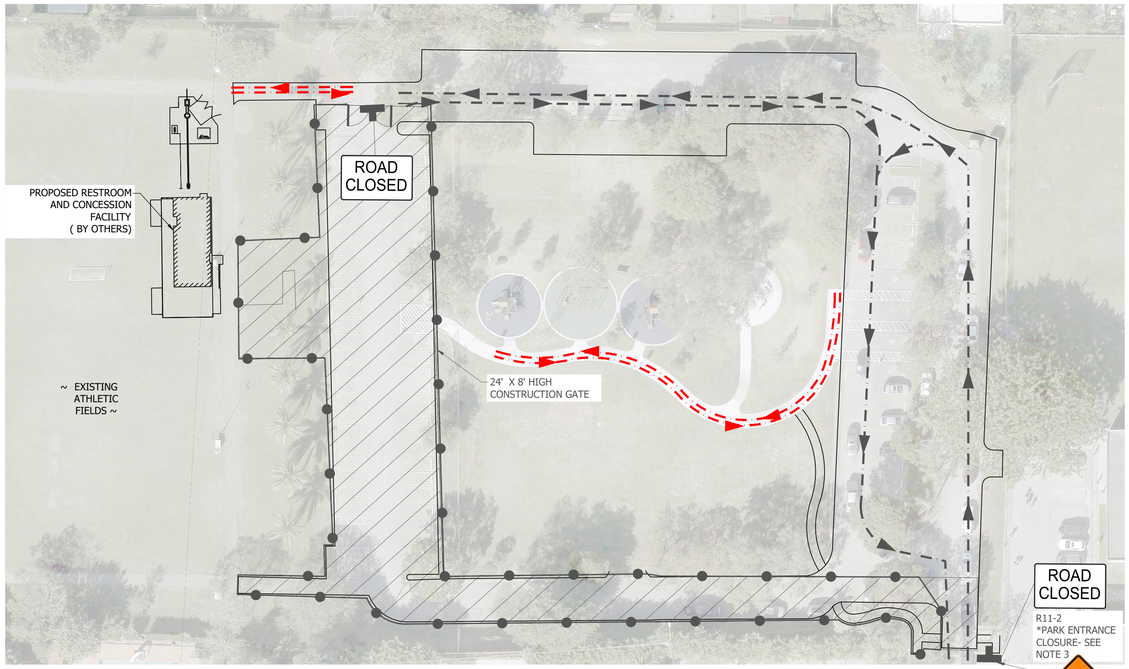
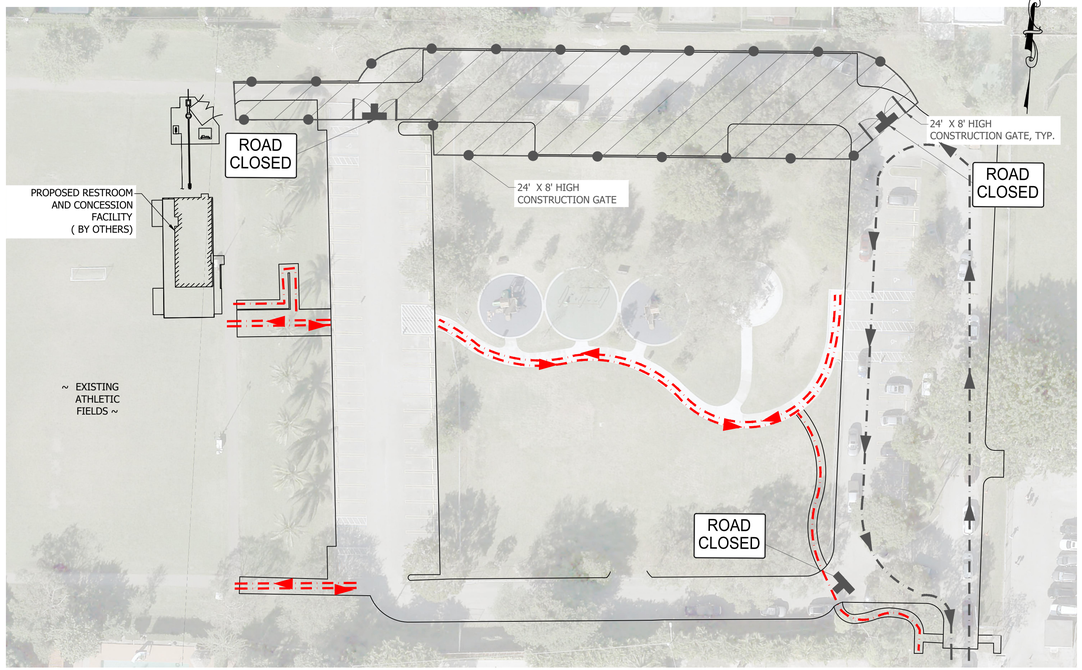


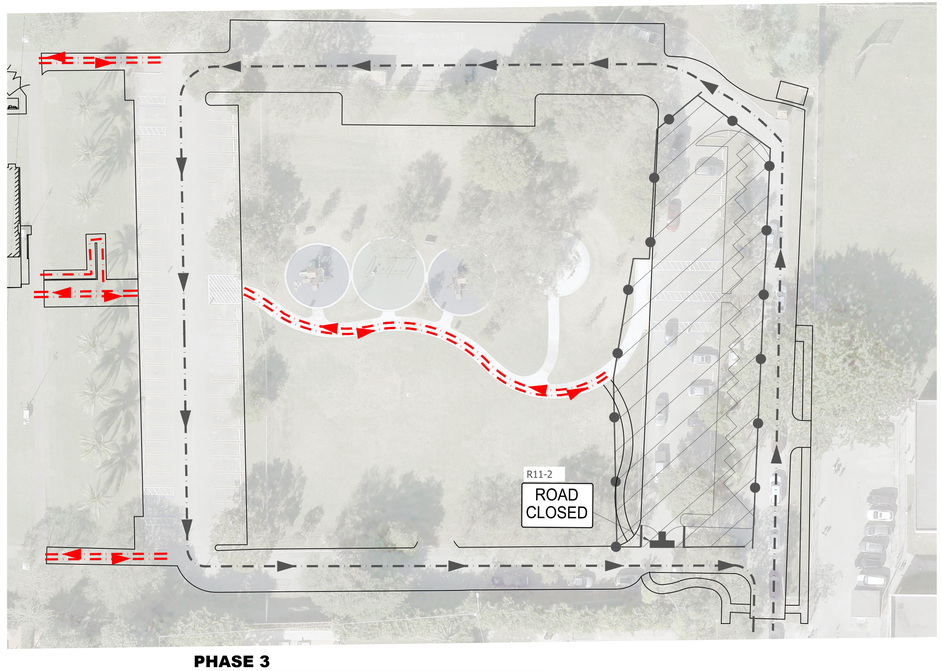
PHASE 1

SCALE: 1"= 40'



PHASE 2

SCALE: 1"= 40'



PHASE 3

SCALE: 1"= 40'

PHASE 4

SCALE: 1"= 40'

LEGEND

- GENERAL WORK ZONE
- STAGING AREA
- VEHICULAR ROUTE
- PEDESTRIAN ROUTE
- 8' HIGH CONSTRUCTION FENCE

NOTES:

1. THIS STAGING AND SEQUENCING PLANS ARE CONCEPTUAL. CONTRACTOR MAY PREPARE AN ALTERNATE PHASING PLAN AND SUBMIT TO THE CITY FOR APPROVAL.
2. AT PARKING LOT AREAS ENCLOSED BY CONSTRUCTION FENCE DURING ANY PARTICULAR PHASE, THE CONTRACTOR SHALL MAKE SPACE AVAILABLE FOR STAGING WITHIN THE CONSTRUCTION AREA; NO SEPARATE STAGING AREA WILL BE DESIGNATED UNLESS OTHERWISE STATED.
3. AT LEAST ONE (1) PEDESTRIAN ROUTE SHALL REMAIN AVAILABLE AT ALL TIMES TO THE ATHLETIC FIELD AND PLAYGROUND AREA FOR EACH PHASE OF THE CONSTRUCTION.
4. CONTRACTOR IS TO COMPLETE ENTRANCE IN PHASE 1 DURING JUNE 15TH AND JULY 15, WITH A MAXIMUM ENTRANCE CLOSURE OF 10 DAYS.
5. ENTRANCE TO PARKING LOT SHALL BE KEPT OPEN AFTER EACH WORK DAY.
6. TEMPORARY PAVEMENT IS TO BE PAID UNDER ASPHALT ITEM.
7. FLAGGERS SHALL BE PROVIDED BY THE CONTRACTOR DURING TIMES OF MATERIAL DELIVERY, AND HEAVY MACHINERY TRAFFIC. FLAGGERS SHALL ALSO BE COORDINATED WITH THE CITY DURING SCHOOL PICKUP TIMES FROM 1:00-3:00PM.
8. SEE DWG PMS FOR PAVEMENT RELATED MARKING NOTES.

40' 20' 0 40'

SCALE - 1" = 40'

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SEQUENCING, COORDINATION, STAGING, AND STORAGE PLAN

DRAWING NUMBER

SCP

SHEET 5 OF 22

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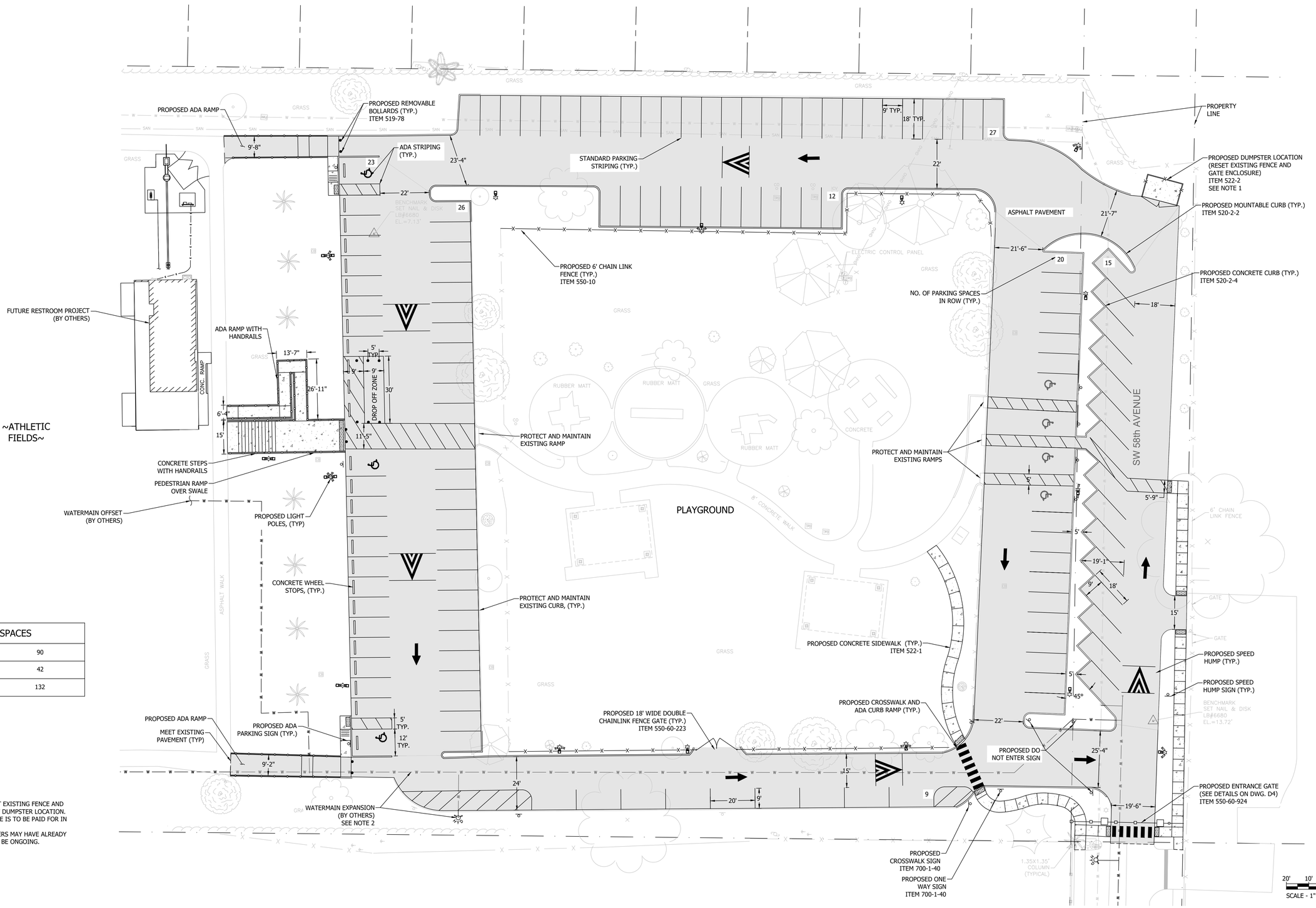
\\192.168.1.15\MJDRIVE\PROJECTS\M&J 2023-246-000 CITY OF SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS\3.0 DESIGN PHASE\3.5 DRAWINGS\PLOTSHEETS\SITE PLAN-9.DWG



PARKING SPACES	
EXISTING	90
ADDED	42
TOTAL	132

NOTES:
1. CONTRACTOR IS TO RESET EXISTING FENCE AND GATE ENCLOSURE TO NEW DUMPSTER LOCATION. COST OF RESETTING FENCE IS TO BE PAID FOR IN VARIOUS BID ITEMS.
2. PROPOSED WORK BY OTHERS MAY HAVE ALREADY BEEN COMPLETED OR MAY BE ONGOING.

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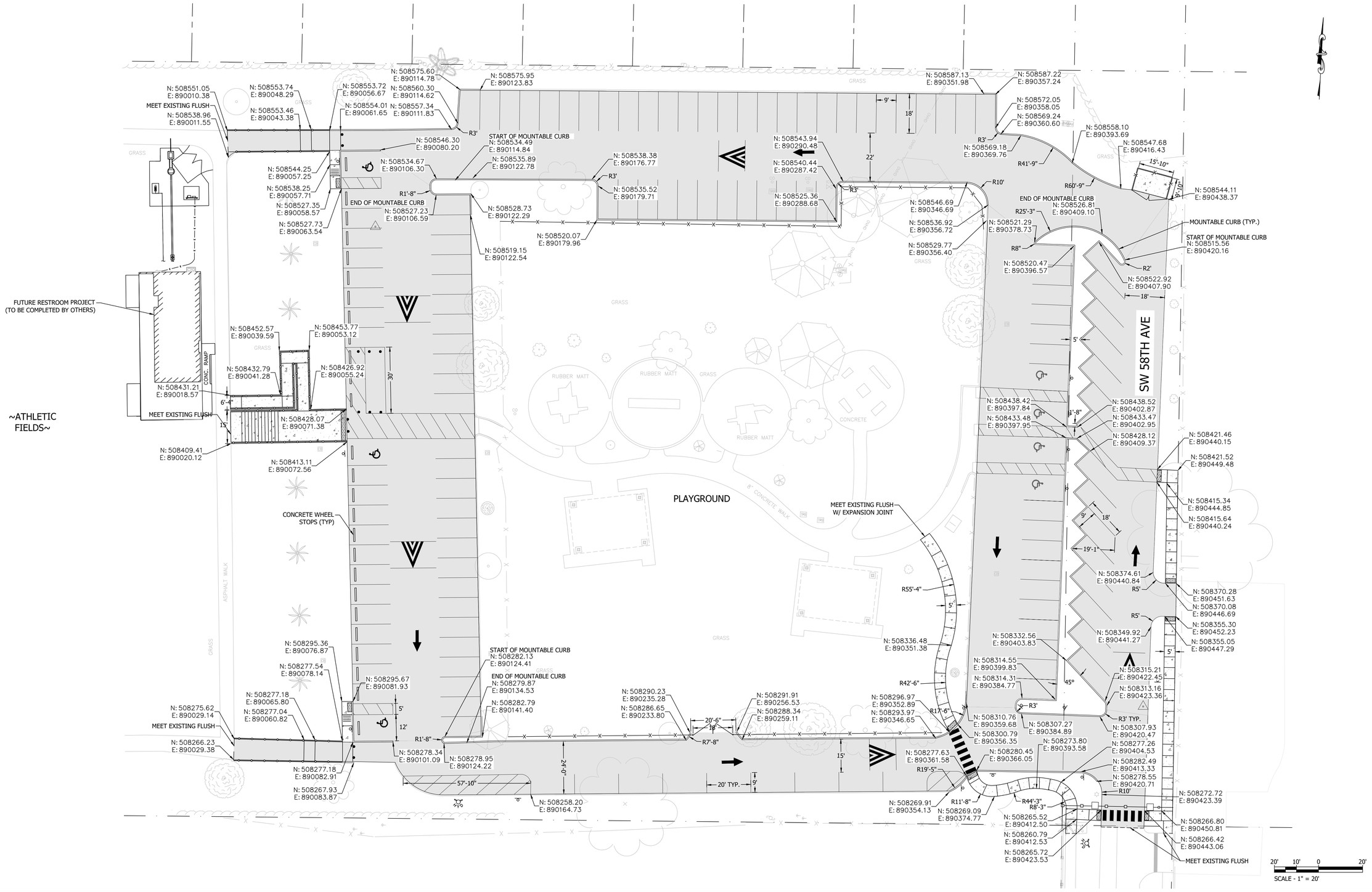
GENERAL PLAN

DRAWING NUMBER GP

SHEET 6 OF 22



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LAYOUT PLAN

DRAWING NUMBER LP

SHEET 7 OF 22

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ADA PARKING SYMBOL (TYP.)
ITEM 711-11-160
ADA PARKING STRIPING
ITEM 711-11-421
(SEE DETAILS ON DWG. D2)

STANDARD PARKING
STRIPING, 6" (TYP.)
ITEM 711-11-121

FTP20-06
MD R3.1

SPEED HUMP
MARKING (TYP.)
(SEE DETAIL ON DWG. D3)

FUTURE RESTROOM PROJECT
(TO BE COMPLETED BY OTHERS)

CONC. RAMP

FTP20-06
MD R3.1

FTP20-06
MD R3.1

FTP20-06 12" X 18"
MD R3.1 12" X 9"
ITEM 700-1-40 (TYP.)

PAVEMENT STRIPING
ITEM 711-11-121

NO
PARKING
ANY
TIME

R7-1R 12" X 18"
ITEM 700-1-40

CROSSWALK (TYP.)
(SEE DETAIL ON DWG. D3)

W11-2 30" X 30"
ITEM 700-1-40

R3-1 30" X 30"
ITEM 700-1-40

DO NOT
ENTER

R5-1 30"X30"
ITEM 700-1-40

ONE WAY

R6-1L 36" X 12"
ITEM 700-1-40

STRAIGHT DIRECTIONAL
ARROW (TYP.)
(SEE DETAIL ON DWG. D3)
ITEM 711-11-170

SPEED
HUMP

W17-1 30"X30"
W16-7P 30" X 18"
ITEM 700-1-40

SW 58th AVENUE

ELECTRIC CONTROL PANEL

BENCHMARK
SET NAIL & DISK
LB#6680
EL=7.13'

BENCHMARK
SET NAIL & DISK
LB#6680
EL=13.72'

RUBBER MATT

CONCRETE

8' CONCRETE WALK

ASPHALT WALK

6' CHAIN
LINK FENCE

GATE

1.35X1.35'
COLUMN
(TYPICAL)

GRASS

9'

18'

22'

5'

30'

6'-6"

12'

15'

24'-0"

8'-8"

20'

45°

19'-1"

20' 10' 0 20'

SCALE - 1" = 20'

NOTES:
1. THE CONTRACTOR SHALL SCHEDULE THE PAVEMENT MARKING WORK SO THAT EACH ITEM OF THE CONTRACT IS COMPLETED WITHIN THAT PHASE. THE CONTRACTOR MAY ELECT TO COMPLETE ALL THERMOPLASTIC PAVEMENT MARKINGS AT THE END OF THE CONSTRUCTION PERIOD; HOWEVER, TEMPORARY PAVEMENT MARKINGS SHALL BE PROVIDED UPON COMPLETION OF EACH PHASE. THE COST OF TEMPORARY PAVEMENT MARKINGS SHALL BE AT NO EXPENSE TO THE OWNER.

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PAVEMENT MARKING
AND SIGNAGE PLAN

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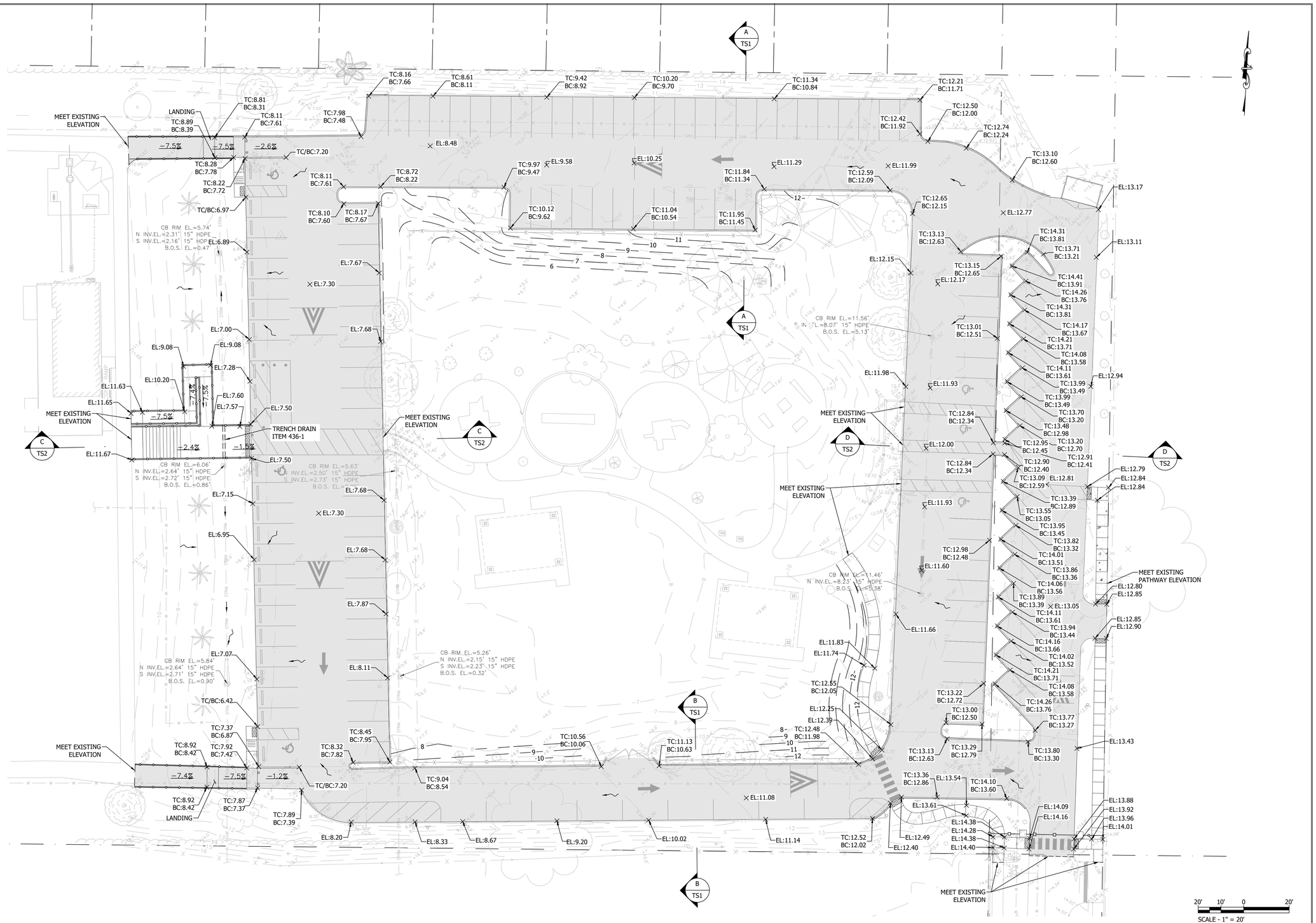

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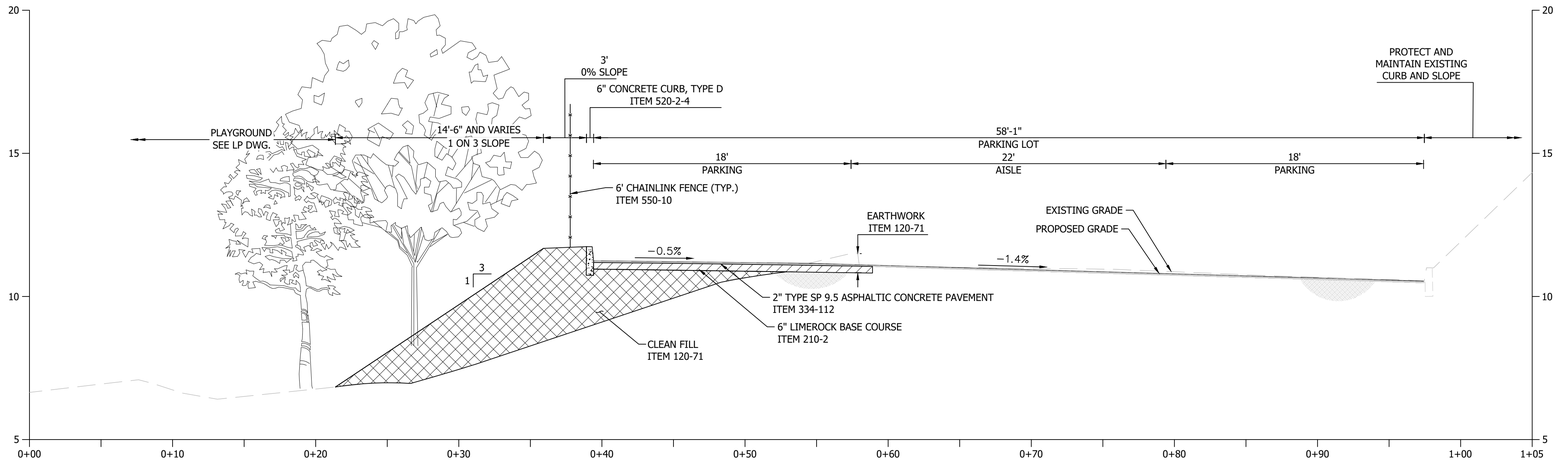
GRADING AND DRAINAGE PLAN

DRAWING NUMBER
GDP

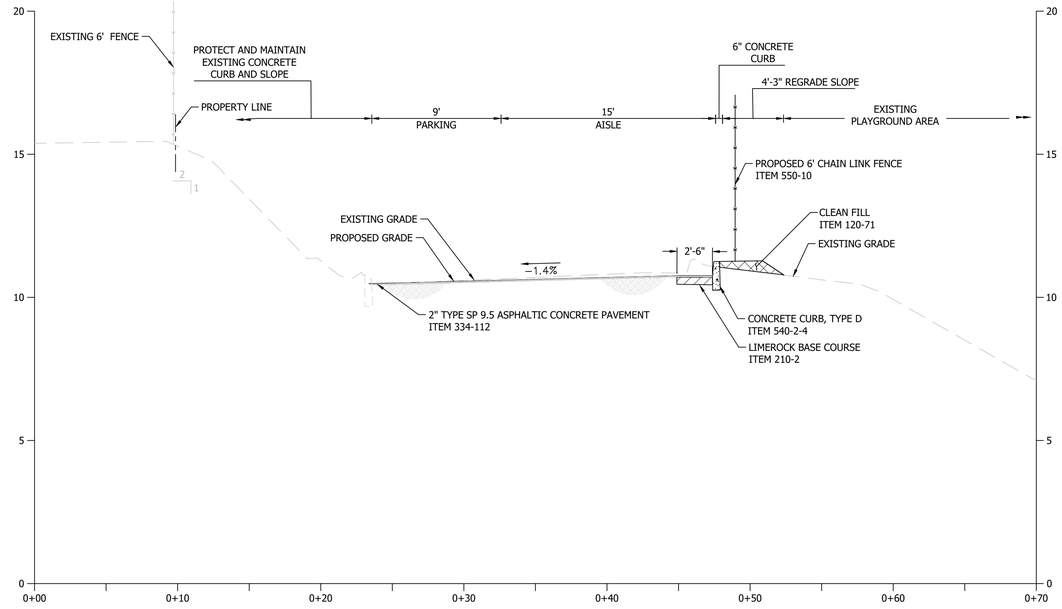
SHEET 9 OF 22



A
GDP

SECTION A-A

HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1"= 2.5'



B
GDP

SECTION B-B

HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1"= 2.5'

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TYPICAL SECTIONS

DRAWING NUMBER: TS1

SHEET 10 OF 22

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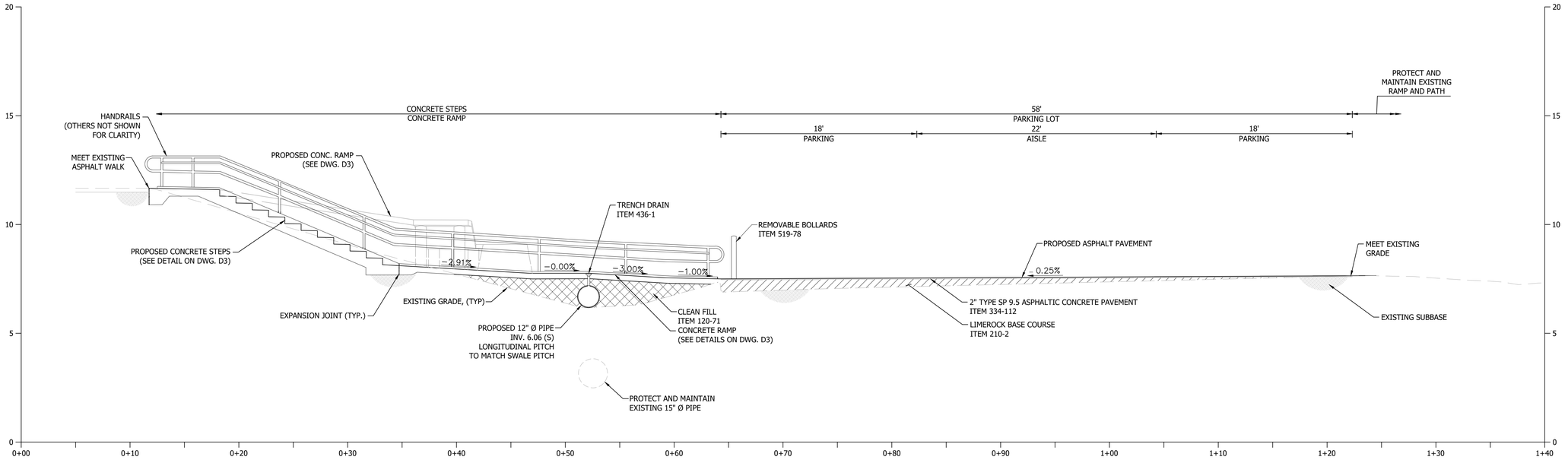
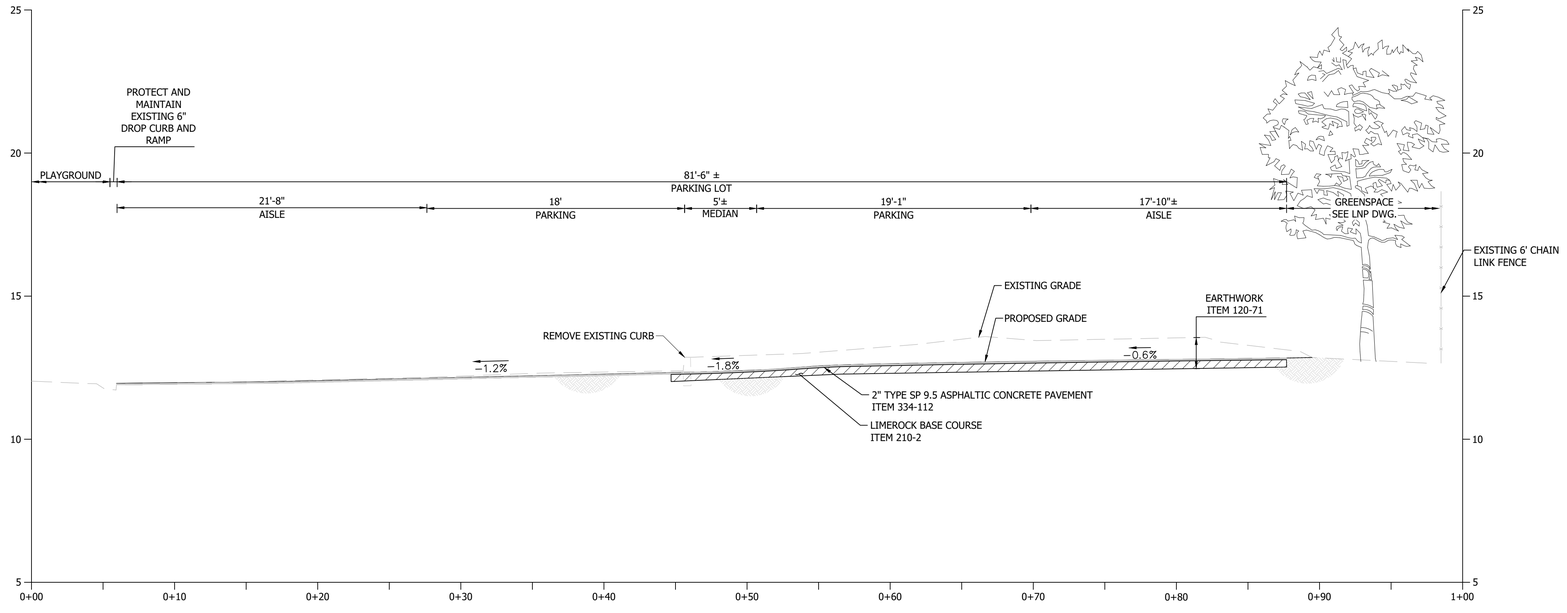


C
GDP

SECTION C-C

HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1"= 2.5'



D
GDP

SECTION D-D

HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1"= 2.5'

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TYPICAL SECTIONS

DRAWING NUMBER
TS2

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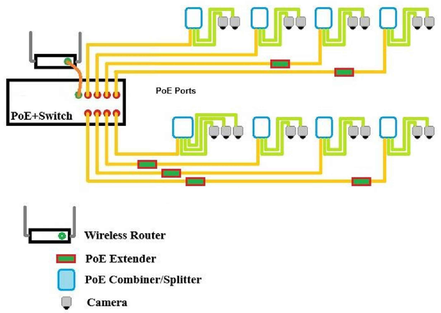
LUMINAIRE SCHEDULE

Quantity	Label	Arrangement	led Current mA	LLF	Luminaire Watts	Total Watts	Description	Manufacturer
1	SA	Single	365	1.0	40	44	ECF-S-32L-365-NW-G2-4-HIS	Gardco
3	SB	Single	1050	1.0	106.0	117.8	ECF-S-32L-1A-NW-G2-5	SIGNIFY GARDCO
2	SC	Single	1200	1.0	122.0	135.6	ECF-S-32L-1_2A-NW-G2-3	SIGNIFY GARDCO
4	SD	Single	1050	1.0	159.0	176.7	ECF-S-48L-1A-NW-G2-4	SIGNIFY GARDCO
1	SE	Single	1200	1.0	122.0	135.6	ECF-S-32L-1_2A-NW-G2-2	SIGNIFY GARDCO
8	SF	Back-Back	1050	1.0	205.9	228.8	ECF-S-64L-1A-NW-G2-5	SIGNIFY GARDCO

CATV SCHEMATIC DESIGN



NOTE:
1. CONTRACTOR TO INSTALL CONDUIT AND PULL BOXES- CONNECT TO PANEL "A". SEE DWG D5 FOR PANEL SCHEDULE AND NOTES.
2. ELECTRICAL BOXES WITHIN THE BUILDING ARE TO BE LOCATED ADJACENT TO PROPOSED WORK.
3. CONTRACTOR SHALL ADJUST CAMERA PLACEMENT TO OPTIMIZE PARKING LOT SITE COVERAGE ANGLE AND ZOOM.
4. REFER TO LNP PLAN FOR CONDUIT PLACEMENT.

SW 58th AVENUE

SCALE - 1" = 20'

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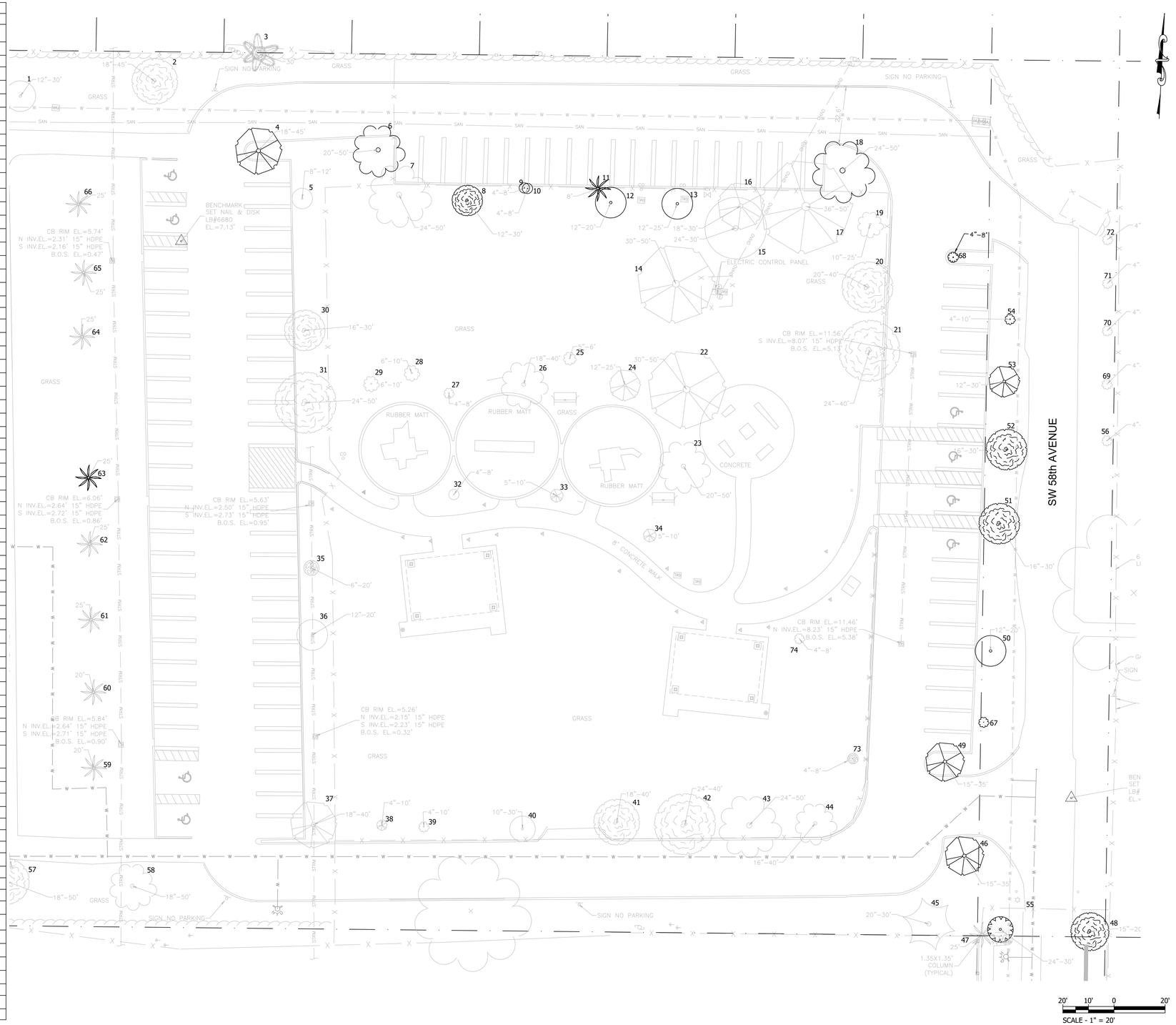
SCALE	AS NOTED

ELECTRICAL PLAN

DRAWING NUMBER EP

SHEET 12 OF 22

SOUTH MIAMI PARK								
TREE DISPOSITION LIST								
TREE	SCIENTIFIC NAME	COMMON NAME	CANOPY (Ft)	DBH (in)	HEIGHT (Ft)	ACTION	MITIGATION (SF)	CONDITION	NOTES
1	Lysiloma latisiliquum	Wild Tamarind	30	12		REMAIN		GOOD	No Conflict
2	Bursera simaruba	Gumbo Limbo	45	18		REMAIN		GOOD	Specimen, No Conflict
3	Roystonea regia	Royal Palm			30	REMAIN		GOOD	No Conflict
4	Swietnia mahogany	Mahogany	45	18		REMOVE	1589.63	GOOD	Specimen, In conflict with design.
5	Lysiloma latisiliquum	Wild Tamarind	12	8		REMAIN		GOOD	No Conflict
6	Quercus virginiana	Live Oak	50	20		REMOVE	1962.50	GOOD	Specimen, In conflict with design.
7	Quercus virginiana	Live Oak	50	24		REMAIN		GOOD	Specimen, In conflict with design.
8	Bursera simaruba	Gumbo Limbo	30	12		RELOCATE		GOOD	In conflict with design.
9	Lysiloma latisiliquum	Wild Tamarind	8	4		RELOCATE		GOOD	In conflict with design.
10	Lysiloma latisiliquum	Wild Tamarind	8	4		RELOCATE		GOOD	In conflict with design.
11	Roystonea regia	Royal Palm			8	RELOCATE		GOOD	In conflict with design, recommend relocation
12	Lysiloma latisiliquum	Wild Tamarind	20	12		RELOCATE		GOOD	In conflict with design.
13	Lysiloma latisiliquum	Wild Tamarind	25	12		RELOCATE		GOOD	In conflict with design.
14	Swietnia mahogany	Mahogany	50	30		REMAIN		GOOD	Specimen, No Conflict
15	Lysiloma latisiliquum	Wild Tamarind	30	24		REMAIN		GOOD	Specimen, In conflict with design.
16	Swietnia mahogany	Mahogany	30	18		REMAIN		GOOD	Specimen, In conflict with design.
17	Swietnia mahogany	Mahogany	50	36		REMAIN		GOOD	Specimen, In conflict with design.
18	Quercus virginiana	Live Oak	50	24		REMOVE	1962.50	GOOD	Specimen, In conflict with design.
19	Quercus virginiana	Live Oak	25	10		REMAIN		GOOD	No Conflict
20	Bursera simaruba	Gumbo Limbo	40	20		REMAIN		GOOD	Specimen, No Conflict
21	Bursera simaruba	Gumbo Limbo	40	24		REMAIN		GOOD	Specimen, No Conflict
22	Swietnia mahogany	Mahogany	50	30		REMAIN		GOOD	Specimen, No Conflict
23	Quercus virginiana	Live Oak	50	20		REMAIN		GOOD	Specimen, No Conflict
24	Swietnia mahogany	Mahogany	25	12		REMAIN		GOOD	No Conflict
25	Quercus virginiana	Live Oak	6	5		REMAIN		GOOD	No Conflict
26	Quercus virginiana	Live Oak	40	18		REMAIN		GOOD	Specimen, No Conflict
27	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
28	Quercus virginiana	Live Oak	10	6		REMAIN		GOOD	No Conflict
29	Quercus virginiana	Live Oak	10	6		REMAIN		GOOD	No Conflict
30	Bursera simaruba	Gumbo Limbo	30	16		REMAIN		GOOD	No Conflict
31	Bursera simaruba	Gumbo Limbo	50	24		REMAIN		GOOD	Specimen, No Conflict
32	Lysiloma latisiliquum	Wild Tamarind	8	4		REMAIN		GOOD	No Conflict
33	Swietnia mahogany	Mahogany	10	5		REMAIN		GOOD	No Conflict
34	Swietnia mahogany	Mahogany	10	5		REMAIN		GOOD	No Conflict
35	Bursera simaruba	Gumbo Limbo	20	6		REMAIN		GOOD	No Conflict
36	Lysiloma latisiliquum	Wild Tamarind	20	12		REMAIN		GOOD	No Conflict
37	Swietnia mahogany	Mahogany	40	18		REMAIN		GOOD	Specimen, No Conflict
38	Swietnia mahogany	Mahogany	10	4		REMAIN		GOOD	No Conflict
39	Quercus virginiana	Live Oak	10	4		REMAIN		GOOD	No Conflict
40	Lysiloma latisiliquum	Wild Tamarind	30	10		REMAIN		GOOD	No Conflict
41	Bursera simaruba	Gumbo Limbo	40	18		REMAIN		GOOD	Specimen, No Conflict
42	Bursera simaruba	Gumbo Limbo	40	24		REMAIN		GOOD	Specimen, No Conflict
43	Quercus virginiana	Live Oak	50	24		REMAIN		GOOD	Specimen, No Conflict
44	Quercus virginiana	Live Oak	40	16		REMAIN		GOOD	No Conflict
45	Pinus Elliottii	Slash Pine	30	20		REMAIN		GOOD	Specimen, No Conflict
46	Swietnia mahogany	Mahogany	35	15		REMOVE	961.63	GOOD	In conflict with design.
47	Roystonea regia	Royal Palm			25	REMAIN		GOOD	No Conflict
48	Bursera simaruba	Gumbo Limbo	20	15		REMOVE	314.00	GOOD	In conflict with design.
49	Swietnia mahogany	Mahogany	35	15		RELOCATE		GOOD	In conflict with design.
50	Lysiloma latisiliquum	Wild Tamarind	20	15		RELOCATE		GOOD	In conflict with design.
51	Bursera simaruba	Gumbo Limbo	30	16		RELOCATE		GOOD	In conflict with design.
52	Bursera simaruba	Gumbo Limbo	30	16		RELOCATE		GOOD	In conflict with design.
53	Swietnia mahogany	Mahogany	30	12		RELOCATE		GOOD	In conflict with design.
54	Quercus virginiana	Live Oak	10	4		RELOCATE		GOOD	In conflict with design.
55	Leucaena leucocephala	White Leadtree				REMOVE	N/A	DEAD	Recommend Removal dut to in conflict with design and Category II invasive species, stump removal
56	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
57	Bursera simaruba	Gumbo Limbo	50	18		REMAIN		GOOD	Specimen, No Conflict
58	Quercus virginiana	Live Oak	50	18		REMAIN		GOOD	Specimen, No Conflict
59	Cocos nucifera	Coconut Palm			20	REMAIN		GOOD	No Conflict
60	Cocos nucifera	Coconut Palm			20	REMAIN		GOOD	No Conflict
61	Cocos nucifera	Coconut Palm			25	REMAIN		GOOD	No Conflict
62	Cocos nucifera	Coconut Palm			25	REMAIN		GOOD	No Conflict
63	Cocos nucifera	Coconut Palm	20	10	25	REMOVE	N/A	GOOD	In conflict with proposed stairs and ramp.
64	Cocos nucifera	Coconut Palm			25	REMAIN		GOOD	No Conflict
65	Cocos nucifera	Coconut Palm			25	REMAIN		GOOD	No Conflict
66	Cocos nucifera	Coconut Palm			25	REMAIN		GOOD	No Conflict
67	Quercus virginiana	Live Oak	8	4		RELOCATE		GOOD	In conflict with design.
68	Chrysophyllum oliviforme	Satinleaf	8	4		RELOCATE		GOOD	In conflict with design.
69	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
70	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
71	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
72	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
73	Bursera simaruba	Gumbo Limbo	8	4		REMAIN		GOOD	No Conflict
74	Quercus virginiana	Live Oak	8	4		REMAIN		GOOD	No Conflict
	Total Removal						12304.88		



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9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

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JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

TREE DISPOSITION PLAN

DRAWING NUMBER TDP

SHEET 13 OF 22

\\192.168.1.15\MJDRIVE_PROJECTS\M&J 2023-246-000 CITY OF SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS\3.0 DESIGN PHASE\3.5 DRAWINGS\PLOTSHEETS\TREE DISPOSITION PLAN 3.DWG

PRESERVATION NOTES:

THE CONTRACTOR SHALL VERIFY THE CONDITION AND TAG ALL MATERIAL TO BE RELOCATED OR REMOVED PRIOR TO ANY CONSTRUCTION ACTIVITY AND SHALL BE VERIFIED BY A CERTIFIED ARBORIST.

1. CONTRACTOR SHALL BE REQUIRED TO STAKE ALL WALKWAYS AND IDENTIFY ALL TREES WITHIN 5 FEET OF THE EDGE OF ANY WALKWAY THAT WILL REQUIRE ROOT–PRUNING PRIOR TO ANY EXCAVATION OR DEMOLITION.

2. ALL TREES NOTED ON THE PLAN TO BE RELOCATED SHALL BE ROOT PRUNED AND MOVED PRIOR TO INITIATING ANY CLEARING OF THE SITE. ALL TREES TO BE RELOCATED SHALL BE ROOT PRUNED A MINIMUM OF 45 DAYS PRIOR TO BEING RELOCATED. ALL ROOT PRUNING SHALL BE PERFORMED BY A CERTIFIED ARBORIST. MINIMAL TREE BRANCH AND CANOPY TRIMMING SHALL BE DONE. ALL ROOT PRUNING SHALL BE DONE BY HAND DIGGING. NO MECHANICAL EQUIPMENT SHALL BE USED WHICH WOULD DAMAGE THE ROOT SYSTEM (SUCH AS A BACKHOE). THE LANDSCAPE CONTRACTOR SHALL INCLUDE IN THE BID A WATERING CONTRACT FOR THE ROOT PRUNED TREES TO INSURE THAT THEY ARE ADEQUATELY WATERED THREE TIMES A WEEK FOR A MINIMUM OF A SIX WEEK PERIOD.

3. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING ALL EXISTING TREES NOTED ON THIS PLAN BY USING METHODS CONSISTENT WITH THE CITY'S TREE PRESERVATION CODE. CONTRACTOR SHALL REFER TO TREE PROTECTION DETAIL PROVIDED HEREIN THESE PLANS FOR REFERENCE; HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ACCURACY OF THE DETAIL TO BE CONSISTENT WITH THE MOST UP–TO–DATE STANDARDS PRESCRIBED BY THE CITY IN THEIR CODE.

4. EXACT LOCATIONS FOR FENCING SHALL BE MADE IN THE FIELD BY A CERTIFIED ARBORIST IN ORDER TO DETERMINE THE ACTUAL DRIP LINE LOCATIONS FOR THE EXISTING TREES NOTED TO REMAIN.

5. CONSULT THE OWNER DESIGNATED REPRESENTATIVE AND REMOVE AGREED–ON ROOTS AND BRANCHES WHICH INTERFERE WITH CONSTRUCTION WORK AREA PRIOR TO INITIATING ANY SITE CLEARING.

6. CONTRACTOR SHALL EMPLOY AN ISA–CERTIFIED ARBORIST TO REMOVE ANY BRANCHES AND TREAT ANY CUTS.

7. PRESERVED TREES SHALL BE BARRICADED BEFORE AND DURING CONSTRUCTION. IF DURING THE COURSE OF CONSTRUCTION ANY OF THE PROTECTED VEGETATION DIES, IT SHALL BE REPLACED AS REQUIRED BY THE LOCAL JURISDICTION BY THE CONTRACTOR WITH EQUAL SIZE AND CALIPER. THE TREES, SHRUBS (INCLUDING SAW PALMETTOS) AND GROUND–COVERS SHALL BE INCLUDED WITHIN THE PRESERVATION AREAS AND SHALL BE RETAINED. WHERE SUPPLEMENTAL LANDSCAPING INFRINGES ON THIS AREA, DISTURBANCE SHALL BE MINIMIZED.

8. CRITICAL ROOT ZONES (CRZ) AND TREE PROTECTION ZONES (TPZ) SHALL BE DEFINED BY A CERTIFIED ARBORIST AND SHALL BE CONSISTENT WITH ANY LOCAL REGULATIONS THAT MAY DEFINE THEIR EXTENTS.

9. PROTECT ROOT ZONES OF TREES AND PLANTS TO REMAIN. DO NOT ALLOW TRAFFIC AND PARKING WITHIN ANY PROTECTED AREAS. DO NOT STORE MATERIALS OR PRODUCTS NEAR TREES. PREVENT DUMPING OF REFUSE OR CHEMICALLY INJURIOUS MATERIALS OR LIQUIDS NEAR PLANTS.

10. CONTRACTOR SHALL PREVENT PUDDLING OR CONTINUOUS RUNNING WATER THAT MAY ERODE OR IMPACT CONSTRUCTION SITE AND PLANTING AREAS.

11. CONTRACTOR SHALL CAREFULLY SUPERVISE ALL WORK TO PREVENT DAMAGE TO EXISTING VEGETATION.

12. COMPLETELY REMOVE BARRICADES WHEN CONSTRUCTION HAS PROGRESSED TO THE POINT THAT THEY ARE NO LONGER NEEDED AND WHEN APPROVED BY THE CLIENT OR CLIENT'S REPRESENTATIVE.

13. GENERAL CONTRACTOR TO REMOVE ALL EXOTIC NUISANCE AND INVASIVE MATERIAL, AS DEFINED BY THE MIAMI–DADE COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT, INCLUDING BUT NOT LIMITED TO NON–NATIVE SPECIES OF SCAEVOLA TACCADA, BRAZILIAN PEPPER, AUSTRALIAN PINE; AS WELL AS TROPICAL ALMOND, SANSEVERIA, AND OTHERS ELSEWHERE IN THE PROJECT AREA ARE TO BE REMOVED. CONTRACTOR SHALL CONDUCT A SITE VISIT TO DOCUMENT ANY INVASIVE EXOTIC VEGETATION IN NEED OF REMOVAL NOT SHOWN ON THE PLANS PRIOR TO SUBMITTING A BID.

14. CONTRACTOR SHALL INCLUDE A FOLLOW–UP MAINTENANCE PLAN FOR A PERIOD OF 1 YEAR TO PREVENT RE–INVASION OF INVASIVE VEGETATION.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH CITY REPRESENTATIVE TO CONDUCT A WALK–THROUGH TO ASSESS AND DETERMINE SPECIAL PRESERVATION ACTIVITIES FOR SENSITIVE HABITAT PLANTING, OR RELOCATION OF THESE, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

16. CONTRACTOR IS ADVISED THAT ALL REQUIREMENTS AND STANDARDS EXPRESSED IN THE CITY OF CITY OF SOUTH MIAMI'S LAND DEVELOPMENT CODE ARTICLE IV. SEC. 20–4.5.1 – TREE PROTECTION SHALL BE ABIDED BY WITHOUT EXCEPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL CITY–STANDARD PROCEDURES IN THE REMOVAL, RELOCATION AND PRESERVATION OF ANY AND ALL TREES.

TREE RELOCATION NOTES:

1. ALL ROOT–PRUNING, UP–ROOTING AND RESETTING OF ALL TREES TO BE RELOCATED SHALL BE SUPERVISED AND DIRECTED BY A CERTIFIED ARBORIST AT ALL TIMES, WITHOUT EXCEPTION.

2. CONTRACTOR SHALL RESET AND/OR REPLANT ANY TREE IDENTIFIED FOR RELOCATION ON THE DAY OF IT BEING UP–ROOTED AND PRIOR TO CLOSING OUT THE SITE TO CONSTRUCTION ACTIVITIES ON A DAILY CONTRACTOR SHALL PROTECT ALL ROOTBALLS FROM DIRECT SUN EXPOSURE AND SHALL KEEP THEM HYDRATED CONSISTENT WITH HORTICULTURAL BEST PRACTICES AND STANDARDS.

3. CONTRACTOR SHALL PROVIDE TREE PROTECTION FENCING AND/OR BARRICADES CONSISTENT WITH THE CORRESPONDING BARRICADE DETAIL FOR ALL TREES TO BE RELOCATED DURING ON–SITE CONSTRUCTION ACTIVITIES FOR ALL TREES PENDING RELOCATION AND THOSE THAT HAVE BEEN RELOCATED.

4. THERE SHOULD BE NO CANOPY PRUNING OR A MINIMUM OF CANOPY PRUNING BEFORE OR AFTER ROOT PRUNING. DEAD, DISEASED OR DAMAGED BRANCHES SHALL BE PRUNED AT THIS TIME.

5. THE ROOT SYSTEM OF A TREE TO BE RELOCATED SHALL BE WELL–WATERED BEFORE THE TREE IS DUG AND LIFTED TO ENSURE THAT THE TREE IS PROPERLY HYDRATED, AND TO IMPROVE COHESIVENESS OF THE ROOT BALL.

6. ALL TRANSPLANTING AND RELOCATING OF TREES OR PALMS SHALL BE DONE IN COMPLIANCE WITH STANDARDS SET FORTH IN THE MOST RECENTLY PUBLISHED EDITION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE ANSI A–300 STANDARDS. THIS REQUIREMENT INCLUDES ALL PROCEDURES, TECHNIQUES, STANDARDS FOR MINIMUM ROOT BALL SIZE, AND ANY OTHER STANDARDS INCLUDED IN ANSI A–300 STANDARDS.

7. RELOCATED TREES SHALL BE BRACED IN SUCH A FASHION AS TO NOT SCAR PENETRATE PERFORATE OR OTHERWISE INFLICT DAMAGE TO THE TREE.

8. CONTRACTOR SHALL INCLUDE IRRIGATION OF CANOPIES FOR ALL TRANSPLANTED TREES. WATERING SHALL BE CONDUCTED 2 TIMES PER WEEK PER TREE, FOR A PERIOD OF 4 WEEKS MINIMUM.

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL SHALL BE GRADED FLORIDA #1 OR BETTER, AS DEFINED IN THE GRADES AND STANDARDS FOR NURSERY PLANTS PART I AND II BY THE STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.

2. ALL LANDSCAPE MATERIAL SHALL COMPLY WITH COUNTY, CITY OR LOCAL ORDINANCES.

3. SYMBOLS REPRESENT PLANTS AT MATURE STAGE, NEVER THE TIME OF INSTALLATION.

4. VERIFY WITH OWNERS'S REPRESENTATIVE OR SITE SUPERVISOR OF ANY EXISTING UNDERGROUND UTILITIES AND/OR EASEMENTS PRIOR TO THE INSTALLATION OF PLANT MATERIAL. CALL 811 AS NECESSARY.
5. ALL TREES, SHRUBS AND GROUND COVERS SHALL RECEIVE 3" DEEP LAYER OF SHREDDED FLORIMULCH.

6. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THEIR OWN QUANTITY TAKE OFF, IN CASE OF ANY DISCREPANCIES, PLAN SHALL TAKE PRECEDENCE OVER PLANT LIST.
7. SOLID SOD SHALL BE ST. AUGUSTINE FLORATAM.
8. THERE SHALL BE A 24" WIDE STRIP OF FLORIMULCH BETWEEN SOD AND SHRUBS/GROUNDCOVERS.
9. TERRA–SORBS MOISTURE RETENTION GRANULES SHALL BE ADDED TO ALL SHRUBS/GROUNDCOVERS.
10. PLANTING SOIL SHALL CONSIST OF AN EVENLY BLENDED MIX OF 50% MUCK, 25% SAND, 15% SPHAGNUM, PEAT MOSS & 10% SHEEP MANURE. TWO LBS. OF FERTILIZER SHALL BE ADDED TO EACH CUBIC YARD OF SOIL AND THOROUGHLY MIXED. PLANTING SOIL SHALL HAVE A PH OF BETWEEN 6.0 AND 7.0 AFTER MIXING AND ADDITION OF FERTILIZER.
11. TOPSOIL MIX SHALL BE FREE OF ROCKS, LIMBS, ROOTS AND OTHER MATTER.
12. ALL EXISTING SOD OUTSIDE THE LIMIT OR WORK LINE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME SPECIES AT NO COST TO OWNER.
13. ALL PLANTING BEDS MUST BE FREE OF SURFACE ROCK WITH DIAMETER OF ½" OR GREATER PRIOR TO INSTALLATION OF WEED FABRIC AND/OR PLANT MATERIAL.
14. ALL PLANT MATERIAL, EXCLUDING SOD, TO BE WARRANTED AS FOLLOWS: SHRUBS AND GROUNDCOVERS FOR 90 DAYS, LARGE SHRUBS (OVER 10 GAL.) AND SMALL PALMS FOR 180 DAYS, AND B&B MATERIAL FOR 360 DAYS PROVIDED THAT PLANT MATERIAL IS RECEIVING PROPER MAINTENANCE PRESCRIBED BY LANDSCAPE CONTRACTOR. NOTE: ACTS OF GOD (HURRICANES) AND OTHER CAUSES BEYOND THE CONTROL OF THE LANDSCAPE CONTRACTOR ARE NOT COVERED,
15. ALL WARRANTIES TO RUN CONCURRENTLY, BEGINNING UPON LANDSCAPE ARCHITECTS'S FINAL ACCEPTANCE OF THE INSTALLATION, UNLESS OWNER OR GC REQUIRES CONSTRUCTION PHASING BEYOND CONTROL OF THE INSTALLER.
16. WATERING IS THE RESPONSIBILITY OF THE INSTALLER DURING THE INSTALLATION PHASE UNTIL FINAL ACCEPTANCE.
17. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COORDINATION THEIR WORK WITH THE IRRIGATION CONTRACTOR IF APPLICABLE. TREES SHALL NOT BE PLANTED ON TOP OF IRRIGATION LINES.
18. CONTRACTOR SHALL COORDINATE WITH THE CITY TO ADDRESS ANY EXISTING IRRIGATION LINES THAT MAY CONFLICT WITH THE PROPOSED IMPROVEMENTS.
19. LANDSCAPE CONTRACTOR IS RESPONSIBLE TO ASSURE IRRIGATION INSTALLATION IS PROPERLY PROGRESSING AND IN THE END ADEQUATE FOR GOOD GROWTH. THE OWNER OR GC MUST BE NOTIFIED IN WRITING OF ANY PROBLEMS WITH IRRIGATION PHASING OR PERFORMANCE.
20. ANY EXISTING IRRIGATION TO BE RE–USED (IF APPLICABLE) IS TO BE BROUGHT TO A GOOD FUNCTIONING STANDARD TO ENDURE PROPER WATERING OF ALL PLANT MATERIAL.
21. AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM (IF APPLICABLE) SHALL BE PROVIDED FOR ALL LANDSCAPE AREAS. THIS IS DESIGNED FOR "HEAD TO HEAD" COVERAGE.
22. PUBLIC RIGHT OF WAY TREES PROPOSED FOR REMOVAL SHALL COMPLY WITH PUBLIC WORKS DEPARTMENT FOR APPROVALS, PERMITS AND OTHER SPECIFIC REQUIREMENTS.

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

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JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

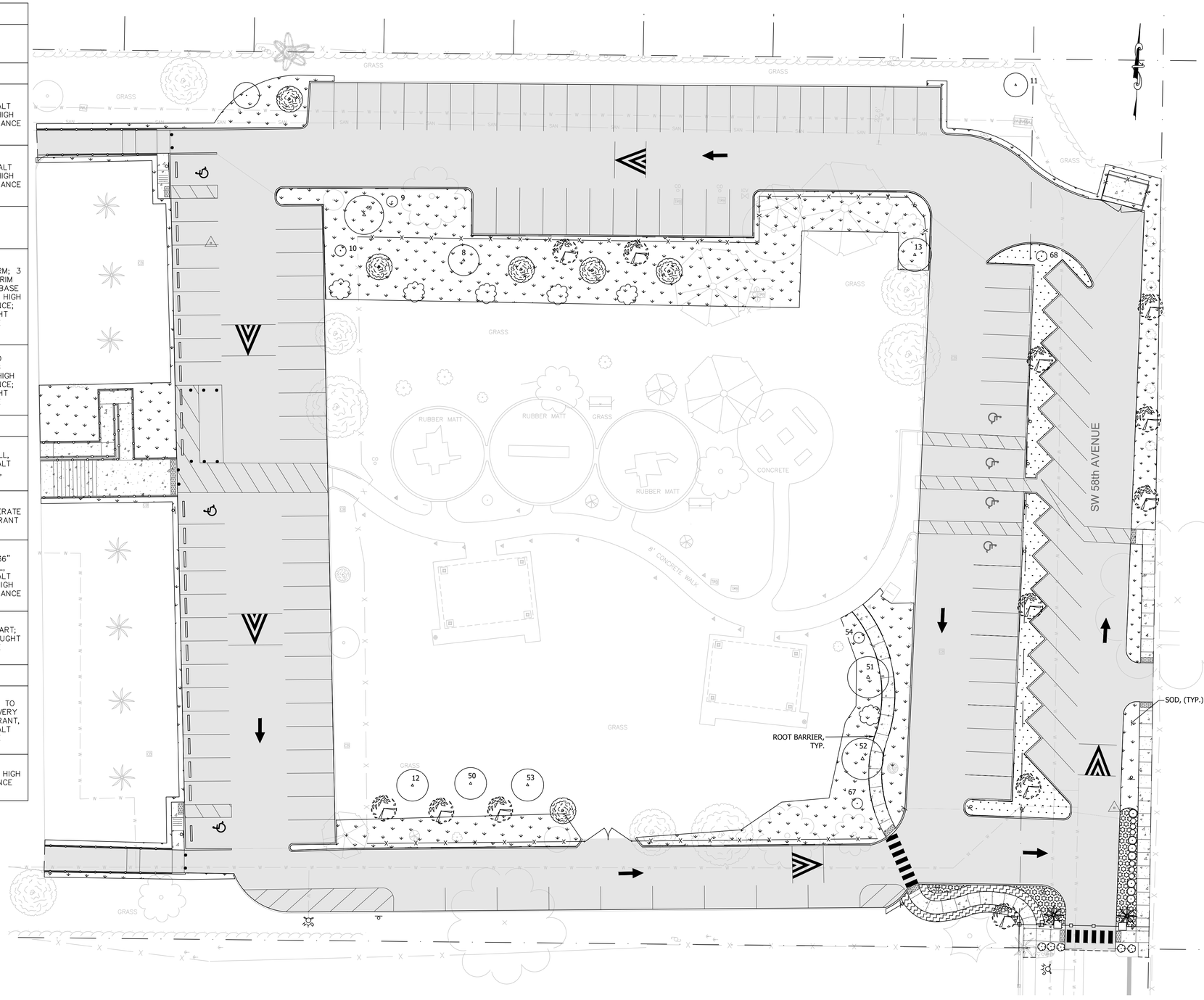
DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

LANDSCAPE NOTES

DRAWING NUMBER
LPN

SHEET 14 OF 22

PLANT SCHEDULE							
SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPREAD	NATIVE DESIGNATION	REMARKS
TREES							
	1	Lysiloma latisiliquum	Wild Tamarind	12' tall	4' SPR	NATIVE	FULL, LOW SALT TOLERANCE; HIGH DROUGHT TOLERANCE
	6	Bursera simaruba	Gumbo Limbo	12' tall	4' SPR	NATIVE	FULL, HIGH SALT TOLERANCE; HIGH DROUGHT TOLERANCE
	2	Roystonea regia	Royal Palm	12' tall	4' SPR	NATIVE	
	12	Conocarpus erectus "Sericeus"	Silver Buttonwood	12' tall	4' SPR	NATIVE	FULL, BUSH FORM; 3 STEMS MIN; TRIM BRANCHES AT BASE TO FORM TREE; HIGH SALT TOLERANCE; HIGH DROUGHT TOLERANCE
	6	Quercus virginiana	Southern Live Oak	12' tall	4' SPR	NATIVE	FULL, GOOD BRANCHING CHARACTER; HIGH SALT TOLERANCE; HIGH DROUGHT TOLERANCE
SHRUBS							
	5	Dwarf Ixora	Scarlet Jungleflame	3 gal.		NON-NATIVE	36" O.C., FULL, MODERATE SALT TOLERANCE,
	77	Tripsacum dactyloides	Fakahatchee Grass	3 gal.		NATIVE	18" O.C., MODERATE DROUGHT TOLERANT
	7	Muhlenbergia Capillaris	Muhly Grass	3 gal.		NATIVE	SPACE 24"-36" APART, FULL, MODERATE SALT TOLERANCE, HIGH DROUGHT TOLERANCE
	16	Zamia integrifolia	Coontie	1 gal.		NATIVE	SPACE 18" APART; FULL, HIGH DROUGHT TOLERANCE
GROUNDCOVERS							
	360	Liriope muscari	Lily Turf	1 gal.	1-2'	NON-NATIVE	12" O.C., FULL TO PART SHADE, VERY DROUGHT TOLERANT, MODERATE SALT TOLERANCE
	220	Ernodea littoralis	Golden Creeper	3 gal	12" WIDE	NATIVE	36" O.C., FULL, HIGH SALT TOLERANCE



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DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

LANDSCAPING PLAN

DRAWING NUMBER
LDP

SHEET 15 OF 22

\\192.168.1.15\MJDRIVE\PROJECTS\M&J 2023-246-000 CITY OF SOUTH MIAMI PARK PARKING LOT IMPROVEMENTS\3.0 DESIGN PHASE\3.5 DRAWINGS\PLOTSHEETS\LANDSCAPING PLAN.DWG

Wild Tamarind

Live Oak

Silver Buttonwood

Gumbo Limbo

Royal Palm

Scarlet Jungleflame

Fakahatchee Grass

Muhly Grass

Coontie

Lily Turf

Golden Creeper

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DATE: FEBRUARY 2026
DESIGNED BY: KF/KS
DRAWN BY: TZ
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SCALE: AS NOTED

PLANT LIST IMAGES

DRAWING NUMBER: PLI

SHEET 16 OF 22

STORM WATER POLLUTION PREVENTION (SWPP) NOTES

1. PERMANENT OR TEMPORARY EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICABLE TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICE. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHALL BE THE PLACEMENT OF TEMPORARY EROSION & SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT, THE INITIAL WORK AREA, & OTHER AFFECTED AREAS TO PREVENT STORM WATER POLLUTION.

2. CONFORMANCE WITH SWPPP DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITIES TO PROTECT ADJACENT PROPERTIES, FEATURES & NATURAL ENVIRONMENT FROM THE POSSIBLE DAMAGE IMPACT THAT MAY ARISE AS A RESULT OF THE CONSTRUCTION.

3. CONTRACTOR SHALL INSTALL PERIMETER POLLUTION PREVENTION CONTROLS AFTER CLEARING & GRUBBING BUT BEFORE BEGINNING OTHER CONSTRUCTION PHASES. CONTRACTOR SHALL REMOVE PERIMETER CONTROLS ONLY AFTER ALL AREAS HAVE BEEN STABILIZED.

4. MODIFICATIONS OR CHANGES TO THE INFORMATION DEPICTED ON THE STORMWATER POLLUTION PREVENTION PLAN MUST BE SUBMITTED TO MIAMI-DADE COUNTY (RER) FOR APPROVAL.

5. IF ADDITIONAL EROSION & SEDIMENT CONTROL BMP'S ARE REQUESTED BY ANY REGULATORY AGENCY, THE CONTRACTOR SHALL PROMPTLY IMPLEMENT SAID MEASURES AFTER APPROVAL OF EOR/JURISDICTIONS.

6. MAINTENANCE REQUIREMENTS:

   A. THE PLAN SHALL INCLUDE A DESCRIPTION OF PROCEDURES THAT WILL BE FOLLOWED TO ENSURE THE TIMELY MAINTENANCE OF VEGETATION, EROSION AND SEDIMENT CONTROLS, STORMWATER MANAGEMENT PRACTICES, AND OTHER PROTECTIVE MEASURES AND BMPS SO THEY WILL REMAIN IN GOOD AND EFFECTIVE OPERATING CONDITION.

   B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE & REPAIRS OF EROSION & SEDIMENT CONTROL/SWPPP DEVICES PER THE FDOT STANDARD SPECIFICATION FOR ROAD & BRIDGE CONSTRUCTION (CURRENT EDITION). THE MAINTENANCE OF THESE DEVICES SHALL OCCUR UNTIL BCAD'S REPRESENTATIVE ESTABLISHES AREAS AS PERMANENTLY STABILIZED. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AFTER COMPLETION OF THE PROJECT.

   C. EROSION & SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED BY THE CONTRACTOR TO PERFORM THE INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

   D. CONTRACTOR SHALL VERIFY THAT ALL DRAINAGE STRUCTURES, WITHIN THE PROJECT LIMITS WHETHER INDICATED ON THE PLANS OR NOT ARE PROTECTED IN ACCORDANCE WITH THE ESTABLISHED METHODS AS NOTED ABOVE.

   E. DUST, RESULTING FROM PROPOSED DEMOLITION ACTIVITIES, MUST BE PREVENTED FROM INTRUSION INTO THE STORMWATER CONVEYANCE SYSTEM. APPROPRIATE DUST CONTROL TECHNIQUES (WATER OR SLURRY) MUST BE RETAINED ON SITE. CALCIUM CHLORIDE, OILS OR OTHER CHEMICAL DUST CONTROL AGENTS SHALL NOT BE UTILIZED.

   F. THE EXISTING DRAINAGE FLOW PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.

   G. THE CONTRACTOR SHALL MONITOR ALL POLLUTION CONTROL DEVICES TO ENSURE SUFFICIENT CONVEYANCE OF STORMWATER RUNOFF & TO ELIMINATE SOIL EROSION DURING CONSTRUCTION.

   H. CONTRACTOR SHALL COVER LOADED TRUCKS WITH TARPAULINS.

   I. CONTRACTOR SHALL REMOVE EXCESS DIRT FROM WORK SITE ON A DAILY BASIS.

   J. BUILT-UP SEDIMENT WILL BE REMOVED FROM THE STAKED SILT FENCE WHEN IT REACHES ONE-THIRD OF THE FENCE BARRIER OR WHENEVER FLOW IS IMPEDED.

   K. AT NO TIME SHOULD SEDIMENTS BE ALLOWED TO ACCUMULATE WITHIN DRAINAGE STRUCTURE & CONVEYANCE PIPELINES. STRUCTURES & PIPELINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

   L. STOCKPILE OF EARTH & OTHER CONSTRUCTION RELATED MATERIAL SHALL BE PROTECTED AGAINST ACCIDENTAL TRANSPORTATION FROM PROJECT SITE BY WIND & WATER FLOW.

   M. ALL STORM DRAINAGE SYSTEMS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT WATER CANNOT GAIN ENTRY INTO THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHER WISE TREATED TO REMOVE SEDIMENTS.

7. THE FOLLOWING NON-STORMWATER DISCHARGES ARE PROHIBITED:

   A. WASTEWATER FROM WASHOUT OF CONCRETE.

   B. WASTEWATER FROM WASHOUT AND CLEANOUTS OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS.

   C. FUELS, OILS, OR OTHER POLLUTANTS ASSOCIATED WITH VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE.

   D. SOAPS OR SOLVENTS USED IN VEHICLE OR EQUIPMENT WASHING OR CLEANING.

8. POLLUTION PREVENTION CONTROLS. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, INSTALLATION, IMPLEMENTATION, AND MAINTENANCE OF EFFECTIVE POLLUTION PREVENTION MEASURES TO ACCOMPLISH ALL OF THE FOLLOWING:

   A. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. TREAT WASH WATERS USING A TREATMENT SYSTEM SO THAT THEY DO NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS.

   B. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND TO STORMWATER.

   C. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS; AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.

   D. CONTROL WASTES, SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTE, IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL, AND FEDERAL REGULATIONS.

   E. FOLLOW ALL APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, AND SEPTIC SYSTEM REGULATIONS.

   F. USE PROPER APPLICATION RATES AND METHODS FOR FERTILIZERS, HERBICIDES, AND PESTICIDES. SET FORTH HOW THESE PROCEDURES WILL BE IMPLEMENTED AND ENFORCED. APPLY NUTRIENTS ONLY AT RATES NECESSARY TO ESTABLISH AND MAINTAIN VEGETATION AND CONSISTENT WITH ALL LABELING REQUIREMENTS.

   G. LIMIT THE APPLICATION, GENERATION, AND MIGRATION OF TOXIC SUBSTANCES; AND PROPERLY STORE AND DISPOSE OF TOXIC MATERIALS.

9. EROSION AND SEDIMENT CONTROLS. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, INSTALLATION, IMPLEMENTATION, AND MAINTENANCE OF APPROPRIATE EROSION AND SEDIMENT CONTROLS TO ACCOMPLISH ALL OF THE FOLLOWING:

   A. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION.

   B. CONTROL STORMWATER PEAK DISCHARGE RATES AND VOLUME TO MINIMIZE EROSION AT DISCHARGE OUTFALLS AND TO MINIMIZE DOWNSTREAM CHANNEL AND STREAMBANK EROSION.

   C. MINIMIZE THE AMOUNT OF SOIL EXPOSED DURING THE CONSTRUCTION ACTIVITY.

   D. MINIMIZE THE DISTURBANCE OF STEEP SLOPES.

   E. MINIMIZE SEDIMENT DISCHARGES FROM THE SITE. THE DESIGN, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS SHALL ADDRESS FACTORS SUCH AS THE AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION; THE NATURE OF THE RESULTING STORMWATER; AND SOIL CHARACTERISTICS, INCLUDING THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT ON THE SITE.

   F. MINIMIZE OFF-SITE VEHICLE TRACKING OF SEDIMENTS ONTO PAVED SURFACES AND THE GENERATION OF DUST. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.

   G. WHERE FEASIBLE, DIRECT STORMWATER TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION AND TO PROVIDE AND MAINTAIN NATURAL BUFFERS ADJACENT TO SURFACE WATERS OF THE STATE.

   H. MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL.

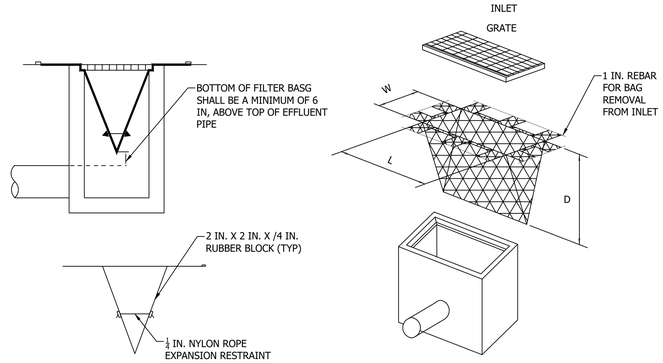
10. INSPECTIONS. AN INSPECTOR QUALIFIED IN ACCORDANCE WITH PART II.12. OF DEP DOCUMENT NO. ∂2-∂21.3OO(4)(A), EFFECTIVE FEBRUARY 17, 2OO9, INCORPORATED BY REFERENCE IN PARAGRAPH ∂2-∂21.3OO(4)(A), F.A.C., (PROVIDED BY THE OWNER OR OPERATOR) SHALL PERFORM ALL REQUIRED SITE INSPECTIONS. SITE INSPECTIONS MUST INCLUDE ALL POINTS OF DISCHARGE INTO SURFACE WATERS OR AN MS4; DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED; AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; STRUCTURAL CONTROLS; AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. SITE INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS O.5O INCHES OR GREATER. INSPECTIONS SHALL INCLUDE:

    A. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE STORMWATER SYSTEM. THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS OR POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL AND STORMWATER TREATMENT MEASURES ARE EFFECTIVE IN PREVENTING OR MINIMIZING THE DISCHARGE OF POLLUTANTS, INCLUDING RETAINING SEDIMENT ONSITE PURSUANT TO RULE ∂2-4O.432, F.A.C. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

    B. BASED ON THE RESULTS OF THE INSPECTION, ALL MAINTENANCE OPERATIONS NEEDED TO ASSURE PROPER OPERATION OF ALL CONTROLS, BMPS, PRACTICES, OR MEASURES IDENTIFIED IN THE STORMWATER POLLUTION PREVENTION PLAN SHALL BE DONE IN A TIMELY MANNER, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF NEEDED, POLLUTION PREVENTION CONTROLS, BMPS, AND MEASURES IDENTIFIED IN THE PLAN SHALL BE REVISED AS NECESSARY TO ASSURE PROPER OPERATION OF ALL CONTROLS, BMPS, PRACTICES, OR MEASURES IDENTIFIED IN THE STORMWATER POLLUTION PREVENTION PLAN. SUCH REVISIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.

    C. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION; NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION; THE DATE(S) OF THE INSPECTION; RAINFALL DATA; MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN; AND ACTIONS TAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF THIS PERMIT, SHALL BE MADE AND RETAINED AS PART OF THE STORMWATER POLLUTION PREVENTION PLAN. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE. WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES.

11. AREA OF DISTURBANCE = 1.3 ACRE TOTAL AREA



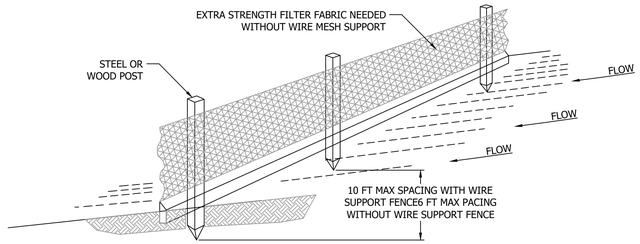
INSTALLATION DETAIL

ISOMETRIC VIEW

CONSTRUCTION SPECIFICATION
1. INSTALL PROPRIETARY FILTER BAG PRODUCTS PER MANUFACTURER'S RECOMMENDATIONS.
2. GEOTEXTILE MUST MEET THE SPECIFICATION OUTLINED IN TABLE 3.9- GEOTEXTILE MATERIAL PROPERTIES FOR INLET FILTER BAG.
3. INSPECT FILTER BAGS ON A WEEKLY BASIS OR AFTER EACH RAINFALL EVENT, WHICHEVER IS SOONER.
4. CLEAN FILTER BAGS AND/OR REPLACE WHEN THE BAG IS HALF FULL.
5. REPLACE DAMAGED FILTER BAGS IMMEDIAELY.
6. INITIATE NEEDED REPAIRS IMMEDIATELY AFTER THE INSPECTION.

INLET FILTER BAG

N.T.S.



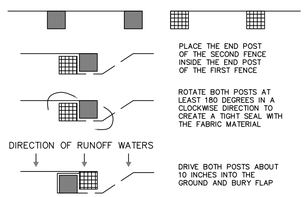
STANDARD
TRENCH WITH NATIVE BACKFILL

ALTERNATE
TRENCH WITH GRAVEL

NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

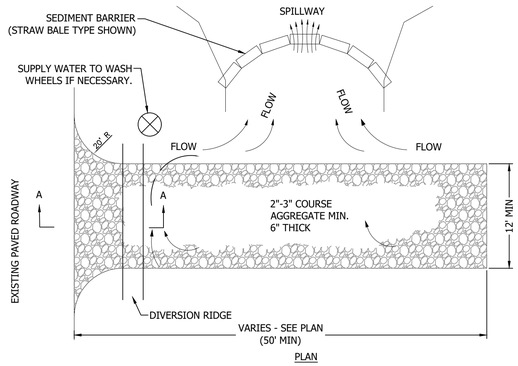
SILT FENCE INSTALLATION

N.T.S.



SILT FENCE ATTACHMENT

N.T.S.

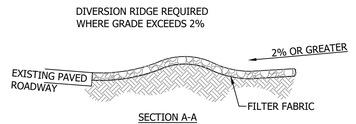


PLAN

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

N.T.S.



SECTION A-A

NOTE:
USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

GENERAL NOTES

TEMPORARY ACCESS ROADS AND PARKING AREAS:

1. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT.
2. TEMPORARY PARKING AREAS SHOULD BE LOCATED ON NATURALLY FLAT AREAS TO MINIMIZE GRADING. GRADES SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE BUT SHOULD NOT EXCEED 4 PERCENT.
3. ROADBEDS SHALL BE AT LEAST 14 FEET (5.5 M) WIDE FOR ONE-WAY TRAFFIC AND 20 FEET (8.) WIDE FOR TWO-WAY TRAFFIC.
4. ALL CUTS AND FILLS SHALL HAVE SIDE SLOPES THAT ARE STABLE FOR THE PARTICULAR SOIL. SLOPES OF 2:1 OR FLATTER ARE RECOMMENDED FOR CLAY SOILS, AND SLOPES OF 3:1 OR FLATTER ARE RECOMMENDED FOR SANDY SOILS.
5. STORMWATER SYSTEM SHALL BE PROVIDED AS NEEDED AND SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO APPLICABLE REGULATIONS.
6. THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
7. A 6-INCH (15 M) COURSE OF FDOT NO.1 AGGREGATE SHALL BE APPLIED IMMEDIATELY AFTER GRADING OR THE COMPLETION OF UTILITY INSTALLATION WITHIN THE RIGHT-OF-WAY. FILTER FABRIC MAY BE APPLIED TO THE ROADBED FOR ADDITIONAL STABILITY ACCORDING TO THE FABRIC MANUFACTURER'S SPECIFICATIONS.

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

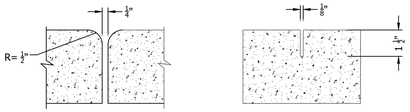
JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

DETAILS

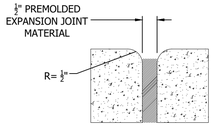
DRAWING NUMBER D1

SHEET 17 OF 22

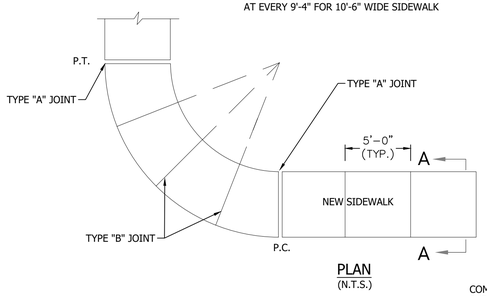


TYPE "A"
(OPEN TYPE JOINTS)

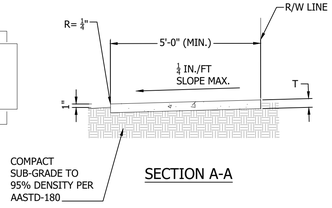
TYPE "B"
CONTROL/SAWED JOINTS SHALL BE (WHERE APPLICABLE):
AT EVERY 5' FOR 5' WIDE SIDEWALK
AT EVERY 8' FOR 8' WIDE SIDEWALK,
AT EVERY 9'-4" FOR 10'-6" WIDE SIDEWALK



TYPE "C"
EXPANSION JOINTS SHALL BE (WHERE APPLICABLE):
AT EVERY 20'-0" O.C. AND AT EVERY SIDEWALK CHANGING DIRECTION



PLAN
(N.T.S.)



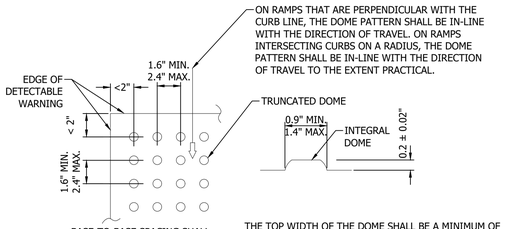
SECTION A-A

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES JUNCTION OF EXISTING AND NEW SIDEWALKS.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS
"C"	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES

TABLE OF SIDEWALK THICKNESS "T"	
LOCATION	"T"
RESIDENTIAL AREAS AND SIDEWALK	4"
* AT DRIVEWAYS AND DUMPSTER LOCATION	6"

* WITH 6" X 6"-#10 GALVANIZED MESH

CONCRETE SIDEWALK DETAIL
ITEM 522-1
ITEM 522-2
(N.T.S)

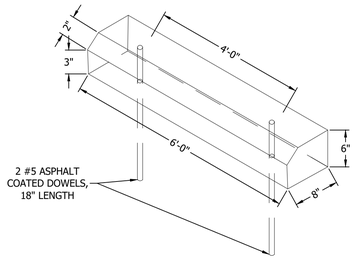


PLAN
(N.T.S.)

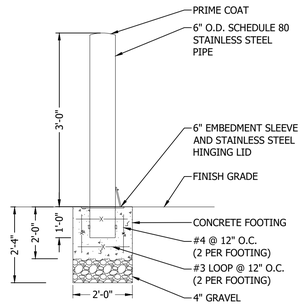
TRUNCATED DOME

NOTES
1. ALL SIDEWALK CURB RAMPS SHALL AHVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES (610 00) FROM THE BACK OF CURB.

DETECTABLE WARNING DETAIL
ITEM 527-2
(N.T.S)

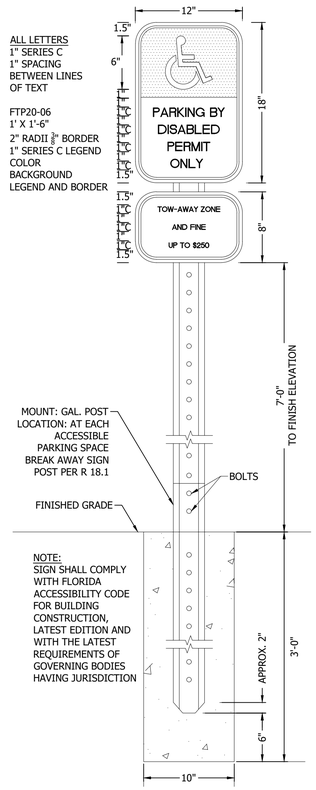


CONCRETE WHEEL STOP
ITEM 542-70
(N.T.S)

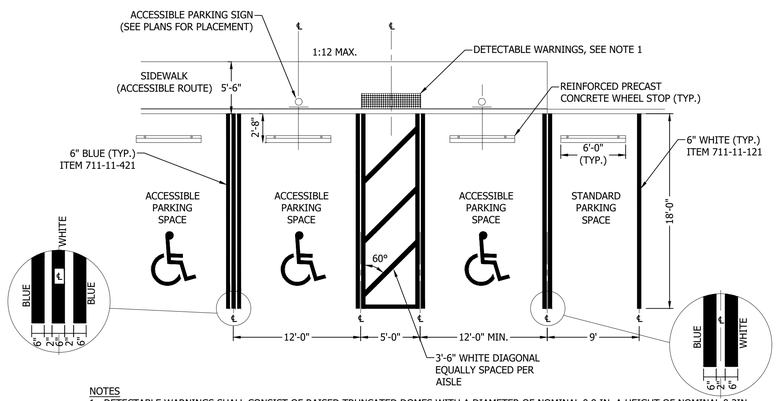


NOTES
1. BOLLARD FINISH:
   A. STAINLESS STEEL BOLLARD
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS.
3. ALL CONCRETE SHALL HAVE A SMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1").
4. ALL CONCRETE SHALL HAVE A 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260.

REMOVABLE BOLLARD DETAIL
ITEM 519-78
(N.T.S)

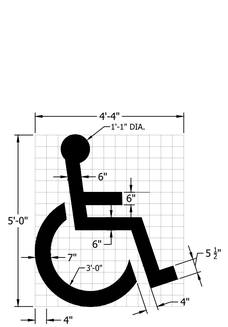


ACCESSIBLE PARKING SIGN DETAIL (FTP-20-06) (MDPW R-18.3)
ITEM 700-1-40
(N.T.S)



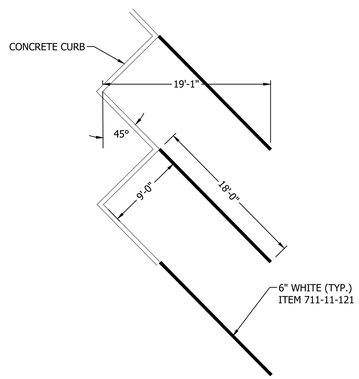
NOTES
1. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN, A HEIGHT OF NOMINAL 0.2IN AND A CENTER-TO-CENTER SPACING OF NOMINAL 204 IN MAX, AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT, IN ACCORDANCE WITH SPECIFICATION 527.
2. SLOPE SHALL NOT EXCEED 2% IN ALL DIRECTIONS.

ACCESSIBLE PARKING DETAIL
(N.T.S)

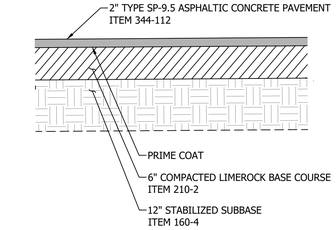


4.53 SF

UNIVERSAL SYMBOL OF ACCESSIBILITY
ITEM 711-11-160
(N.T.S)

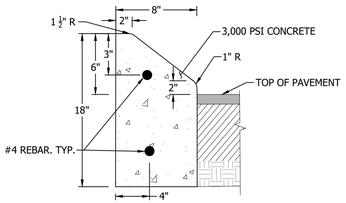


ANGLED PARKING DETAIL
(N.T.S)



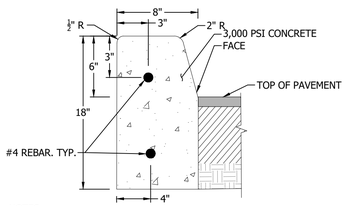
NOTES
1. LIMEROCK BASE SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED Y AASHTO T-180 AND PRIMED.
2. ASPHALT PAVEMENT SHALL BE TYPE SP-9.5 AS SPECIFIED IN SECTION 334 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION.
3. SEE LAYOUT AND PAVING PLAN FOR WIDTHS OF DRIVES AND PARKING AREAS.
4. STABILIZED SUBBASE SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

TYPICAL PAVEMENT DETAIL
(N.T.S)



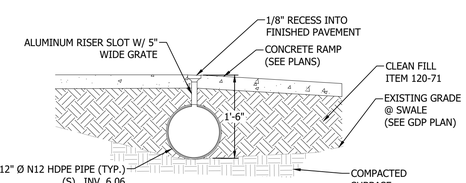
NOTES:
1. CURB SHALL BE CONSTRUCTED IN SECTIONS NOT TO EXCEED 50' IN LENGTH WITH 1/8" TO 1/4" OPEN EXPANSION JOINT BETWEEN EACH SECTION, AND CONTRACTION JOINTS AT 10' INTERVALS.
2. ALL REINFORCEMENT TO BE #4, WITH MINIMUM 3" CONCRETE COVER.

MOUNTABLE CURB (TYPE "B")
ITEM 522-2-2
(N.T.S)



NOTES:
1. CURB SHALL BE CONSTRUCTED IN SECTIONS NOT TO EXCEED 50' IN LENGTH WITH 1/8" TO 1/4" OPEN EXPANSION JOINT BETWEEN EACH SECTION, AND CONTRACTION JOINTS AT 10' INTERVALS.
2. ALL REINFORCEMENT TO BE #4, WITH MINIMUM 3" CONCRETE COVER.

CONCRETE CURB (TYPE "D")
ITEM 522-2-4
(N.T.S)



TRENCH DRAIN
ITEM 436-1
(N.T.S)

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN SCHRECK ON THE DATE ADJACENT TO THE SEAL PRINTED COPIES IF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

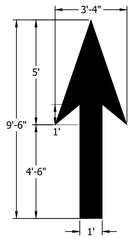
JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

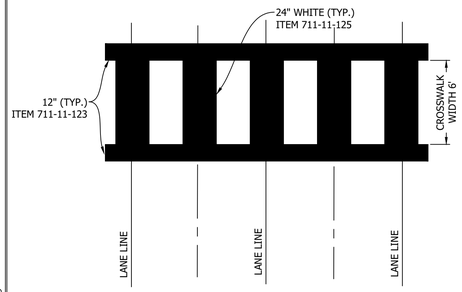
DETAILS

DRAWING NUMBER D2

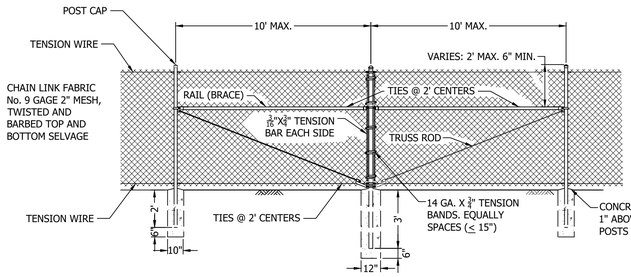
SHEET 18 OF 22

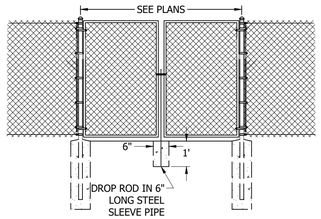


THERMOPLASTIC ARROW DETAIL
ITEM 711-11-170
(N.TS.)

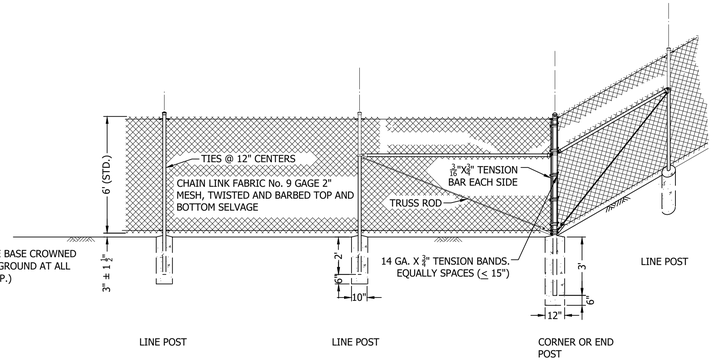


CROSSWALK DETAIL
(N.TS.)





DOUBLE GATE
ITEM 550-60-223



CHAIN LINK FENCE DETAIL
ITEM 550-10
(N.TS.)

NOTES:
1. REFER TO SECTION 550 OF FDOT STANDARD SPECIFICATIONS.
2. CHAIN LINK FABRIC, POST, TRUSS RODS, TENSION WIRES, STRETCHER BARS, GATES AND ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENT SOF AASHTO AND ASTM SIGNIFY CURRET REFERENCE.
3. FENCE COMPONENTS OPTIONS:

A. LINE POST OPTIONS:
1. GALVANIZED STEEL PIPE, SCHEDULE 40-1 ¼" NOMINAL DIA. ZINC GALVANIZED AT THE RATE OF 1.8 OZ/FT². ASTM A53 TABLE 2 (GRADE A OR B), ASTM F1083, AND AASHTO M111.
2. ALUMINUM COATED STEEL PIPE- ASTM A53, TABLE 2 (GRADE A OR B): SCHEDULE 40 1 ¼" NOMINAL DIA. 1.90" O.D; COATED AT THE RATE 0.40 OZ./FT. AASHTO M111.
3. ALUMINUM ALLOY PIPE- 2" NOMINAL DIA. ASTM B241 OR B221, ALLOY 6063, T6.

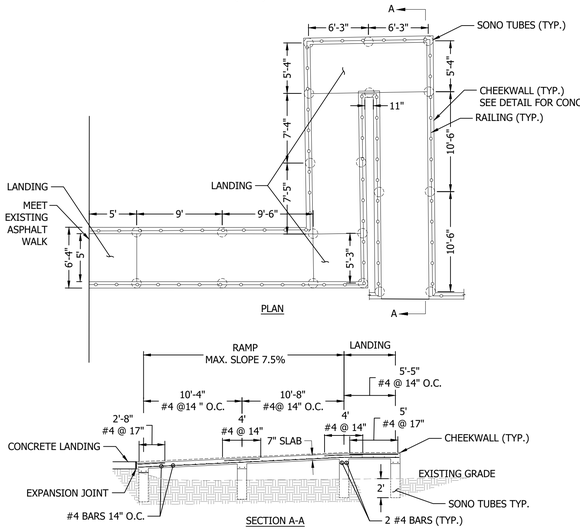
B. CORNER, END, AND PULL POST OPTIONS:
1. GALVANIZED STEEL PIPE, SCHEDULE 40-2" NOMINAL DIA. ZINC GALVANIZED AT THE RATE OF 1.8 OZ./FT². ASTM A53 TABLE X 2, ASTM F1083 AND AASHTO M111.
2. ALUMINUM COATED STEEL PIPE: ASTM A53 STEEL X 2 TABLES: SCHEDULE 40; 2" NOMINAL DIA., 2.375" OD; COATED AT THE RATE 0.40 OZ/FT/ AASHTO M111.
3. ALUMINUM ALLOY PIPE- 2 ½" NOMINAL DIA. ASTM B241 OR B221, ALLOY 6063, T6.

C. RAIL OPTIONS:
1. GALVANIZED STEEL PIPE, SCHEDULE 40- 1 ½" NOMINAL DIA. ZINC GALVANIZED AT THE RATE OF 1.8 OZ.FT². ASTM A53 TABLE X 2, ASTM F1083, AND AASHTO M111.
2. ALUMINUM COATED STEEL PIPE; ASTM A53 STEEL X 2 TABLES SCHEDULE 40; 1.660" OD; COATED AT THE RATE 0.40 OZ/FT/ AASHTO M111.
3. ALUMINUM ALLOY PIPE- 1 ¼" NOMINAL DIA.: ASTM 241 OR B21, ALLOY 6063, T6.

D. CHAIN LINK FENCE OPTIONS (2" MESH WITH TWISTED AND BARBED SELVAGE TOP AND BOTTOM FOR ALL OPTIONS)
1. AASHTO M181 TYPE 1- ZINC COATED STEEL, NO. 9 GAGE (COATED WIRE DIAMETEER), COATED AT THE RATE OF 1.8 OZ/FT². (M181 CLAS D 2.0 OZ/FT² MODIFIED TO 1.8 OZ./FT².).
2. AASHTO M181 TYPE II- ALUMINUM COATED STEEL, NO. 9 GAGE (COATED WIRE DIAMETER), COATED AT THE RATE OF 0.40 OZ/FT².

E. TENSION WIRE OPTIONS:
1. STEEL WIRE NO. 7 GAGE ZINC GALVANIZED AT THE RATE OF 1.2 OZ./FT². AASHTO M181
2. ALUMINUM ALLOY WIRE WITH A DIAMETER OF 0.1875" OR LARGER CONFORMING TO THE REQUIREMENTS OF ASTM B211, ALLOY 5056 TEMPER H38, OT ALCLAD ALLOY 5056 TEMPER H192.
3. ALUMINUM COATED STEEL WIRE NO. 7 GAGE COATED AT THE RATE OF 0.040 OZ./FT². AASHTO M181.

F. TIRE WIRE AND HOG RING OPTIONS:
1. STEEL WIRE NO.9 GAGE ZINC GALVANIZED AT THE RATE OF 1.2 OZ./FT².
2. ALUMINUM ALLOY WIRE WITH A DIAMETER OF 0.1443" OR LARGER CONFORMING TO THE REQUIREMENTS OF ASTM B211, ALLOY 5056 TEMPER H38, OR ALCLAD ALLOY 5056 TEMPER H192.
3. ALUMINUM COATED STEEL WIRE NO. 7 GAGE COATED AT THE RATE OF 0.040 OZ./FT².

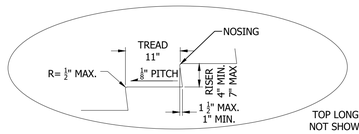


PLAN

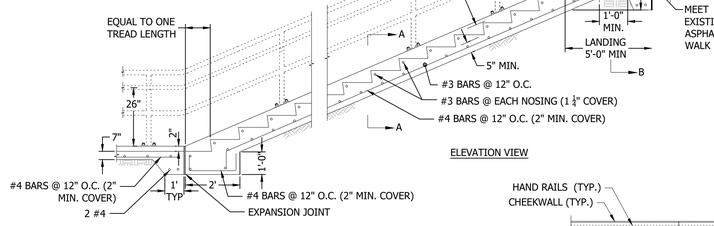
SECTION A-A

NOTES:
1. MAX LANDING SLOPE = 2%; MAX LANDING CROSS SLOPE= 2%
2. FINISH: BROOM FINISH PARALLEL TO RAMP.
3. CONCRETE: CLASS NS, SPECIFICATION 347.2.
4. CONSTRUCT RAMP IN ACCORDANCE WITH SPECIFICATION 522.
5. SONO TUBES ARE 12" Ø; STEEL REINFORCEMENT = 1.8 IN²
   6 #5 REBAR W/ #3 TIES @ 4.5"
6. REFER TO GDP PLAN FOR ELEVATIONS.
7. PEDESTRIAN RAILING NOT SHOWN FOR CLARITY.

CONCRETE RAMP DETAIL
ITEM 400-13
(N.TS.)

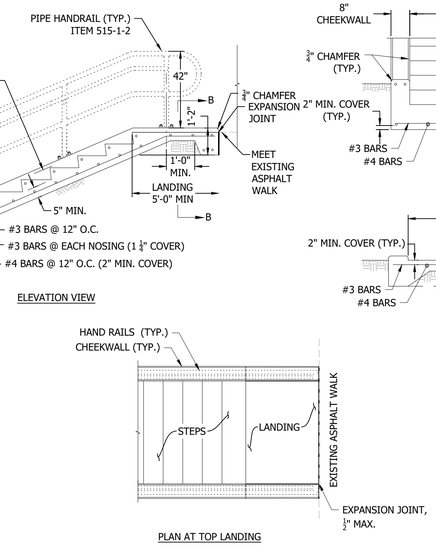


STAIR TREAD AND RISER DETAIL

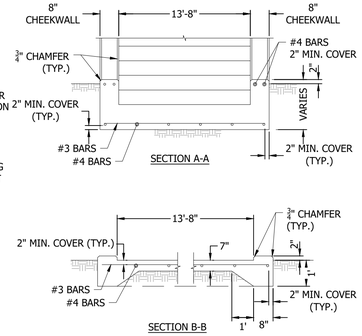


ELEVATION VIEW

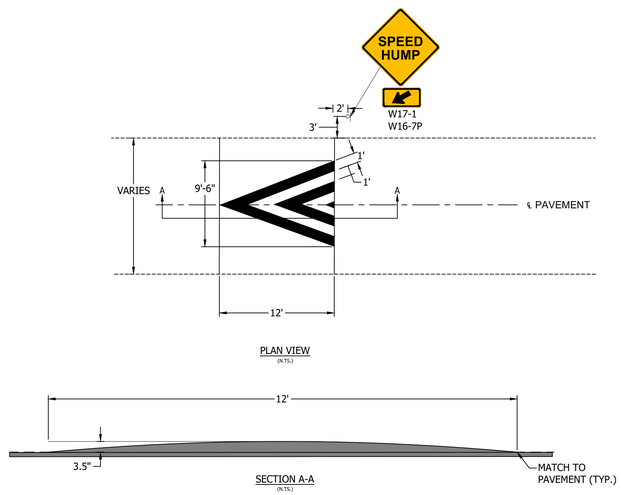
NOTES:
1. MAX LANDING SLOPE = 2%
2. MAX LANDING CROSS SLOPE= 2%
3. TREAD FINISH: BROOM FINISH PARALLEL TO STEPS
4. CONCRETE: CLASS NS, SPECIFICATION 347. 2.
5. CONSTRUCT STEPS IN ACCORDANCE WITH SPECIFICATION 522.



PLAN AT TOP LANDING



CONCRETE STEPS DETAIL
ITEM 400-13
(N.TS.)



ENHANCED SPEED HUMP DETAIL
(N.TS.)

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN SCHRECK ON THE DATE ADJACENT TO THE SEAL PRINTED COPIES IF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

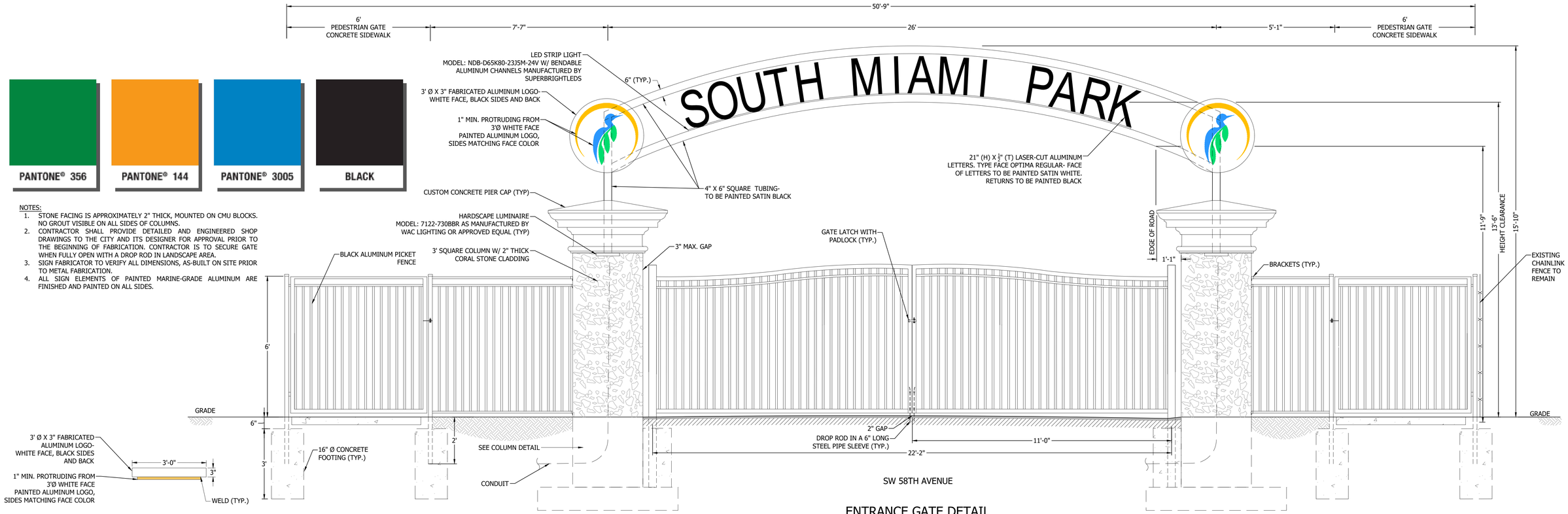
DETAILS

DRAWING NUMBER D3

SHEET 19 OF 22

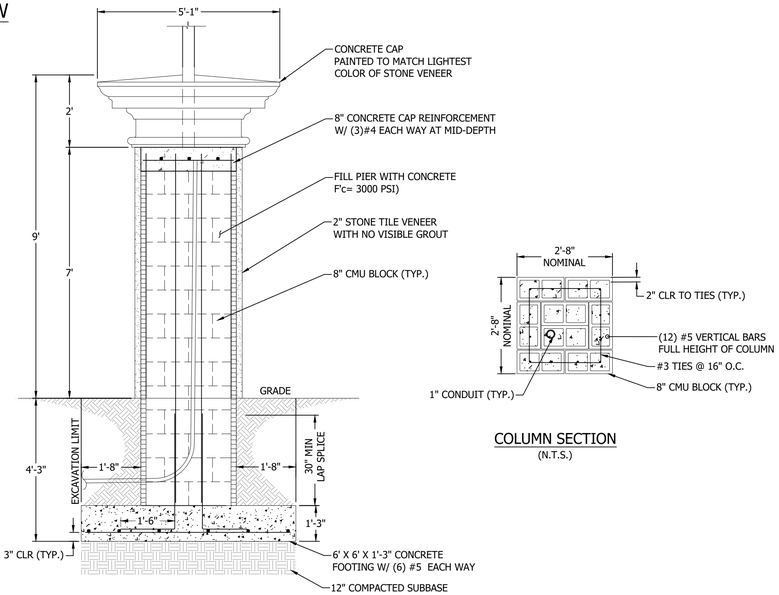
PANTONE® 356 | PANTONE® 144 | PANTONE® 3005 | BLACK

NOTES:
1. STONE FACING IS APPROXIMATELY 2" THICK, MOUNTED ON CMU BLOCKS. NO GROUT VISIBLE ON ALL SIDES OF COLUMNS.
2. CONTRACTOR SHALL PROVIDE DETAILED AND ENGINEERED SHOP DRAWINGS TO THE CITY AND ITS DESIGNER FOR APPROVAL PRIOR TO THE BEGINNING OF FABRICATION. CONTRACTOR IS TO SECURE GATE WHEN FULLY OPEN WITH A DROP ROD IN LANDSCAPE AREA.
3. SIGN FABRICATOR TO VERIFY ALL DIMENSIONS, AS-BUILT ON SITE PRIOR TO METAL FABRICATION.
4. ALL SIGN ELEMENTS OF PAINTED MARINE-GRADE ALUMINUM ARE FINISHED AND PAINTED ON ALL SIDES.



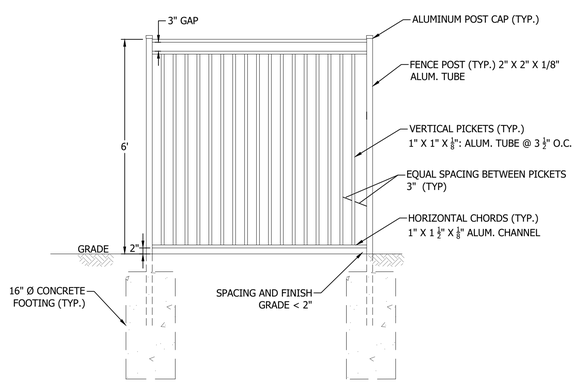
LOGO PLAN VIEW
(N.T.S.)

ENTRANCE GATE DETAIL
ITEM 550-60-924
(N.T.S.)



COLUMN DETAIL
(N.T.S.)

COLUMN SECTION
(N.T.S.)



FENCE DETAIL
(N.T.S.)

FINISHING DETAIL
(N.T.S.)

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN SCHRECK ON THE DATE ADJACENT TO THE SEAL PRINTED COPIES IF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

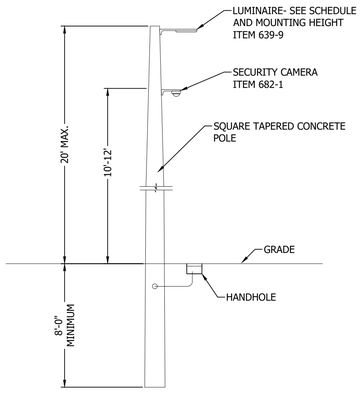
JOHN SCHRECK LICENSE No 66973 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

DETAILS

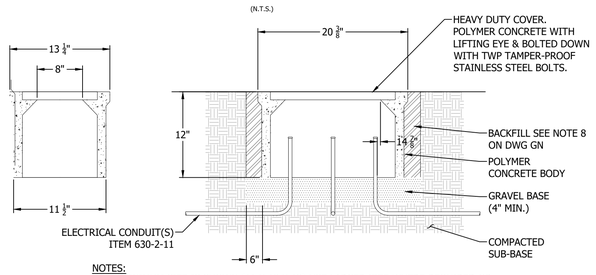
DRAWING NUMBER D4

SHEET 20 OF 22



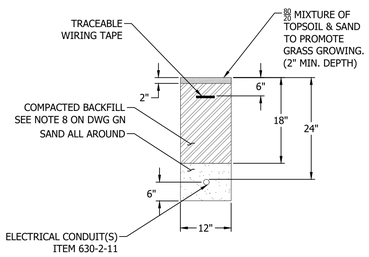
NOTES:
1. CONTRACTOR SHALL PROVIDE WIND LOAD CALCULATIONS REFLECTING COMPLIANCE WITH FLORIDA BUILDING CODE.
2. CALCULATIONS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED STRUCTURAL ENGINEER.
3. INSTALL WIRING, BOXES, CONDUIT AND FITTINGS PER NEC 250.64 AND 300.15.
4. CONTRACTOR SHALL ADJUST CAMERA PLACEMENT, MOUNTING HEIGHT, AND ZOOM TO OPTIMIZE PARKING LOT SIZE COVERAGE.
5. CAMERA MANUFACTURER: TURING
   MODELS: TP-NVD8MV2; TP-MMB8AV2

CONCRETE POLE DETAIL
ITEM 641-1
(N.T.S.)



NOTES:
1. MINIMUM SIZE IS SHOWN (11 X 18 X 12) USE LARGER SIZE WHERE REQUIRED OR WHERE INDICATED ON PLANS.
2. AS MANUFACTURED BY QUAZITE, SYNERTECH, BROOKS, OR APPROVED EQUAL.

HANDHOLE/PULL BOX DETAIL
ITEM 635-3-13
(N.T.S.)



ELECTRIC TRENCH DETAIL
ITEM 630-2-11
(N.T.S.)

SERVICE LOAD CALCULATION

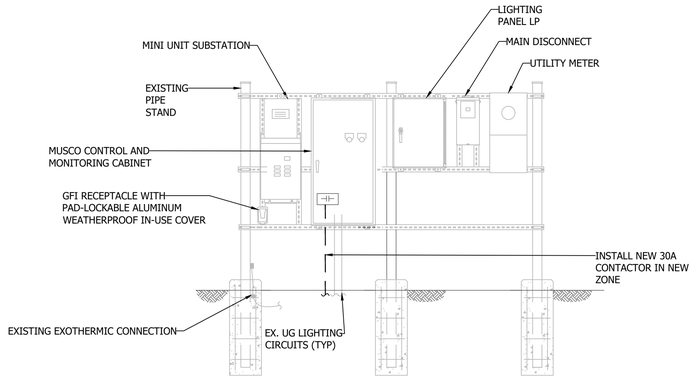
Label	Load Description	LED Current mA	Unit Load - Watts	Voltage	Unit VA	Qty	Connected Load VA	Demand Factor	Demand Load VA
SA	ECF-S-32L-365-NW-G2-4-HIS	365	40.00	120	44.44	1	44.44	100%	44.44
SB	ECF-S-32L-1A-NW-G2-5	1050	106.00	120	117.78	3	353.34	100%	353.34
SC	ECF-S-32L-1_2A-NW-G2-3	1200	122.00	120	135.56	2	271.12	100%	271.12
SD	ECF-S-48L-1A-NW-G2-4	1050	159.00	120	176.67	4	706.68	100%	706.68
SE	ECF-S-32L-1_2A-NW-G2-2	1200	122.00	120	135.56	1	135.56	100%	135.56
SF	ECF-S-64L-1A_NW-G2-5	1050	205.90	120	228.78	8	1830.24	100%	1830.24
							Total VA		3341.38
							Total AMPS @ 120V (1PH)		27.84

1 - Unit Load is calculated using the LED Current from the GARDCO datasheets
2- Demand Factor for Lighting is from NEC Table 220.42.
3- Assume Power Factor 0.9

VOLTAGE DROP CALCULATIONS - #4 &#6 AWG to FIXTURES

Source	Servicing	Feeder Voltage	Power Factor	Segment Length	Wire Size	Conductor Material	Parallel Sets	Unit Load VA	Total Load VA	Total Amp	Segment V Drop	Segment V Drop-%	Handhole V Drop %	System V Drop	Available Voltage
Lighting LP	Pull Box	120	0.9	50.00	4	Cu	1		1517.56	12.65	0.40	0.33	0.33	0.40	119.60
Pull Box	SF-1	120	0.9	25.00	4	CU	1	457.56	1517.58	12.65	0.20	0.17	0.50	0.60	119.40
SF-1	SD-1	120	0.9	72.00	4	Cu	1	176.67	1060.02	8.83	0.41	0.34	0.84	1.01	118.99
SD-1	SD-2	120	0.9	96.00	4	Cu	1	176.67	883.35	7.36	0.45	0.38	1.22	1.46	118.54
SD-2	SD-3	120	0.9	93.00	6	Cu	1	176.67	706.68	5.89	0.55	0.46	1.68	2.02	117.98
SD-3	SD-4	120	0.9	85.00	6	Cu	1	176.67	530.01	4.42	0.38	0.32	2.00	2.40	117.60
SD-4	SB-1	120	0.9	6.00	6	Cu	1	117.78	353.34	2.94	0.21	0.17	2.17	2.60	117.40
SB-1	SB-2	120	0.9	88.00	6	Cu	1	117.78	235.56	1.96	0.19	0.16	2.33	2.80	117.20
SB-2	SB-3	120	0.9	92.00	6	Cu	1	117.78	117.78	0.98	0.12	0.10	2.43	2.92	117.08

Source	Servicing	Feeder Voltage	Power Factor	Segment Length	Wire Size	Conductor Material	Parallel Sets	Unit Load VA	Total Load VA	Total Amp	Segment V Drop	Segment V Drop-%	Handhole V Drop %	System V Drop	Available Voltage
Lighting LP	Pull Box	120	0.9	50.00	4	Cu	1		1823.80	15.20	0.47	0.39	0.39	0.47	119.53
Pull Box	SF-	120	0.9	99.00	4	Cu	1	457.56	1823.80	15.20	0.92	0.77	1.16	1.39	118.61
SF-2	SF-3	120	0.9	29.00	4	Cu	1	457.56	1366.24	11.39	0.20	0.17	1.33	1.60	118.40
SF-3	SF-4	120	0.9	93.00	6	Cu	1	457.56	908.68	7.57	0.66	0.55	1.88	2.26	117.74
SF-4	SC-1	120	0.9	100.00	6	Cu	1	135.56	451.12	3.76	0.35	0.29	2.17	2.60	117.40
SC-1	SC-2	120	0.9	60.00	6	Cu	1	135.56	315.56	2.63	0.15	0.12	2.29	2.75	117.25
SC-2S-1	SE-1	120	0.9	92.00	6	Cu	1	135.56	180.00	1.50	0.13	0.11	2.40	2.88	117.12
SE-1	SA-1	120	0.9	114.00	6	Cu	1	44.44	44.44	0.37	0.04	0.03	2.43	2.92	117.08



FRONT ELEVATION

MUSCO ELECTRICAL RISER DETAIL
(N.T.S.)

PANEL 'A'

TYPE: SQUARE D OR EQUAL
VOLTAGE: 120/240V
SERVICE: 1 PHASE, 3W
MOUNTING: RECESSED
MAIN BUS: 200 AMPS
NEUTRAL: 200 AMPS
MAINS: LUGS ONLY
LOCATION: TOP

COND	GRND	WIRE	TOTAL V.A.	AMPS	POLE	LOAD SERVED	CKT. NO.	PHASE	CKT. NO.	LOAD SERVED	POLE	AMPS	TOTAL V.A.	WIRE	GRND	COND
1/2"	#12	#12	600	20	1	LIGHTING	1		2	HOT DOG MACHINE	1	20	1800	#12	#12	1/2"
1/2"	#12	#12	600	20	1	LIGHTING	3		4	WARMING STATION	1	20	1200	#12	#12	1/2"
1/2"	#12	#12	500	20	1	LIGHTING*	5		6	MICROWAVE	1	20	1400	#12	#12	1/2"
1/2"	#12	#12	360	20	1	COUNTER GFI REC	7		8	REFRIGERATOR	1	20	1200	#12	#12	1/2"
1/2"	#12	#12	360	20	1	CONCESSION CONV REC	9		10	ICE MACHINE	1	20	1400	#12	#12	1/2"
1/2"	#12	#12	900	20	1	OFFICE RECEPTACLES	11		12	FREEZER	1	20	1200	#12	#12	1/2"
1/2"	#12	#12	900	20	1	REST/JANIT REC	13		14	TANKLESS WH	2	60	5900	#6	#10	3/4"
1/2"	#12	#12	1260	20	1	OUTDOOR REC	15		16				5900			
1/2"	#12	#12	500	20	1	WOMEN SENSORS	17		18	ROLL UP DOOR	1	20	1200	#12	#12	1/2"
1/2"	#12	#12	500	20	1	MENS SENSORS	19		20	SPACE						
1/2"	#12	#12	540	20	1	**DRINKING FOUNTAIN	21		22	HAND DRYER WOMENS	1	20	1800	#12	#12	1/2"
1/2"	#12	#12	1000	20	1	EXHAUST FAN EF-1	23		24	HAND DRYER MENS	1	20	1800	#12	#12	1/2"
1/2"	#12	#12	1000	20	1	COTTON CANDY MACH.	25		26	HAND DRYER WOMENS	1	20	1800	#12	#12	1/2"
1/2"	#12	#12	1400	20	1	POPCORN	27		28	HAND DRYER MENS	1	20	1800	#12	#12	1/2"
1/2"	#12	#12	1000	20	1	ICE CREAM REF	29		30	SPACE						
						SPACE	31		32							
							33		34							
							35		36							
							37		38							
							39		40							
							41		42							

* CONTROLLED BY TIME CLOCK
** GFCI BREAKER

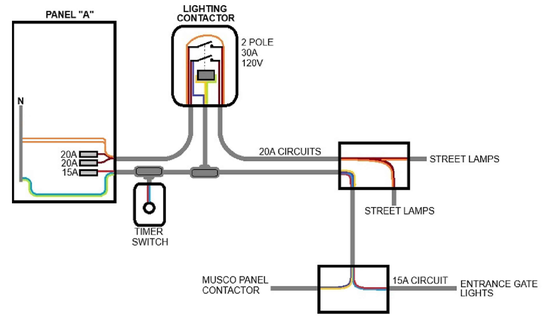
CONNECTED LOAD: 49.52 KVA
DESIGN LOAD: SEE LOAD CALCULATION BELOW

FEEDER: 3#3/0 & 1#6G, 2"C
FED FROM: 2P-200A CKT. BRKR.

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	CONTINUOUS FACTOR	DESIGN LOAD	NOTES:
A/C (HEAT PUMP)	0 VA	1.00	0 VA	1.00	0 VA	(1) = PROVIDE HACR TYPE CKT. BREAKER
KITCHEN EQUIPMENT	23,400 VA	0.65	15,210 VA	1.00	15,210 VA	(2) = HEATING AND COOLING LOADS ARE NON-CONCURRENT
LIGHTING	1,700 VA	1.00	1,700 VA	1.25	2,125 VA	(3) = COORDINATE EXACT REQUIREMENTS
MISCELLANOUS	14,720 VA	1.00	14,720 VA	1.00	14,720 VA	
NET DESIGN V.A.					32,055 VA	
TOTAL AMPS@208V/3PH					133.56 A/#	

NOTE: CONTRACTOR TO UPDATE MAIN BUS TO 225 AMPS

ELECTRICAL DIAGRAM



M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN SCHRECK ON THE DATE ADJACENT TO THE SEAL PRINTED COPIES IF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: FEBRUARY 2026
DESIGNED BY: KF/KS
DRAWN BY: TZ
CHECKED BY: JS
SCALE: AS NOTED

DETAILS

DRAWING NUMBER: D5

SHEET 21 OF 22

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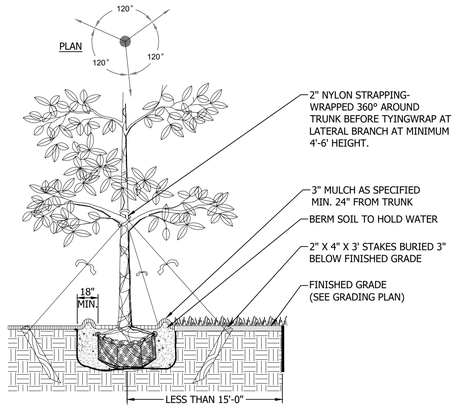
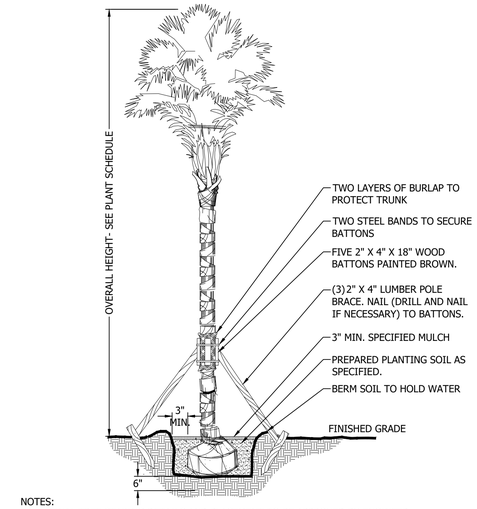


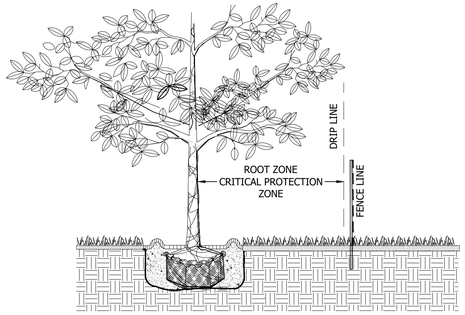
NOTES:
1. ROOT BARRIERS ARE REQUIRED WHERE LARGE CANOPY TREES, SUCH AS LIVE OAKS ARE WITHIN 15' OF SIDEWALK, PAVED AREA, OR BUILDING, AND SHALL RUN PARALLEL WITH PAVED AREA OR BUILDING TO A DISTANCE 20' OUT EITHER DIRECTION FROM TRUNK.
2. ROOT BARRIERS SHALL BE A MINIMUM OF 18"-24" DEEP AND SHALL EXTEND UP TO FINISHED GRADE.
3. PRODUCT SPECIFICATION SHALL BE APPROVED BY ENGINEER.
4. ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

TREE PLANTING DETAIL
(N.T.S.)



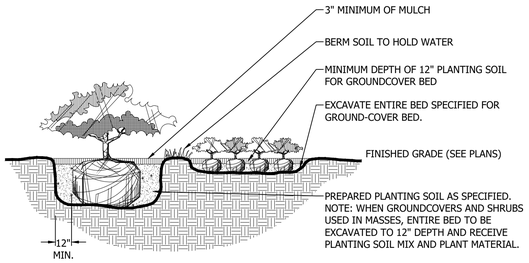
NOTES:
1. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY ENGINEER.
2. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

PALM TREE DETAIL
(N.T.S.)



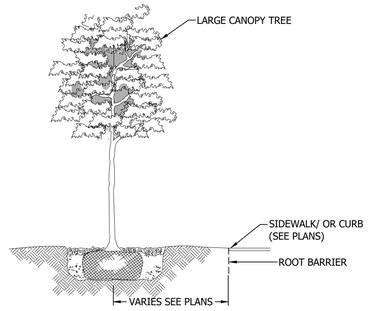
NOTES:
1. INSTALL 6.0' HEIGHT CHAIN LINK FENCE TREE PROTECTION BARRIER WITH STURDY POSTS EMBEDDED IN GRADE 2.0' MINIMUM. 8.0' MAXIMUM POST SPACING.
2. INSTALL TREE PROTECTION BARRIER BEYOND DRIP LINE OF TREE CANOPY.
3. NO CONSTRUCTION DEBRIS, VEHICLES, CHEMICALS, OR OTHER CONSTRUCTION ACTIVITY SHALL BE ALLOWED WITHIN THE ROOT ZONE.
4. VEGETATION TO BE RELOCATED SHALL BE CROWNED / ROOT PRUNED SIX (6) MONTHS PRIOR TO RELOCATION. CONTRACTOR TO SUPPLY A RELOCATION SCHEDULE FOR ALL MATERIAL TO BE RELOCATED.
5. PROVIDE TEMPORARY IRRIGATION TO ALL ROOT PRUNED VEGETATION.
6. CALL SUNSHINE STATE ON-ALL BEFORE ROOT PRUNING OR DIGGING FOR RELOCATED VEGETATION.

TREE PLANTING DETAIL
(N.T.S.)



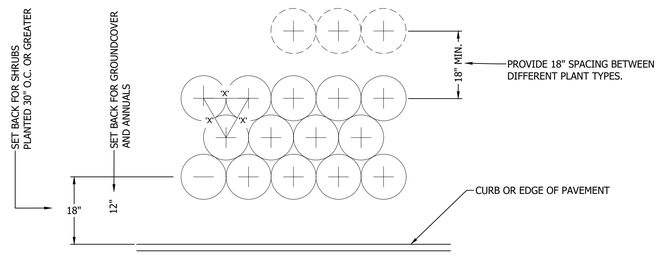
NOTE:
1. PLANT MATERIAL SHALL BE PLANTED 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOT BALL.

SHRUB AND GROUNDCOVER DETAIL
(N.TS.)



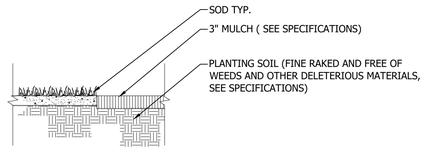
NOTES:
1. A SOLID PANEL 24" DEPTH ROOT BARRIER DEVICE SHALL BE EMPLOYED WITHIN A 20.0' RADIUS OF A TREE WHEN TREES ARE WITHIN 10.0' OF ADJACENT HARDSCAPE SURFACES AND SHALL RUN PARALLEL WITH PAVED AREA OR BUILDING TO A DISTANCE 20.0' OUT EITHER DIRECTION FROM TRUNK.
2. USE UD24-2 POLYETHYLENE SOLID PANEL ROOT BARRIER BY DEEPROOT OR APPROVED EQUAL.
3. ROOT BARRIERS SHALL BE 24" DEPTH AND SHALL EXTEND UP TO FINISHED GRADE.
4. NO TREES ARE TO BE PLANTED WITHIN 5 FEET OF EXISTING OR PROPOSED UNDERGROUND UTILITIES. WHERE A CONFLICT EXISTS, NOTIFY THE LANDSCAPE ARCHITECT FOR RESOLUTION PRIOR TO CONTINUED INSTALLATION.
5. USE PHYSICAL ROOT BARRIER WHEN TREES ARE WITHIN 10 FEET OF UNDERGROUND UTILITIES. ROOT BARRIERS TO BE NO CLOSER THAN 5 FEET TO UNDERGROUND UTILITY PIPES.
6. ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

ROOT BARRIER DETAIL
(N.TS.)



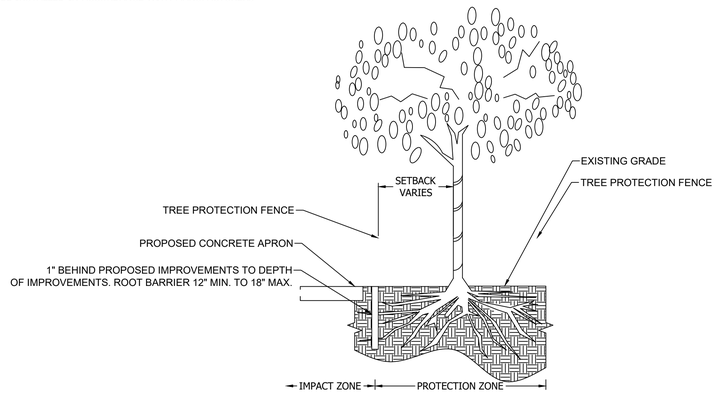
NOTE:
1. ALL SHRUBS AND GROUNDCOVER MASSES TO USE TRIANGULAR SPACING EXCEPT WHERE NOTED. REFER TO PLANT LIST FOR INDIVIDUAL PLANT SPACING "X".

TYPICAL PLANT SPACING
(N.TS.)



NOTES:
1. ALL SOD IS TO BE COMPLETELY REMOVED AS REQUIRED PRIOR TO MULCH INSTALLATION.
2. ALL AREAS SHALL HAVE A CLEAN, SMOOTH EDGE TRANSITION BETWEEN SOD AND MULCHED AREAS.
3. ALL SOD AREAS ARE TO HAVE 4" PLANTING SOIL THAT IS TO BE TILLED INTO THE NATIVE SOIL TO A DEPTH OF 8".
4. ALL MULCH SHALL BE PEST AND INSECT FREE.

MULCH DETAIL
(N.TS.)



TREE ROOT PRUNING DETAIL
(N.TS.)

M&J ENGINEERING
9350 SOUTH DIXIE HIGHWAY, SUITE 1440 • MIAMI, FL 33156

NO.	DATE	DESCRIPTION

CITY OF SOUTH MIAMI

SOUTH MIAMI PARK
PARKING LOT IMPROVEMENTS
CITY OF SOUTH MIAMI, FL

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JOHN SCHRECK LICENSE No 66972 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	FEBRUARY 2026
DESIGNED BY	KF/KS
DRAWN BY	TZ
CHECKED BY	JS
SCALE	AS NOTED

DETAILS

DRAWING NUMBER D6

SHEET 22 OF 22

ATTACHMENT D

PARKING LOT SPECIFICATIONS

PREPARED BY:

M & J Engineering

SOUTH MIAMI PARK

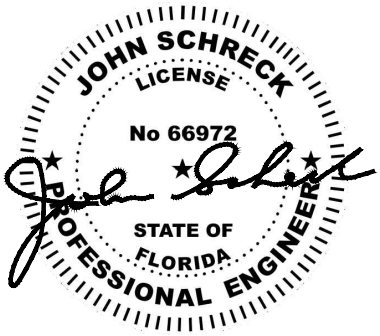
PARKING LOT IMPROVEMENTS

SPECIFICATIONS

February 2026

PREPARED BY:

M&J ENGINEERING



SPECIFICATIONS

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639-2-1	ELECTRICAL WIRE SERVICE
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639-9	LIGHT FIXTURES
641-1	PRESTRESSED CONCRETE POLE
682-1	SECURITY CAMERAS
700-1-40	SINGLE COLUMN GROUND SIGN ASSEMBLY
711-11-121	THERMOPLASTIC PAVEMENT MARKING (WHITE) 6"
711-11-123	THERMOPLASTIC PAVEMENT MARKING (WHITE) 12"
711-11-125	THERMOPLASTIC PAVEMENT MARKING (WHITE) 24"
711-11-160	ADA PARKING SYMBOL PAINTED
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711-11-421	THERMOPLASTIC, STANDARD BLUE, SOLID 6"

* All specifications included in this Project reference the most recent as of this project letting date, edition of the FDOT Standard Specification for Road and Bridge Construction.

ITEM 101-1 MOBILIZATION

DESCRIPTION

Perform preparatory work and operations in mobilizing for beginning work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site(s) and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.

Include the costs of bonds and any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials.

CONSTRUCTION DETAILS

Not Applicable

METHOD OF MEASUREMENT

Not Applicable

BASIS OF PAYMENT

The work and incidental costs specified as being covered under this Article will be paid for at the Contract lump sum price for the Mobilization pay item.

END OF ITEM

101-1

ITEM 102-1 MAINTENANCE OF TRAFFIC

DESCRIPTION

The Contractor shall be responsible for providing the Engineer with Maintenance of Traffic (M.O.T.) plans for lane closures and/or detours for approval. These M.O.T. plans shall be produced by an individual employed by the Contractor and certified as "Work Zone Traffic Safety Supervisor" by the American Traffic Safety Service Association, ATSSA.

The Contractor shall be responsible for the maintenance of public streets and traffic control for the duration of the project. The cost of Traffic Control including the cost of any required off duty police officers shall be included under the appropriate bid item in the Proposal. If no bid item for this is included, said costs shall be included in other appropriate items of the bid and no extra compensation will be allowed.

CONSTRUCTION DETAILS

REGULATIONS

A. As used herein, any reference to Miami-Dade County, its departments, or its published regulations, permits and data, shall be synonymous and interchangeable with other recognized governing bodies over particular areas or streets, or their departments, published regulations, permits or data. The Contractor shall abide by all applicable laws, regulations, and codes thereof pertaining to maintenance of public streets, detour of traffic, traffic control and other provisions as may be required for this Project.

MAINTENANCE OF TRAFFIC (M.O.T.)

A. The Contractor shall be fully responsible for the maintenance of public streets, detour of traffic (including furnishing and maintaining regulatory and informative signs along the detour route), traffic control, and other provisions throughout the Project as required by the MDCDTPW, Traffic Engineering Division (Traffic Division), City of South Miami, FDOT or other governing agency. Traffic shall be maintained according to corresponding typical traffic control details as outlined in the MDCDTPW Manual. No street shall be completely blocked, nor blocked more than one-half at any time, keeping the other one-half open for traffic, without specific approval.

B. If required by the Traffic Division, the Contractor shall make arrangements for the employment of uniformed off-duty policemen to maintain and regulate the flow of traffic through the construction area. The number of men required and the number

of hours on duty necessary for the maintenance and regulation of the traffic flow shall be subject to their approval. The cost of such off-duty policemen shall be paid from the Quotation Item established for this purpose. If required by traffic control permits or agencies, the Contractor shall work, odd or night hours, as required for traffic control reasons, and the cost of such work shall be considered as incidental to construction and no extra compensation will be given.

C. The Contractor shall provide all barricades with warning lights, necessary arrow boards and signs, to warn motorists of the work throughout the Project. Adequate approved devices shall be erected and maintained by the Contractor to detour traffic.

D. Excavated or other material stored adjacent to or partially upon a roadway pavement shall be adequately marked for traffic safety at all times. The Contractor shall provide necessary access to all adjacent property during construction.

E. The Contractor shall be responsible for the provision, installation and maintenance of all traffic control and safety devices, in accordance with specifications outlined in the MDCDTPW Manual. In addition, the Contractor shall be responsible for the resetting of all traffic control and information signing removed during the construction period.

F. Where excavations are to be made in the vicinity of signalized intersections, the Contractor is alerted that vehicle loop detectors may have been embedded in the pavement. Every effort has been made to show the approximate locations on the Plans; however, the Contractor shall verify these locations by inspecting the site of the work and by contacting the Traffic Division. Any loop detector which is damaged by the Contractor, whether shown on the Plans or not, shall be repaired or replaced by the Contractor, at his expense, and to the satisfaction of the Traffic Division.

G. Where applicable, the Contractor shall notify the Traffic Division 24 hours in advance of the construction date or 48 hours in advance of construction within any signalized intersection.

H. Temporary pavement will be required over all cuts in pavement areas, and also where traffic is to be routed over swale or median areas. When the temporary pavement for routing traffic is no longer necessary, it shall be removed and the swale or median areas restored to their previous condition.

I. Pavement markings damaged during construction shall be remarked, as required by the Traffic Division.

J. Driveway Maintenance.

1. General: Ensure that each residence and business has safe, stable, and reasonable access.
2. Construction Methods:
    a. Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use.
    b. As permanent driveway construction is accomplished at a particular location, Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

MATERIALS

Meet the following requirements:

- Raised Pavement Marker Adhesive* .....Section 706
- Paint* .....Section 710
- Bituminous Adhesive……..……Section 970
- Pavement Marking Materials* .....Section 971
- Temporary Raised Pavement Markers* ..... Section 990
- Temporary Traffic Control Device Materials* ..... Section 990
- Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices* ..... Section 994

METHOD OF MEASUREMENT

Devices installed/used on the Project on any calendar day or portion thereof, within the allowable Contract Time, including time extensions which may be granted, will be paid for at the Contract *lump sum* price for the applicable pay item, except those paid for as Maintenance of Traffic (General). The quantity to be paid for the traffic control officer will be included within the lump sum price for this item.

BASIS OF PAYMENT

Payment will be made at the *lump sum* contract price to furnish all materials, labor and equipment necessary to satisfactorily complete the work as specified.

END OF ITEM

102-1

ITEM 102-1 MAINTENANCE OF TRAFFIC

DESCRIPTION

The Contractor shall be responsible for providing the Engineer with Maintenance of Traffic (M.O.T.) plans for lane closures and/or detours for approval. These M.O.T. plans shall be produced by an individual employed by the Contractor and certified as "Work Zone Traffic Safety Supervisor" by the American Traffic Safety Service Association, ATSSA.

The Contractor shall be responsible for the maintenance of public streets and traffic control for the duration of the project. The cost of Traffic Control including the cost of any required off duty police officers shall be included under the appropriate bid item in the Proposal. If no bid item for this is included, said costs shall be included in other appropriate items of the bid and no extra compensation will be allowed.

CONSTRUCTION DETAILS

REGULATIONS

A. As used herein, any reference to Miami-Dade County, its departments, or its published regulations, permits and data, shall be synonymous and interchangeable with other recognized governing bodies over particular areas or streets, or their departments, published regulations, permits or data. The Contractor shall abide by all applicable laws, regulations, and codes thereof pertaining to maintenance of public streets, detour of traffic, traffic control and other provisions as may be required for this Project.

MAINTENANCE OF TRAFFIC (M.O.T.)

A. The Contractor shall be fully responsible for the maintenance of public streets, detour of traffic (including furnishing and maintaining regulatory and informative signs along the detour route), traffic control, and other provisions throughout the Project as required by the MDCDTPW, Traffic Engineering Division (Traffic Division), City of South Miami, FDOT or other governing agency. Traffic shall be maintained according to corresponding typical traffic control details as outlined in the MDCDTPW Manual. No street shall be completely blocked, nor blocked more than one-half at any time, keeping the other one-half open for traffic, without specific approval.

B. If required by the Traffic Division, the Contractor shall make arrangements for the employment of uniformed off-duty policemen to maintain and regulate the flow of traffic through the construction area. The number of men required and the number of hours on duty necessary for the maintenance and regulation of the traffic flow

shall be subject to their approval. The cost of such off-duty policemen shall be paid from the Quotation Item established for this purpose. If required by traffic control permits or agencies, the Contractor shall work, odd or night hours, as required for traffic control reasons, and the cost of such work shall be considered as incidental to construction and no extra compensation will be given.

C. The Contractor shall provide all barricades with warning lights, necessary arrow boards and signs, to warn motorists of the work throughout the Project. Adequate approved devices shall be erected and maintained by the Contractor to detour traffic.

D. Excavated or other material stored adjacent to or partially upon a roadway pavement shall be adequately marked for traffic safety at all times. The Contractor shall provide necessary access to all adjacent property during construction.

E. The Contractor shall be responsible for the provision, installation and maintenance of all traffic control and safety devices, in accordance with specifications outlined in the MDCDTPW Manual. In addition, the Contractor shall be responsible for the resetting of all traffic control and information signing during the construction period.

F. Where excavations are to be made in the vicinity of signalized intersections, the Contractor is alerted that vehicle loop detectors may have been embedded in the pavement. Every effort has been made to show the approximate locations on the Plans; however, the Contractor shall verify these locations by inspecting the site of the work and by contacting the Traffic Division. Any loop detector which is damaged by the Contractor, whether shown on the Plans or not, shall be repaired or replaced by the Contractor, at his expense, and to the satisfaction of the Traffic Division.

G. Where applicable, the Contractor shall notify the Traffic Division 24 hours in advance of the construction date or 48 hours in advance of construction within any signalized intersection.

H. Temporary pavement will be required over all cuts in pavement areas, and also where traffic is to be routed over swale or median areas. When the temporary pavement for routing traffic is no longer necessary, it shall be removed and the swale or median areas restored to their previous condition.

I. Pavement markings damaged during construction shall be remarked, as required by the Traffic Division.

J. Driveway Maintenance.

1. General: Ensure that each residence and business has safe, stable, and reasonable access.

2. Construction Methods:

    a. Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use.

    b. As permanent driveway construction is accomplished at a particular location, Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

MATERIALS

Meet the following requirements:

- Raised Pavement Marker Adhesive* .....Section 706
- Paint* .....Section 710
- Bituminous Adhesive……..……Section 970
- Pavement Marking Materials* .....Section 971
- Temporary Raised Pavement Markers* ..... Section 990
- Temporary Traffic Control Device Materials* ..... Section 990
- Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices* ..... Section 994

METHOD OF MEASUREMENT

Devices installed/used on the Project on any calendar day or portion thereof, within the allowable Contract Time, including time extensions which may be granted, will be paid for at the Contract *lump sum* price for the applicable pay item, except those paid for as Maintenance of Traffic (General). The quantity to be paid for the traffic control officer will be included within the lump sum price for this item.

BASIS OF PAYMENT

Payment will be made at the *lump sum* contract price to furnish all materials, labor and equipment necessary to satisfactorily complete the work as specified.

END OF ITEM

102-1

ITEM 104-10-3 SEDIMENT BARRIER
ITEM 104-18 INLET PROTECTION

DESCRIPTION

Provide erosion control measures where work is accomplished in conjunction with the project, to prevent erosion, pollution of water, and detrimental effects to public or private property adjacent to the project right-of-way and damage to work on the project.

GENERAL

Coordinate the installation of temporary erosion control devices with the construction of the permanent erosion control devices to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract.

CONTROL OF CONTRACTOR'S OPERATIONS WHICH MAY RESULT IN WATER POLLUTION

Prevent contaminants, pollutants or hazardous substances, as defined in Section 376.301, Florida Statutes, from migrating from the construction site or from materials and equipment into any surface waters, wetlands, groundwater or property beyond the project limits. Conduct and schedule operations to avoid and minimize pollution or siltation from the project to surface waters, wetlands, groundwater, or property beyond the project limits.

Do not drive in, operate, or place construction equipment or materials in surface waters, wetlands, groundwater, or property beyond the project limits without permitted authority for permanent or temporary impacts. Water crossings or other wetlands impacts must be authorized by permit. Obstructing or impeding the water flow or movement of the water or wildlife must be authorized by permit.

Where pumps are used to remove highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water by one or more of the following methods prior to discharge from the project: pumping into grassed swales or appropriate upland vegetated areas or constructed sediment basins, or confined by an appropriate enclosure such as turbidity barriers when other methods are not practical. Do not discharge, water that does not meet State water quality standards or does not meet the criteria specified in any applicable permit.

Remove sediment accumulated during construction from all existing or newly constructed stormwater facilities prior to final acceptance. Ensure that all stormwater conveyances and stormwater facilities meet final grade requirements at final acceptance. Remove silt or regrade as necessary to comply with the lines and grades shown in the Plans.

Do not enter onto lands or waters outside the limits of construction as staked, except as authorized by the Engineer. Do not allow water that does not meet state water quality

standards or does not meet the permitted criteria to exit the project limits.

Obtain the Engineer's approval for the location and method of operation in borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in detrimental siltation or water pollution.

MATERIALS FOR TEMPORARY EROSION CONTROL

Meet the following requirements:
Temporary Sod.....Section 570
Geotextile Materials*.....Section 985
*Use products listed on the Department's APL.

For materials that are part of the permanent work, meet the testing requirements of the applicable permanent materials.

For materials not part of the permanent work, no testing is required; acceptance will be based on visual inspection.

Use new or used materials for the construction of temporary silt fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed project.

PRECONSTRUCTION REQUIREMENTS

Prior to the Preconstruction Conference, submit a site-specific Stormwater Pollution Prevention Plan (SWPPP) and the associated Erosion and Sediment Control Plan meeting the requirements and special conditions of all permits authorizing project construction. If no permits are required or the approved permits do not contain special conditions or specifically address erosion and water pollution, the Contractor's site-specific Erosion and Sediment Control Plan will be governed by 7-1.1, 7-2.2, 7-8.1, 7-8.2, and Section 104.

When a NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities permit (CGP) is required, the Contractor's SWPPP and the associated Erosion and Sediment Control Plan shall be prepared to accompany the Department's Stormwater Runoff Control Concept. The SWPPP and Erosion and Sediment Control Plan must meet all of the requirement of the NPDES CGP, specifically Part 4. Do not begin any soil disturbing activities before receiving the Engineer's written acknowledgement of the SWPPP and Erosion and Sediment Control Plan and the required signed certification statements.

Failure to sign and submit any required documents or certification statements will be considered a default of the Contract. Any soil disturbing activities performed without the required signed documents or certification statements is considered a violation of the NPDES CGP.

Prepare a site-specific SWPPP and the associated Erosion and Sediment Control Plan in accordance with the planned sequence of operations and present it in a format acceptable to the Department. The SWPPP and Erosion and Sediment Control Plan shall include, but not be limited to, the following items or activities:

1. For each phase of construction operations or activities, supply the following
    A. A Site Plan with locations of all erosion control devices best management practices
    B. Types of all erosion control devices
    C. Estimated time erosion control devices will be in operation
    D. Monitoring schedules for maintenance of erosion control devices
    E. Methods of maintaining erosion control devices
    F. Dewatering plan
    G. Locations of all stored fuel or other petroleum products, pollutants, chemicals, concrete washouts, sanitary waste, or other hazardous waste
    H. Spill prevention and response measures and disposal and removal methods
    I. Submit any changes to the Erosion and Sediment Control Plan within seven calendar days.

2. The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.

Do not begin construction activities until the SWPPP and the associated Erosion and Sediment Control Plan receives written acknowledgement from the Engineer.

CONSTRUCTION DETAILS

LIMITATION OF EXPOSURE OF ERODIBLE EARTH

Do not allow the surface area of erodible earth that clearing and grubbing operations, excavation and filling operations, or other earth disturbing activities to exceed 750,000 square feet without specific prior written approval by the Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.
The Engineer may further limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide additional erosion or pollution control measures to prevent contamination of any surface waters, wetlands, or groundwater or to prevent detrimental effects on property outside the project limits or damage to the project.

INCORPORATION OF EROSION AND SEDIMENT CONTROL DEVICES

Incorporate permanent erosion and sediment control devices into the project at the

earliest practical time. Complete the installation of temporary erosion and sediment control devices prior to the commencement of any earth disturbing activities. Use temporary erosion and sediment control devices found in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (E&SC Manual) to control erosion and sediment generated by construction operations, to correct unforeseen conditions during construction, and to control erosion and sediment prior to the incorporation of permanent erosion and sediment control devices. An electronic version of the E&SC Manual can be found at the following URL:

https://www.fdot.gov/programmanagement/Implemented/URLinSpecs/FLErosionSedimentManual.shtm.

SCHEDULING OF SUCCESSIVE OPERATIONS

Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable.

Schedule and perform clearing and grubbing such that grading operations can be incorporated immediately thereafter. Schedule and perform grading operations so that permanent erosion control devices can follow immediately thereafter if conditions on the project permit.

DETAILS FOR TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES

GENERAL

Use temporary erosion, sediment and water pollution control devices found in the E&SC Manual. These devices consist of, but are not limited to, temporary sod, rolled erosion control products, sediment containment systems, runoff control structures, sediment barriers, inlet protection systems, silt fences, turbidity barriers, and chemical treatment. For design details for some of these devices, refer to the E&SC Manual. Perform installation, inspection, maintenance, and removal of all temporary erosion and sediment control devices in accordance with applicable permits, manufacturer's directions, and the Contract Documents.

SEDIMENT BARRIERS

Provide and install sediment barriers according to details shown in the Contract Documents or as directed by the Engineer to protect against downstream accumulation of sediment. Sediment Barriers include, but are not limited to synthetic bales, silt fence, fiber logs and geosynthetic barriers. Reusable barriers that have had sediment deposits removed may be reinstalled on the project as approved by the Engineer.

SILT FENCE

Furnish, install, maintain, and remove silt fences, in accordance with the applicable permits, the manufacturer's directions, and the Contract Documents.

Materials and Installation: Use a geotextile material made from woven or nonwoven fabric, meeting the physical requirements of Section 985 according to those applications for erosion control.

Choose the type and size of posts and wire mesh reinforcement (if required). Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective silt fence that controls sediment in accordance with the Contract Documents.

Erect silt fence at upland locations and at temporary locations shown in the Contract Documents or where continuous construction activities change the natural contour and drainage runoff. Do not attach silt fence to existing trees unless approved by the Engineer.

Inspect all silt fences in accordance with any applicable permit. If the project does not have a permit, inspect within 24 hours after each rain event and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, repair or replace silt fences in accordance with the Contract Documents or as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/2 the height of the silt fence or as directed by the Engineer. Shape any remaining sediment deposits to conform with the finished grade and prepare the area for turf in accordance with Section 570.

INLET PROTECTION

Furnish and install inlet protection systems as shown in the Contract Documents.

REMOVAL OF TEMPORARY EROSION CONTROL DEVICES

In general, remove or where applicable, incorporate into the soil any temporary erosion control devices upon incorporation of the permanent erosion control devices into the project. The Engineer may direct temporary devices to be left in place.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES

GENERAL

Provide routine maintenance of permanent and temporary erosion and sediment control

devices, at no expense to the Department, until the project is complete and accepted. If reconstruction or replacement of erosion and sediment control devices is necessary due to the Contractor's negligence or carelessness or, in the case of temporary erosion and sediment control devices, improper installation, lack of maintenance, excessive wear, design-life exceedance or failure by the Contractor to install permanent erosion control devices as scheduled, the Contractor shall repair or replace such erosion control devices at no expense to the Department. If reconstruction of permanent or temporary erosion and sediment control devices is necessary due to factors beyond the control of the Contractor, the Department will pay for replacement under the appropriate Contract pay item or items.

Inspect all erosion and sediment control devices at least once every seven calendar days and within 24 hours of the end of a storm event that is 0.50 inches or greater. Maintain all erosion and sediment control devices as required by the Contractor's SWPPP and associated Erosion and Sediment Control Plan, and if applicable, as specified in the NPDES CGP.

PROTECTION DURING SUSPENSION OF CONTRACT TIME

Initiate stabilization measures within seven calendar days upon suspension of construction activities. If it is necessary to suspend the construction operations for any appreciable length of time, shape the disturbed areas to facilitate stormwater runoff and construct earthen berms along the top edges of embankments to intercept stormwater runoff. Provide temporary slope drains in areas that are highly erodible to avoid pollution of surface waters, wetlands, groundwater, or property beyond the project limits. Locate slope drains at intervals of approximately 500 feet and stabilize by paving or covering with waterproof materials. Should such preventive measures fail, immediately take action as necessary to effectively prevent erosion and siltation. During suspension of operations, the Engineer may direct the Contractor to perform additional erosion and sediment control work as necessary.

METHOD OF MEASUREMENT

When separate items for temporary erosion control devices are included in the Contract, the quantities to be paid for will be:

1. the length, in feet, of sediment barriers;
2. the number of inlet protection systems, for existing inlets;

Upon acceptance by the Engineer, the quantity of floating turbidity barriers, sediment barriers, staked turbidity barriers, and inlet protection devices will be paid for regardless of whether materials are new, used, or relocated from a previous installation on the project.

Protection of newly constructed inlets and drainage systems is incidental to their installation. No separate payment will be made for temporary erosion control devices

used to protect newly constructed drainage systems.

BASIS OF PAYMENT

Prices and payments will be full compensation for all work specified in this Section, including phased installation and routine maintenance of temporary erosion control devices throughout the life of the Contract.

Any additional costs resulting from compliance with the requirements of this Section, other than construction, routine maintenance, and removal of temporary erosion control devices, will be included in the Contract unit prices for the item or items to which such costs are related. Temporary sod used as a temporary erosion control device in accordance with 104-6.4.2 will be paid for under Section 570.

Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations. The Contractor shall include these costs in the Contract prices for grading items.

In case of repeated failure on the part of the Contractor to control erosion, pollution, or siltation, the Engineer reserves the right to employ outside assistance or to use the Department's own forces to provide the necessary corrective measures. Any such costs incurred, including engineering costs, will be charged to the Contractor and appropriate deductions made from the monthly progress estimate.

Payment will be made under:

Item No. 104-10-3	Sediment Barriers - per foot
Item No. 104-18	Inlet Protection - each.

END OF ITEM

104-10-3
104-18

ITEM 110-1-2 CLEARING AND GRUBBING
ITEM 110-15 EXISTING TREE PROTECTION
ITEM 110-15-4 TREE RELOCATION
ITEM 110-23 TREE REMOVAL

DESCRIPTION

Clear and grub the areas to be occupied by the facilities or utility systems to be constructed, including all areas to be excavated, filled, paved or planted as shown on the approved plans and as specified herein.

Clearing shall consist of the cutting, removal and satisfactory disposal of all trees, stumps, brush, shrubs and debris and other facilities necessary to prepare the area for the proposed construction and any other objectional material within the designated areas. Trim trees and shrubs within the project right -of -way that are required by the Contract Documents if necessary for the Project.

Grubbing shall consist of the removal and disposal of all stumps larger than 1-1/2 inches in diameter and other objectional material to a depth of at least 12 inches below the ground surface.

CONSTRUCTION DETAILS

CLEARING AND GRUBBING

The Contractor shall remove and replace, where required all existing shrubbery, trees, grass, sprinklers, fences, signs, mailboxes, structures, roadways, sidewalks, curbs and similar items or structures in the way of all excavation necessary for the construction of the project.

Where pavements or sidewalks are cut, they shall be cut by means of a mechanical pavement saw to form true and straight edges. Where such cutting is for the purpose of pipeline installation, saw cutting shall be either parallel or at right angles with the centerline of the pipe. To protect himself from being held liable for any existing damaged pavement, including detour routes, the Contractor is advised to notify in writing the authority having jurisdiction, prior to proceeding with any work in the vicinity.

Remove roots and other debris from all excavated material to be used in the construction of roadway embankment or roadway base. Plow the surface to a depth of at least 6 inches, and remove all roots thereby exposed to a depth of at least 12 inches. Completely remove and dispose of all stumps within the roadway right-of-way.

PROTECTION OF ADJACENT AREAS

The Contractor shall protect areas shown on the Drawings or designated by the Engineer of Record to remain protected from damage by construction operations by erecting suitable barriers of other acceptable means.

Where directed by the Engineer, trim, protect, and leave standing desirable trees within the Project area. Trim branches of trees existing over the area occupied by the roadway as directed, to give a clear height of 16 feet above the roadway.

When pruning cuts or root pruning to existing trees are shown in the Plans, work is to be supervised on site by an International Society of Arboriculture (ISA) Certified Arborist and performed in accordance with ANSI A300.

TREE RELOCATION

Provide a Relocation Work Plan in accordance with the Florida Nursery Growers and Landscape Association (FNGLA) guidelines. The plan must be prepared by an International Society of Arboriculture (ISA) Certified Arborist, or a Florida Licensed Landscape Architect. Submit the Relocation Work Plan for approval at least one week prior to performing initial root pruning or initiating tree relocation operations. Include at a minimum:

1. A schedule for all relocation activities, including activities that occur prior to, and post relocation
2. Proposed equipment
4. Root pruning procedures
5. Watering procedures
6. Anti-desiccation measures
7. Proposed fertilizer
8. Sample tree identification tag
9. Proposed fungicide, as needed

Attach plant identification tags as applicable in a manner that does not impact the health of the tree or palm. Do not use paint. Match the plant numbers indicated on the Plans. Protect trees and palms from damage. Perform lifting using a tree spade or using nylon-metallic slings wrapped around the trunk.

At the removal location, fill the hole with landscape soil, unless other material is shown in the Contract Documents or approved by the Engineer. Install relocated trees and palms in their final location within 24 hours of performing initial root pruning, unless otherwise approved in the Relocation Work Plan. New nursery stock or other material may not be substituted for a relocated tree or palm. Demonstrate that planting holes are free draining prior to planting. Notify the Engineer of drainage or percolation problems before plant installation. Plant trees and palms to the same depth at which they were removed. Brace relocated trees and palms in accordance Standard Plans Index 580-001. Maintain trees and palms in an upright position at all times. Install tree protection barrier around relocated trees and palms in accordance with Standard Plan 110-100. Remove leaf ties within 14 days of installation.

The post installation period is a period of one year from the date of final installation. During the post installation period:

1. Maintain trees and palms to a condition equivalent to the health characteristics in the Tree and Palm Condition Report.
2. Remove dying or dead palms, including the rootball. Cut dying or dead trees flush with the ground surface and remove. Regrade and sod or mulch the site to match the adjacent condition and grade.
3. New nursery stock or other material may not be substituted for a dying or dead relocated tree or palm.

4. Remove bracing at the conclusion of the post installation period unless otherwise directed by the Engineer. Do not allow bracing or straps to damage or become embedded in the tree bark.

QUALITY ASSURANCE

In the course of the work, it may become to remove trees if they interfere with the work. South Miami and Dade County and various municipalities have ordinances regulating the removal, relocation and pruning of trees in the public right-of-way, these ordinances shall be strictly adhered to. The Contractor shall obtain a permit from South Miami/Dade County and/or other regulatory agencies having jurisdiction over the work area before removing, relocating and/or pruning any tree. The Contractor shall comply with all requirements and conditions of the permit.

Except as may be otherwise specified in the Contract Documents, take ownership of all buildings, structures, appurtenances, and other materials removed and dispose of them in accordance with Specification 110-9.

DISPOSAL

All roots, vegetation and other refuse removed from the site during clearing and/or grubbing operations shall be legally disposed of by the Contractor. Where required, the Contractor shall obtain a permit from Miami-Dade County and/or other regulatory agencies having jurisdiction over the work area before burning any material on the site.

METHOD OF MEASUREMENT

Payment for Clearing and Grubbing will be made on a *lump sum* basis for work satisfactorily completed. Monthly payments will be made in proportion to the amount of work done as determined by the Engineer.

BASIS OF PAYMENT

Payment will be made at the *lump sum* contract price to furnish all materials, labor and equipment necessary to satisfactorily complete the work as specified.
No separate payment will be made for any excavation, backfill or earth cover necessary to complete the work nor for the work in handling, storing, rehandling, and hauling of disposable material within or off the right-of-way.

Payment will be made under:

Item No. 110-1-2	Clearing and Grubbing- lump sum.
Item No. 110-15-2	Tree Protection and Preservation- lump sum.
Item No. 10-15-4	Tree Relocation- per each tree
Item No. 110-23	Tree Removal- per each tree

END OF ITEM
110-1-2
110-15
110-23

ITEM 120-71 EARTHWORK

DESCRIPTION

This work includes all labor, materials, equipment, and incidentals necessary to perform earthwork operations, including, excavation, removal of fencing, filling, grading, compaction, disposal of unsuitable materials, and preparation of subgrades as shown on the plans and as specified herein..

All excavations shall conform with South Florida Building Codes, the State of Florida Trench Safety Act, OSHA requirements and the provisions herein. Excavations shall be executed in accordance with all applicable requirements of Section 01016, including notification of Sunshine State One-Call Center (1-800-432-4770) 48 hours prior to any excavation.

MATERIALS

A. Structural Fill: Structural fill shall consist of an inorganic, non-plastic, granular soil containing less than 10 percent material passing the No.200 mesh sieve (relatively clean sand or crushed limerock with a 2-inch max. particle size) with a Unified Soil Classification of GP, GW, SP, SPGM, SW-SM or SP-SM.

B. Ballast Rock: Ballast rock shall be composed of hard, durable, sound pieces having a specific gravity of not less than 2.65. It shall be crushed rock conforming to the following gradation:

U.S. Standard sieve size	Percent by weight passing
1-1/2 inch	100
3/4 inch	30-75
1/2 inch	15-55
1/4 inch	0-5

C. Suitable Backfill Material: Backfill material shall be clean and free from all organic material, clay, marl or unstable materials, debris, lumps, or broken paving. No rocks or stones larger than 6 inches in diameter shall be allowed in any backfill. Material for backfill may be material resulting from excavation, if suitable in the opinion of the Department.

D. Select Backfill Material: Select backfill material specified herein shall meet all the general requirements for backfill material set forth above, and in addition, shall be free of any rocks or stones larger than 2 inches in diameter. Select backfill material may be material resulting from trench excavation, if suitable in

the opinion of the Department, carefully selected to comply with these requirements.

CONSTRUCITON DETAILS

PREPARATION

A. Clearing: The construction site shall be cleared of all obstructions and vegetation, including large roots and undergrowth, within 5 feet of the lines of excavation, in accordance with Section 02230. All debris created by this clearing operation shall be hauled from the site and disposed of by the Contractor.

B. Removals: Complete all removals within the lines of excavation prior to beginning excavation. Where required, all existing shrubbery, trees, grass, sprinklers, fences signs, mailboxes, structures, sidewalks, curbs, utility poles, or structures subject to damage resulting from the excavation should be transplanted, relocated, braced, shored, or otherwise protected and preserved. Relocation of existing utilities such as irrigation and electrical lines are considered incidental to this work.

EXCAVATION

A. The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions and depths shown on the approved plans, but in all cases as required for construction, and as specified herein. All excavations shall be made by open cut or trench if necessary.

B. When the walls of the excavations are to be kept vertical and in order to protect the safety of workmen, the general public, this or other work or structures, or excavation walls, or pipe installation including materials encountered in the excavation which have a tendency to slough or flow into the excavation, undermine the banks, weaken the overlying strata, or are otherwise rendered unstable by the excavation operation shall be retained by steel sheeting, stabilization, grouting or approved methods. Said methods shall comply with the Trench Safety Act (TSA). Sheeting and shoring or other approved method shall be designed by a Professional Engineer licensed to practice in the State of Florida.

C. For structures, the Contractor shall maintain the bottom of the excavation firm and dry, and maintain an elevation of the water one (1) foot below the concrete to be placed, by use of pumps, tremie or other acceptable method.

D. In areas where trench widths are not limited by right-of-way or easement widths, property line restrictions, existing adjacent improvements including pavements, structures, and other utilities, and maintenance of traffic, the trench sides may be sloped to a suitable angle of repose of the excavated material.

E. Ladders or steps shall be provided for and used by workmen to enter and leave trenches.

F. Excavated material shall be stored and disposed of in such a manner that they will not interfere unduly with traffic on public streets and sidewalks. In congested areas, such materials, cannot be stored adjacent to the trench nor used immediately as backfill, shall be removed to convenient places of storage. If any material is creating a public hazard or other unsafe condition, it shall be removed immediately to a storage area.

G. Materials suitable for use as backfill be hauled to and used in areas where not enough suitable material is available from the excavation. Material unsuitable for use in backfill shall be removed promptly and disposed of by the Contractor. Any pockets of organic matter, concrete or other unsuitable material encountered in excavating shall be removed and replaced with material satisfactory to the Department.

H. The excavation of walls for forms will not be permitted.

I. Excavation for structures:

1. Clear, as stated above, all existing items or structures in the way of the proposed pipeline or structures, and excavate as necessary to the depths and dimensions shown on the Plans, but in all cases as necessary for satisfactory installation.

2. Where pavements or sidewalks are cut, they shall be cut by means of a mechanical pavement saw to form true and straight edges which shall, in general, be either parallel or at right angles.

3. In order to protect himself from being held liable for any existing damaged pavement, including detour routes, the Contractor is advised to notify in writing the authority having jurisdiction over the street where such defective pavement exists prior to proceeding with any work in the vicinity. A copy of all such notices shall be forwarded to the Department.

4. Where interlocking steel sheeting is used, the Department may require that the sheeting be cut off at a level two (2) feet above the top of the installed pipe and that portion below the level be left in place.

5. Excavation for manholes and other piping appurtenances shall be sufficient to leave at least two (2) feet clear between their outer surfaces and the embankment or sheeting.

6. If, in the opinion of the Engineer of Record or the Department, the soil at that depth is unsatisfactory as foundation material because it contains marl, muck, organic matter, or other unsuitable material, the excavation shall be continued one (1) feet deeper, except if a suitable foundation material is exposed at a lesser depth, further excavation will not be required.

7. When the pipe to be installed in a trench requires the pipe installers to work under and around the pipe, the Contractor may request the Department that he be allowed to exceed the 12" maximum clearance, specifying the clear distance desired.

8. The ends of existing mains shall be temporarily capped or plugged to keep them clean and the ends of all mains shall be temporarily anchored to keep the joints from blowing apart from internal pressure until the new mains can be reconnected to them.

9. In addition to specific construction methods specified, the general requirements in subsequent subsections, below, shall apply to the work of this project.

DEWATERING

A. Any water which accumulates in the excavations for structures shall be removed promptly by means satisfactory to the Engineer of Record in such a manner as to not create a nuisance to adjacent property or public thoroughfare. Pumps and engines for dewatering systems shall be operated with mufflers and at a minimum noise level suitable to a residential area. The Contractor shall be responsible for any nuisance created due to the disposal of the water from his drainage system.

B. Where applicable, the Contractor shall be required to obtain all necessary permits approving the location and proposed method of disposal before discharging water from any excavation into any portion of the public right-of-way or into any existing drainage structure or facility.

STOCKPILED MATERIALS

Suitable materials removed from the excavation shall be stored and disposed of in a manner which will not interfere with traffic at the site. Material suitable for backfill and not needed for backfill at the structure, but needed elsewhere shall be stockpiled until moved and used elsewhere.

FILLING/BACKFILL

Filling and backfilling operations shall be conducted in a manner that ensures the stability of the structure or area being constructed. Work includes placing, spreading, moisture conditioning, and compacting approved materials to achieve the required grades, elevations, and compaction levels as shown on the plans or specified herein.

A. The excavation shall then be brought to the structures bottom elevation by placing and compacting 6-inch layers of Oolitic limerock (or material previously defined) to 95 percent of maximum density as determined by AASTHO T-180. Structural fill shall be supplied by the Contractor except as may otherwise be carefully selected from excavated material if deemed suitable in the opinion of the Engineer. Backfill around new structures up to the pavement base or surface of the ground shall be material not exceeding 6-inches in diameter, and shall be compacted in layers not exceeding 9 inches. Each layer shall be compacted with a powered hand tamper, or other approved method to at least 98% of maximum density as determined by AASHTO T-180

B. Backfill for precast manholes shall be drainfield limerock or specified pipe bedding material to a level to receive the manhole at the proper elevation.

METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be a *lump sum* of compacted material, furnished and placed as shown on the plans or as ordered by the Engineer in accordance with the specifications.

BASIS OF PAYMENT

The unit price per *lump sum* shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including excavation, backfill, compaction, dewatering, if required, stone, gravel, and filter fabric.

END OF ITEM

120-71

ITEM 160-4 TYPE B STABILIZATION, 12” THICK

DESCRIPTION

The work included under this Section consists of furnishing material and equipment and performing all labor necessary for stabilized designated portions of the roadbed to provide a firm unyielding subgrade, having the required bearing value specified in the Plans.

MATERIALS

The following testing requirements must be met as stated in the Florida Department of Transportation Standard Specifications and below:

Table 160-1

Test Method	Criteria
AASHTO M145	Soil Symbol = S
FM 1-T 267	Average of 3 Organic Content ≤2.5% Individual Organic Content Result ≤4.0%
AASHTO T89	Liquid Limit ≤ 40
AASHTO T90	Plastic Index ≤ 10
FM 5-563*	Asphalt Content ≤4.0%
LBR	40

CONSTRUCTION DETAILS

Within the entire limits of the width and depth of the areas to be stabilized, other than as provided in 160-4.3.2, obtain a minimum density at any location of 98% of the Modified Proctor maximum density as determined by FM 1-T 180.

Report depth requirements; the difference between the individual measured depth thickness on the roadway and the plan target thickness must not exceed 2 inches. The difference between the LOT average (average of Return to Table of Contents 214 FY 2023-24the three individual measured depth thickness) and the plan target thickness must not exceed 1 inch. No under tolerance of mixing depth is allowed. As an exception to the above mixing requirements, where the subgrade is of rock, the Engineer may waive the mixing operations (and the work of stabilizing), and the Department will not pay for stabilization for such sections of the roadway.

METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be *square yards* of compacted material measured in place, furnished and placed as shown on the plans or as ordered by the Engineer in accordance with the specifications.

BASIS OF PAYMENT

The unit price per *square yards* shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including furnishing, spreading and mixing of all stabilization material required and any reprocessing of stabilization areas necessary to attain the specified bearing value.

END OF ITEM

160-4

ITEM 210-2 LIMEROCK BASE 6” PRIMED

DESCRIPTION

The work included under this Section consists of reworking the existing rock base, by adding new limerock material as required by the plans. All work includes furnishing material and equipment, and performing all labor necessary for limerock base as specified in the plans.

MATERIALS

Meet the limerock material requirements as specified in Section 911 if new limerock is needed. The Contractor may use limerock of either Miami Oolite or Ocala Formation but only use limerock of one formation on any Contract.

Produced and obtained from an FDOT approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.

CONSTRUCTION DETAILS

A. Equipment

1. Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For crossovers, intersections and ramp areas; roadway widths of 20 feet or less; the main roadway area when forms are used and any other areas where the use of a mechanical spreader is not practicable; Contractor may spread the rock using bulldozers or blade graders.

B. Transporting Rock

1. Transport the rock to its point of use, over rock previously placed if practicable, and dump it on the end of the preceding spread. Hauling and dumping on the subgrade will be permitted only when, in Engineer’s opinion, these operations will not be detrimental to the subgrade.

C. Spreading Rock

1. Method of Spreading:
   a. Spread the rock uniformly.
   b. Remove all segregated areas of fine or coarse rock and replace them with properly graded rock

2. Number of Courses
   a. When the specified compacted thickness of the base is greater than 6 inches, construct the base in multiple courses of equal thickness. Individual courses shall not be less than 3 inches. The thickness of the first course may be increased to bear the weight of the construction equipment without disturbing the subgrade.

D. Compacting and Finishing Base

1. General
   a. Preform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications and the Acceptance Criteria herein below.
   b. Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts, and retaining wall systems in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as a single lift of finished embankment not to exceed 500 feet.
   c. Construct shoulder-only areas, bike/shared use paths, and sidewalks in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as 1,000 feet or one Day's Production, whichever is greater. Shoulders compacted separately shall be considered separate LOTs.
2. Single Course Base: After spreading, scarify the entire surface. Shape the base to produce the required grade and cross-section, free of scabs and laminations, after compaction.
3. Multiple Course Base: Clean the first course of foreign material, then blade and bring it to a surface cross-section approximately parallel to the finished base. Before spreading any material for the upper courses, allow Engineer to make density tests for the lower courses to determine that the required compaction has been obtained. After spreading the material for the top course, scarify finish and shape its surface to produce the required grade and cross-section, free of scabs and laminations, after compaction.
4. Moisture Content: When the material does not have the proper moisture content to ensure the required density, wet or dry it as required. When adding water, uniformly mix it in to the full depth of the course that is being compacted. During wetting or drying operations, manipulate, as a unit, the entire width and depth of the course that is being compacted.
5. Thickness Requirements: Within the entire limits of the length and width of the finished base, meet the specified plan thickness in accordance with the Quality Control requirements specified in Depth and Surface Testing Requirements subarticle herein below.

6. Correction of Defects:

   a. Contamination of Base Material: If, at any time, the subgrade material becomes mixed with the base course material, dig out and remove the mixture, and reshape and compact the subgrade. Then replace the materials removed with clean base material, and shape and compact as specified above. Preform this work at no expense to the Department.

   b. Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of Engineer, would impair the structural efficiency of the base, remove the cracks or checks by re-scarifying, reshaping, adding base material where necessary, and recompacting.

E. Priming and Maintaining

1. Priming: Apply the prime coat only when the base meets the specified density requirements and when the moisture content in the top half of the base does not exceed the optimum moisture of the base material. At the time of priming, ensure that the base is firm, unyielding and in such condition that no undue distortion will occur.
2. Maintaining: Maintain the true crown and template, with no rutting or other distortion, while applying the surface course. The cross slopes are to match the actual site conditions, or as shown on plans.

F. Thickness of Base

1. Engineer will determine, as follows, the average thickness of the compacted limerock base for use in the measurements specified in the Method of Measurement:

   a. Average thickness will be calculated per typical cross-section for the entire job as a unit.

   b. Any measured thickness that is more than 1/2 inch greater than the design thickness shown on the typical cross-section in the Plans or, when no plans exist, the thickness specified in the description of the Contract pay item, will be considered as the design or specified thickness plus 1/2 inch.

   c. Any areas of existing base left in place will not be included in the calculations.

METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be *square yards* of compacted limerock measured in place, furnished and placed as shown on the plans or as ordered by the Engineer in accordance with the specifications.

BASIS OF PAYMENT

The unit price per *square yard* shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including furnishing, and installing limerock material required and any correction of defective surface and deficient thickness, removing cracks and checks.

END OF ITEM

210-2

ITEM 334-112 SUPERPAVE ASPHALTIC CONCRETE

DESCRIPTION

Work included under this Section covers the furnishing of all labor, equipment and material required for cutting, and installing a Superpave Asphalt Concrete pavement with type of mixture specified in the contract documents and indicated as Type SP-9.5.

MATERIALS

1. General Requirements: Meet the material requirements specified in FDOT Division III (Materials). Specific references as follows:

Superpave PG Asphalt Binder	FDOT 916-1 Recycling Agents	FDOT 916-2
Course Aggregate	FDOT Section 901	
Fine Aggregate	FDOT Section 902	

2. Asphalt Binder:

   A. For Type SP Mixtures:

      1) Unless specified elsewhere in the Contract Documents, use a PG 67-22 asphalt binder from the FDOT's Approved Products List (APL).

      2) Meet the requirements of FDOT Section 916 and Subarticle B.4 below.

3. Aggregate:

   A. Provide certification from the aggregate supplier that the material meets all requirements for construction aggregates stipulated in the Contract Documents.

   B. Aggregates and sources used must be identified in the FDOT "Approved Aggregate Products from Mines or Terminals" current listings

4. Reclaimed Asphalt Pavement (RAP) use in Type SP asphalt mixture:

   A. General requirements: RAP may be used as a component of the Type SP asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

      1) Limit the amount of RAP material used in the mix to a maximum of 50 percent by weight of total aggregate.

      2) When using a PG 76-22 Asphalt Binder, limit the amount of RAP material used in the mix to a maximum of 20 percent by weight of total aggregate.

      3) Provide stockpiled RAP material that is reasonably consistent in

characteristics and contains no aggregate particles which are soft or conglomerates of fines.

4) Provide RAP material having a minimum average asphalt content of 4.0 percent by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.

5) Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

B. Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity (Gsb) of the RAP material based on a representative sampling of the material.

C. Asphalt Binder for Mixes with RAP:

1) Select the appropriate asphalt binder grade based on Table 2 below.

2) The Engineer reserves the right to change the asphalt binder type and grade at design based on the characteristics of the RAP asphalt binder, and reserves the right to make changes during production.

3) Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 2

Asphalt Binder Grade for Mixes Containing RAP

Percent RAP	Asphalt Binder Grade
<20	PG 67-22
20 – 29	PG 64-22
≥ 30	Recycling Agent

D. Composition of Mixture.

1) General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

2) Mix Design:

a) General: Design the asphalt mixture in accordance with AASHTO R35 04, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

b) Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M323 04, Table 3. Aggregates from various sources may be combined.

1. Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323 04, Table 3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323 04, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.

c) Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312 04. Use the number of gyrations as defined in AASHTO R35 04, Table 1.

d) Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323 04, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323 04, Table 6.

e) Moisture Susceptibility:

1. Test 4 inch specimens in accordance with FM 1 T283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT's Qualified Products List, or hydrated lime in order to meet these criteria.

2. In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-

stripping agent by weight of binder.

f) Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (Ndesign).

2. The source and description of the materials to be used.

3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source.

4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.

5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.

6. The bulk specific gravity (Gsb) value for each individual aggregate and RAP component.

7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1 percent.

8. A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.

9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.

10. The name of the Mix Designer.

11. The ignition oven calibration factor.

E. Contractor Quality Control.

1) Assume full responsibility for controlling all operations and processes such

that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and Project site for quality control purposes.

2) Acceptance of any automatic delivery ticket printout, electronic weight delivery ticket, or other evidence of weight of the materials or approval of any particular type of materials or production methods will not constitute agreement by the County that such matters are in accordance with the Contract Documents and it shall be the Contractor's responsibility to ensure that the materials delivered to the project are in accordance with the Contract Documents.

CONSTRUCTION DETAILS

Plant mixed Hot Mix Asphalt (HMA) pavements are specified in the Contract Documents and for the Asphalt Work defined below.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5..... 9.5 mm (3/8")

1. Total Pavement Thickness.

a. The total pavement thickness of the HMA Pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness.

b. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

1) Spread rate (lbs/yd^2) = t x Gmm x 43.3 where:

a) t = Thickness (in.) (Plan thickness or individual layer thickness)

b) Gmm = Maximum specific gravity from the mix design

c) For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

c. Plan quantities are based on a Gmm of 2.540, corresponding to a spread rate of 110 lbs. per square yard per inch. Pay quantities will be based on the actual maximum specific gravity of the mix being used.

2. Layer Thicknesses.

a. Structural Course Layer(s):

1) Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for fine Type SP HMA mixes are as follows:

Type SP-9.5….1 1/2 inches as indicated on plans.

2) Fine Type SP-9.5 mixes are limited to the top two structural layers, two layers maximum.

A. General Construction Requirements.

1. Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

2. Limitations of Laying Operations:

a. General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.

b. Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40ºF for layers greater than 1 inch (100 lb/yd2) in thickness and at least 45ºF for layers 1 inch (100 lb/yd2) or less in thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb/yd2 or less is 50ºF.

3. Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of ±30ºF from the target temperature as shown on the mix design. Reject all loads outside of this range.

4. Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.

5. Preparation of Surfaces Prior to Paving:

a. Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

b. Patching and Leveling Courses: Where the HMA is to be placed on an existing pavement which is irregular, wherever the plans indicate, or if directed by the Engineer, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

c. Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

d. Tack Coat: Apply a tack coat on existing pavement structures that are to be overlaid with an asphalt mix and between successive layers of all asphalt mixes, unless directed otherwise by the Engineer. Use a tack coat product meeting FDOT Section 300 (Prime and Tack Coats for Base Courses). Use an emulsified tack coat spread rate of 0.02 to 0.08 gal/sy or as specified by the Engineer.

6. Paving:

a. Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than ± 1.5 inches from the stringline.

b. Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in subarticle E.3 above, the Contractor may then place the mixture caught in transit.

c. Checking Depth of Layer: Check the depth of each layer at frequent intervals, and make adjustments when the thickness exceeds the allowable tolerance of 1/4”. Address any material outside of this tolerance per the direction of the Engineer. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet to stabilize before the second check is made to determine the effects of the adjustment.

d. Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

e. Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed

at all times.

7. Leveling Courses:

   a. Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by spot patching with leveling course mixture, and compact thoroughly.

   b. Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

   c. Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 lb/yd2 or more than 75 lb/yd2. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

8. Compaction:

   a. For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

   b. When density testing for acceptance is required (Asphalt Work Category 3), select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

   c. When density testing for acceptance is not required (Asphalt Work Categories 1 and 2), use a rolling pattern approved by the Engineer.

   d. Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

9. Joints.

   a. Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge.

   b. Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12

inches laterally between successive layers. Do not construct longitudinal joints in the wheelpaths. The Engineer may waive these requirement where offsetting is not feasible due to the sequence of construction.

10. Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross-slope.

a. Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with the requirements below for Correcting Unacceptable Pavement.

b. Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

c. Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving operations for Asphalt Work Category 3 and make them available upon request of the Engineer for Asphalt Work Categories 1 and 2.

d. Work Categories:

1) Asphalt Work Categories 1 and 2: If required by the Engineer, straightedge the final structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Correct all deficiencies in excess of 5/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). Retest all corrected areas. If the Engineer determines that the deficiencies on a bicycle path are due to field geometrical conditions, the Engineer will waive corrections with no deduction to the pay item quantity.

e. Correcting Unacceptable Pavement:

1) General: Correct all areas of unacceptable pavement at no additional cost.

2) Structural Layers: Correct deficiencies in the Type SP structural layer by one of the following methods:

d) Remove and replace the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.

e) Mill the pavement surface to a depth and width that is adequate to

remove the deficiency. (This option only applies if the structural layer is not the final surface layer.)

3) Friction Course: Correct deficiencies in the friction course layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.

a. Quality Control Sampling and Testing Requirements:

1. Perform quality control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1 T 168.

2. Test the mixture at the plant for gradation (P-8 and P-200) and asphalt binder content (Pb).

3. Test the mixture on the roadway for density using six-inch diameter roadway cores obtained at a frequency of three cores per day.

4. Determine the asphalt content of the mixture in accordance with FM 5 563.

5. Determine the gradation of the recovered aggregate in accordance with FM 1 T 030.

6. Determine the roadway density in accordance with FM 1 T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (Gmm) from the approved mix design. If the Contractor or Engineer suspects that the mix design Gmm is no longer representative of the asphalt mixture being produced, then a new Gmm value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in the Acceptance Testing Exceptions (subarticle F.4.a below).

7. Assure that the asphalt content, gradation and density test results meet the criteria in Table 3 below.

Table 3
Quality Control and Acceptance Values

Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00

Roadway Density (average of three cores)	91.5% Gmm
Roadway Density (any single core)	90.0 % Gmm

METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be *the number of tons* of compacted material satisfactorily placed and incorporated in the completed work in accordance with the Plans, Specifications and/or as ordered by the Engineer.

BASIS OF PAYMENT

The price bid *per ton* for this item shall include all labor, materials, tools and equipment and incidentals required for the completion of work, including any tack coating, joint sealing or asphalt milling indicated on the plans and specifications. The quantity to be paid for under this item shall be the actual *number of tons*, placed and compacted in accordance with the specifications to the average thickness specified in the proposal over the designated area shown on the plans and directed and accepted by the Engineer.

The Contractor will provide all trucks delivering material with extra duplicate quantity tickets, tapes, or other recorded data, which are to be turned over the Engineer at the time of delivery.

The Engineer or his representative shall sign and date the tickets for all material delivered under this item. The Contractor and Engineer shall each retain a signed copy. Payment under this item will be based on the lower tonnage quantity determined from a comparison of ticket totals to a computation of the paved area.

END OF ITEM

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ITEM 400-13 CONCRETE STEPS AND RAMP

DESCRIPTION

Construct concrete structures and other concrete members, with the exception of pavement and incidental concrete construction (which are specified in other Sections). Refer to Section 450 for prestressed construction requirements additional to the requirements of this Section. For precast concrete structures meet the requirements of Section 450 for inserts and lifting devices, handling, storage, shipping, and erection. Obtain incidental precast products from a plant that is currently on the Department's Production Facility Listing. Producers seeking inclusion on the list shall meet the requirements of Section 105.

MATERIALS

Meet the following requirements:
Concrete ..... Sections 346 and 347
Penetrant Sealer .....Section 413
High Molecular Weight Methacrylate (HMWM)**..... Section 413
Reinforcing for Concrete.....Section 415
Water.....Section 923
Curing Materials*,** .....Section 925
Epoxy Bonding Compounds** .....Section 926
Post Installed Anchor Systems**.....Section 937
Joint Materials**.....Section 932
Bearing Pads .....Section 932
Non-Shrink Grout** .....Section 934
Class 5 Applied Finish Coatings**.....Section 975
Galvanizing Compound** .....Section 562
Dowel Bar Assembly** .....Section 931
Filter Fabric**.....Section 985
*The Engineer will allow clean sand and sawdust for certain curing, when and as specified.
**Use products listed on the Department's Approved Product List (APL).

DEPTH OF FOOTING

Refer to Section 455, "D. SPREAD FOOTINGS".

FALSEWORK

PLANS: At the Engineer's request, submit detailed plans for falsework or centering to the Department. The Contractor is responsible for results obtained by using these plans.

DESIGN AND ERECTION: Design and construct all falsework to provide the necessary rigidity and to support the loads without appreciable settlement or deformation. Use

screw jacks or hardwood wedges to take up any settlement in the framework, either before or during the placing of concrete. If any weakness develops and the centering shows undue settlement or distortion, stop the work, remove any affected concrete, and strengthen the falsework before resuming work. Support falsework which cannot be founded on a satisfactory footing on piling. Space, drive, and remove the piling in an approved manner.

CAMBER: Provide camber to correct for settlement and deflection of falsework.
Give bridges permanent camber only when shown in the Plans.

BRIDGE DECK OVERHANG FALSEWORK FOR STEEL I-GIRDERS: Locate the lower contact point of bridge deck overhang falsework supporting screed rails within 6 inches above the bottom flange. If the lower contact point of the overhang falsework bears more than 6 inches above the bottom flange and/or if the deck overhang is 4 feet or greater, submit shop drawings and calculations to the Engineer in accordance with Section 5 and Chapter 11 of the Structures Design Guidelines (SDG). The deck overhang is measured from the centerline of the girder supporting the overhang falsework to the outside edge of the concrete deck.

FORMS

GENERAL: Provide forms, either of wood or metal, that are as follows: externally secured and braced where feasible; substantial and unyielding; of adequate strength to contain the concrete without bulging between supports and without apparent deviation from the neat lines, contours, and shapes shown in the Plans. Design forms to withstand the additional forces of vibration without apparent deviation from the desired shape or position. Assemble forms to be mortar-tight. If using lumber forms, construct them of dressed wood of uniform thickness. Use form liners on wooden forms where Class 3 surface finish is specified. Construct assembled forms to render a concrete surface of smooth, uniform finish. Make provisions to remove forms without injury to concrete surfaces. Remove blocks and bracing with the forms, and do not leave any portion of the forms in the concrete. Use the same form system for a type of work throughout.

INSPECTION AND APPROVAL: Do not place concrete in a form until the form has been inspected and approved. Although the Engineer inspects and approves the forms, the Contractor is responsible for obtaining satisfactory concrete surfaces, free from warping, bulging, or other objectionable defects. Pay special attention to the ties and bracing. Where the forms appear to be insufficiently braced or unsatisfactorily built, stop and correct defects to the satisfaction of the Engineer.

NON-METALLIC FORM MATERIALS:

LUMBER: For all surfaces, use lumber that is not less than 3/4 inch in thickness, dressed, and free of knot holes, loose knots, cracks, splits, warps, and other defects. Proportion the spacing of studs, joists, and wales to exclude warps and bulges and to

produce true and accurate concrete surfaces. Only use structurally sound lumber.

FORM LINERS: Use form liners of durable, abrasion resistant materials that are unaffected by water. Use liners with a hard surface texture capable of rendering concrete surfaces of a smooth, uniform texture, without grain marks, patterns, or blemishes. Use form liner material of sufficient thickness to eliminate the reflection of irregularities, undesirable patterns, and marks from the forms to the surfaces. Replace liners as necessary to produce a consistent concrete surface texture. Use form liners in large sheets and with true, tight-fitted joints which are logically located. Obtain the Engineer's approval of the layout of sheets. Do not use liners which have been patched. Use liner material of the same stock throughout.

PLYWOOD: The Contractor may use plywood of not less than 5/8 inch in thickness manufactured with waterproof glue or protected with an approved impervious coating. Do not use pieces with bulged plies or raveled, untrue edges.

SPECIAL REQUIREMENTS:

RE-ENTRANT ANGLES: Use chamfered forms for exterior concrete corners and filleted forms for interior concrete corners. Use chamfers and fillets that are 3/4 by 3/4 inch and are mill-dressed on all sides to uniform dimensions. The Contractor may use plastic or metal chamfers and fillets provided they perform satisfactorily in producing uniform, smooth concrete corner surfaces without honeycomb.

HANDRAILS, CONCRETE BARRIERS, TRAFFIC RAILINGS, AND PARAPETS:
Construct in accordance with Section 521.

END-BENT CAPS: Do not place forms for end-bent caps until the embankment has been constructed to within 12 inches of the bottom of the cap. Place a mass of embankment that is sufficient to produce the subsidence, displacement, and settlement which may result from the construction of the total embankment.

FOOTINGS: Where footing concrete can be placed in dry excavation, the Contractor may omit cribs, cofferdams, and forms, subject to compliance with the following limitations and conditions:

Use this procedure only in locations not exposed to view from traveled roadways.
Obtain required elevations shown in the Plans.
Obtain neat line dimensions shown in the Plans.
Fill the entire excavation with concrete to the required elevation of the top of the footing.
The Engineer will determine the volume of footing concrete to be paid for from the neat line dimensions shown in the Plans.

FORM ALIGNMENT, BRACING, AND TIES: Construct forms in such manner that they may be adequately secured for alignment, shape, and grade. Use bracing systems, ties, and anchorages that are substantial and sufficient to ensure against apparent deviation

from shape, alignment, and grade. Do not drive nails into existing concrete. Do not use bracing systems, ties, and anchorages which unnecessarily deface or mark, or have an injurious or undesirable effect on surfaces that will be a part of the finished surface.

If metal ties and anchorages are to remain in the concrete, construct them so as to permit the removal of metal to at least 1 inch beneath the finished surface of concrete. Use accessories for metal ties and anchorages that allow the removal of metal to the prescribed depth while leaving the smallest possible repairable cavity.

When using wire ties, cut or bend them back from the finished surface of the concrete a minimum of 1 inch. Do not use internal ties of wire when forming surfaces that are exposed to view.

PREPARATION AND CLEANING: Meet the following requirements for the condition of forms at the time of beginning concrete casting:

Treat all forms with an approved form-release agent before placing concrete. Do not use material which adheres to or discolors the concrete.
Clean forms of all concrete laitance from previous use and all dirt, sawdust, shavings, loose wire ties and other debris.
Close and secure all inspection and cleanout holes.

STAY-IN-PLACE METAL FORMS:

GENERAL: Utilization of stay-in-place metal forms is permitted in lieu of removable forms to form concrete bridge decks between beams and between the webs of individual box girders when designated in the Plans. Stay-in-place metal forms may be of the cellular, non-cellular or non-cellular with top cover sheet type. The flutes of non-cellular stay-in- place metal forms may be filled with polystyrene foam or concrete. When polystyrene foam is used to fill the forms, fill form flutes completely; do not allow any portion of the polystyrene foam to extend beyond the limits of the flutes. Ensure that the polystyrene foam remains in its required position within flutes during the entire concrete placement process. Do not use reinforcing supports or other accessories in such a manner as to cause damage to the polystyrene foam. Replace all damaged polystyrene foam to the satisfaction of the Engineer.

Apply polymer sheeting to stay-in-place metal forms in accordance with the requirements in the following table. Apply polymer sheeting to all faces and edges (including sheared edges) of support angles used on bridges with Moderately and Extremely Aggressive Superstructure Environmental Classifications (as shown in the Plans). No polymer sheeting is required for beam attachment straps or clips partially embedded in concrete, and for support angles used on bridges with a Slightly Aggressive Superstructure Environmental Classification. Use polymer sheeting materials and application methods as described herein.

Table 400-1 Polymer Sheeting Usage Requirements				
Form Type		Superstructure Environmental Classification (as shown in Plans)		
		Slightly Aggressive	Moderately Aggressive	Extremely Aggressive
Non-cellular form with concrete filled flutes		No polymer sheeting required	Polymer sheeting required on bottom side2	Polymer sheeting required on bottom side2
Non-cellular form with polystyrene foam filled flutes		Polymer sheeting required on top side1	Polymer sheeting required on both sides1,2	Polymer sheeting required on both sides1,2
Non-cellular form with Top Cover Sheet	Top Cover Sheet	Polymer sheeting required on bottom side	Polymer sheeting required on bottom side	Polymer sheeting required on bottom side
	Non-cellular form	Polymer sheeting required on top side	Polymer sheeting required on both sides2	Polymer sheeting required on both sides2
Cellular form		No polymer sheeting allowed or required	Cellular form not permitted	Cellular form not permitted
Polymer sheeting not required on top side of form when foam filled flutes are used only at interior supports on continuous decks and the remainder of the flutes are concrete filled. Polymer sheeting not required on bottom side of form located within box girders and U-beams.				

Prior to using stay-in-place metal forms, submit detailed plans for approval of the forming system, including method of support and attachment and method of protecting the supporting structural steel components from welding effects. Submit design calculations for the forming system, which have been signed and sealed by the Specialty Engineer. Detail stay-in-place metal forms such that they in no way infringe upon the concrete outline of the slab shown on the Plans. Use stay-in-place metal forms that provide and maintain the dimensions and configuration of the original slab in regard to thickness and slope.

Protect structural steel components from damage by using a shield to guard against weld splatter, weld overrun, arc strikes, or other damaging effects of the welding process. Upon completion of welding, rest the metal form support flush on the supporting steel component. Should any weld spatter, weld overrun, arc strike, or other effects of the welding process be evident or occur to the structural steel component, immediately stop in-place welding of the metal form supports for the remainder of the work. In this event, weld all metal form supports off of the structure and erect the forms after prefabrication, or use an alternate approved method of attaching the form supports. Remove improper weldment, repair the supporting steel component for any improper welding. Perform all required verification and testing at no expense to the Department and to the satisfaction of the Engineer.

Do not use stay-in-place metal forms until the forming system has been approved by the Engineer. The Contractor is responsible for the performance of the stay-in-place forms.

Structures designed, detailed, and dimensioned for the use of removable forms: Where stay-in-place metal forms are permitted, the Contractor is responsible and shall obtain the approval of the Engineer for any changes in design, etc. to accommodate the use of stay-in-place forms. The Engineer will compute pay quantities of the various components of the structure which are paid on a cubic yard basis from the design dimensions shown in the Plans with no allowance for changes in deflection or dimensions necessary to accommodate the stay- in-place forms or concrete to fill the form flutes. The Engineer will limit pay quantities of other Contract items that the Contractor increases to accommodate the use of stay-in-place forms to the quantity required for the original plan design.

Submit all changes in design details of bridge structural members that support stay-in-place forms, showing all revisions necessary to enable the supporting components to withstand any additional weight of the forms and the weight of any extra concrete that may be required to fill the forms. Include with the design calculations a comparative analysis of the stresses in the supporting components as detailed on the Plans and as modified to support the forms. Use the identical method of analysis in each case, and do not allow the stresses in the modified components to exceed those of the component as detailed in the Plans. Include with the design the adjusted cambers for any changes in deflection over those shown on the original Plans. Modify the beams to provide additional strength to compensate for the added dead loads imposed by the use of stay-in-place forms. Obtain the additional strength by adding strands to the pre-stressed beams or by adding steel material to increase the section modulus of steel girders.

Substantiate the added strength by the comparative calculations. Do not use stay-in-place forms until the forming system and all necessary design revisions of supporting members have been approved by the Engineer.

Structures designed, detailed, and dimensioned for the use of stay-in-place metal forms:

Prior to using stay-in-place metal forms, submit detailed plans for approval of the forming system (including method of support and attachment) together with design calculations. Include an analysis of the actual unit weight of the proposed forming system over the projected plan area of the metal forms. If the weight thus calculated exceeds the weight allowance for stay-in-place metal forms and concrete required to fill the forms shown on the Plans, then modify the supporting components to support the excess weight as specified by the Contractor’s Specialty Engineer.

For all structures utilizing structural steel supporting components, paint the vertical sides of the top flange prior to installation of the stay-in-place metal forms in accordance with Section 560.
For non-polymer sheeting form surfaces, use zinc paint coating in accordance with

Section 562 to all accessories cut from galvanized sheets, which are not embedded in concrete.

DESIGN: Meet the following criteria for the design of stay-in-place bridge deck forms:

The maximum self weight of the stay in place metal forms, plus the weight of the concrete or expanded polystyrene required to fill the form flutes (where used), shall not exceed 20 psf.
Design the forms on the basis of dead load of form, reinforcement, and plastic concrete plus 50 pounds per square foot for construction loads. Use a unit working stress in the steel sheet of not more than 0.725 of the specified minimum yield strength of the material furnished, but not to exceed 36,000 psi.
Do not allow deflection under the weight of the forms, reinforcement, and plastic concrete to exceed 1/180 of the form span or 1/2 inch, whichever is less, for form spans of 10 feet or less, or 1/240 of the form span or 3/4 inch, whichever is less, for form spans greater than 10 feet. In all cases, do not use a total loading (psf) that is less than 20 plus the product of the deck thickness measured in inches times 12.5.
Use a design span of the form equal to the clear span of the form plus 2 inches. Measure the span parallel to the form flutes.
Compute physical design properties in accordance with requirements of the AISI Specifications for the Design of Cold Formed Steel Structural Members, latest published edition.
For all reinforcement, maintain the design concrete cover required by the Plans.
Maintain the plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck.
Do not consider the permanent bridge deck form as lateral bracing for compression flanges of supporting structural members.
Do not use permanent steel bridge deck forms in panels where longitudinal deck construction joints are located between stringers.
.Secure forms to the supporting members by means other than welding directly to the member.

MATERIALS:

METAL FORMS: Fabricate stay-in-place metal forms and supports from steel meeting the requirements of ASTM A653 having a coating designation G165. Do not use form materials that are less than 0.03 inch uncoated thickness.

POLYMER SHEETING: Use polymer sheeting comprised of at least 85% ethylene acrylic acid copolymer capable of being applied to both G165 and G210 steel sheet as described in ASTM A742. Ensure that the polymer sheeting has a nominal thickness of 12 mils as manufactured and a minimum thickness of 10 mils after lamination to the steel sheet. Ensure that the polymer sheeting remains free of holes, tears and discontinuities and sufficiently flexible to withstand the forming process without any detrimental effects to bond, durability or performance. Ensure that the polymer sheeting is UV stabilized and contains antioxidants.

Ensure that the as-manufactured polymer sheeting (prior to application) has an Oxidative Induction Time (OIT) of 60 to 75 minutes at 170°C in air when tested according to ASTM D3895. Perform additional OIT tests on samples taken from the finished product (polymer sheeting applied to forms) resulting in a minimum OIT according to ASTM D3895 of 32 minutes at 170°C in air. Ensure that the polymer sheeting adheres to galvanized metal sufficient to prevent undercutting at penetrations made through the polymer sheeting or metal forms to the satisfaction of the Engineer. Ensure that edges subjected to shear cutting are coated by the form manufacturer with two coats of a compatible liquid coating repair material before delivery to the site. Ensure that steel used to produce polymer laminated metal forms is appropriately cleaned and prepared per NCCA (National Coil Coating Association) standard continuous coil coating practices. Ensure that pretreatment for use in conjunction with the manufacturer's polymer sheeting material is approved as compatible by the polymer sheeting manufacturer. Apply pretreatment in accordance with the polymer sheeting manufacturer's procedures. Apply polymer sheeting in accordance with the manufacturer's recommendations and procedures. Ensure that all steel has the polymer sheeting applied prior to fabrication of the stay-in-place forms and accessories.

Ensure that the screws to be used in the fastening of the stay-in- place laminated metal forms have a corrosion resistant cladding that will not have an adverse effect to the system due to the contact of dissimilar metals.

CERTIFICATION: Submit a written certification from the manufacturer stating the product meets the requirements of this specification along with the delivery of the coated forms to the jobsite. Ensure that the certification conforms to the requirements of Section 6. Ensure that the manufacturer has a quality control program conforming to ISO 9001 2000 standards.

POLYSTYRENE FOAM: Use polystyrene foam comprised of expanded polystyrene manufactured from virgin resin of sufficient density to support the weight of concrete without deformation. Extrude the polystyrene foam to match the geometry of the flutes and provide a snug fit. Use polystyrene foam that has a density of not less than 0.8 pounds per cubic foot. Use polystyrene foam that has water absorption of less than 2.6% when tested according to ASTM C272. Submit a written certification from the manufacturer stating the product meets the requirements of this specification along with the delivery of the product.

CONSTRUCTION: Install all forms in accordance with approved fabrication and erection plans. Do not rest form sheets directly on the top of the stringer of floor beam flanges. Fasten sheets securely to form supports, and maintain a minimum bearing length of 1 inch at each end for metal forms. Place form supports in direct contact with the flange of the stringer or floor beam. Make all attachments for coated metal forms by bolts, clips, screws, or other approved means.

FORM GALVANIZING REPAIRS: For any permanent exposed steel where the

galvanized coating has been damaged, thoroughly clean, wire brush, and paint it with two coats of galvanizing compound in accordance with Section 562 to the satisfaction of the Engineer. Do not touch up minor heat discoloration in areas of welds.

POLYMER SHEETING REPAIRS: Inspect and identify areas for damage to the polymer sheeting and repair with liquid polymer coating similar and compatible with respect to durability, adhesion and appearance in accordance with ASTM A762, as furnished by the stay-in-place form manufacturer. Ensure that the inspection includes checking the polymer sheeting for cuts, tears, cracking, surface pits, peeling, dirt, grease, oil, stains, rust or bare areas. Reject any panels that show coating blistering, peeling or cracking. Repair all polymer sheeting damage according to the following:

Surface Preparation: Ensure that all surfaces to be repaired are clean and free of any deleterious substances. Remove all traces of dirt, soil, oil deposits, greases, and other surface contaminates in accordance with the polymer sheeting and coating manufacturer's written specifications prior to touch-up and recoating.

Application Procedures: Ensure that the liquid polymer repair coating is applied to a clean dry surface and in accordance with the manufacturer's written specifications. Apply the repair coating using a suitable paintbrush or other means acceptable to the Engineer. Apply a first coat of product to the surface at 2-4 mils in thickness. Let the first coat air dry. Apply a second coat to form a complete layer and increase the thickness, immediately after verifying the first coat is dry to the touch (15 - 25 minutes depending on the local air drying temperature and atmospheric conditions). Apply the second coat at the same coating thickness as the first at 2-4 mils. Ensure that the total dry film thickness of the two coats is not less than 6 mils. Apply additional coats in this same manner until desired coating thickness is achieved.

PLACING OF CONCRETE: Vibrate concrete to avoid honeycomb and voids, especially at construction joints, expansion joints, valleys and ends of form sheets. Use approved pouring sequences. Do not use calcium chloride or any other admixture containing chloride salts in the concrete.

INSPECTION: The Engineer will observe the Contractor's method of construction during all phases of the construction of the bridge deck slab, including the installation of the metal form system; location and fastening of the reinforcement; composition of concrete items; mixing procedures, concrete placement, and vibration; and finishing of the bridge deck. Should the Engineer determine that the procedures used during the placement of the concrete warrant inspection of the underside of the deck, remove at least one section of the metal forms in each span for this purpose. Do this as soon after placing the concrete as practicable in order to provide visual evidence that the concrete mix and the procedures are obtaining the desired results. Remove an additional section in any span if the Engineer determines that there has been any change in the concrete mix or in the procedures warranting additional inspection.
If, in the Engineer's judgment, inspection is needed to check for defects in the bottom of the deck or to verify soundness, sound the metal forms with a hammer as directed by

the Engineer after the deck concrete has been in place a minimum of two days. If sounding discloses areas of doubtful soundness to the Engineer, remove the metal forms from such areas for visual inspection after the concrete has attained adequate strength. Remove metal bridge deck forms at no expense to the Department.

At locations where sections of the metal forms have been removed, the Engineer will not require the Contractor to replace the metal forms. Repair the adjacent metal forms and supports to present a neat appearance and to ensure their satisfactory retention and where they are polymer sheeted, coat all exposed surfaces of stay-in-place metal form system elements that are not coated or are damaged with a field applied liquid polymer coating as specified in 400-5.7.4.2. As soon as the form is removed, the Engineer will examine the concrete surfaces for cavities, honeycombing, and other defects. If irregularities are found, and the Engineer determines that these irregularities do not justify rejection of the work, repair the concrete as directed, and provide a General Surface Finish in accordance with 400-15. If the Engineer determines that the concrete where the form is removed is unsatisfactory, remove additional metal forms as necessary to inspect and repair the slab, and modify the method of construction as required to obtain satisfactory concrete in the slab. Remove and replace all unsatisfactory concrete as directed, at no expense to the Department.
If the method of construction and the results of the inspections as outlined above indicate that sound concrete has been obtained throughout the slabs, the amount of sounding and form removal may be reduced when approved by the Engineer.

Corrosion of assembly screws will not be considered a structural or aesthetic problem and is considered acceptable.

Provide the facilities for the safe and convenient conduct of the inspection procedures.

STAY-IN-PLACE CONCRETE FORMS:

GENERAL: Permanent stay-in-place precast reinforced concrete forms may be used in lieu of removable forms to form concrete bridge deck slabs subject to the conditions contained herein. Precast reinforced concrete stay-in-place forms are not permitted to construct a composite concrete deck. Do not use precast prestressed concrete stay-in-place forms to form any permanent bridge decks.

When detailed Plans for structures are dimensioned for the use of removable forms, provide additional slab thickness, elevation changes, changes in design, etc. to accommodate the use of stay-in-place forms, subject to the Engineer’s approval. The Engineer will compute pay quantities of the various component members of the structure which are paid on a cubic yard basis from the design dimensions shown in the Plans with no allowance for changes in deflection and changes in dimensions necessary to accommodate the stay-in-place forms. The Engineer will limit pay quantities of other Contract items which are increased to accommodate the use of stay-in-place forms to the quantity required for the original plan design.

Prior to using stay-in-place forms, submit for approval detailed plans of the forming system and design calculations. Indicate on the plans the form panel sizes, placing patterns, type of mastic or felt bearing material and type and method of caulking between panels. Also, submit appropriate changes in design details of structural members supporting stay-in- place forms showing any revisions necessary to enable the supporting components to withstand the additional weight of the forms and perform equally as contemplated in the Plans. All calculations and details submitted shall be sealed by the Contractor's Engineer of Record.

Modify the beams to provide additional strength to compensate for the added dead loads imposed by the use of stay-in-place forms. Obtain this strength by adding additional strands to prestressed girders or increasing the section modulus for steel girders. Do not use stay-in-place forms until the forming system and any necessary design revisions of supporting structural members have been approved by the Engineer. The Department is not responsible for the performance of the stay-in-place forms by its approval.

MATERIALS: Construct permanent concrete forms of precast reinforced concrete with a Class 3 Surface Finish. As a minimum, use the same class of concrete and 28-day minimum compressive strength as being used to construct the bridge deck. Use welded steel wire reinforcement meeting the requirements of Section 931.

DESIGN: Use the following criteria for the design of permanent bridge deck forms:

Design the forms on the basis of deadload of form, reinforcement, and plastic concrete plus an unfactored live load of 50 psf for construction loads. Meet the AASHTO design requirements for service loads and ultimate loads as applicable.

Deflection under the weight of the forms, reinforcement, and the plastic concrete shall not exceed 1/180 of the form span or 1/2 inch, whichever is less. In all cases, do not use a loading that is less than 120 psf total.

Use a design span of the form equal to the clear span of the form between supports. Measure the span of concrete forms parallel to the centerline of the form panels. Compute physical design properties of concrete forms in accordance with current AASHTO design procedures.

Ensure that all reinforcement contained in the cast-in-place concrete has the minimum cover shown in the Plans or not less than one inch, whichever is greater. Measure the minimum cover normal to the plane of the bottom of the cast-in-place concrete. For stay-in- place concrete forms with other than plane surfaces in contact with the cast-in-place concrete, such as regularly spaced geometrical shapes projecting above the plane of the bottom of the cast- in-place concrete, meet the following special requirements:

A. Space geometrical shapes projecting above the bottom plane of the cast-in-place concrete used to provide support for reinforcement no closer than 3 feet apart and of sufficient height to maintain the required concrete cover on the bottom mat of reinforcing bars.
B. Construct all other geometrical shapes projecting above the plane of the bottom of the cast-in-place concrete to provide a minimum vertical clearance of3/4 inch between the closest surface of the projections and the secondary longitudinal reinforcing bars in the deck slab.
C. Do not allow a minimum horizontal distance from the surface of any transverse reinforcing bars to surfaces of the stay-in-place form of less than 1 1/2 inches.
D. For all reinforcement for the stay-in-place form panels, provide a minimum of 1 inch concrete cover except that, for construction in a salt or other corrosive environment, provide a minimum of 1 1/2 inches concrete cover.
E. Maintain the plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck. Measure the minimum cover of the bottom mat of reinforcement normal to the top of the precast concrete form panel.
F. Do not consider the permanent bridge deck form as lateral bracing for compression flanges of supporting structural members.
G. Do not use permanent concrete bridge deck forms in panels where longitudinal deck construction joints are located between stringers.
H. Do not allow the maximum weight of the concrete form to exceed 40 pounds per square foot of form surface.

CONSTRUCTION: Install all forms in accordance with approved fabrication and erection plans.

For concrete forms, provide a minimum bearing length of at least 1 1/2 inches but not exceeding 2 1/2 inches. Support concrete forms on the beams or girders by continuous layers of an approved mastic or felt bearing material that will provide a mortar tight uniform bearing. Use a mastic or felt bearing material that has a minimum width of 1 inch and a maximum width of 1 1/2 inches. Seal joints between concrete form panels with caulking, tape, or other approved method.

PLACING OF CONCRETE: Place the concrete in accordance with the requirements of 400-5.7.5. Immediately prior to placing the slab concrete, saturate concrete stay- in-place form panels with water.

INSPECTION: Inspect the concrete in accordance with the requirements of 400-5.7.6. After the deck concrete has been in place for a minimum period of two days, inspect the forms for cracks and excessive form deflection, and test for soundness and bonding of the forms by sounding with a hammer as directed by the Engineer. Remove, for visual inspection, form panels found to be cracked that show evidence of leakage and form panels which have a deflection greater than adjacent panels by 1/2 inch or more which show signs of leakage. If sounding discloses areas of doubtful soundness to the Engineer, remove the form panels from such areas for visual inspection after the concrete has attained adequate strength. Remove permanent bridge deck form panels

at no expense to the Department.

At locations where sections of the forms have been removed, the Engineer will not require the forms to be replaced. Repair the adjacent forms and supports to present a neat appearance and to ensure their satisfactory retention. As soon as the form is removed, the Engineer will examine the concrete surfaces for cavities, honeycombing, and other defects. If irregularities are found, and the Engineer determines that these irregularities do not justify rejection of the work, repair the concrete as directed and provide a General Surface Finish in accordance with 400-15. If the concrete where the form is removed is unsatisfactory, as determined by the Engineer, additional forms shall be removed as necessary to inspect and repair the slab, and modify the methods of construction as required to obtain satisfactory concrete in the slab.

Remove and replace all unsatisfactory concrete as directed at no expense to the Department.

If the methods of construction and the results of the inspections as outlined above indicate that the Contractor has obtained sound concrete throughout the slabs, the Contractor may moderate the amount of sounding and form removal, when approved.
Provide all facilities for the safe and convenient conduct of the inspection procedures.

UNDERDRAIN AND WEEP HOLES.
Provide weep holes in all abutments and retaining walls. Provide a continuous underdrain for box culverts in accordance with Standard Plans, Index 400-289. Provide weep holes that are at least 3 inches in diameter and not more than 10 feet apart. Place the outlet ends of the weep holes just above the finish graded surface in front of abutments and retaining walls. Cover the inlet ends of all weep holes with galvanized wire mesh and a minimum of 2 cubic feet of clean, broken stone or gravel wrapped in Type D 3 filter fabric, to allow free drainage but prevent the fill from washing through.

PLACING CONCRETE

WEATHER RESTRICTIONS:

CONCRETING IN COLD WEATHER: Do not place concrete when the air temperature at placement is below 40ºF. Meet the air temperature requirements for mixing and placing concrete in cold weather as specified in Section 346. During the curing period, if NOAA predicts the ambient temperature to fall below 35ºF for 12 hours or more or to fall below 30ºF for more than 4 hours, enclose the structure in such a way that the air temperature within the enclosure can be kept above 50ºF for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi. Assume all risks connected with the placing and curing of concrete. Although the Engineer may give permission to place concrete, the Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the Department.

CONCRETING IN HOT WEATHER: Meet the temperature requirements and special measures for mixing and placing concrete in hot weather as specified in Section 346. Spray reinforcing bars and metal forms with cool fresh water just prior to placing the concrete in a method approved by the Engineer. Assume all risks connected with the placing and curing of concrete. Although the Engineer may give permission to place concrete, the Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the Department.

WIND VELOCITY RESTRICTIONS: Do not place concrete for bridge decks if the forecast of average wind velocity at any time during the planned hours of concrete placement exceeds 15 mph. Obtain weather forecasts from the National Weather Service “Hourly Weather Graph” for the city closest to the project site.

LIGHTING REQUIREMENTS: Provide adequate lighting for all concrete operations conducted at night. Obtain approval of the lighting system prior to starting the concrete operations.

INSPECTIONS BEFORE PLACING CONCRETE: Do not place concrete until the depth and character of the foundation and the adequacy of the forms and falsework have been approved by the Engineer. Do not deposit any concrete until all reinforcement is in place and has been inspected and approved by the Engineer.

EXPOSURE TO WATER: Do not expose concrete other than seal concrete in cofferdams to the action of water before final setting. Do not expose such concrete to the action of salt or brackish water for a period of seven days after placing the concrete. Protect the concrete during this period by keeping salt or brackish water pumped out of cofferdams.

GENERAL REQUIREMENTS FOR PLACING CONCRETE: Deposit concrete as nearly as possible in its final position. Do not deposit large quantities at one point and then run or work it along the forms. Take special care to fill each part of the forms, to work coarse aggregate back from the face, and to force concrete under and around reinforcing bars without displacing them.

Use a method and manner of placing concrete that avoids the possibility of segregation or separation of aggregates. If the Engineer determines that the quality of concrete as it reaches its final position is unsatisfactory, remove it and discontinue or adjust the method of placing until the Engineer determines that the quality of the concrete as placed is satisfactory.
Use metal or metal-lined open troughs, chutes, or other means of concrete conveyance which have no aluminum parts in contact with the concrete. As an exception, chutes made of aluminum for ready mixed concrete trucks, no longer than 20 feet, may be used. This
exception does not apply to any other means of concrete conveyance. Where steep slopes are required, use chutes that are equipped with baffles or are in short lengths

that reverse the direction of movement. Where placing operations would involve dropping the concrete freely more than 5 feet, deposit it through pipes, troughs, or chutes of sheet metal or other approved material. Use troughs, chutes, or pipes with a combined length of more than 30 feet only with the Department's authorization. Keep all troughs, chutes, and pipes clean and free from coatings of hardened concrete by thoroughly flushing them with water after each run or more often if necessary.

Place concrete against supporting material that is moist at the time of concrete placement. If additional water is required, uniformly apply it ahead of the concrete placement as directed by the Engineer. Do not place concrete on supporting material that is frozen. The Contractor may use a moisture barrier in lieu of controlling the foundation grade moisture when approved by the Engineer.

PLACING CONCRETE BY BELT CONVEYOR: Place concrete by means of a belt conveyor system with written Department authorization. Remove conveyor belt systems which produce unsatisfactory results before continuing operations. Take concrete samples for assurance testing at the discharge end of the belt conveyor system. Make available to the Engineer the necessary platform to provide a safe and suitable place for sampling and testing. Remove any concrete placed in an unsatisfactory manner at no expense to the Department before continuing operations.

Use conveyor belt systems that do not exceed a total length of 550 feet, measured from end to end of the total assembly. Arrange the belt assembly so that each section discharges into a vertical hopper arrangement to the next section. To keep segregation to a minimum, situate scrapers over the hopper of each section to remove mortar adhering to the belt and to deposit it into the hopper. Equip the discharge end of the conveyor belt system with a hopper and a chute or suitable deflectors to cause the concrete to drop vertically to the deposit area.

To avoid delays due to breakdowns, provide stand-by equipment with an alternate power source prior to the beginning of the placement. After the beginning of the placement, direct the discharge from the conveyor belt so that the concrete always falls on freshly placed concrete.

PLACING CONCRETE BY PUMPING: In general, use concrete pumping equipment that is suitable in kind and adequate in capacity for the work proposed. Use a pump discharge line that has a minimum diameter of 4 inches. Use a pump and discharge lines that are constructed so that no aluminum surfaces are in contact with the concrete being pumped. Operate the pump to produce a continuous stream of concrete, without air pockets. When using cement slurry or similar material to lubricate the discharge line when pumping begins, collect such material at the point of discharge. Dispose of the collected materials in areas provided by the Contractor. Control the pump discharge locations so that the placement locations of the various LOTs of concrete represented by strength test cylinders can be identified in the event the test cylinders indicate deficient strength. When concrete is placed by pumping, take all test samples of concrete at the end of the discharge line, except in accordance with the provisions of

Section 346.

CONSOLIDATION: Consolidate the concrete by continuous working with a suitable tool in an acceptable manner, or by vibrating as set forth in 400-7.11. When not using vibrators, thoroughly work and compact all thin-section work with a steel slicing rod. Spade all faces, and flush the mortar to the surface by continuously working with a concrete spading implement.

OBSTRUCTIONS: In cases where, because of obstructions, difficulty is encountered in puddling the concrete adjacent to the forms, bring the mortar content of the mix into contact with the interior surfaces by vibrating the forms. Produce the vibrations by striking the outside surfaces of the forms with wooden mallets or by other satisfactory means. In placing concrete around steel shapes place it only on one side of the shape until it flushes up over the bottom flange of the shape on the opposite side, after which place it on both sides to completion. After the concrete has taken its initial set, exercise care to avoid jarring the forms or placing any strain on the ends of projecting reinforcing bars.

REQUIREMENTS FOR SUCCESSIVE LAYERS: Place concrete in continuous horizontal layers, approximately 20 inches thick. To avoid obtaining a plane of separation or a cold joint between layers, vibrate the concrete in accordance with 400-7.11.

VIBRATION OF CONCRETE:

GENERAL: Consolidate all concrete except seal, steel pile jackets, and concrete for incidental construction by the use of mechanical vibrators. Use minimal mechanical vibration of no more than 3 seconds per insertion for Self-Consolidating Concrete (SCC), when necessary to consolidate the concrete or to avoid obtaining a plane of separation or a cold joint between layers.

VIBRATORS: Provide adequate vibrators on the project that are approved by the Engineer before beginning concrete work. Generally, provide vibrators of the internal type. For thin sections, where the forms are especially designed to resist vibration, the Contractor may use external vibrators. Use a vibrator with a minimum frequency of 4,500 impulses per minute with sufficient intensity and duration to cause complete consolidation of the concrete without causing segregation of the materials. For vibrating thin, heavily reinforced sections, use heads of such size to secure proper vibration of the concrete without disturbance of either the reinforcing bars or the forms.

NUMBER OF VIBRATORS REQUIRED: Use a sufficient number of vibrators to secure the compaction of each batch before the next batch is delivered, without delaying the delivery. In order to avoid delays due to breakdowns, provide at least one stand-by vibrator, with an appropriate power source.

METHOD OF VIBRATION: Use vibrators to consolidate properly placed concrete. Do

not use them to move concrete about in the forms. Insert the vibrators in the surface of concrete at points spaced to ensure uniform vibration of the entire mass of the concrete. Insert the vibrator at points that are no further apart than the radius over which the vibrator is visibly effective. Allow the vibrator to sink into the concrete by its own weight, and allow it to penetrate into the underlying layer sufficiently so that the two layers are thoroughly consolidated together. After thoroughly consolidating the concrete, withdraw the vibrator slowly to avoid formation of holes.

HAND SPADING: When necessary in order to secure well-filled forms, free from aggregate pockets, honeycomb, bubbles, etc., spade the concrete by hand, along the surfaces of the forms and in all corners, following the vibration.

COLUMNS: Place concrete in columns in one continuous operation for each lift as shown in the Plans.

SLABS AND BRIDGE DECKS:

BULKHEADS, SCREED RAILS, AND SCREEDING DEVICES: Strike-off the concrete using an approved metal screed operating on rails or bulkheads. Use devices which do not contain aluminum parts. Prior to placing concrete, provide an approved screed capable of
striking-off and screeding the surface of the slab or deck to the required shape. Set all necessary bulkheads and screed rails to the required grade. Use bulkheads, screed rails, and screeding devices that permit vertical profile adjustment to the grade, satisfactory for providing straight transverse slopes, differing transverse slopes broken as shown in the Plans and/or transverse slopes with changing grade along the longitudinal length of slab or deck. Locate the screed rails so the entire placement surface can be screeded to grade without using intermediate screed rails, unless approved otherwise by the Engineer.
Use a screed consisting of a truss or heavy beams that will retain it’s shape under all working conditions, and a set of rotating drums with a diameter sufficient to carry a
2 inch mortar roll in front of and parallel to the axis of the drums, while making an initial pass. Adjust the drums to prevent mortar buildup forming behind the trailing edges of the drums. For long bridges, as defined in 400-15.2.5.1, provide a device that automatically smoothes the concrete surface to an untextured finish and that is attached to, and is moved by, the rolling drum screed. As an alternate to the drum type screed, a mechanical screed with a metal strike-off may be used. Equip the mechanical screed with mechanical vibrators to provide continuous uniform vibration to the entire length unless otherwise authorized by the Engineer. Small and irregularly shaped areas that cannot be mechanically screeded may be screeded in a manner approved by the Engineer.

SCREED DEMONSTRATION: Subsequent to the placement of all reinforcing bars and prior to placing any slab or deck concrete, demonstrate that the proposed equipment and methods can finish the concrete to the specified grades while maintaining the specified cover over the reinforcement. Provide the demonstration over the entire length

and width of the spans to be placed.

SCREEDING OPERATIONS: Perform concrete placement and screeding as independently controlled mechanical operations. Ensure that the passing of the screed and forward movement of the screeding equipment are independent of the movement of concrete placement equipment.

Level the concrete in front of the screed as near to the finished grade as possible to prevent the screed from rising off the rail and forming uneven ridges behind the screed. Pass the screed over the slab or deck as many times as necessary to obtain a satisfactory surface and provide a concrete surface true to grade and crown, and free of irregularities.

Do not add water to the concrete surface to assist in finishing operations unless specifically authorized by the Engineer. If the Engineer permits the addition of water, apply only a fog mist, above the concrete surface, by means of approved power driven spray equipment.

For long bridges, as defined in 400-15.2.5.1, do not manually or mechanically float the concrete surface or apply a texture by broom or any other device to the concrete surface produced by the screeding process. Correct isolated surface irregularities in accordance with 400-15.2.5.3.

PLACING OPERATIONS: Select an approved concrete design mix which ensures complete placement of all slab or deck concrete between construction joints before initial set begins in the plastic concrete. On placements of 50 yd3 or less, the minimum placement rate is 20 cubic yards per hour. On placements of greater than 50 cubic yards, the minimum placement rate is 30 cubic yards per hour. The Engineer will not permit slab or deck placements until an acceptable plan for meeting the minimum placement rate is approved.

CONCRETE DECKS ON STEEL SPANS: Where concrete decks are placed on steel spans, release the temporary support under the bridge before placing any concrete.

CONCRETE DECKS ON T-BEAMS: For cast-in-place T-beam construction, cast the slabs and beams in one continuous operation. As an exception, where special shear anchorage or keys are provided for in the Plans or approved by the Engineer, the beams and slabs may be constructed in successive placements.

DIAPHGRAMS: Place concrete diaphragms at least 48 hours before the bridge deck slabs are placed unless otherwise indicated in the Plans.

WEATHER PROTECTION: Provide an approved means of protecting unhardened concrete from rain. Position the protection system to shield the concrete from rain and running water. Provide a shield impervious to water over the slab or deck concrete, of

sufficient size to protect all areas of slab or deck concrete subject to water damage, and include a means of intercepting and diverting water away from freshly placed concrete. Arrange the equipment so that the weather protection system can be erected over unhardened concrete. When there is a possibility of rain during concrete placement operations, place the weather protection system in stand-by readiness, capable of being deployed in a timely manner. Use the weather protection immediately when rain begins so that slab or deck concrete damage will not occur. Do not place concrete during rain.
Assume responsibility for damage to the slab or deck in the case of failure of the weather protection system.

CONCRETE BOX CLVERTS: In general, place the base slab or footing of concrete box culverts, and allow them to set before constructing the remainder of the culvert. In this case, make suitable provision for longitudinal keys. Construct bottom slabs, footings, and apron walls as a monolith if practicable. Where transverse construction joints are necessary, place them at right angles to the culvert barrel, and make suitable provision for keys.
In the construction of box culverts having walls 6 feet or less in height, the sidewalls and top slab may be constructed as a monolith or may place the concrete in the walls and allow it to set before placing the top slab concrete.

Where the height of the box culvert walls exceed 6 feet, place the walls, and allow the concrete to set at least 12 hours before placing the top slab concrete. In such cases, form keys in the sidewalls.When casting the walls and top slabs of box culverts as a monolith, ensure that any necessary construction joints are vertical. Design all construction joints with formed keys. Provide keys that are beveled as shown in the Plans or as directed, but do not allow the edge of the beveled material forming the key to be less than 1 1/2 inches from the edge of the concrete.

Construct each wingwall, if possible, as a monolith. Ensure that construction joints, where unavoidable, are horizontal and so located that no joints will be visible in the exposed face of the wing above the finished graded surface.
Precast box culvert sections may be used in lieu of cast-in-place box culvert construction provided the provisions in Section 410 are satisfied.

SEALS.

GENERAL: Wherever practicable, dewater all foundation excavations, and deposit the concrete in the dry as defined in 455-15.2. Where conditions are encountered which render it impracticable to dewater the foundation before placing concrete, the Engineer may authorize the construction of a concrete foundation seal of the required size. Then, dewater the foundation, and place the balance of the concrete in the dry.

When required to place seal concrete, the Contractor is responsible for the satisfactory performance of the seal in providing a watertight excavation for placing structural concrete. The Department will provide and pay for the seal concrete as an aid to the construction of the structure. Repair seal concrete as necessary to perform its required

function at no expense to the Department.

METHOD OF PLACING: Carefully place concrete deposited under water in the space in which it is to remain by means of a tremie, a closed-bottom dump bucket of not less than
1 cubic yard capacity, or other approved method. Do not disturb the concrete after depositing it. Deposit all seal concrete in one continuous placement. Do not place any concrete in running water and ensure that all form work designed to retain concrete under water is watertight.

USE OF TREMIE: Use a tremie consisting of a tube having a minimum inside diameter of 10 inches, constructed in sections having water-tight joints. Do not allow any aluminum parts to have contact with the concrete. Ensure that the discharge end is entirely seated at all times and keep the tremie tube full to the bottom of the hopper. When dumping a batch into the hopper, keep the tremie slightly raised (but not out of the concrete at the bottom) until the batch discharges to the bottom of the hopper. Stop the flow by lowering the tremie. Support the tremie such as to permit the free movement of the discharge end over the entire top surface of the work and to permit its being lowered rapidly when necessary to choke off or retard the flow. Provide a continuous, uninterrupted flow until completing the work. Exercise special care to maintain still water at the point of deposit.

TIME OF BEGINNING PUMPING: Do not commence pumping to dewater a sealed cofferdam until the seal has set sufficiently to withstand the hydrostatic pressure, and in no case earlier than 72 hours after placement of the concrete.

CONSTRUCTION JOINTS

LOCATION: Make construction joints only at locations shown in the Plans or in the placement schedule, unless otherwise approved in writing. If not detailed in the Plans or placement schedule, or in case of emergency, place construction joints as directed.

PROVISIONS FOR BOND AND TRANSMISSION OF SHEAR: Use shear key reinforcement where necessary to transmit shear or to bond the two sections together.

PREPARATIONS OF SURFACES: Before depositing new concrete on or against concrete which has hardened, re-tighten the forms. Roughen the surface of the hardened concrete in a manner that will not leave loosened particles, aggregate, or damaged concrete at the surface. Thoroughly clean the surface of foreign matter and laitance and saturate it with water.

PLACING CONCRETE: Continuously place concrete from joint to joint. Carefully finish the face edges of all joints which are exposed to view true to line and elevation.

JOINTS IN SEA WATER OR BRACKISH: For concrete placed in sea water or brackish water, do not place any construction joints between points 2 feet below the mean low

water elevation and 6 feet above the mean high-water elevation.

JOINTS IN LONG BOX CULVERTS: For long concrete box culverts, vertical construction joints may be placed at a spacing not less than 30 feet. When using transverse construction joints, ensure that longitudinal reinforcing is continuous through the joint and that the joint is vertical.

CRACK CONTROL GROOVES IN CONCRETE BRIDGE DECKS: When the Plans require crack control grooves in the top surface of decks, either install a tooled “V” groove prior to initial concrete set or saw a groove using an early entry dry cut saw. When using an early entry dry cut saw, it operates in accordance with the manufacturer’s recommendations. Commence sawing as soon as the concrete has hardened enough to permit standing on the surface without leaving visible tracks or impressions and before uncontrolled concrete cracks occur.

EXPANSION JOINTS

GENERAL: After meeting the smoothness criteria in 400-15, construct expansion joints to permit absolute freedom of movement. Carefully remove all loose or thin shells of mortar likely to cause a spall with movement at a joint from all expansion joints as soon as possible.

SEALED JOINTS: Fill expansion joints with a preformed joint filler. Cut the filler to conform to the cross-section of the structure, and furnish it in as few pieces as practicable, using only a single piece in each curb section. Do not use small pieces that would tend to come loose. Prepare joints to be sealed and apply the sealer in accordance with approved manufacturer’s directions.

JOINT SYSTEM INSTALLATION: Install expansion joints before or after the deck planning required by 400-15.2.5.5 following the manufacturer’s instructions. When installed after deck planning, install the edge rail assemblies in the blockouts on a profile tangent between the ends of the deck and/or approach slab to within a plus 0 and minus1/4 inch variation.
When installed before deck planning, install the edge rail assemblies 3/8 inch, plus or minus 1/16 inch, below the top surface of the deck or approach slab to compensate for concrete removal during planning.

CONTACT AND BEARING SURFACES.

SEPARATION OF SURFACES: In general, separate all contact surfaces between superstructure and substructure or end walls and between adjacent superstructure sections by a layer of ASTM D6380 Class S, Type III organic felt. When an organic felt bond breaker is specified for other structures, use either one layer of ASTM D6380 Class S, Type III or two layers of ASTM D226 Type II organic felt.

FINISHING OF BEARING SURFACES: Construct bearings surfaces (areas) to the

tolerances specified herein and in the other parts of the Contract Documents. When using neoprene bearing pads, finish the concrete surface to a uniform ‘rough’ texture using a burlap drag, fine bristle broom or float. For metal or high load rotational bearings, fill minor depressions, 1/8 inch maximum, caused by finishing, bush hammering, or grinding with a low- viscosity epoxy meeting the requirements of 926-1, Type F-2, applied using a squeegee. Bearing surfaces may be ground to final position with carborundum. Check all bearing surfaces with a metallic straightedge prior to setting bearings or neoprene pads.

DEVIATION FROM SPECIFIED ELEVATIONS FOR STEEL BEAM SUPER STRUCTURES: Construct the elevation shown on the Plans plus or minus 0.01 feet and do not exceed a 0.01 feet difference between specified elevations of bearing areas of adjacent bearings measured between the centerlines of bearing areas.

DEVIATION FROM SPECIFIED ELEVATIONS FOR CONCRETE BEAM SUPER STRUCTURES: Construct to the elevation shown on the Plans plus or minus 0.02 feet.

PROJECTING IRREGULARITIES: Projecting irregularities will not exceed
1/16 inch.

VARIATIONS IN FLATNESS FOR NEOPRENE PADS: In any direction, the pad
is to be flat to within 1/16 inch. Pads designated to be sloped are not to deviate from the theoretical slope by the same amount.

VARIATIONS IN FLATNESS FOR METAL OR HIGH LOAD ROTATIONAL BEARINGS: Construct the bearing area to the tolerance indicated for the measured length along the orthogonal axes.
3/32 inch. Bearing area length up to 30 inches long to plus or minus 1/16 inch. Bearing area length over 30 inches up to 45 inches long to plus or minus

Bearing area length over 45 inches long to plus or minus 1/8 inch.

BEARING PADS: Use bearing pads for seating bridge shoes, ends of beams, and slabs of the types specified or required in the Plans.

Furnish and install neoprene pads as detailed in the Plans. Place neoprene pads, where specified or required, directly on concrete surfaces finished in accordance with the requirements of this Article. Ensure that pads, bearing areas of bridge seats, and metal bearing plates are thoroughly cleaned and free from oil, grease, and other foreign materials.
Exercise in fabrication of related metal parts to avoid producing conditions detrimental to the performance of the pads, such as uneven bearing, excessive bulging, etc.
The Engineer will evaluate the degree of deformation and condition of bearing pads in the completed bridge on or before the final inspection required by 5-10 or when requested by the Contractor. As directed by the Engineer, correct horizontal bearing pad deformations that at the time of inspection exceed 50% of the bearing pad

thickness or that the Engineer predicts will exceed 50% of the bearing pad thickness during future high or low temperature periods. Payment for this correction effort will be considered extra work in accordance with 4-3.

ANCHOR BOLTS AND DOWELS
Set anchor bolts and dowels as specified in Section 460. Galvanize all anchor bolts as specified in Section 962.

EPOXY BONDING COMPOUNDS
Where epoxy bonding compounds for bonding concrete are specified or required, apply the epoxy bonding materials only to clean, dry, structurally sound concrete surfaces. Provide surface preparation, application, and curing of epoxy bonding compound in strict accordance with the manufacturer's recommendations for each particular application.

REMOVAL OF FORMS
Use the table below as the criterion for minimum time or compressive strength required before removal of forms or supports.
When using the time period criterion, include in the time period all days except days in which the temperature falls below 40ºF.
Use the specified 28-day minimum compressive strength value as stated in 346-3.1 for each Class of Concrete utilized.

Table 400-2		
Location of Concrete Placement	Minimum Time for Form Removal for any Strength Concrete*	Minimum (%) of 28-day Compressive Strength for Form Removal
(1) Deck slabs, top slabs of culverts and bottom of caps, forms under sidewalks, and safety curb overhangs extending more than 2 feet		

Table 400-2		
Location of Concrete Placement	Minimum Time for Form Removal for any Strength Concrete*	Minimum (%) of 28-day Compressive Strength for Form Removal
(a) Class II Bridge Deck	7 days	75
(b) Class II (Other than Bridge Deck)	7 days	75
(c) Class III	7 days	70
(d) Class IV	7 days	60
(e) Class V	7 days	50
(2) Walls, piers, columns, sides of beams and other vertical surfaces	24 hours**	50**
(3) Front face form of curbs	6 hours	70
* For mass concrete, remove forms in accordance with Section346. **Do not place additional load on the section until 70% of the specified 28-day concrete strength is attained. Also, refer to 400-7.4 (Exposure to salt or brackish water is prohibited for 7 days).		

When using the percent of required strength, cast test cylinders for each mix for compressive strength determination, develop a curing concrete strength versus time curve (S/T Curve) or a strength-maturity curve. Either curve may be used in lieu of multiple test cylinders to determine when the percent of required strength has been met.

Prior to use, obtain the Engineer's approval of the S/T Curve and its supporting data. An approved testing laboratory may be used to provide this information with approval of the Engineer. Plot S/T Curves using at least three different elapsed times that begin once test cylinders are cast; however, one of the elapsed times must be prior to the Contractor's intended form removal. Each elapsed time plotted must have a corresponding compressive strength computed by averaging the compressive strength of two test cylinders.

Cure such test cylinders as nearly as practical in the same manner as the concrete in the corresponding structural component, and test them in accordance with ASTM C39 and
ASTM C31. Perform cylinder casting, curing, and testing at no expense to the Department and under the observation of the Engineer. When the S/T curve indicates a compressive strength equal to or greater than the percentage of specified strength shown in the table above for form removal, the Contractor may remove the forms. When the ambient air temperature falls 15ºF or more below the ambient air temperature that existed during development of a S/T Curve, use a S/T Curve that corresponds to the lower temperature and that is developed in accordance with this section.

Prior to using the strength-maturity method, obtain the Engineer's approval of the strength-maturity curve and its supporting data. Estimate the strength development of concrete using the strength-maturity method in accordance with ASTM C1074. An approved testing laboratory may be used to provide this information with approval of the Engineer. Develop the strength-maturity curves at no expense to the Department.
Do not remove forms at any time without the consent of the Engineer. Even when the Engineer provides consent to remove the forms, the Contractor is responsible for the work.

FINISHING CONCRETE

GENERAL SURFACE FINISH (REQUIRED FOR ALL SURFACES): After placing and consolidating the concrete, strike-off all exposed surfaces to the lines and grades indicated in the Plans in a manner that will leave a surface of uniform texture free of undesirable surface
irregularities, cavities, and other defects. Cut back metal ties supporting reinforcement, conduit, and other appurtenances a minimum of 1 inch from finished surface. After removing excess mortar and concrete and while the concrete is still in a workable state, carefully tool all construction and expansion joints. Leave joint filler exposed for its full length with clean edges. Ensure that finished work in addition to that specified above is compatible and complementary to the class of surface finish required.

Remove all laitance, loose material, form oil and curing compound from exposed surfaces that do not require forming and from exposed surfaces requiring forming, after form removal. Remove fins and irregular projections flush with the surface. Clean, saturate with water, and fill all holes, tie cavities, honeycomb, chips and spalls. Prior to filling, prepare the surface to ensure that patching mortar will bond to the existing concrete. Exercise care during the roughening process to prevent excessive defacement and damage to the surface of the existing concrete. Use patching mortar blended from the mix ingredients of the existing concrete. Ensure the patching mortar closely matches the color of the existing concrete when fully cured. As an alternative, mortar consisting of the following materials may be used: 4 parts of ordinary gray portland cement, 1/2 part of white portland cement, 1 part of coal ash and 2 to 4 parts of sand.

The blended mortar must closely match the color of the filled element once fully cured and the proportion of white portland cement may be adjusted to achieve as close a match as possible. Regardless of the type patching mortar used, provide a mortar surface closely resembling the existing surface.

Cure the newly placed mortar using a curing blanket or a Type I clear curing compound at a uniform coverage as recommended by the manufacturer, but not less than 0.06 gallon per square yard.

In the event unsatisfactory surfaces are obtained, repair these surfaces by methods approved by the Engineer or the affected concrete will be rejected. Repair any surface or remove rejected concrete at no expense to the Department.

SURFACE FINISHES:

GENERAL: In addition to the general surface work specified for all exposed concrete surfaces, the Engineer may require one of the classes of surface finish listed below. For all such exposed surfaces, begin finish work for the applicable class specified, along with the general finish work, immediately after removal of the forms. In order to further ensure the required quality of the finish, remove forms no later than the minimum time specified for the forms to remain in place. Satisfactorily repair finished concrete surfaces which are subsequently disfigured or discolored at no expense to the Department.
Provide the required class of surface finish for the various items of structural concrete as shown in the Plans.

CLASS 1 SURFACE FINISH: As soon as the pointing has sufficiently set, thoroughly saturate the exposed surfaces with water, and rub them with a medium coarse carborundum stone. Continue rubbing until the surface has been ground to a paste and remove all form marks, irregularities, and projections. In this process, do not introduce any additive material other than water. After the rubbing has produced a smooth surface of uniform color, allow the material which has been ground to a paste to reset under proper curing conditions. Subsequently, as a second operation, re-saturate the concrete

surfaces with water, and thoroughly rub them with a fine carborundum stone. Continue this rubbing until the surface has a smooth, fine grain texture of uniform color. The Contractor may substitute a Class 5 applied finish coating in accordance with 400-15.2.6 as an alternate surface finish on all areas where Class 1 surface finish is specified.

CLASS 2 SURFACE FINISH: As soon as pointing has sufficiently set, thoroughly saturate the exposed concrete surfaces with water and rub them with a medium coarse carborundum stone. Continue rubbing until the surface has been ground to a paste and remove all form marks, irregularities, and projections. In this process, do not introduce any additive material other than water.

After rubbing has produced a smooth surface finish, of uniform color, carefully brush the material which has been ground to a paste to a uniform texture, and allow it to reset under proper curing conditions. Carefully protect these surfaces from disfigurement and discoloration during subsequent construction operations.

CLASS 3 SURFACE FINISH: Where this surface finish is specified, use forms with a form liner. Where specified or required on the Plans, use No. 89 coarse aggregate for concrete.
After concrete has been placed in the forms and compacted, finish all exposed surfaces which are not contained by the forms to produce a surface texture as nearly equal to that produced by the form as practicable. Generally, finish unformed surfaces to a smooth, dense surface with a steel trowel.

Perform all work, including general surface finish work, in a manner that will preserve the same surface texture and color produced by the form liner. Pointed areas may be rubbed with a dry carborundum stone.

CLASS 4 SURFACE FINISH:

GENERAL: Apply a Class 4 finish on bridge decks and concrete approach slabs. On Short Bridges (bridges having a length less than or equal to 100 feet), and on Miscellaneous Bridges (Pedestrian, Trail and Movable Spans) regardless of length, meet the finish and smoothness requirements of 400-15.2.5.2 and 400-15.2.5.4. On Long Bridges (bridges having a length greater than 100 feet) meet the finish and smoothness requirements of 400-15.2.5.3 and 400-15.2.5.5. When an existing bridge deck is widened, see the Plans for the finish and smoothness requirements of the existing bridge deck and its new widened section. After meeting the screeding requirements of 400-7.13 and curing requirements of 400-16 and the smoothness requirements, herein, groove the bridge deck and approach slabs.
Regardless of bridge length, finish decks with less than 2 1/2 inches of top cover in accordance with the requirements for Short Bridges.

PLASTIC SURFACE FINISH FOR SHORT AND MISCELLANEOUS BRIDGES: After screeding is completed, check the surface of the plastic concrete with a 10 foot

straightedge, positioning and half-lapping the straightedge parallel to the centerline to cover the entire surface. Immediately correct deficiencies of more than 1/8 inch, measured as an ordinate between the surface and the straightedge.

Finish the concrete surface to a uniform texture using a burlap drag, fine bristle broom or float. Finish the deck to a smooth surface having a sandy texture without blemishes, marks or scratches deeper than 1/16 inch.

PLASTIC SURFACE FINISH FOR LONG: Do not moisten, manually float or apply texture to the concrete surface after the screed, with attached smoothing device, has passed unless correction of isolated surface irregularities is warranted and this should be done as soon as possible after screeding while the concrete is plastic. Correct all flaws such as cavities, blemishes, marks, or scratches that will not be removed by planning.

If the Engineer permits the addition of water when correcting flaws, apply moisture to the concrete surface only if required and only in the immediate vicinity of the isolated irregularity. Apply a quantity of moisture not greater than what is needed to facilitate correction of the irregularity and apply only a fog mist, above the concrete surface, by power driven spray equipment approved by the Engineer.

SMOOTHNESS REQUIREMENTS FOR SHORT BRIDGES AND MISCELLANEOUS BRIDGES (INCLUDING APPROACH SLABS): Perform a final straightedge check with a 10 foot straightedge, positioning and half-lapping the straightedge parallel to the centerline, approximately 5 feet apart to cover the entire surface. Correct all irregularities greater than 3/16 inch measured as an ordinate to the straightedge, by grinding. Perform grinding by the abrasive method using hand or power tools or by machine, to leave a smooth surface within a 1/8 inch tolerance.

SMOOTHNESS EVALUATION AND CONCRETE SURFACE PLANNING, LONG BRIDGES (INCLUDING APPROACH SLABS): Prior to planing, provide a smoothness evaluation of the completed bridge deck and exposed concrete surfaces of approach slabs by a computerized California-type profilograph in accordance with the criteria herein and FM 5-558. Furnish this evaluation through an independent provider approved by the Engineer, using equipment calibrated by the Engineer. All bridge deck and concrete approach slab surfaces within 2 feet of gutter lines are subject to this smoothness evaluation.

Prior to initial profilograph testing, complete work on the bridge deck and approach slabs. Thoroughly clean and clear the bridge deck and approach slab areas to be evaluated for smoothness of all obstructions and provide the smoothness evaluation. Ensure that no radio transmissions or other activities that might disrupt the automated profilograph equipment are allowed during the evaluation.

Average the Profile Index Value for the bridge deck, including the exposed concrete surfaces of the approach slabs, for the left and right wheel path of each lane.The

maximum allowable Profile Index Value for acceptable smoothness is 10 inches per mile utilizing the 0.2 inch blanking band. Apply these criteria to a minimum of 100 feet of each lane. Additionally, correct individual bumps or depressions exceeding a cutoff height of 0.3 inch from a chord of 25 feet (see ASTM E1274) on the profilograph trace. Ensure that the surface meets a 1/4 inch in 10 feet straightedge check made transversely across the deck and approach slabs if determined necessary by the Engineer. Provide additional profilograph testing as necessary following longitudinal planing and any other actions taken to improve smoothness, until a profile meeting the acceptance criteria is obtained.

Regardless of whether expansion joints are installed before or after deck planing is complete, plane off the concrete deck surface to a minimum depth of 1/4 inch and also meet or exceed the profilograph smoothness criteria. Longitudinally plane the entire bridge deck and exposed concrete surfaces of the approach slabs using a self-propelled planing machine with gang mounted diamond saw cutting blades specifically designed for such work. Use the profilograph generated smoothness data, to establish the optimum planing machine settings. Plane the deck surface to within 2 feet of the gutter line so that there is a smooth transition, without vertical faces or sudden surface discontinuities, from the fully planed surface to the unplaned surface. Use a machine with a minimum wheel base length of 15 feet, constructed and operated in such manner that it does not cause strain or damage to deck or approach slab surfaces, excessive ravels, aggregate fractures or spalling. The equipment shall be approved by the Engineer. Perform longitudinal planing parallel to the roadway centerline, and provide a consistent, textured surface. Clean the surface of all Concrete Grinding Residue (CGR) generated during this work concurrently with operation of the machine.

After the deck has been planed the minimum 1/4 inch, reevaluate the surface smoothness using the profilograph testing described above. Perform cycles of planing and profilograph retesting as necessary until the deck and exposed concrete surfaces of approach slabs are in compliance with the smoothness criteria but do not exceed the maximum concrete removal depth of 1/2 inch.

GROOVING: After the concrete surface profile, as required by 400-15.2.5, has been accepted by the Engineer, and prior to opening the bridge to traffic, groove the bridge deck and approach slabs perpendicular to the centerline of the structure. Do not groove the deck surface of pedestrian or trail bridges unless otherwise shown in the Contract Documents. Cut grooves into the hardened concrete using a mechanical saw device which will leave grooves nominally 1/8 inch wide and 3/16 inch deep. Space the grooves apart in random spacing center of grooves in the following sequence: 3/4 inch, 1-1/8 inch, 5/8 inch, 1 inch, 5/8 inch, 1-1/8 inch, 3/4 inch in 6 inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6 inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the width of the grooves is plus 1/16 inch to minus 0 inch and the tolerance for the depth of grooves is plus or minus1/16 inch. The tolerance for the spacing of the grooves is plus or minus1/16 inch.

Cut grooves continuously across the deck or approach slab to within 18 inches of gutter lines at traffic railing, curb line and median divider. At skewed metal expansion joints in bridge deck surfaces, adjust groove cutting by using narrow width cutting heads so that all grooves of the bridge deck surface or approach slab surface end within 6 inches, measured normal to centerline of the joint, leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width. Ensure that the minimum distance to the first groove, measured normal from the edge of the concrete joint or from the junction between the concrete and the metal leg of the armored joint angle, is 1 inch. Produce grooves that are continuous across construction joints or other joints in the concrete surface less than 1/2 inch wide. Apply the same procedure described above where the gutter lines at traffic railing, curb lines and median dividers are not parallel to the centerline of the bridge to maintain the 18 inches maximum dimension from the grooves to the gutter line. Cut grooves continuously across formed concrete joints.

CLASS 5 APPLIED FINISH COATING:

GENERAL: Place an applied finish coating upon all concrete surfaces where the Plans indicate Class 5 applied finish coating. Apply the finish coating after completion of the general surface work specified for all exposed concrete surfaces.

MATERIAL: For the coating material, use a commercial product designed specifically for this purpose. Use only coating material that is manufactured by one manufacturer and delivered to the job site in sealed containers bearing the manufacturer's original labels. Submit the manufacturer's written instructions to the Engineer.

SURFACE PREPARATION: Prepare the surface prior to the application of an applied finish coating by providing a surface finish in accordance with the requirements of 400-15.1. The Engineer will not require surface voids that are 1/4 inch or less in width and depth to be grouted prior to application of the finish coating. Fill surface void larger than 1/4 inch in width and depth an approved high strength, non metallic, non shrink grout meeting the requirements of Section 934, mixed and applied in accordance with the manufacturer's recommendations. Apply the grout by filling the surface voids using burlap pads, float sponges, or other acceptable methods. As soon as the grout has taken its initial set, brush the surface to remove all loose grout, leaving the surface smooth and free of any voids. Ensure that the surface to be coated is free from efflorescence, flaking coatings, curing compound, dirt, oil, and other substances deleterious to the applied finish coating. Prior to application of the finish coating onto precast or cast-in-place concrete surfaces, test the concrete surface at 30 foot intervals for the presence of curing compound using one or two drops of muriatic acid placed on the concrete surface. If curing compound is present, there will be no reaction between the acid and the concrete. If there is no reaction, remove the compound by pressure washing the concrete surfaces. Prepare the surfaces in accordance with the manufacturer's recommendations and ensure that they are in a condition consistent with the manufacturer's requirements. Clean surfaces of existing structures in accordance with 400-19.

APPLICATION: Apply the finish coating utilizing a method recommended by the manufacturer. When applying the finish coating by spraying, supply heavy duty spray equipment capable of maintaining a constant pressure necessary for proper application. Mix and cure all coating materials in accordance with the manufacturer's written instructions. Apply the finished coating at a rate of 50, plus or minus 10 square feet per gallon.

FINISHED PRODUCT: Produce a texture of the completed finish coat that is generally similar to that of rubbed concrete. Ensure that the completed finished coating is tightly bonded to the structure and presents a uniform appearance and texture. If necessary, apply additional coats to produce the desired surface texture and uniformity.

Upon failure to adhere positively to the structure without chipping, flaking, or peeling, or to attain the desired surface appearance, remove coatings entirely from the structure, and reapply the finish coating after surface preparation until achieving the desired finished product. Do not allow the average thickness of the completed finish coating to exceed 1/8 inch.

MATERIAL TESTS AND CERTIFICATION: Before any portion of any shipment of finish coating is applied on the project, submit to the Engineer a certificate from the manufacturer attesting that the commercial product furnished conforms to the same formula as that previously subjected to the tests specified in Section 975. In addition, submit the following product analysis, obtained from the manufacturer, for each batch of the material used:

Weight per gallon.
Consistency (Krebs Units).
Weight percent pigment.
Weight percent vehicle solids.
Infra-red spectra of vehicle solution.

FINAL STRAIGHTEDGING FOR SURFACES TO RECEIVE ASPHALT CONCRETE SURFACE: Test the slab surfaces of poured-in-place decks which are to be surfaced with an asphalt concrete wearing course for trueness with a 10 foot straightedge, as specified above. As an exception, correct only irregularities of more than 1/4 inch measured as an ordinate (either above or below the general contour of the surface). The Engineer will not require belting or brooming of slabs that are to be surfaced with an asphalt concrete wearing course. For curing, meet the requirements specified for other deck slabs.

FINISHING BRIDGE SIDEWALKS: Finish bridge sidewalks in accordance with the applicable requirements of Section 522.

CURING CONCRETE.

INTERNAL CURING: At the Contractor's option use internal curing in combination with one or more of the external curing methods listed in this Section. Use lightweight fine aggregates from Department-approved sources meeting the requirements of ASTM C1761.

EXERNAL CURING: Cure cast-in-place and precast (non-prestressed) concrete as required herein for a minimum duration of 72 hours. If forms are loosened or removed before the 72 hour curing period is complete, expand the curing to cover these surfaces by either coating with curing compound or extending the continuous moist cure area.

Until curing has begun, retain concrete surface moisture at all times by maintaining a surface moisture evaporation rate less than 0.1 pound per square foot per hour. Periodically, at the site of concrete placement prior to and during the operation, measure the ambient air temperature, relative humidity and wind velocity with industrial grade weather monitoring instruments to determine the on-site evaporation rate. If the evaporation is, or is likely to become 0.1 pound per square foot per hour or greater, employ measures to prevent moisture loss such as application of evaporation retarder, application of supplemental moisture by fogging or reduction of the concrete temperature during batching. Compute the evaporation rate by using the nomograph in the ACI manual of Concrete Practice Part 2, Section 308R Guide to Curing Concrete, or by using an evaporation rate calculator approved by the Engineer.

METHODS: Except where other curing methods are specified, select from the following options the chosen method(s) for curing all concrete components.

Continuous Moisture: Place burlap on the surface and keep it continuously saturated for the curing period by means of soaker hoses or automatic sprinklers. Water flow may be metered to cycle repetitively for five minutes on and five minutes off during the 72 hour curing period. Do not apply moisture manually. If side forms are loosened or removed during the curing period, extend the burlap so as to completely shield the sides of the members.

Membrane Curing Compound: Apply a white Type 2 curing compound to all surfaces at a uniform coverage as recommended by the manufacturer but not less than 0.06 gallon per square yard. Allow surfaces covered by the membrane curing compound to remain undisturbed for the curing period. Recoat any cracks, checks or other defects in the membrane seal which are detected during the curing period within one hour. If side forms are loosened during the curing period, maintain surface moisture and remove the forms within one hour and immediately coat the formed surfaces with a membrane curing compound. Bottom surfaces shall be similarly coated after removal of or from the forms.

If curing compound is to be applied by spraying, use a compressor driven sprayer of sufficient size to provide uniform mist. Standby equipment is required in case of mechanical failure and hand held pump-up sprayers may be used only as standby equipment.

Curing Blankets: Curing blankets may be used for curing the top surfaces of members while the member side forms remain in place. Do not use curing blankets which have been torn or punctured. Securely fasten all edges to provide as tight a seal as practical. Should the system fail to maintain a moist condition on the concrete surface, discontinue use of the blankets and continue curing using another method. Keep curing blankets in place for the duration of the curing period.

Accelerated Cure:

General: Accelerated curing of the concrete can be achieved by use of either low pressure steam curing, radiant heat curing or continuous moisture and heat curing. If accelerated curing is completed before the 72 hour curing period has elapsed, continue curing for the remaining part of the 72 hour curing period in accordance with one of the curing methods listed above.

If accelerated curing is used, furnish temperature recording devices that will provide accurate, continuous and permanent records of the time and temperature relationship throughout the entire curing period. Provide one such recording thermometer for each 200 feet of placement length or part thereof. Initially calibrate recording thermometers and recalibrate at least annually.

The preheating period shall equal or exceed the time of initial set as determined by ASTM C403 and shall not be less than 4 hours. When the ambient air temperature is above 50ºF, allow the member to remain undisturbed in the ambient air for the preheating period. If the ambient air temperature is below 50ºF, apply heat during the preheating period to hold the air surrounding the member at a temperature of 50 to 90ºF.

To prevent moisture loss from exposed surfaces during the preheating period, enclose members as soon as possible after casting or keep the surfaces wet by fog mist or wet blankets. Use enclosures for heat curing that allow free circulation of heat about the member with a minimum moisture loss. The use of tarpaulins or similar flexible covers may be used provided they are kept in good repair and secured in such a manner to prevent the loss of heat and moisture. Use enclosures that cover the entire placement.

During the application or removal of the heat, do not allow the temperature rise or fall within the enclosure to exceed 40ºF per hour. Do not allow the curing temperature throughout the enclosure to exceed 160ºF. Maintain the curing temperature within a temperature range of 130 to 160ºF until the concrete has reached the required form removal strength for precast and cast-in-place components or the required release strength for prestressed concrete components.

Low-Pressure Steam: The steam used shall be in a saturated condition. Do not allow steam jets to impinge directly on the concrete, test cylinders, or forms. Cover control cylinders to prevent moisture loss and place them in a location where the temperature is

representative of the average temperature of the enclosure.

Curing with Radiant Heat: Apply radiant heat by means of pipes circulating steam, hot oil or hot water, or by electric heating elements. Do not allow the heating elements to come in direct contact with the concrete or the forms. Distribute sources of heat in a manner that will prevent localized high temperatures above 160ºF. To prevent moisture loss during curing, keep the exposed surfaces wet by fog mist or wet blankets.
Continuous Moisture and Heat: This method consists of heating the enclosure in combination with the continuous moisture method described above.
In addition to the curing blankets, an auxiliary cover for retention of the heat will be required over the entire placement. Support this cover at a sufficient distance above the placement being cured to allow circulation of the heat.

SILICA FUM CONCRETE: Cure silica fume concrete a minimum of 72 hours using continuous moisture cure. No substitution of alternative methods nor reduction in the time period is allowed. After completion of the 72 hour curing period, apply a membrane curing compound to all concrete surfaces. Apply curing compound according to 400-16.2.

BRIDGE DECKS AND APPROACH SLABS: Cure bridge decks and approach slabs for a duration of seven days. Apply a membrane curing compound to the top surface in accordance with 400-16.2 using a compressor driven sprayer. In general, apply curing compound when the surface is damp and after all pooled water has evaporated. For Short bridges, begin applying curing compound immediately after the initially placed concrete has been floated, straightedged, textured and a damp surface condition exists and continue applying compound as concrete placement progresses with as little interruption as possible until the entire top surface has been coated with compound. For Long bridges, begin applying curing compound to the initially placed concrete as soon as a damp surface condition exists and continue applying compound as concrete placement progresses with as little interruption as possible until the entire top surface has been coated with compound. For all bridges, the elapsed time between the initial placement of deck or approach slab concrete and the completed application of curing compound must not exceed 120 minutes. The 120 minute limit may be extended by the Engineer if project specific factors (cool temperatures, high humidity, retarding admixtures, etc.) prolong wet surface conditions.

Prior to the first deck or approach slab placement, submit to the Engineer the method that will be used to periodically measure the rate of application of curing compound in, gallons per square foot as the concrete placement progresses. Prior to the placement of each deck or approach slab, submit to the Engineer the anticipated quantity of curing compound in gallons along with the corresponding square feet of concrete to be covered to meet the coverage rate in 400-16.2. Compute the actual quantity of curing compound applied at the conclusion of each concrete placement and submit the quantity to the Engineer. Apply the curing compound from a work platform.

Place curing blankets on all exposed surfaces which are not formed as soon as possible

with minimal effect on the surface texture. Place the curing blankets with sufficient overlapping seams to form an effective moisture seal. Before using curing blankets, mend tears, splits, or other damage that would make them unsuitable. Discard curing blankets that are not repairable. Wet all curing blankets immediately after satisfactorily placing them and maintain them in a saturated condition throughout the seven-day curing period. Supply sufficient quantity of water meeting the requirements of Section 923 at the job site for wetting the blankets.

Where a bridge deck or approach slab is to be subjected to walking, wheeling or other approved construction traffic within the seven-day curing period, protect the curing blankets and the concrete surface from damage by placing wooden sheeting, plywood or other approved protective material in the travel areas.

When the ends of the curing blankets are rolled back to permit screeding of adjacent concrete, keep the exposed surfaces wet throughout the period of exposure.

CONSTRUCTION JOINTS: Cure construction joint areas using either the continuous moisture or curing blankets method.

CONCRETE BARRIERS, TRAFFIC RAILINGS, PARAPETS AND END POST: Ensure concrete is cured in accordance with 400-16.2(2), except that a clear Type 1-D curing compound that must contain a fugitive dye may be used in lieu of Type 2. If Type 1-D is used, its removal per 400-15.1 during finishing is not required. When construction is by the slip form method, coat all concrete surfaces with a curing compound that meets the requirements of 925-2, either within 30 minutes of extrusion or before the loss of water sheen, whichever occurs first. Ensure a curing compound coating period of not less than seven days after application. Prior to each concrete placement, submit to the Engineer the method that will be used to periodically measure the rate of application in gallons per square foot. Also, prior to each placement, submit to the Engineer the anticipated quantity of curing compound in gallons that will be used to meet the coverage rate specified in 400-16.2 along with the corresponding square footage of concrete barriers, traffic railings, parapets and end posts to be coated with that quantity. Measure the actual quantity of curing compound that is applied during each concrete placement and submit the quantity to the Engineer. Applied finish coatings that are flagged as permitted for use as a curing compound, may be used in lieu of a curing compound. If an applied finish coating is used in lieu of a curing compound, have a backup system that is in full compliance with 400-16.2(2) available at all times to ensure that an effective alternative system will be immediately available if the applied finish coating cannot be applied within 30 minutes of extrusion or before the loss of water sheen.

REMOVAL OF MEMBRANE CURING COMPOUNDS: Provide the longest possible curing duration; however, remove curing compound on portions of members to be bonded to other concrete. Compounds may be removed by either sand or water blasting. Water blasting requires the use of water meeting the requirements of Section 923 and a minimum nozzle pressure of 2,900 psi.

PROTECTION OF CONCRETE

OPENING TO TRAFFIC: Do not open concrete bridge decks, approach slabs, or culverts to traffic for at least 14 days after concrete placement. During placement operations, concrete may be wheeled across previously placed slabs after they have set for 24 hours and plank runways are used to keep the loads over the beams.

STORING MATERIALS ON BRIDGE SLABS: Do not store heavy equipment or material, other than light forms or tools, on concrete bridge slabs or approach slabs until 14 days after they have been placed. Obtain approval from the Engineer prior to storing materials, tools or equipment on bridge decks at any time. Disperse any such loads to avoid overloading the structure.

TIME OF PLACING SUPERSTRUCTURE: Do not place the weight of the superstructure or beams on concrete substructure elements for at least 10 days after placement.

ALTERNATE PROCEDURE: As an alternative to the time delay periods set forth in 400-17.1, 400-17.2, and 400-17.3, test cylinders may be prepared and tested by the Contractor in accordance with 346-5 and a determination made using one of the following methods:
When the cylinder test results indicate the minimum 28 day compressive strength shown in the Plans, concrete bridge decks, approach slabs, and culverts may be opened to traffic or the superstructure and beams may be placed on caps.
Submit signed and sealed calculations, prepared by a Specialty Engineer, demonstrating that the concrete caps can safely support the weight of the girders for the current concrete strength to the Engineer for approval.
In any event, comply with the curing provisions of 400-16.

PRECAST PLANKS, SLABS, AND GIRDERS.

GENERAL: Where so shown in the Contract Documents, the Contractor may construct concrete planks, slabs, girders, and other structural elements by precasting. In general, use a method that consists of casting structural elements in a casting yard, curing as specified in 400-16, transporting them to the site of the work, installing them on previously prepared supports and, where so shown in the Plans, joining them with poured-in-place slabs or keys. Handle and install precast prestressed members as specified in Section 450.

CASTING: Cast precast elements on unyielding beds or pallets. Use special care in casting the bearing surfaces on both the elements and their foundations in order that these surfaces shall coincide when installing the elements. Check bearing surfaces on casting beds with a level and a straightedge prior to the casting. Similarly check corresponding surfaces on the foundations during finishing operations.

POUREDIN-PLACE KEYS: Where precast elements are to be joined with poured- in-place keys, carefully align the elements prior to pouring the keys.

SURFACE FINISH: Finish the surface as specified in 400 15, except that where precast slabs and poured-in-place keys form the riding surface, give the entire surface a broomed finish.

MOVING, PLACING, AND OPENING TO TRAFFIC: Reinforced precast members may be moved from casting beds, placed in the structure, and opened to traffic at the ages shown in the following table:

Handling from casting beds to storage areas ..... 7 days
Placing in structure ..... 14 days
Opening to traffic:
Precast elements..... 14 days
Cast-in-place slabs over precast girders..... 14 days
Cast-in-place keys joining precast slabs ..... 7 days

As an alternate procedure, in lieu of the time delay periods set forth above, test beams may be cast from representative concrete, and cure them identically with the concrete in the corresponding structural component. Test the test beams in accordance with ASTM C31 and ASTM C78. When the test results indicate a flexural strength of 550 psi, or more, any of the operations listed above may proceed without completing the corresponding time delay period.

SETTING PRESTRESSED SLABS: Before permitting construction equipment on the bridge to erect slab units, submit sketches showing axle loads and spacing and a description of the intended method of setting slab units to the Engineer for approval. Do not use axle loads, spacing, and methods of setting which produce stresses in the slab units greater than the allowable stress.

PROTECTION OF PRECAST ELEMENTS: The Contractor is responsible for the safety of precast elements during all stages of construction. The Engineer will reject any precast elements that become cracked, broken, seriously spalled, or structurally impaired. Remove rejected precast elements from the work at no expense to the Department.

FORM MATERIAL: Form material used to form hollow cores may be left in place. Ensure that the form material is neutral with respect to the generating of products harmful to the physical and structural properties of the concrete. The Contractor is responsible for any detrimental effects resulting from the presence of the form material within the precast element.

CLEANING AND COATING CONCRETE SURFACES OF EXISTING STRUCTURES.
For the purposes of this article, an existing structure is one that was in service prior to the start of the project to which this specification applies. For existing structures, clean concrete surfaces that are designated in the Contract Documents as receiving Class 5

applied finish coating by pressure washing prior to the application of coating. Use pressure washing equipment producing a minimum working pressure of 2,500 psi when measured at or near the nozzle. Do not damage or gouge uncoated concrete surfaces or previously coated concrete surfaces during cleaning operations. Remove all previously applied coating that is no longer adhering to the concrete or that is peeling, flaking or delaminating. Ensure that after the pressure wash cleaning and the removal of non-adherent coating, that the cleaned surfaces are free of efflorescence, grime, mold, mildew, oil or any other contaminants that might prevent proper adhesion of the new coating. After cleaning has been successfully completed, apply Class 5 Applied Finish Coating in accordance with 400-15.2.6 or as otherwise specified in the Plans.

APPROACH SLABS
Construct approach slabs at the bridge ends in accordance with the applicable requirements of Section 350 using Class II (Bridge Deck) concrete. Place the reinforcement as specified in 350-7 and Section 415.

DISPOSITION OF CRACKED CONCRETE.

GENERAL: The disposition of cracked concrete is described in this Article and applies to all cast-in-place concrete members, and once installed, to the precast and prestressed concrete members that are produced in accordance with 410, 450, 521, 534, 548 and 641.

INVESTIGATION, DOCUMENTATION AND MONITORING: The Engineer will inspect concrete surfaces as soon as surfaces are fully visible after casting, with the exception of surfaces of precast concrete products produced in offsite plants, between 7 and 31 days after the component has been burdened with full dead load, and a minimum of 7 days after the bridge has been opened to full unrestricted traffic. Additionally, for bridge decks that require planning, the Engineer will perform bridge deck crack measurements once the deck is free of all debris after planning is complete and before transverse grooves are cut. The Engineer will measure the width, length and depth of each crack and establish the precise location of the crack termination points relative to permanent reference points on the member. The Engineer will determine if coring of the concrete is necessary when an accurate measurement of crack depth cannot be determined by use of a mechanical probe. The Engineer will monitor and document the growth of individual cracks at an inspection interval determined by the Engineer to determine if cracks are active or dormant after initial inspection.

Provide the access, equipment and personnel needed for the Engineer to safely perform this work at no expense to the Department. Core cracks for use by the Engineer in locations and to depths specified by the Engineer. Additional compensation or time will not be granted for coring when the Engineer determines the cause of concrete cracking to be the responsibility of the Contractor.

400-21.3 Classification of Cracks: The Engineer will classify cracks as either nonstructural or structural. In general, nonstructural cracks are cracks 1/2 inch or less

deep from the surface of the concrete; however, the Engineer may determine that a crack greater than
1/2 inch deep is nonstructural. In general, structural cracks are cracks that extend deeper than 1/2 inch. As an exception, all cracks in concrete bridge decks that are supported by beams or girders will be classified as nonstructural and repair will be in accordance with 400-21.5.1.
However, if the Engineer determines that repair under 400-21.5.1 is unacceptable, repair in accordance with 400-21.5.2.

A crack that is fully or partially underwater at any time during its service life will be classified as a structural crack unless the Environment note on the General Notes sheet in the Plans categorizes the substructure as slightly aggressive, in which case, the nonstructural crack criteria may apply as determined by the Engineer.
Review and comment on the Engineer's crack classification; however, the Engineer will make the final determination.

NONSTRUCTURAL CRACKING SIGNIFICANCE: The Engineer will determine the Cracking Significance. The Cracking Significance will be determined on the basis of total crack surface area as a percentage of total concrete surface area. Cracking significance will be categorized as Isolated, Occasional, Moderate or Severe according to the criteria in Tables 400-3 and 400-4. Cracking Significance will be determined on a LOT by LOT basis. A LOT will typically be made up of not more than 100 square feet and not less than 25 square feet of concrete surface area for structures other than bridge decks or typically not more than 400 square feet or not less than 100 square feet for bridge decks. A LOT will not extend beyond a single Elevation Range as shown in Table 400-3 or 400-4. Review and comment on the Engineer's determination of Cracking Significance; however, the Engineer will make the final determination.

REPAIR METHOD: Repair or remove and replace cracked concrete as directed by the Engineer. Additional compensation or time will not be granted for repair or removal and replacement of cracked concrete when the Engineer determines the cause to be the responsibility of the Contractor.

NONSTRUCTURAL CRACKS: Repair each crack using the method as determined by the Engineer for each LOT in accordance with Table 400-3 or 400-4. When further investigation is required to determine repair or rejection, submit an Engineering Analysis Scope in accordance with 6-4, signed and sealed by a Specialty Engineer, to determine the strength and durability of the proposed repair. Upon approval of the Engineering Analysis Report (EAR) and final determination of the Engineer, repair or remove and replace the cracked concrete in accordance with the EAR.

STRUCTURAL CRACKS: Submit an Engineering Analysis Scope in accordance with 6-4, signed and sealed by the Contractor's Engineer of Record, to determine the strength and durability of the proposed repair. Upon approval of the EAR and final determination of the Engineer, repair or remove and replace the cracked concrete in accordance with the approved EAR.

Table 400-3
DISPOSITION OF CRACKED CONCRETE OTHER THAN BRIDGE DECKS
[see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]

Elev. Range	Crack Width Range (inch) [2] x = crack width	Cracking Significance Range per LOT [1]											
		Isolated Less than 0.005%			Occasional 0.005% to<0.017%			Moderate 0.017% to<0.029%			Severe 0.029% or gtr.		
		Environment Category											
		SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
Elevation: 0 to 6 ft AMHW	x ≤ 0.004	NT	NT	PS (6)	NT	PS (6)	PS (6)	PS (6)	PS (6)				
	0.004< x ≤ 0.008	NT	PS (6)	EI (3)	PS (6)	EI (3)	EI (3)	PS (6)					
	0.008< x ≤ 0.012	NT	PS (6)	EI									
	0.012< x ≤ 0.016	PS (6)	Investigate to Determine Appropriate Repair [4, 5] or Rejection										
	0.016< x ≤ 0.020												
	0.020< x ≤ 0.024									Reject and Replace			
	0.024< x ≤ 0.028												
	x > 0.028												
Elev.: More Than 6 ft to 12 ft AMHW	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
	x ≤ 0.004	NT	NT	PS (6)	NT	PS (6)	PS (6)	PS (6)	PS (6)	PS (6)	PS (6)		
	0.004< x ≤ 0.008	NT	PS (6)	EI (3)	PS (6)	PS (6)	EI (3)	PS (6)	EI (3)				
	0.008< x ≤ 0.012	NT	PS (6)	EI	EI	EI							
	0.012< x ≤ 0.016	PS (6)	EI	EI	EI								
	0.016< x ≤ 0.020	EI											
	0.020< x ≤ 0.024		Investigate to Determine Appropriate Repair [4, 5] or Rejection							Reject and Replace			
	0.024< x ≤ 0.028												
	x > 0.028												
Elev.: Over Land or More Than	Crack Width	SA	MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
	x ≤ 0.004	NT	NT	NT	NT	PS (6)	PS (6)	PS (6)	PS (6)	PS (6)	PS (6)		
	0.004< x ≤ 0.008	NT	PS (6)	PS (6)	PS (6)	PS (6)	EI (3)	PS (6)	EI (3)	EI (3)	PS (6)		

Table 400-4
DISPOSITION OF CRACKED CONCRETE BRIDGE DECKS
[see separate Key of Abbreviations and Footnotes for Tables 400-3 and 400-4]

Elev. Range	Crack Width Range (inch) (2)	Cracking Significance Range per LOT (1)											
		Isolated less than 0.005%			Occasional 0.005% to<0.017%			Moderate 0.017% to<0.029%			Severe 0.029% or gtr.		
		Environment Category											
	x = crack width	S	MA	EA	SA	M	EA	SA	MA	EA	S	M	E
Elevation: 12 feet or Less AMHW	x ≤ 0.004	ANT	NT	NT	NT	ANT	NT	NT	NT	NT	A	A	A
	0.004< x ≤ 0.008	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M	EI/M			
	0.008< x ≤ 0.012	NT	NT	EI/M	NT	EI/M	EI/M	EI/M	EI/M				
	0.012< x ≤ 0.016	NT	NT	EI/M	NT	EI/M							
	0.016< x ≤ 0.020	EI/M	EI/M	EI	EI								
	0.020< x ≤ 0.024	EI/M	EI	EI	Investigate to Determine Appropriate Repair (4, 5) or Rejection						Reject and Replace		
	0.024< x ≤ 0.028	EI/M	EI										
	x > 0.028 Crack Width		MA	EA	SA	MA	EA	SA	MA	EA	SA	MA	EA
		SA											
Elevation: Over Land or More Than 12 feet AMHW	x ≤ 0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT			
	0.004< x ≤ 0.008	NT	NT	NT	NT	NT	EI/M	NT	EI/M	EI/M			
	0.008< x ≤ 0.012	NT	NT	EI/M	NT	NT	EI/M	EI/M	EI/M				
	0.012< x ≤ 0.016	NT	NT	EI/M	NT	EI/M							
	0.016< x ≤ 0.020												
								< x ≤ 0.024					0.024< x ≤ 0.028

Key of Abbreviations and Footnotes for Tables 400-3 and 400-4		
Type Abbreviation	Abbreviation	Definition
Repair Method	EI	Epoxy Injection
	M	Methacrylate
	NT	No Treatment Required
	PS	Penetrant Sealer
Environment Category	EA	Extremely Aggressive
	MA	Moderately Aggressive
	SA	Slightly Aggressive
Reference Elevation	AMHW	Above Mean High Water

Footnotes

Cracking Significance Range is determined by computing the ratio of Total Cracked Surface Area (TCSA) to Total Surface Area (TSA) per LOT in percent [(TCSA/TSA) x 100] then by identifying the Cracking Significance Range in which that value falls. TCSA is the sum of the surface areas of the individual cracks in the LOT. The surface area of an individual crack is determined by taking width measurements of the crack at 3 representative locations and then computing their average which is then multiplied by the crack length.

Crack Width Range is determined by computing the width of an individual crack as computed in (1) above and then identifying the range in which that individual crack width falls.

When the Engineer determines that a crack in the 0.004 inch to 0.008 inch width range cannot be injected then for Table 400-3 use penetrant sealer unless the surface is horizontal, in which case, use methacrylate if the manufacturer's recommendations allow it to be used and if it can be applied effectively as determined by the Engineer.

(a) Perform epoxy injection of cracks in accordance with Section 411. Seal cracks with penetrant sealer or methacrylate as per Section 413. (b) Use only methacrylate or penetrant sealer that is compatible, according to manufacturer's recommendations, with previously applied materials such as curing compound or paint or remove such materials prior to application.

When possible, prior to final acceptance of the project, seal cracks only after it has been determined that no additional growth will occur.

Methacrylate shall be used on horizontal surfaces in lieu of penetrant sealer if the manufacturer's recommendations allow it to be used and if it can be applied effectively as determined by the Engineer.

Unless directed otherwise by the Engineer, repair cracks in bridge decks only after the grinding and grooving required by 400-
15.2.5 is fully complete.

METHOD OF MEASUREMENT

GENERAL: The quantities of concrete to be paid for will be the volume, in cubic yards, of each of the various classes shown in the Plans, in place, completed and accepted. The quantity of precast anchor beams to be paid for will be the number in place and accepted. The quantity of bridge deck grooving to be paid for will be the area, in square yards of bridge deck and approach slab, completed and accepted. The quantity of bridge deck grooving and planing to be paid for will be the area, in square yards of bridge deck and approach slab, completed and accepted. Except for precast anchor beams, for any item of work constructed under this Section and for which measurement for payment is not to be made by the volume of concrete, measurement and payment for such work will be as specified in the Section under which the work is specified in detail. No separate payment will be made for obtaining the required concrete finish.

CALCULATION OF VOLUME OF CONCRETE:

DIMENSIONS: The quantity will be computed by the plan dimensions of the concrete, within the neat lines shown in the Plans, except that no deduction will be made for weep holes, deck drains, or encroachment of inlets and pipes in box culverts, and no chamfers, scorings, fillets, or radii 1 1/2 in2 or less in cross-sectional area will be taken into account.

PAY QUANTITY: The quantity to be paid for will be the original plan quantity, measured as provided in 400-22.2.1.

ITEMS NOT INCLUDED IN MEASUREMENT FOR PAYMENT: No measurements or other allowances will be made for work or material for forms, falsework, cofferdams, pumping, bracing, expansion-joint material, etc. The volume of all materials embedded in the concrete, such as structural steel, pile heads, etc., except reinforcing bars or mesh, will be deducted when computing the volume of concrete to be paid for. For each foot of timber pile embedded, 0.8 cubic feet of concrete will be deducted. The cost of furnishing and placing dowel bars shall be included in the Contract unit price for the concrete.

DECK GIRDERS AND BEAM SPANS: In computing the volume of concrete in deck girders and beam spans, the thickness of the slab will be taken as the nominal thickness shown on the drawings and the width will be taken as the horizontal distance measured across the roadway. The volume of haunches over beams will be included in the volume to be paid for.

STAY-IN-PLACE METAL FORMS: When using stay-in-place metal forms to form the slab of deck girder and beam spans, the volume of concrete will be computed in accordance with the provisions of 400-22.2.4 except that the thickness of the slab over the projected plan area of the stay-in-place metal forms will be taken as the thickness

shown on the drawings above the top surface of the forms. The concrete required to fill the form flutes will not be included in the volume of concrete thus computed.

BRIDGE DECK GROOVING: The quantity to be paid for will be plan quantity in square yards, computed, using the area bound by the gutter lines (at traffic railings, curbs and median dividers) and the beginning and end of the bridge or the end of approach slabs, whichever is applicable, constructed, in place and accepted.

BRIDGE DECK GROOVING AND PLANNING: The quantity to be paid for will be plan quantity in square yards, computed, using the area bound by the gutter lines (at traffic railings, curbs and median dividers) and the beginning and end of the bridge or the end of approach slabs, whichever is applicable, constructed, in place and accepted.

COMPOSITE AND PLAIN NEOPRENE BEARING PADS: The quantity to be paid for will be the original plan quantity, computed using the dimensions of the pads shown in the Plans.

CLEANING AND COATING CONCRETE SURFACES: The quantity to be paid for will be the plan quantity in square feet for the areas shown in the Plans.

BASIS OF PAYMENT

GENERAL: Price and payment will be full compensation for each of the various classes of concrete shown in the Contract Documents.

CONCRETE PLACED BELOW PLAN DEPTH: Authorized concrete placed in seal or footings 5 feet or less below the elevation of bottom of seal or footing as shown in the Plans will be paid for at the Contract price set forth in the Contract Documents under the pay items for substructure concrete. Authorized concrete used in seal (or in the substructure where no seal is used) at a depth greater than 5 feet below the bottom of seal or footing as shown in the Plans will be paid for as Unforeseeable Work. Such payment will be full compensation for the cofferdam construction, for excavation, and for all other expenses caused by the lowering of the footings.

SEAL CONCRETE REQUIRED BUT NOT SHOWN IN PLANS: When seal concrete is required as provided in 400-8 and there is no seal concrete shown in the Plans, it will be paid for as Unforeseeable Work.

PRECAST ANCHOR BEAMS: Price and payment will be full compensation for the beams, including all reinforcing and materials necessary to complete the beams in place and accepted. No separate prices will be allowed for the various types of anchor beams.

REINFORCING: Reinforcing bars, wires and mesh will be measured and paid for as provided in Section 415, except that no separate payment will be made for the welded wire reinforcement used in concrete jackets on steel piles or reinforcement contained in traffic railings, concrete barriers, traffic separators or parapets. Whereas indicated in the

Plans, the Department will not separately pay for reinforcing used in incidental concrete work, but the cost of such reinforcement shall be included in the Contract unit price for the concrete.

BRIDGE DECK GROOVING: Price and payment will be full compensation for all grooving, equipment, labor, and material required to complete the work in an acceptable manner.

BRIDGE DECK PLANNING: Price and payment will be full compensation for all planning, equipment, labor, and material required to complete the work in an acceptable manner.

COMPOSITE AND PLAIN NEOPRENE BEARING PADS: Price and payment will be full compensation for all work and materials required to complete installation of the pads, including sampling and testing.

PRECAST ANCHOR BEAMS: Price and payment will be full compensation for the beams, including all reinforcing and materials necessary to complete the beams in place and accepted. No separate prices will be allowed for the various types of anchor beams.

REINFORCING: Reinforcing bars, wires and mesh will be measured and paid for as provided in Section 415, except that no separate payment will be made for the welded wire reinforcement used in concrete jackets on steel piles or reinforcement contained in traffic railings, concrete barriers, traffic separators or parapets. Where so indicated in the Plans, the Department will not separately pay for reinforcing used in incidental concrete work, but the cost of such reinforcement shall be included in the Contract unit price for the concrete.

BRIDGE DECK GROOVING: Price and payment will be full compensation for all grooving, equipment, labor, and material required to complete the work in an acceptable manner.

BRIDGE DECK PLANNING: Price and payment will be full compensation for all planing, equipment, labor, and material required to complete the work in an acceptable manner.

COMPOSITE AND PLAIN NEOPRENE BEARING PADS: Price and payment will be full compensation for all work and materials required to complete installation of the pads, including sampling and testing.

CLEANING AND COATING CONCRETE SURFACES: Price and payment will be full compensation for all work and materials required. The cost of coating new concrete will not be paid for separately, but will be included in the cost of the item to which it is applied.

GENERAL: The above prices and payments will be full compensation for all work specified in this Section, including all forms, falsework, joints, weep holes, drains, pipes,

conduits, bearing pads, setting anchor bolts and dowels, surface finish, and cleaning up, as shown in the Plans or as directed. Where the Plans call for water stops, include the cost of the water stops in the Contract unit price for the concrete. Unless payment is provided under a separate item in the Contract Documents, the above prices and payments will also include all clearing and grubbing; removal of existing structures; excavation, as provided in Section 125; and expansion joint angles and bolts. The Department will not change the rate of payment for the various classes of concrete in which steel or FRP may be used due to the addition or reduction of reinforcing. The Department will not make an allowance for cofferdams, pumping, bracing, or other materials or equipment not becoming a part of the finished structure. The Department will not pay for concrete placed outside the neat lines as shown in the Plans.

When using stay-in-place metal forms to form bridge decks, the forms, concrete required to fill the form flutes, attachments, supports, shoring, accessories, and all miscellaneous items or work required to install the forms shall be included in the Contract unit price of the superstructure concrete.

Payment will be made under:

Item No. 400-13	Concrete Steps and Ramp– per cubic yard.

END OF ITEM

400-13

ITEM 436-1 TRENCH DRAIN

DESCRIPTION

Construct trench drain, with one of the materials listed below, for the purpose of collecting and removing surface run-off from paved areas. Furnish and install trench drain and grate in accordance with the Standard Plans, at the locations shown in the Plans or as directed by the Engineer.

MATERIALS

Provide preformed channels or pipe with sufficient strength to withstand construction handling and placement of concrete backfill without deforming or deviating from line and grade. Submit certification to the Engineer from the manufacturer that the trench drain system meets the requirements of this Section.

436-2.1 Channels/Pipe: Meet the following requirements:
Steel Pipe .....Section 943
Aluminum Pipe .....Section 945
Polyethylene.....Section 948 and ASTM D3350 Polymer Concrete.....ASTM D6783
Fiberglass .....ASTM D3517
436-2.2 Concrete Backfill: Use concrete that meets the requirements of Section 347.
436-2.3 Grates: Provide steel grates and supporting frames that meet the requirements of Section 962. Ductile iron frames and grates must meet the requirements of ASTM A536. Ensure that ductile iron grates and frames are compatible and from the same manufacturer. Frames must be anchored into the concrete backfill with studs bolts or lugs. Grates must have at least 30% open area and fasten securely to frames to avoid rattling, Grates must be removable for the entire channel length and have vandal resistant locking devices. Ensure that frames have a minimum of 4 inch long studs, bolts or lugs at all four corners.
436-2.4 Clean-Out covers for Type 1 Drains: Install steel or ductile iron covers that meet the requirements of Section 962.
436-2.5 Outlet Pipe: Connect outlet pipe to the trench drain with standard manufactured connectors. Unless a particular type is called for in the Plans, use any of the following types of pipe:
Concrete .....Section 449
Steel.....Section 943
Aluminum .....Section 945
Polyvinyl Chloride 948-1.7
Polyethylene 948.2.3

CONSTRUCTION DETAILS

Submit to the Engineer the proposed method of installation, noting any deviation from the manufacturer's recommendations. Place concrete backfill in the trench against undisturbed material at the sides and bottom of the trench in a manner that will prevent floating or shifting of the trench drain, and will prevent voids in, or segregation of the concrete. Tamp and spade to prevent honeycombing. Form the top surface to the lines shown in the Plans. Remove any foreign material that falls into the trench prior to or during placement of concrete.

METHOD OF MEASUREMENT

The quantity to be paid for will be plan quantity, measured in place and accepted. The plan quantity will be measured from the inside wall of the structure as shown in the Plans, along the centerline of the pipe/channel.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Section, including all materials, tools, equipment, concrete backfilling, outlet pipe, connections to new or existing structures and all incidentals necessary to complete the work.

Payment will be made under:

Item No. 436- 1	Trench Drain - per foot.

END OF ITEM

436-1

ITEM 515-1-2 PIPE HANDRAIL

DESCRIPTION

Furnish and install metal pedestrian handrails in accordance with the Plans and Standard Plans.

MATERIALS

Meet the following requirements:

Concrete .....Section 346
Anchor Bolts, Rods, Nuts and Washers*.....Section 962
Adhesive Anchors**..... Section 937
Aluminum** ..... Section 965
Bearing Pads**..... 932-2.5
Epoxy Mortar** .....Section 926
Steel**.....Section 962
*Do not use expansion anchors.
**Use products listed on the Department's Approved Product List (APL).

CONSTRUCTION DETAILS

Space posts to clear obstacles without exceeding maximum post spacing and maintain a uniform spacing with reasonable consistency. Place splices in approximately the same place within a railing section. Railings must be free of burrs and sharp edges and all plug welds ground smooth.

Welds: An American Welding Society certified welding inspector must visually inspect all welds for final approval. Nondestructive testing of welds is not required, unless otherwise shown in the Plans. Prior to installation of the railings, a certifying statement from the welding inspector must be provided. The document must identify the project information, date of inspection, welding inspector name, and inspector certification number.

Aluminum Railing: Welds must be in accordance with Section 965.
Filler material for seal welds, plug welds and bend splices may be ER4303.

Coatings:
Aluminum Railing: Coating is not required, unless otherwise shown in the Plans. Finished product must have a smooth uniform appearance.

When a colored coating is required, use a fluoropolymer based powder coating system complying with American Architectural Manufacturers Association (AAMA) Specification No. 2605.

Shop Drawings

Submit shop drawings and obtain approval prior to fabrication. Show project specific geometry (line and grade), post type and locations, expansion joint and splice locations.

Include other project specific details such as tapered end transitions, continuity or transition details post and panel infill type, and anchor bolt general details.

Installation

General: Place a 1/8 inch thick bearing pad with dimensions matching the base plate between the base plate and concrete surface.

Pedestrian /Bicycle Railings and Guiderails: For locations other than bridges, fabricate and install posts plumb. On bridges, fabricate and install posts perpendicular to the profile grade line longitudinally and plumb transversely. Use aluminum shim plates to make necessary adjustments. Bond stacked shim plates with adhesive bonding material and field trim shim plates to match the foundation contours. Beveled shim plates may be used in lieu of trimmed flat shim plates.

If shims greater than 1/2 inch total thickness are required, provide longer anchor bolts. Bolts must be long enough to secure washers and nuts and meet the minimum embedment length.

Post tolerance from plumb is plus or minus one inch, measured at 42 inches above the foundation. Rails must form a smooth continuous line without hills or dips greater than 1/2 inch between any three posts or side sway greater than 1/2 inch between post assemblies.

Anchoring

General: Secure nuts to a snug tight condition. Tack weld nuts to stem or distort bolt threads to prevent nut loosening and removal. Coat damaged galvanizing on bolt stems, nuts, and tack welds in accordance with Section 562.

Adhesive Anchors: Install anchors in accordance with Section 416.

C-I-P and Thru-Bolt Anchors: Use galvanized hex head anchor bolts.
When thru-bolting is used, coat cut reinforcing steel inside the drilled hole with a zinc galvanizing compound in accordance with Section 562 prior to installing bolts.

METHOD OF MEASUREMENT

The quantity of railing to be paid for will be the plan quantity, in linear feet measured in place, installed and accepted. The quantity will be measured along the centerline of the top rail.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Section, including all materials, hardware, labor, and incidentals required to complete the installation.

Payment will be made under:

Item No. 515-1-2	Pipe Handrail- Aluminum- per foot

END OF ITEM

515-1-2

ITEM 519-78 REMOVABLE BOLLARDS

DESCRIPTION

This Section covers the furnishing and installation of removable bollards at the locations shown in the Contract Documents or as directed by the Engineer. The work includes furnishing all labor, materials, equipment, and incidentals required to install a complete removable bollard assembly, including embedded sleeve, locking mechanism, and steel post.

MATERIALS

All materials shall meet the requirements of the Florida Department of Transportation Standard Specifications or as specified herein. The bollard post shall be fabricated from schedule 80 steel pipe or structural steel tube with a minimum outside diameter of 6 inches, unless otherwise specified in the plans.

Each bollard shall include a galvanized steel or stainless-steel ground sleeve assembly designed for embedment in concrete. The sleeve shall include removable cover plate when the bollard is not in place. The locking mechanism shall be tamper-resistant and constructed of corrosion-resistant materials. If keyed locks are used, all bollards shall be keyed alike unless otherwise directed. Possible manufacturer of bollard is below:

Bollard Details: 6 inch Removable (Schedule 80) Bollard

A. Lock type: Padlock Removable.
B. Height: 36 inches
C. Depth: 12 inches
D. Pipe diameter: 6 inches
E. Material: Stainless steel Type 316: Schedule 80
F. Outside diameter: 6.62 inches.
G. Wall thickness: 0.375 inches
H. Cap style: Dome
I. Embedment Sleeve for Removable Bollards
J. Finish: Stainless steel type 316, polished to a #4 satin finish

Manufacturer:

A. 1-800-Bollards, 23392 Madero Road, Suite L, Mission Viejo, CA, 92691-2737, 1-866-748-4676. Email: info@1800bollards.com; Web: www.1800bollards.com.

Concrete for the foundation or sleeve installation shall conform to the requirements of Section 347 for Class I concrete with a minimum 28-day compressive strength of 3,000 psi. Grout, if used, shall be non-shrink, non-metallic, and suitable for exterior use.

CONSTRUCTION DETAILS

The Contractor shall install removable bollards at the locations and orientations shown in the plans. All components shall be installed plumb, level, and flush with surrounding surfaces as applicable. Contractor shall install bollards in accordance with manufacturers instructions.

The Contractor shall excavate and prepare the foundation area in accordance with the details shown in the plans. The ground sleeve or bollard socket shall be securely embedded in concrete to the required depth and alignment. The top of the sleeve shall be installed flush with the finished grade unless otherwise shown.

After curing of the concrete foundation, the bollard post shall be fitted into the sleeve to ensure proper alignment and locking function. The locking mechanism shall operate smoothly and securely engage the bollard to prevent unauthorized removal.

If a cover plate is specified for use when the bollard is removed, it shall be installed flush with surrounding surfaces and shall not pose a trip hazard.

Bollards shall be cleaned, coated, and finished as specified. Surfaces shall be free of sharp edges, defects, or corrosion.

The Contractor shall protect bollards from damage until acceptance by the Engineer. Any damage or misalignment due to construction operations shall be repaired or replaced at no additional cost. All debris and surplus materials shall be removed from the site.

METHOD OF MEASUREMENT

The quantity to be paid for will be the number of *each* removable bollard measured in place, completed and accepted, as shown in the plans or as directed by the Engineer.

BASIS OF PAYMENT

The contract unit price for Concrete Bumper Guard (WOT Type) will be full compensation for all labor, materials, equipment, excavation, formwork, reinforcing steel, concrete placement, finishing, curing, and all other incidentals necessary to complete the work.

Payment will be made under:

Item No. 519-78	Removable Bollard- per each

END OF ITEM

519-78

ITEM 520-2-2 CONCRETE CURB TYPE B
ITEM 520-2-4 CONCRETE CURB TYPE D

DESCRIPTION

Construct portland cement concrete curb. Curb will include concrete curb and gutter, concrete traffic separator, valley gutter, special concrete gutter, curb for sidewalk curb ramps and driveways, and any other types of concrete curb not specified in other Sections.

MATERIALS

CONCRETE: Use concrete meeting the requirements of Section 347.

REINFORCEMENT: For all steel reinforcement required by the Plans, meet the requirements of Section 415.

JOINT MATERIALS: Meet the requirements of Section 932.

TOLL HEADER CURB CONCRETE: Use concrete meeting the requirements of Section 346, Class II.

FORMS.

FORM MATERIALS: Construct forms for this work of either wood or metal. Provide forms that are straight, free from warp or bends, and of sufficient strength, when staked, to resist the pressure of the concrete without deviation from line and grade. For all items constructed on a radius, use flexible forms.

DEPTH OF FORMS: Ensure that forms have a depth equal to the plan dimensions for the depth of concrete being deposited against them.

MACHINE PLACEMENT: The Contractor may place these items by machine methods with the approval of the Engineer provided that the Contractor consistently produces an acceptable finished product, true to line, grade, and cross section.

CONSTRUCTION DETAILS

EXCAVATION.
Excavate to the required depth, and compact the foundation material upon which these items are to be placed as specified in 120-9.

PLACING CONCRETE.
Place the concrete in the forms, and tamp and spade it to prevent honeycombing, and until the top of the structure can be floated smooth and the edges rounded to the radius shown in the Plans.

JOINTS

CONTRACTION JOINTS: Except for machine placed items, the Contractor may form joints by using dummy joints (either formed or sawed) or by using sheet metal templates. If using sheet metal templates, ensure that they are of the dimensions, and are set to the lines, shown in the Plans. Hold templates firmly while placing the concrete. Leave templates in place until the concrete has set sufficiently to hold its shape, but remove them while the forms are still in place. Saw contraction joints, for machine placed items, unless the Engineer approves an alternate method. Saw the joints as soon as the concrete has hardened to the degree that excessive raveling will not occur and before uncontrolled shrinkage cracking begins. Space contraction joints at intervals of 10 feet except where closure requires a lesser interval, but do not allow any section to be less than 4 feet in length.

EXPANSION JOINTS: Construct expansion joints at all inlets, at all radius points, and at other locations indicated in the Plans. Locate them at intervals of 500 feet between other expansion joints or ends of a run. Ensure that the joint is 1/2 inch in width.

FINISHING.

REPAIR OF MINOR DEFECTS: Remove the forms within 24 hours after placing the concrete, and then fill minor defects with mortar composed of one part portland cement and two parts fine aggregate. The Engineer will not allow plastering on the face of the curb. Remove and replace any rejected curb, curb and gutter, or valley gutter without additional compensation.

FINISH: Finish all exposed surfaces while the concrete is still green. In general, the Engineer will only require a brush finish. For any surface areas, however, which are too rough or where other surface defects make additional finishing necessary, the Engineer may require the Contractor to rub the curb to a smooth surface with a soft brick or wood block, using water liberally. Also, if necessary to provide a suitable surface, the Engineer may require the Contractor to rub further, using thin grout or mortar.

CURING.

GENERAL: Continuously cure the concrete for a period of at least 72 hours.
Commence curing after completely finishing and as soon as the concrete has hardened sufficiently to permit application of the curing material without marring the surface. Immediately replace any curing material removed or damaged during the 72 hour period. After removing the forms, cure the surfaces exposed by placing a berm of moist earth against them or by any of the methods described below, for the remainder of the 72 hour curing period.

WET BURLAP METHOD: Place burlap, as specified in 925-1, over the entire exposed surface of the concrete, with sufficient extension beyond each side to ensure complete

coverage. Overlap adjacent strips a minimum of 6 inches. Hold the burlap securely in place such that it will be in continuous contact with the concrete at all times, and do not allow any earth between the burlap surfaces at laps or between the burlap and the concrete. Saturate the burlap with water before placing it, and keep it thoroughly wet throughout the curing period.

MEMBRANE CURING COMPOUND METHOD: Apply clear membrane curing compound or white pigmented curing compound, as specified in 925-2, by a hand sprayer meeting the requirements of 350-3.10, in a single coat continuous film at a uniform coverage of at least one gallon per 200 square feet. Immediately recoat any cracks, checks, or other defects appearing in the coating. Thoroughly agitate the curing compound in the drum prior to application, and during application as necessary to prevent settlement of the pigment.

POLYETHYLENE SHEETING METHOD: Place polyethylene sheeting, as specified in 925-3, over the entire exposed surface of the concrete, with sufficient extension beyond each side to ensure complete coverage. Overlap adjacent strips a minimum of 6 inches. Always hold the sheeting securely in place and in continuous contact with the concrete.

BACKFILLING AND COMPACTION

After the concrete has set sufficiently, but not later than three days after pouring, refill the spaces in front and back of the curb to the required elevation with suitable material. Place and thoroughly compact the material in layers not thicker than 6 inches.

SURFACE REQUIREMENTS

STRAIGHTEDGE: Test the gutter section of curb and gutter with a 10 foot straightedge laid parallel to the centerline of the roadway and while the concrete is still plastic. Perform straightedging along the edge of the gutter adjacent to the pavement or along other lines on the gutter cross-section, as directed by the Engineer. Immediately correct irregularities in excess of 1/4 inch.

ELEVATION AND CROSS SLOPE: Place curb and gutter so the calculated actual roadway or shoulder cross slope to be placed within the curb and gutter is within +/- 0.2% of the calculated design cross slope for that location. Once per 500 feet, check the elevation of lip of curb and gutter and calculate actual cross slope between curb and gutter on each side of a lane or set of adjacent lanes. Perform these checks prior to placement of the curb and gutter and adjust to ensure cross slope tolerance is met. After placement and curing of curb and gutter, perform the above checks again. Correct any curb and gutter found to be outside the cross slope tolerance described above.

METHOD OF MEASUREMENT

For curb or curb and gutter, the quantity to be paid will be the plan quantity, *in feet,* measured along the face of the completed and accepted curb Curb for sidewalk curb ramps or driveways will be paid at the Contract unit price for the adjacent curb type For curb of any type next to concrete pavement, the curb-pavement joint quantity to be paid will be the plan quantity, in feet, measured along the face of the completed and accepted curb.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Section, including reinforcement steel, dowels, asphalt pavement and base under traffic separator, joint materials and asphalt curb pad.

Payment will be made under:

Item No. 520-2-2	Concrete Curb Type B - per foot.
Item No. 520-2-4	Concrete Curb Type D - per foot.

END OF ITEM
520-2-2
520-2-4

ITEM 522-1 CONCRETE SIDEWALK- 4" THICK
ITEM 522-2 CONCRETE SIDEWALK- 6" THICK

DESCRIPTION

Construct concrete sidewalks and driveways in accordance with the Plans and the Standard Plans. Sidewalk will include curb ramps, landings, transition slopes, sidewalk curb, and edge beams.

MATERIALS

Meet the requirements specified in 520-2 and the embankment utilization requirements of Standard Plans Index 120-001.

Forms

Provide forms as specified in 520-3.

Foundation

Shape and compact the foundation materials with suitable equipment to a firm, uniform, smooth, even surface, true to grade and cross-slope that is free of debris and irregularities.

For the following conditions proof roll the graded areas with a vibratory roller or mini plate compactor in such manner that a firm and unyielding foundation is established within 1 foot beyond each side of the sidewalk or driveway, when right-of-way conditions allow:

For all fill areas not exceeding 6 inches.

All cut areas

Existing sidewalk and driveways to be replaced in the same location, horizontal alignment, profile grade, and cross slope.

For fill areas 6 inches or greater, compact the foundation below the bottom of the concrete and 1 foot beyond each side of the sidewalk or driveway when right-of-way conditions allow, to a density not less than 95% of the maximum density as determined by FM 1-T099 for the following conditions:

A. For fill areas not exceeding 2 feet, take densities for the entire fill height.
B. For fill areas 2 feet or greater, take densities on the last (upper) 2 feet of fill height. Meet the testing frequency and maximum lift thickness requirements of Section 120.

Record density test results in the Earthwork Records System (ERS) section of the Department's database. Compact the material in the remaining fill areas to match the adjacent area density.

Joints

Install expansion and contraction joints in accordance with the Plans and the Standard Plans.

CONSTRUCITON DETAILS

Placing Concrete

Place the concrete as specified in 520-5.

Finishing

Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.

Surface Requirements: Imprint concrete as detailed in the Plans, otherwise provide a broom finish. Ensure that the surface variations are not more than 1/4 inch under a 10-foot straightedge or more than 1/8 inch on a 5-foot transverse section. Finish the outer edges of the concrete with an edging tool having a radius of 1/2 inch.

Sidewalk Cross Slope Requirements: Construct sidewalk with cross slope as shown in the Plans and Standard Plans. Sidewalks must have some cross slope, but no more than 2.0%, in either the positive or negative direction after construction.

Curing

Cure the concrete as specified in 520-8.

Opening Sidewalk to Pedestrian Traffic

Install detectable warnings, when shown in the Plans, in accordance with Section 527 on completed sections of sidewalk before opening to pedestrian traffic.

METHOD OF MEASUREMENT

The quantity to be paid will be plan quantity, in square yards measured in place, completed and accepted.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Section. Excavation for new installations will be paid for under the items for the grading work on the project.

Payment will be made under:

Item No. 522-1	Concrete Sidewalks -4” THICK- per square yard.
Item No. 522-2	Concrete Dumpster Pad- 6” thick - per square yard.

END OF ITEM

522-1
522-2

ITEM 527-2 DETECTABLE WARNINGS

DESCRIPTION

Detectable warnings are products used for the visually impaired and installed on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.).

MATERIALS

Use detectable warnings as approved for use on uncured concrete, existing concrete, and asphalt surfaces. Use only products and materials appropriate for the surface on which they will be applied. Use safety yellow, brick red, or black colored detectable warnings on concrete walking surfaces. Use safety yellow colored detectable warnings on asphalt walking surfaces. Use detectable warnings listed on the Department's Approved Product List (APL) meeting the requirements of Section 974. Methods used to form detectable warnings in wet concrete will not be permitted.

CONSTRUCTION DETAILS

Prepare the surface and install detectable warnings in accordance with the manufacturer's installation instructions, using materials and equipment recommended and approved by the manufacturer. Construct in accordance with Standard Plans, Index 522-002. Open the walking surface to pedestrian traffic within 72 hours for uncured concrete surfaces. Immediately open the walking surface to pedestrian traffic for asphalt and existing concrete surfaces. Surface color and texture shall be complete and uniform. Detectable warnings will be securely installed as recommended by the manufacturer and free from lifting, cracking, missing or partial domes, and with no significant defects. Surfaces shall not deviate more than 0.10 inch from a true plane.

METHOD OF MEASUREMENT

Detectable warnings will be paid by plan quantity, per *square foot*, furnished, installed and accepted.

BASIS OF PAYMENT

Price and payment will be total number of *square feet* for all work specified in this Section, including all labor, surface preparation, removal of existing removable or surface applied detectable warnings, materials, equipment, and incidentals necessary to complete the work.

END OF ITEM

527-2

ITEM 542-70 CONCRETE WHEEL STOPS

DESCRIPTION

This Section covers the construction of Concrete Wheel Stops (Wall of Traffic - WOT type) at the locations shown in the Contract Documents or as directed by the Engineer. The work includes furnishing all labor, materials, equipment, and incidentals necessary to construct cast-in-place concrete bumper guards, and/or precast including reinforcement and surface finishing, for the protection of structures, equipment, or other infrastructure.

MATERIALS

All materials used for the construction of concrete bumper guards shall meet the applicable requirements of the Florida Department of Transportation Standard Specifications. Concrete shall conform to Section 346 and shall be Class I, with a minimum compressive strength of 3,000 psi at 28 days unless otherwise specified in the plans. Reinforcing steel shall conform to Section 415 and shall be Grade 60. Formwork shall comply with the requirements of Section 400-5. Curing compounds used shall conform to Section 925-2. The Contractor shall provide a concrete mix design approved by the Engineer in accordance with Section 346 prior to placement.

CONSTRUCTION DETAILS

The Contractor shall construct the concrete wheel stops in accordance with the dimensions, lines, and grades shown in the plans. Installation shall be coordinated with adjacent construction features, including curbing, pavement, barrier walls, and equipment pads, to ensure proper alignment and functionality.

Reinforcing steel shall be installed in the size, spacing, and configuration shown in the plans. Steel shall be securely tied and supported to ensure it remains in the proper position during concrete placement.

The finished surface shall have a float finish or broom finish, as specified in the plans. All exposed edges and corners shall be rounded or chamfered as shown. The Contractor shall cure the concrete for a minimum period of seven days using an approved curing method.

The Contractor shall protect the bumper guard from damage due to weather, equipment, or construction activity until the concrete has reached its specified strength and the Engineer has accepted the work.

METHOD OF MEASUREMENT

The quantity to be paid for will be the number of or *each* Concrete wheel stops measured in place, completed and accepted, as shown in the plans or as directed by the Engineer.

BASIS OF PAYMENT

The contract unit price for Concrete wheel stops will be full compensation for all labor, materials, equipment, excavation, formwork, reinforcing steel, concrete placement, finishing, curing, and all other incidentals necessary to complete the work.

Payment will be made under:

Item No. 542-70	Concrete Wheel Stop - per each
Item No. 542-70-1	Concrete Wheel Stop-ADA - per each

END OF ITEM

542-70

ITEM 550-10 CHAINLINK FENCE, TYPE B
ITEM 550-60 FENCE GATE, TYPE B

DESCRIPTION

Furnish, erect and reset metal fence and gate of the type and at the locations shown in the Plans.

Types of Fence.
Type B (Chain-Link Fence).

MATERIALS

Type B Fence (Chain-Link): For the posts, braces, fabric and all accessories other than the concrete for bases, meet the requirements of the Standard Plans. Use concrete as specified in Section 347, or a premix approved by the Engineer for bases.

For Type B Fence, a combination of zinc-coated steel fence members, aluminum coated fence members and aluminum alloy fence members may be used. Unless otherwise indicated in the Plans, the Engineer will allow the use of only one type of fabric material, one type of line post material and one type of pull assembly material between corner and end post assemblies.

Certification: Provide the Engineer with certified test reports from the manufacturer confirming that all materials (posts, braces, fabric and all other accessories) conform to the requirements of this Section, Section 6 and the Standard Plans. Provide the Engineer a copy of the certification at least ten days prior to fence construction.

Also furnish the Engineer a Certificate of Compliance certifying that the fencing system, materials and construction practices comply with the applicable Standard Plans and Specifications.

Acceptance of furnished material will be based on the Certificate of Compliance, accompanying test reports and visual inspection by the Engineer.

CONSTRUCTION DETAILS

Install the fence in accordance with the specific requirements of this Article and with the details shown on the Standard Plans. Construct the fence in close proximity to the right of way line except as otherwise detailed in the Plans. Assume responsibility for obtaining satisfactory permits or permission from property owners for any encroachments required to perform the work, and for proper scheduling of the fence installation with the removal of existing fence where it is necessary to provide continuous security to adjacent areas already fenced. In order to meet this requirement, where necessary for maintaining security of livestock on adjacent property during construction of the new fence, the Engineer may require the erection and subsequent

removal of temporary fencing.

Spacing of Posts: Space posts as shown in the Standard Plans, within a tolerance of 12 inches, except where definite spotting of corner posts is required. Ensure that in any line of fence, the over-spacings and the under-spacings shall approximately compensate. Set additional line posts at abrupt changes in grade.

Clearing: Where the clearing and grubbing for the project includes the area occupied by the fence, clear the area to the limits shown in the Plans. If the limits are not shown in the Plans, clear the area at least 2 feet wide on each side of the fence line. The Engineer may direct that desirable trees be left in place and may restrict clearing where permission from the property owners cannot be obtained.

Construction Over Irregular Terrain and Other Obstructions:
Clearance of Bottom of Fence: Install the fence such that the bottom of the fence, in general, follows the contour of the ground. The fence is detailed in the Plans at approximately 3 inches above finished graded surface. Over irregular ground, however, the Engineer will permit a minimum clearance of 1 inch and a maximum of 6 inches for a length not to exceed 8 feet, and, for Type A fence, with the barbed wire spaced midway between ground and bottom of fabric.

Grading: Where necessary to secure proper vertical alignment and to meet the clearance requirements, fill depressions (except where filling would obstruct proper drainage) and cut down knolls and ridges. Provide a substantial and permanent foundation for the fence.

Use of Extra-Length Posts. At locations where it is impracticable to adjust the ground level, the Engineer may require that posts of additional length be set and that the opening at the bottom be closed by additional barbed wire, stretched taut between poles, with no vertical distance between wires greater than 3 inches. For all such posts requiring a concrete base, extend the concrete downward to the bottom of the extra-length post.

Setting Posts: If rock occurs within the required depth of the post hole, or pavement which is to remain in place exists at the location of a post, drill a hole of a diameter slightly larger than the greatest dimension of the post or footing and grout in the post or footing. Set timber posts either by digging or by driving. Set recycled plastic fence posts in accordance with the Standard Plans.

Placing Fabric: Do not place fabric and barbed wire until the posts have been permanently positioned and concrete foundations have attained adequate strength. Place the fabric by securing one end and applying sufficient tension to remove all slack before making permanent attachments at intermediate points. Fasten the fabric to all end, corner and pull posts by approved means. Fasten the fabric using tools designed for the purpose, in accordance with the manufacturer’s recommendations. Apply the tension for stretching by mechanical fence stretchers or with single-wire stretchers

designed for the purpose.

Electrical Grounds: Grounding for Overhead Lines: Wherever an overhead power line crosses over the fence, install a ground rod directly below the point of crossing. Where an overhead power line runs parallel to, and within 100 feet of the fence, install a ground rod at each end of the fence and at intervals of no greater than 1,500 feet. Use copper-clad steel ground rods that are a minimum of 8 feet in length and 1/2 inch in diameter. Drive the rod vertically until the top of the rod is approximately 6 inches below the ground surface. Connect a conductor of No. 6 AWG solid copper wire to the ground rod and each metal fence element directly adjacent to the ground rod using non-corrosive ground rod clamps.

Fences with Non-Metal Posts: For all fences using non-metal posts, substitute a metal post for a non-metal post at intervals of no greater than 300 feet with at least one metal post in any length of fence. Tightly fasten a galvanized steel wire to the barbed wire, fence fabric, and metal post.

METHOD OF MEASUREMENT

The quantities to be paid for will be plan quantity for *the number* of gates measured in place.

Measurement of Fence Length, and Payment: The length of fence in *feet* to be paid for will be the quantity measured in place, completed and accepted. Measurement for resetting fence will be the actual length of existing fence reset, including gates when applicable.

BASIS OF PAYMENT

Basic Items of Fencing: The Contract unit price *per foot* for the item of fencing, will be full compensation for all work and materials necessary for the complete installation, including line posts, corner, end, and pull posts. Such price and payment will include, but not be limited to, the following specific incidental work.

1. Any work required to level and prepare the terrain along the line of the fence.
2. Any additional clearing incidental to construction of the fence.
3. All preparation for post holes, in whatever type of material, as specified herein.
4. Any furnishing and installing of electrical grounds.
5. Any additional work or materials required for special construction over irregular terrain, or terrain of inadequate support for the posts, including the additional barbed wire, but not including the extra lengths of posts ordered by the Engineer.
6. Any cost of erection and removal of any temporary fencing, which may be necessary for maintaining security of livestock, etc., on adjacent property during construction of the new fence.
7. Any work related to the resetting of existing fence.

Payment, for the completed quantities measured and accepted by Engineer, will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s).

The quantities to be paid for will be full compensation for all labor, materials, posts, and associated hardware for the complete installation of the type gate specified in the Plans, and accepted by the Engineer.

Payment will be made under:

Item No. 550-10	Chain-link Fence, Type B- per foot.
Item No. 550-60	Fence Gates, Type B – each

END OF ITEM

550-10
550-60

ITEM 550-60-924 ENTRANCE GATE AND FENCE

DESCRIPTION

This section includes the furnishing and installation of a complete entry gate and decorative aluminum picket fence system, including reinforced masonry columns with a coral stone finish, a custom illuminated arch sign, and integrated lighting in the surrounding hardscape. The work includes all foundations, structural supports, electrical components, and installation of finishes necessary for a complete and functional system as indicated in the contract documents and in accordance with all applicable codes and City of South Miami standards.

MATERIALS

The fence shall be fabricated from heavy-duty, powder-coated aluminum pickets, fully welded in a black finish. All components shall be corrosion-resistant and suitable for long-term exterior exposure. Fence height, spacing, post dimensions, and anchoring details shall match the design drawings and meet local building code requirements.

The entrance gate shall be custom-fabricated with integrated welded aluminum or steel members, sized and designed to accommodate the specified span and loading conditions. All gate framing shall be structurally sound and include concealed hardware and electrical raceways as needed for lighting and signage integration. Gate finishes shall match adjacent fence material in both color and durability.

Masonry columns shall be constructed using reinforced concrete block and shall include internal conduit chases and embedded electrical boxes for power and lighting connections. The columns shall be finished with natural coral stone by veneer, applied in an ashlar pattern and color, subject to approval by the City.

Possible manufactures and specifications of stone are listed below:

A. Manufacturer:
   1. El Dorado Stone, LLC; Tel: (800) 925-1491
      www.eldoradostone.com
      i. Product: ‘Coastal Reef’ stone veneer- Pearl White

   2. Coral Stone USA Product; Tel (305) 468-8508
      www.croalstoneusa.com
      i. Product: ‘Coral Stone’ veneer

B. Materials:
   1. Stone veneer
      i. Pattern: Ashlar/ Random Ashlar
      ii. Color: ‘Pearl White” by El Dorado Stone’
      iii. Thickness: 1.5” – 2” maximum

iv. Height: 4”-12”
v. Length: 4”-16”
vi. Corner returns: Short 2.75” – 6.75”; Long 2.75”-10.75”

2. Reinforcing: ASTM C 847, 2.5lb/yd^2 (1.4kg/m^2) galvanized expanded metal lath complying with code agency requirements for the type of substrate over which stone veneer is installed.

3. Mortar:
   i. Cement: Portland cement complying with ASTM C 1329.
   ii. Lime: ASTM C 207.
   iii. Sand: ASTM C 144, natural or manufactured sand.
   iv. Water: Potable.
   v. Pre-Packaged Latex-Portland Cement Mortar: ANSI A118.4.

4. Bonding Agent: Exterior integral bonding agent meeting [ASTM C 932]

5. Stone Veneer protective Treatment: Water based siloxane water repellant .

C. MORTAR MIXES
1. Standard Installation (Grouted Joints):
   i. Mix mortar in accordance with ASTM C 270,
   ii. Polymer modified mortar complying with ANSI A118.4

The arch sign shall be custom-fabricated and mounted between the masonry columns, incorporating a welded frame structure with integrated LED lighting. The sign shall display City-approved branding, colors, and design standards. All components, including lettering, panels, and lighting enclosures, shall be weather-resistant, UV-stable, and engineered for outdoor use.

Logo, Park Name, Cast Aluminum Letters:
1. Material: Cast aluminum, alloy 214.

2. Font Style: ‘Optima’ (bold and regular) to match City of South Miami logo typeface. Finish: lettering shall be of a contrasting color from the wall on which they are mounted. Finish shall be satin aluminum with either an AAMA 2605 PVDF coating in the colors established by the City’s Brand Standard Manual for its logo or a clear lacquer spray coating.

3. Size: as shown in the drawings, minimum 3/4" thick. Proportions and aspect ratio to meet the minimum requirements outlined in the City of South Miami’s Brand Standard Manual.

All wiring, conduits, low-voltage transformers, and related electrical components shall be concealed within the structure and shall comply with NEC requirements. Lighting installed

in adjacent hardscape shall conform to the locations, quantities, and specifications indicated on the construction drawings.

Submittals

The contractor shall submit detailed shop drawings for the entrance gate, masonry columns (showing masonry units and reinforcement), and custom arched sign. Shop drawings shall include all dimensions, framing member sizes, welded connections, material specifications, mounting and attachment methods, and integration details with electrical components.

Additionally, the contractor shall provide the following for review and approval prior to fabrication:

- Product data and finish samples for the aluminum fence system
- Coral stone veneer samples for approval by the City
- Custom signage design showing City-approved colors, font, and layout
- Electrical diagrams showing conduit routing, connection points, and fixture types
- UL listings and cut sheets for all lighting components
- Structural details for all welded members and connections
- Warranty information for all major components

No fabrication or installation shall begin prior to receipt of approved submittals.

CONSTRUCTION DETAILS

Fence

Fence posts shall be installed in concrete footings with depths and diameters sized for structural stability. All aluminum components shall be shop-fabricated where possible, and field welding shall only occur where permitted and performed by certified welders. Welded joints shall be ground smooth and coated to match adjacent finishes. All fence elements shall be fully welded.

Columns

The entrance gate and columns shall be constructed true to line, level, and plumb. The contractor shall coordinate installation of conduits, junction boxes, and raceways within the masonry columns prior to concrete or grout placement.

Stone Veneer

A. Examine substrates upon which work will be installed. Verify that substrates to receive mortar scratch coat or setting bed comply with stone veneer manufacturer's instructions.
   1. Concrete masonry: verify joints are cut flush and surface ready to receive mortar setting bed. Verify no bituminous or water repellant coatings exist on masonry surface.

2. Metal lath and accessories: verify that lath is flat, secured to substrate and joint and surface perimeter accessories are in lace.
3. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.

B. Commencement of work by installer is acceptance of substrate.

Preparation

A. Protection: Protect adjacent work from contact with mortar.
B. Surface Preparation: Prepare substrate in accordance with manufacturer's installation instructions for the type of substrate being covered.

Installation

A. Install and clean stone in accordance with manufacturer's installation instructions for Standard Installation (Grouted Joint) as specified above.
B. Install thin veneer with a cementitious mortar setting bed to a scratch coat backing surface in accordance with stone fabricators instructions.
C. Masonry Flashing: Whether or not specifically indicated; install masonry flashing to divert water to exterior at all locations where downward flow of water
D. will be interrupted.
E. Seal all joints at wall openings and penetrations with sealant approved for use with adhered stone veneer.
F. Control and Expansion Joints: Discontinue lath, scratch coat and setting bed at movement joints in adhered veneer.
G. Install water repellant protective treatment per manufacturer's instructions.

Tolerances

A. Maximum variation from Unit to adjacent Unit: 1/16 inch (1.6 mm)
B. Maximum variation from Plane of Wall: ¼ inch in 10 feet and ½ inch in 20 feet or more.
C. Maximum variation from plumb ¼ inch per 4 feet.
D. Maximum variation from leveling course: 1/8" in 3 feet
E. Maximum variation in joint thickness: 1/8" in 3 feet

Cleaning

A. Remove protective coverings from adjacent work.
B. Remove excessive mortar as work progresses and upon completion of work.
C. Cleaning Veneer Units:
   1. Wash with soft bristle brush and water/granulated detergent solution
   2. Rinse immediately with clean water
D. Removing Efflorescence:
   1. Allow veneer to dry thoroughly
   2. Scrub with soft bristle brush and clean water

3. Rinse immediately with clean water allow to dry

Illuminated Arch Sign

The illuminated arch sign shall be securely anchored to the columns with concealed structural fasteners. All electrical connections, including power to LED fixtures and photoelectric sensors (if applicable), shall be tested and confirmed operational prior to final inspection.

Embedded in-grade lights within the hardscape shall be installed flush with finish materials, properly sealed, and connected to the electrical system per the plans. The contractor is responsible for coordinating trenching, conduit routing, and all terminations.

METHOD OF MEASUREMENT

The entry gate will be measured as a *lump sum* per complete assembly, which shall include all materials, labor, equipment, fabrication, installation, electrical work, finishes, shop drawings, and any other components necessary to furnish and install the gate, columns, decorative elements, signage, picket fence, and electrical components as shown in the plans and specifications.

BASIS OF PAYMENT

Payment shall be made at the *lump sum* contract price for the complete gate and fence system, which includes all materials, fabrication, installation, lighting, electrical work, signage, structural elements, and restoration. This includes labor, tools, equipment, foundation work, permitting, testing, and all incidentals required for a finished product in accordance with the plans and specifications.

END OF ITEM

550-60-924

ITEM 570-1 SODDING

DESCRIPTION

The work shall consist of furnishing and placing sod, watering, and maintaining the sodded areas to ensure a healthy stand of grass at locations shown on the plans or elsewhere as designated by the Engineer in conformance with the lines, grades, and areas shown in the contract plans or as directed by the Engineer.

MATERIALS

Meet the following requirements:

Turf Materials .....Section 981
St. Augustine or match existing (Floratam, Palmetto, Seville, Citrablue, Provista)
Fertilizer .....Section 982
Water .....Section 983

CONSTRUCTION DETAILS

1. Preparation of Ground: Scarify or loosen the areas requiring sod to a depth of 6 inches. On areas where the soil is sufficiently loose, particularly on shoulders and fill slopes, the Engineer may authorize the elimination of the ground preparation. Limit preparation to those areas that can be sodded within 72 hours after preparation. Prior to sodding, thoroughly water areas and allow water to percolate into the soil. Allow surface moisture to dry before sodding to prevent a muddy soil condition.
2. Placing Sod: Place sod immediately after ground preparation. Do not use sod which has been cut for more than 48 hours. Stack all sod that is not planted within 24 hours after cutting and maintain proper moist condition.

    A. Do not sod when weather and soil conditions are unsuitable for proper results. Pre-wet the area prior to placing sod. Do not place sod on eroded or washed out sites.

    B. Place the sod on the prepared surface, with edges in close contact, and embed it firmly and smoothly by light tamping with appropriate tools.

    C. Place the sod to the edge of all the paving and shrub areas and 1 inch below adjoining pavement with an even surface and edge. Place rolled sod parallel with the roadway and cut any exposed netting even with the sod edge.

    D. Roll using a lightweight turf roller. Provide a true and even surface without any displacement of the sod or deformation.

    E. Where sodding in drainage ditches, stagger the setting of the sod pieces to avoid a continuous seam along the line of flow. Ensure that the offsets of

individual strips do not exceed 6 inches. Tamp the outer pieces of sod to produce a featheredge effect.

F. Peg sod at locations where the sod may slide. Drive pegs through sod blocks into firm earth, at intervals approved by the Engineer.

G. Remove any sod as directed by the Engineer.

3. Watering: Thoroughly water the sod immediately after placing. Do not water in excess of 1 inch per week for establishment. The contractor shall water and maintain newly sodded areas as needed and adhere to the following minimum frequencies until final acceptance of the Project by the County unless otherwise approved by the Engineer:

   A. Minimum Watering Schedule (3/4" to 1" per watering)

      1. Every day for the first 14 days after placement, followed by
      2. Three times per week for next 14 days, followed by
      3. Two times per week until final acceptance of the project.

4. Mowing Schedule

   1. Minimum bi-weekly after established, and
   2. Immediately prior to final acceptance.

MAINTENANCE

1. Maintain the sodded areas in a satisfactory condition until final acceptance of the project. Include in such maintenance the filling, leveling, and repairing of any washed or eroded areas, as may be necessary. The Department will pay for resodding necessary due to factors determined by the Engineer to be beyond the control of the Contractor.

2. Monitor placed sod for growth of pest plants and noxious weeds. If pest plants and/or noxious weeds manifest themselves within 30 days of placement of the sod, treat affected areas by means acceptable to the Department at no expense to the Department. If pest plants and/or noxious weeds manifest themselves after 30 days from date of placement of sod, the Engineer, at his sole option, will determine if treatment is required and whether or not the Contractor will be compensated for such treatment. If compensation is provided, payment approved by the Engineer will be made as unforeseeable work.

3. Maintenance of sodded areas is required for no less than thirty (30) days after placement or until the sodded area is determined to be established and satisfactory by the Engineer, whichever is greater.

METHOD OF MEASUREMENT

The quantities to be paid for will be the area measured in *square yards* of sodding measured in place and accepted by the Engineer. Measurement for payment shall include only areas of sodding that have established a satisfactory root system (i.e. leaf blades break before sod can be pulled from the soil by hand).

BASIS OF PAYMENT

Sodding will be paid for at the unit price bid per *square yard* of sod acceptably furnished and placed, which payment shall include watering, mowing, and materials required to perform the work as specified. scarifying, excavation, fill/embankment, removal and disposal of excavated material, the cost of furnishing all equipment, labor and materials required to complete the work as specified. Complete payment will not be made until the grass has been established and the maintenance is complete.

END OF ITEM

570-1

ITEM 580-1 LANDSCAPING- NEW TREES
ITEM 580-2 LANDSCAPING- NEW SHRUBS
ITEM 580-3 LANDSCAPING- NEW GROUNDCOVERS

DESCRIPTION

Work included in this Section includes, tree relocations, furnishing and planting trees, plants and grass of the species, sizes and quality specified, fertilizing, watering, maintaining plants, guarantee and obtaining all permits from municipalities having jurisdiction over this work.

MATERIALS

The schedule of trees and plants, is shown on the drawing, and indicates the common and botanical names, the quantities and sizes of plants to be used.

Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf with well developed root systems free of disease and insects, pests, eggs or larvae. No plants will be accepted unless healthy and showing satisfactory foliage conditions.

Solid sod and grass submittal to be submitted to the Engineer or Record for approval prior to installation.

GRASSING, SOLID SOD AND SEED

A. General:

1) Solid sod shall be planted in the unpaved areas abutting the structures and extending to the limits shown on the Plans.

2) Grass seeding: All other unpaved areas shall be planted with grass seed and mulched.

3) When solid sod or grass seed is to be placed adjacent to or in close proximity to existing sod or grass, the Contractor is to use similar sod or grass and obtain approval from the Engineer of Record prior to installation. In public areas and right-of-ways the Contractor is also required to comply with Governmental Agency requirements and provide the Department with written approval of said agency prior to installation of grass and sod.

B. Materials:

1) Solid Sod:

(a) Solid sod shall be certified bitter blue St. Augustine Floratam. The sod

shall be firm touch texture having a compact growth of grass with good root development. It shall contain no weeds or other objectionable vegetation.

(b) The soil embedded in the sod shall be good clean earth, free from stones and other debris. The sod shall be free from fungus, vermin and other diseases. The sod and soil shall be approximately 2" thick.

(c) Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall be cut into uniform dimensions approximately 12" X 24". Abutting joints shall be free of open spaces with a tamped or rolled surface so that there are no joint openings.

2) Topsoil: Soil utilized for planting grasses shall be a mixture of pulverized 50% rock free siliceous sand and 50% clean mulch from an approved source. All ingredients shall be free of sticks, roots, rocks, lumps or other impurities or debris. All soil shall be delivered in a loose friable condition. Topsoil may be "unsuitable top soil" removed during the course of other work hereunder, if approved by the Engineer of Record. Topsoil shall be free of undesirable plants and seeds. Any such plants sprouting from areas of recent topsoil application shall be presumed to have originated in the topsoil and shall be eradicated from the area by the Contractor at his expense. Means of eradication shall be submitted to the Engineer of Record for approval.

C. Planting of Grassing:

1) Solid Sod: Unless otherwise directed by the Engineer, four inches of topsoil shall be placed. The ground area shall be saturated with water. Sod shall be placed on the graded and watered ground firmly butted on all sides by sod without leaving holes, slots, or depressions. Sod shall be top dressed with soil (herein before specified) where required to bring all fill to voids and provide a uniform grass matt if approved by the Engineer of Record. Soil shall firmly abut all structures to which it surrounds or contacts. Immediately after the grassing process, the entire grassed or mulched area shall be rolled thoroughly with a cultipacker traffic approved roller, or other 1,000 pound roller. At least two trips over the entire area will be required.

2) Grass Seeding: As above, place four inches of topsoil and saturate with water. Thereafter seed and mulch

D. Fertilizing Grassing:

1) Commercial fertilizers shall comply with all Federal, State and County fertilizer laws.

2) The numeral designations for fertilizer indicate the minimum percentage

(respectively) of (1) total nitrogen, (2) available phosphoric acid, and (3) water soluble potash, contained in the fertilizer.

3) Designations may be approved specifically for a particular project and if liquid fertilizer other than that of chemical designation 8-8-8 is used, the total nitrogen content shall not exceed 12 percent.

4) At the Contractor's option liquid or dry fertilizer may be used. All grass shall be fertilized and watered in during the planting operation using the application rate and method directed by the manufacturer of the fertilizer used.

E. Guarantee and Maintenance of Grassing:

1) Guarantee:

(a) The Contractor shall guarantee all grasses for a period of six months from the date of acceptance of the completed overall project from the Contractor.
(b) The Contractor shall guarantee the grasses shall be alive, free of disease and have a healthy appearance at the end of the guarantee period.
(c) During the guarantee period, the Contractor shall replace any grass which is diseased, dead or visually unsightly within 3 days when requested in writing.

2) Maintenance:

(a) The Contractor shall maintain all grass guaranteed above for the period of the guarantee. Such maintenance shall include filling, leveling, and repairing eroded areas, replanting areas where the establishment of the grass does not develop satisfactorily, and watering as required. In no case shall such maintenance be less than 3 weeks for watering and 6 weeks for remaining maintenance care.
(b) The maintenance of the grass shall include, regular mowing, one application of approved dry or liquid fertilizer to the grasses guaranteed above. The fertilizer shall be applied and watered in as directed by the manufacturer. The time of fertilizing shall be approved.
(c) The Contractor shall be required under the maintenance of the guaranteed grasses to safeguard and take all possible precautions against damage from the elements and other possible damage. The Contractor shall be required to clean up the effected landscape area during the maintenance period due to any such event. The Contractor shall not be responsible to replace grasses properly protected under this item of the specifications, damaged by the events beyond his control.

PLANTS AND TREES:

F. Grade Standards and Quality:

1) Quality of all plants shall be at least equal to that defined as No. 1 by the State Plant Board of Florida in Grades and Standards for Nursery Plants, Part I, 1963 Revised Edition, and Part II, Palms and Trees. Trees shall be field grown

2) All plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall have healthy, well developed root systems and shall be free of disease and insect pests, eggs or larvae.

3) No plants will be accepted unless they are healthy and show satisfactory foliage conditions.

4) All plants shall conform to the measurements specified or indicated on the Drawings except that up to 10 percent of undersized plants in any one variety or grade may be used provided there are sufficient oversized plants to make the average equal to or above specified grade. Plants larger than specified may be used if approved by the Engineer of Record, but use of such plants shall not increase the Contract price. The spread of roots or ball of earth for larger plants shall be increased in proportion to the size of the plant.

G. Plant Designation: With reference to method of cultivation, root system status, etc., plants for landscaping shall be classified under the following designations:

1) Balled and Burlapped:

(a) Plants so classified shall be dug with firm natural root balls of earth, of sufficient diameter and depth to include most of the fibrous roots. The root ball of these plants shall be properly wrapped with burlap sack material and remain protected and moist until they are planted. Plants whose burlapped balls have cracked or become sagging, or plants showing scars from rope and cable marks or other improper handling are not acceptable. All balled and burlapped plants which cannot be planted immediately upon delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable material. The plants shall be set with the burlap cover intact and with the burlap showing, until inspection. At final inspection, the burlap may be cut away to ground level and completely covered with soil.

(b) It is required that, balled and burlapped materials, 1½ inches or more in caliper, shall be root-pruned at least 45 days before being dug and such fact shall be certified on accompanying invoices. Where, in the opinion of the Engineer of Record following his inspection of the grower's stock, adequate root pruning is being obtained by the grower's general cultivating practices, he may consider such fact as meeting this requirement.

2) Wire Balled and Burlapped:

(a) Plants grown in soil of a loose texture which does not readily adhere to the root system shall have sound hog wire placed around the burlapped ball

before the plant is removed from the excavation. The wire shall be looped and tensioned until the burlapped ball is substantially packaged so as to prevent loosening of the soil around the roots during handling.

(b) Wire balled and burlapped plants shall otherwise comply with the requirements for balled and burlapped plants described in 1 above.

3) Container Grown Plants:

(a) Container grown plants shall have been grown in a container large enough and for sufficient time for the root system to have developed well enough to hold its soil together firm and whole. No plants shall be loose in the container. Plants which have become pot bound or for which the top system is too large for the size of the container, will not be acceptable.

(b) All containers with vertical sides shall be cut and opened fully, in a manner such as will not damage the root system. Container grown plants shall not be removed from the container until immediately before planting, when all due care shall be taken to prevent damage to the root system.

4) Bare-Root Plants: No bare-root plants shall be used unless specifically required by the Engineer of Record or called for on the drawings.

5) Palms:

a) Palm species shall have the roots adequately wrapped before transplanting except when they are container grown. Burlapping will not be required if the palm is carefully dug from marl or heavy soil that it adheres to the roots and retains its shape without crumbling. During transporting and after arrival, root balls of palm shall be carefully protected from the wind and exposure to the sun. After delivery to the job site, if palm is not planted within 24 hours, the root ball shall be covered with a moist material.

b) All moving of sabal, coconut and royal palms shall be in accordance with Heavy Trunk Palms, as described in "Florida Grades and Standards for Nursery Plants, Part II".

6) Rooted Cuttings: Cuttings shall be kept moist at all times. They shall be rooted in a medium other than wood shavings and have at least 4 root tips of ½-inch or longer.

H. Transportation and Inspection:

1) Plant transportation shall comply with all Federal and State regulations therefor and, upon delivery at the site, all plants shall be inspected for conformity to specifications and for handling damage. Rejected plants shall be removed immediately from the site by the Contractor.

2) Foliage trees when moved in full leaf shall be treated with "Wilt Pruf" or

"Plantguard", as they are loaded at their growing site. This material shall be applied to the entire tree with a fine spray at a dilution of 1 part "Wilt Pruf" or "Plantguard" to 15 parts of water.

3) Trees which have to be transported in excess of 10 miles to reach the job site, shall be covered with a 70 percent shade-cloth-tarp, or equal in order to prevent wind burn.

4) Immediately following the delivery and inspection at the job, all plants with exposed roots shall be heeled-in moist soil or peat moss. All plants heeled-in shall be properly maintained by the Contractor until planted.

5) The balls of balled and burlap plants, must, if not immediately planted after delivery and inspection, be adequately protected by covering until removed for planting, in a manner appropriate to prevailing conditions and in accordance with accepted horticultural practices. The Contractor shall, in loading, unloading, or handling of plants, exercise utmost care to prevent injuries to the branches or roots of the plants. The solidity of the ball of balled and burlapped plants shall be carefully preserved. Handling of the plant by parts other than the ball shall be cause for rejection of such plant. Bare root plants which have been heeled-in shall be properly handled during the distribution of planting beds.

I. Planting Materials:

1) Planting Soil: Planting soil shall be a pulverized mixture of 50% rock free siliceous sand and 50% clean mulch from an approved source. All ingredients shall be free of sticks, roots, rocks, lumps, or other impurities or debris. All soil shall be delivered in a loose friable condition.

2) Fertilizer:

(a) Fertilizer shall be organic base, uniform in composition, dry and free flowing.
(b) Fertilizer shall be selected and used as recommended by the manufacturer for each particular plant.

3) Mulch: Mulch shall be ground bark, bark peelings, peat, hay or straw. Cypress mulch shall not be used because its harvest degrades cypress wetlands.

4) Anti-Desiccant: Anti-desiccant shall be "Wilt Pruf", "Plantguard", or equal, delivered in the manufacturer's containers and used in accordance with the manufacturer's instructions.

5) Water:

(a) Water for the irrigation of the new plantings during the progress of

construction shall be provided by the Contractor in accordance with the provisions previously specified.

(b) The Contractor shall furnish adequate watering equipment and shall continue watering to properly establish the new plantings throughout the maintenance period.

6) Wire: Wire for the bracing and guying shall be pliable No. 12 or No. 14 gauge galvanized soft steel wire.

7) Stakes and Ties: Stakes and ties shall be provided in accordance with the requirements of PART 3 EXECUTION, below.

CONSTRUCITON DETAILS

EXCAVATION OF PLANT HOLES

A. Plant hole excavations shall be roughly cylindrical in shape, with the sides approximately vertical. Plants shall be centered in the hole, with the trunk location as shown in the Plans.

B. Bottoms of the holes shall be loosened at least 6-inches deeper than the required depth of excavation.

C. Holes for balled and burlapped and wire balled and burlapped plants shall be large enough to allow at least 8-inches of backfill around the earth ball. For root balls over 18-inches in diameter, this dimension shall be increased to 12-inches.

D. Where excess material has been excavated from the plant hole, the excavated material shall be disposed of as and where directed by the Engineer of Record.

E. PREPARATION OF GROUND

1) Four inches minimum thickness of topsoil shall be placed over the areas off the right of way on which the sod is to be placed.

F. APPLICATION OF FERTILIZER

1) Before applying fertilizer, the soil pH shall be brought to a minimum range of 6.0 - 7.0.

2) The fertilizer shall be spread uniformly over the area to be sodded at the rate of 500 pounds per acre, by a spreading device capable of uniformly distributing the material at the specified rate. Immediately after spreading, the fertilizer shall be mixed with the soil to a depth of approximately 4-inches.

3) On steep slopes, where the use of a machine for spreading or mixing is not practicable, the fertilizer shall be spread by hand and raked in and thoroughly mixed with the soil to a depth of approximately 2-inches.

G. PLACING SOD

1) The sod shall be placed on the prepared surface, with edges in close contact and shall be firmly and smoothly embedded by light tamping with appropriate tools. Sod areas abutting concrete, asphalt or other applicable surfaces shall have the soil depressed at edges of the pavements so that the cut grass does not protrude over 2-inches above the adjacent property.

2) Where sodding is used in drainage ditches, the setting of the pieces shall be staggered so as to avoid a continuous seam along the line of flow. Along the edges of such staggered areas, the offsets of individual strips shall not exceed 6-inches. In order to prevent erosion caused by vertical edges at the outer limits, the outer pieces of sod shall be tamped so as to produce a featheredge effect.

3) On steep slopes, the Contractor shall, if so directed by the Engineer of Record, prevent the sod from sliding by means of wooden pegs driven through the sod blocks into firm earth, at suitable intervals.

4) Sod which has been cut for more than 72 hours shall not be used unless specifically authorized by the Engineer of Record after his inspection thereof. Sod which is not planted within 24 hours after cutting shall be stacked in an approved manner and maintained and properly moistened. Any pieces of sod which, after placing, show an appearance of extreme dryness shall be removed and replaced by fresh, uninjured pieces.

5) Sodding shall not be performed when weather and soil conditions are, in the Engineer of Record's opinion, unsuitable for proper results.

H. WATERING

1) The areas on which the sod is to be placed shall contain sufficient moisture, as determined by the Engineer of Record, for optimum results. After being placed, the sod shall be kept in a moist condition to the full depth of the rooting zone for at least 2 weeks. Thereafter, the Contractor shall apply water as needed until the sod roots and starts to grow for a minimum of 60 days (or until final acceptance whichever is latest).

UNDERGROUND OBSTRUCTIONS:

A. In the event that rock, underground construction work, utility lines or obstructions out of the ordinary are encountered in any plant hole excavation, alternative locations will be selected by the Engineer of Record.

B. Where locations cannot be changed and the obstructions may be removed, the obstructions shall be removed to a depth of not less than 3-feet below grade and not less than 6-inches below bottom of balls or roots when plant is properly set at the required grade.

SETTING OF PLANTS:

A. When lowered into the hole, the plant shall rest on a prepared hole bottom such that the roots are level with, or slightly above, the level of their previous growth and so oriented such as to present the best appearance. The Contractor, when setting plants in holes, shall make allowances for any anticipated settling of the plants.

B. The backfill shall be made with planting mixture as specified hereinbefore and shall be firmly rodded and watered-in, so that no air pockets remain. The quantity of water applied immediately upon planting shall be sufficient to thoroughly moisten all the backfilled earth. Plants shall be kept in a moistened condition for the duration of the Contract.

STAKING AND GUYING:

A. When called for on the Drawings or directed by the Department, plants shall be staked in accordance with the following provisions:

1) Small Trees: For trees and shrubs of less than 1-inch caliper, the size of stakes and the method of tying shall be such as to rigidly support the staked plant against damage caused by wind action or other effects. Trees larger than 1-inch and smaller than 1½ inch caliper shall be staked with a 2-inch square stake driven at least 24-inches in the ground and extending to the crown of the plant. The plant shall be firmly fastened to the stake with two strands of 14 gauge soft wire, enclosed in rubber hose, or other approved covering. The wire shall then be nailed or stapled to the stake to prevent slippage.

2) Medium Trees: All trees, other than palm trees, larger than 1½-inch caliper and smaller than 2½-inch caliper shall be staked with two or more, 2-inch by 2-inch stakes, 8-feet long, set 2-feet in the ground. The tree shall be midway between the stakes and held firmly in place by two strands of 12 gauge wire, applied as specified above for single stakes. Tie wires shall be tightened and kept tight by twisting.

3) Large Trees: All trees, other palm trees, larger than 2½-inch caliper, shall be guyed from at least 3 points with double strands of 12 gauge wire. Guy wires shall be anchored to 2-inch by 4-inch stakes, 24-inches long, driven into the ground at least 2-feet and sufficient that the top of the stake is at least 3 inches below the finished ground level. In firm rock soils, No. 4 steel reinforcing rods or ½-inch pipe may be used instead of 2 by 4's. Tie wires shall be securely fastened to the tree

by means of a collar of rubber hose, or other approved material. Guy wires shall be tightened and kept tight by twisting.

4) Palm Trees: Brace palm trees with three or more 2-inch by 4-inch wood braces, toenailed to cleats which are securely banded at two points to the palm, at a point at least 6-feet above the ground. The trunk shall be padded with five layers of burlap under the cleats. Braces shall be approximately equidistantly spaced and secured underground with 2-inch by 4-inch by 24-inch stake pads. In firm rocky soils, No. 4 steel reinforcing rods or ½-inch pipe is acceptable.

PRUNING:

All broken or damaged roots shall be cut off smoothly and the tops of all trees shall be pruned in a manner complying with standard horticultural practice. At the time pruning is completed, all remaining wood shall be alive. All cut surfaces of 1-inch or more in diameter, above the ground, shall be treated with an approved commercial tree paint.

MULCHING:

Within one week after the planting, mulch material, approved by the Engineer of Record, shall be uniformly applied to a minimum thickness of 2-inches, over the entire area of the backfilled hole or bed. The mulch shall be maintained continuously in place until the time of final inspection. Mulch is not required if other ground surface covers, such as rooted cuttings are called in the Plans.

INSPECTION:

On completion of the work, the Engineer of Record will inspect all planting work. The Contractor shall repair or replace all defective work, whichever is unsatisfactory to the Engineer of Record or the Department. Preliminary acceptance of all plant materials will be given only after the materials are planted and after meeting all requirements prescribed herein.

MAINTENANCE:

A. Maintenance shall begin immediately after each plant is planted and shall continue until all work under this Contract has been completed and final acceptance is obtained from the Department, however, the minimum period of this maintenance shall not be less than 60 days even if it extends beyond final acceptance of contract. Plants shall be watered, mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained and protected. Settled plants shall be reset to proper grade position, planting saucer restored and dead material removed. Guys shall be tightened and repaired.

B. Defective work shall be corrected as soon as possible after it becomes apparent. Upon completion of planting, the Contractor shall remove from the site excess soil

and debris, and repair any damage to structures, etc., resulting from planting operations.

GUARANTEE:

The Contractor shall guarantee all planting work for a period of six months after the date of final acceptance. During the guarantee period, the Contractor shall replace at no cost to the Department any plant that dies or is not established within the guarantee period. Any plants missing or defective shall be furnished or replaced in a manner satisfactory to the Department.

METHOD OF MEASUREMENT

The quantity to be paid will be for *each* new tree, shrub, or groundcover, measured in place, completed and accepted. Relocation of existing trees shall be covered in this item and considered incidental.

BASIS OF PAYMENT

Payment for landscaping work shall be considered full compensation for all labor, materials, equipment, and incidentals required to complete the work, including but not limited to pruning, staking, mulching, trimming, fertilizing, planting, installation of root barriers, and all other related tasks necessary to achieve a finished and accepted product.

Payment, for the completed quantities measured and accepted by Engineer, will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s).

Payment will be made under:

Item No. 580-1	Landscaping-New Trees"- per each
Item No. 580-2	Landscaping- New Shrubs"- per each
Item No. 580-3	Landscaping- New Groundcovers- per each.

END OF ITEM

580-1
580-2
580-3

ITEM 630-2-11 CONDUIT, OPEN TRENCH
ITEM 630-2-12 CONDUIT, DIRECTIONAL BORE

DESCRIPTION

Furnish and install conduit for electrically powered or operated devices as shown in the Contract Documents.

MATERIALS

Use materials that have been tested and listed by a Nationally Recognized Testing Laboratory to the following industry standards:

Schedule 40 and 80 Polyvinyl Chloride (PVC)[1] ..... UL 651
Fiberglass Reinforced Epoxy[2] (below ground)..... UL 2420
Fiberglass Reinforced Epoxy[2] (above ground) ..... UL 2515
Intermediate Metal[3] ..... UL 1242
Rigid Galvanized Metal[3,4] ..... UL 6
Rigid Aluminum[4] ..... UL 6A
PVC Coated Intermediate Metal[4] .....ASTM A135/A135M, ... ASTM A513, ASTM A568/A568M, NEMA RN1-2005
Liquid Tight Flexible Metal..... UL 360
High Density Polyethylene (HDPE) Standard Dimension Ratio (SDR) 9-11[5] ..... ASTM F2160
HDPE SDR 13.5[5] ..... ASTM F2160, NEMA TC-7
Schedule 40 and 80 HDPE..... UL 651A

1. Use conduit with solvent weld slip-fit plastic couplings unless approved by the Engineer.
2. Use conduit having a minimum stiffness value of 250. Ensure that each section has a duct bell with an integral gasket on one end and a duct spigot on the other end.
3. Use conduit that is hot-dipped galvanized with a minimum coating of 1.24 ounces per square foot on both the inside and outside of the conduit. The weight of the zinc coating shall be determined using ASTM A90.
4. Use conduit with both ends reamed and threaded.
5. Can be used with preassembled cable and rope-in conduit.

Table 630-1
Minimum Standards for Surge Protection

Surge Element	3-element maximum duty fail-safe gas tube.
Rating	40,000 A surge capacity (single-cycle, 8 by 20 microsecond waveform).
Life	Minimum 1,000 surges (1000 A to ground).
Fail-Safe	Integral fail-shorted device.
Insulation Resistance	1,000 megaohm minimum at 100 volts of direct current (VDC).
Clamp Voltages	a. Impulse at 100 volts per microsecond: Typically 500 volts. b. Direct Current: 300 to 500 volts.

Warning Tape

Ensure that the buried cable warning tape is flexible, elastic material 3 inches wide, 6 mil thick, intended for burial and use as an underground utility warning notice, and that the surface of the warning tape is coated and sealed to prevent deterioration caused by harsh soil elements. Ensure that the warning tape color follows the American Public Works Association color code for underground utilities. Ensure that the tape material and ink colors do not change when exposed to acids, alkalis, and other destructive chemical variances commonly found in Florida soils.

Route Markers

Route markers may be either a standard route marker (SRM) type or an electronic route marker (ERM) type. Ensure the SRM is a rigid, tubular, driven post used for location and notification purposes only. Ensure the ERM is physically identical to the SRM, but also includes a termination board to provide aboveground access to locate wire buried alongside conduit and cable runs.

CONSTRUCTION DETAILS

Install the conduit in accordance with NEC or National Electrical Safety Code (NESC) requirements and the Standard Plans. Consider the locations of conduit as shown in the Plans as approximate. Construct conduit runs as straight as possible and obtain the Engineer's approval for all major deviations in conduit locations from those shown in the Plans. Include buried cable warning tape with all trenched conduit. Mark the location of the conduit system with route markers as shown in the Plans and approved by the Engineer. Ensure that all route markers used are new and consistent in appearance.

For conduit installed by directional bore, install in accordance with Section 555.
For conduit installed by jack and bore, install in accordance with Section 556.

Use only intermediate galvanized metal conduit, rigid galvanized metal conduit, rigid aluminum conduit or PVC coated intermediate metal conduit for above-ground electrical power service installations and rigid galvanized metal conduit or rigid aluminum conduit for underground electrical power service installations. Meet the requirements of Section 562 for coating all field cut and threaded galvanized pipe.

Use Schedule 80 PVC, Schedule 40 PVC, or fiberglass reinforced epoxy for conduit inside of or embedded within structural elements. Use Schedule 80 PVC or fiberglass reinforced epoxy for conduit that are outside or attached to the exterior of structural elements.

For non-structural, above ground electrical conduit, use intermediate galvanized metal conduit, rigid galvanized metal conduit, or Schedule 80 PVC conduit.

Use HDPE with an SDR number less than or equal to 13.5, Schedule 80 HDPE, Schedule 40 HDPE, Schedule 80 PVC, or Schedule 40 PVC for underground installations of electrical conduit in earth and other electrical applications.

Use HDPE with an SDR number less than or equal to 11, Schedule 80 PVC or Schedule 40 PVC for underground installations in earth or concrete for ITS and traffic control signal applications, except, use only HDPE with an SDR number less than or equal to 11 for blown fiber optic cable installations on limited access facilities.

Use Schedule 40 PVC Split Duct Conduit only for temporary repairs or relocation of conduit containing active fiber optic communications for distances less than 100 feet.

Use HDPE with an SDR number less than or equal to 13.5, Schedule 80 PVC, or Schedule 40 PVC for underground installations of electrical conduit in earth for lighting applications and landscape irrigation applications.

Use HDPE with an SDR number less than or equal to 13.5, Schedule 80 PVC, Schedule 40 PVC, or rigid galvanized metal for underground installations of electrical conduit in concrete for lighting applications.

Do not place more than the equivalent of three 90 degree bends or a total of 270 degrees of bends, including the termination bends, between the two points of termination in the conduit, without a pull box. Obtain the Engineer's approval to use corrugated flexible conduits for short runs of 6 feet or less.

When a conduit installation changes from underground to above-ground, make the change a minimum of 6 inches below finished grade.

Install a No. 12 AWG pull wire or polypropylene cord inside the full length of all conduits. Ensure that a minimum of 24 inches of pull wire/cord is accessible at each conduit termination.

Ensure the conduit includes all required fittings and incidentals necessary to construct a complete installation.

When earth backfill and tamping is required, place backfill material as per Section 120 in layers approximately 12 inches thick and tamp each layer to a density equal to or greater than the adjacent soil.

When backfilling trenches in existing pavement, use a flowable fill meeting the requirements of Section 121.

Provide a standard clearance between underground control cable and electrical service cable or another parallel underground electrical service cable that meets NESC requirements.

Prevent the ingress of water, dirt, sand, and other foreign materials into the conduit prior to, during, and after construction. Seal the ends of conduit after wiring is complete with a moisture resistant sealant that is designed for this specific application.

Conduit Sizes

Size the conduit to be used on all installations, unless otherwise shown in the Contract Documents. Use conduit of sufficient size to allow the conductor to be installed without any damage and meeting NEC requirements. Use conduit that is at least 1 inches in diameter, with the following exceptions:

For conduit protecting the ground wire on the side of a pole, use conduit that is at least 1/2 inch in diameter.

Conduit Joints

Install conduit joints using materials as specified by the manufacturer. When conduit crosses an expansion joint of a structure and where shown in the Plans, install an expansion or expansion/deflection fitting as specified by the manufacturer. Certify that expansion/deflection fittings are rated to accommodate a minimum rotation of 30 degrees and that both the expansion and expansion/deflection fittings are rated to accommodate the anticipated longitudinal movement (minimum of 2 inches for expansion fittings and 0.7 inches for expansion/deflection fittings). Ensure that all installed joints are watertight. As an exception to the threaded coupling for intermediate metal conduit, at locations where it is not possible to screw the threaded coupling properly, the Contractor may use a waterproof slip-joint coupling approved by the Engineer. Secure the joint and tighten threaded connections.

Prior to insertion into the coupling, clean, prime and coat the ends of PVC conduit with solvent-type cement as specified by the manufacturer.

PVC Coating

Apply PVC coating to exposed metal surfaces of the conduit, except for the threads, to attain a nominal thickness of 40 mils. Ensure that the coating is free of sags and drips.

Attach the coupling to the conduit prior to the application of the coating for conduit of 1 inch diameter or less.
Use a coupling with sleeve extensions on conduit larger than 1 inch. Ensure that the sleeve extensions on all threaded female openings have a length equal to the diameter of the conduit up to and including size number 53.

Conduit Terminations

Where conduit enters a box, fitting, or other enclosure, provide a bushing or adapter (end bell, conduit adapter, etc.) to protect the conductor or cable from abrasion unless

the box, fitting, or enclosure provides equivalent protection.

For conduit to be encased in concrete, wrap with tape or otherwise protect all terminations to prevent the entrance of concrete.

Connect new underground conduits to existing underground conduits with a pull box.

Install conduit terminating in a concrete strain pole through the cable entry hole and up the center of the pole to a location approximately 6 inches below the handhole.

Seal conduits terminating in a controller base, pole, pull box, junction box, or pedestal base with a moisture resistant sealant approved by the Engineer.

For mast arm poles, high mast poles, and steel strain poles, terminate conduit at least 6 inches above the top of the foundation. For all other poles, controller bases, pedestal bases, and junction boxes, terminate conduit runs into the center of the base or box at least 2 inches above the surface of the base.

Restoration of Trench Areas

Restore the conduit trench construction area to an acceptable condition. Such work includes repair or replacement of all pavement areas, sidewalks, driveways, curbs, structures, landscaping, grass areas (including removal of excavated materials and spoils), removal and disposal of drilling fluids, and backfilling areas disturbed by the conduit installation.

Above-Ground Installation

Use conduit designed and manufactured for use in long-term above-ground applications with UV stabilization to prevent material deterioration.

Securely attach above-ground conduit installations to the surface of the supporting structure using conduit straps. As a minimum, use conduit straps located on 5 foot centers. Use galvanized metal conduit straps when installing intermediate galvanized metal conduit, fiberglass reinforced epoxy conduit, rigid galvanized conduit, rigid aluminum conduit or PVC coated intermediate metal conduit above ground.

Use the same PVC coating for the metal straps as the conduit, when using PVC coated intermediate metal conduit.

Elbows

The radius of curvature of the centerline of any bend shall not be less than shown below in Table 630-2:

Table 630-2 Elbow Curvature	
Size	Standard Radius
1/2 inch	4 inches
3/4 inch	4-1/2 inches
1 inch	5-1/2 inches
1-1/4 inches	7-1/4 inches
1-1/2 inches	8-1/4 inches
2 inches	9-1/2 inches
2-1/2 inches	10-1/2 inches
3 inches	13 inches
3-1/2 inches	15 inches
4 inches	16 inches
5 inches	24 inches
6 inches	30 inches

METHOD OF MEASUREMENT

The Contract unit price per foot of conduit, furnished and installed, will include furnishing all hardware and materials and all testing as specified in this Section and the Contract Documents, and all labor, casings, removal of excavated materials and spoils, removal and disposal of drilling fluids, locate wire, trenching, boring, backfilling, flowable fill and restoration materials necessary for a complete and accepted installation.

Payment for conduit placed underground will be based on the horizontal length of the trench or bore measured in a straight line between the centers of pull boxes, cabinets, poles, etc., in linear feet, regardless of the length or number of conduits installed. No allowance will be made for sweeps or vertical distances below the ground.

Payment for conduit placed aboveground or bridge mounted will be based on the actual length of conduit installed.

Payment for each individual conduit run embedded in concrete barriers or traffic railings, as shown in Standard Plans, Index 630-010, will be based on the length of the concrete barrier or traffic railing section that includes the conduit, regardless of the actual length of conduit installed. This length is limited by the begin and end of the concrete barrier or traffic railing run and includes the portions of the conduit exiting the structure towards the ends of the concrete barrier or traffic railing as shown in the Standard Plans. This includes all expansion and expansion/deflection fittings, but no allowance will be made for sweeps or vertical distances below the ground.

Payment for conduit embedded in miscellaneous concrete structures will be based on the length of each individual conduit run, measured in a straight line between centers of junction boxes, regardless of the length of conduit installed, and will include all expansion and expansion/deflection fittings. Conduit that does not both begin and end

at a junction box will be considered incidental to their related items of work.

Payment for split duct conduit placed will be based on the actual length of each conduit installed.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Section.

Payment for conduit placed under existing turf will be made as open trench.

Payment for conduit placed under existing pavement (roadway, driveways, or sidewalk) will be made as directional bore, unless specifically identified as open trench. If conduit is being placed under both existing turf and existing pavement between two pull boxes, payment for the total pull box-to-pull box length will be made as directional bore.

Payment for conduit placed by jack and bore will be made as jack and bore, for the total pull box to pull box length.

Payment for conduit embedded in concrete structures or traffic railings will be made as embedded conduit.

No additional payment will be made for multiple conduits in the same trench. No payment adjustment will be made if the Contractor chooses to use an alternative method approved by the Engineer. No payment will be made for failed bore paths, injection of excavatable flowable fill, products taken out of service, or incomplete installations.

Payment for replacement of route markers will include all the work, labor, equipment, and materials specified in this item. No separate payment for route markers will be made for new conduit installation.

Payment will be made under:

Item No. 630-2-11	Conduit, Furnish and Install, Open Trench - per foot.
Item No. 630-2-12	Conduit, Furnish and Install, Directional Bore- per foot.

END OF ITEM

630-2-11
630-2-12

ITEM 633-8-11 FURNISH AND INSTALL CAT6

DESCRIPTION

Furnish and install underground and aerial communication cable as shown in the Plans and Standard Plans.

MATERIALS

CAT6 cable shall be a high-performance twisted pair cable designed for Ethernet and other data transmission standards. The cable shall comply with ANSI/TIA-568.2-D standards and support data transmission speeds up to 10 Gbps over distances up to 55 meters, and 1 Gbps up to 100 meters.

The cable shall consist of four unshielded twisted pairs (UTP) with 23 AWG solid copper conductors, insulated with high-density polyethylene (HDPE). The cable jacket shall be constructed of flame-retardant PVC (CMP, CMR, or CM rated as required by the application) and color-coded for identification.

All CAT6 cables shall be third-party verified (e.g., ETL or UL listed) and suitable for use in commercial building structured cabling systems for voice, data, video, and security applications. Terminations shall be made using compatible CAT6-rated jacks, patch panels, and connectors to ensure full system performance.

CONSTRUCTION DETAILS

1. General Requirements:
   A. All Category 6 (CAT6) cabling shall be installed in accordance with the latest ANSI/TIA-568.2-D, ANSI/TIA-569, and National Electrical Code (NEC) standards.
   B. Installation shall be performed by qualified personnel experienced in structured cabling systems.

2. Cable Pathways and Supports
   A. CAT6 cable shall be routed in cable trays, conduit, J-hooks, or other approved supports, maintaining the manufacturer's recommended bend radius and pulling tension.
   B. Pathways shall be free from physical hazards, moisture intrusion, or electromagnetic interference (EMI).
   C. Minimum separation from power lines shall be maintained per TIA-569 standards.
   D. Conduits used for CAT6 shall be sized to allow for at least 40% fill capacity and accommodate future cable additions.

3. Pulling and Handling:
    A. Pull cables carefully to prevent damage to insulation or conductor pairs.
    B. Use pulling lubricant where necessary (manufacturer-approved only).
    C. Do not exceed a pulling tension of 25 lbs (110 N) or the manufacturer's recommended maximum.

4. Bend Radius:
    A. Maintain a minimum bend radius of four times the cable diameter during and after installation.
    B. Avoid sharp bends, kinks, or crushing of cable.

5. Separation from Electrical Equipment:
    A. Maintain a minimum of 12 inches separation from fluorescent lighting, motors, and other sources of EMI.
    B. For parallel runs with power cabling, maintain at least 6 inches of separation or use shielding as necessary.

6. Termination and Labeling:
    A. All cable runs shall be terminated using TIA/EIA-approved CAT6 jacks or patch panels.
    B. Terminations shall follow T568A or T568B wiring schemes consistently throughout the project.
    C. All cables and outlets shall be labeled per project documentation and tested for performance using a certified cable tester.

7. Testing and Verification:
    A. Each installed CAT6 cable run shall be 100% tested for compliance with ANSI/TIA-568.2-D performance parameters including wiremap, length, insertion loss, NEXT, PSNEXT, ACR-F, and return loss.
    B. Test results shall be submitted in electronic format for review and approval.

8. Outdoor Installations:
    A. For exterior runs, use outdoor-rated CAT6 cable with UV-resistant, waterproof jackets.
    B. All outdoor terminations shall be enclosed in NEMA-rated weatherproof boxes.
    C. Grounding and bonding of shielded cable and metallic components shall comply with TIA-607 and NEC requirements.

9. Fire-Rated and Plenum Areas:
    A. In plenum or air-handling spaces, use CAT6 cable with plenum-rated (CMP) jackets.
    B. Firestopping shall be provided where cables penetrate fire-rated walls, floors, or ceilings.

10. Cable Slack and Service Loops:
    A. Provide a minimum of 12 inches of service loop at each outlet and 36 inches at patch panel or termination points unless otherwise noted.

METHOD OF MEASUREMENT

The quantities to be paid will be the length, *in feet,* of cat6 cable, measured in place and accepted by the Engineer.

The Contract unit price for cat6 cable, furnished and installed, will include furnishing, placement, and testing of all material, and for all tools, labor, equipment, installation hardware (such as extenders, jacks, patch panels, support wire, cable ties, cable clamps, and lashing wire), supplies, documentation, and incidentals necessary for a complete installation.

Payment for conductive cable terminal connectors and conductive cable grounding is considered incidental and shall be included in the price for twisted pair communication cable.

BASIS OF PAYMENT

Prices and payments will be full compensation for all work specified in this item.

Payment will be made under:

Item No. 633- 8-11	Furnish and Install Cat6 – per foot.

END OF ITEM

633-8-11

ITEM 635-3-13 HANDHOLE/PULL BOXES, SPLICE BOXES, AND JUNCTION BOXES

DESCRIPTION

Furnish and install handhole/pull boxes, splice boxes, and junction boxes as shown in the Plans.

MATERIALS

General: Meet the following requirements:

Pull and Splice Boxes* 996-5
Junction Boxes.....635-2.3
*Use products listed on the Department's Approved Product List (APL).

Handhole/Pull Boxes, Splice Boxes:

General

Ensure the bodies and covers of these products are free of flaws such as cracks, sharp, broken, or uneven edges, and voids.

Marking

Mark boxes in accordance with 996-5.

Junction Boxes:

Fabrication

Provide galvanized steel, aluminum or NEMA 4X non- metallic junction boxes. Ensure all attachment hardware is Type 316 or 304, passivated stainless steel.

Ensure the outside surface has a smooth, uniform finish. Ensure boxes are free of burrs, pits, sharp corners and dents. Ensure all welds are neatly formed and free of cracks, blow holes, and other irregularities.

Aerial Junction Boxes

Unless otherwise shown in the Plans, provide aerial junction boxes with minimum inside dimensions of 8 inches wide by 8 inches long and at least 3 inches deep.

Mounted Junction Boxes

Provide mounted junction boxes fabricated of 5052 sheet aluminum alloy with a

minimum thickness of 1/8 inch. Ensure all mounted junction boxes have a hinged door and lock as specified in Section 676.

Unless otherwise shown in the Plans, provide mounted junction boxes for the following installations:

For pole and cabinet mounted installations, provide junction boxes with minimum inside dimensions of 13 inches long by 10 inches wide and at least 3 inches deep.

For base mounted installations, provide junction boxes with minimum inside dimensions of 21 inches long by 10 inches wide and at least 8 inches deep.

Embedded Junction Boxes

Provide weatherproof embedded junction boxes for use in concrete structures or traffic railings. Include gasketed weatherproof covers made of the same material as the box and stainless steel, tamper resistant screws for securing the cover. Fabricate galvanized steel boxes and their covers from steel meeting the requirements of ASTM A36 and galvanized in accordance with ASTM A123.

For embedded junction boxes not exposed to vehicular impacts, provide the following types of junction boxes. Where the structure's environmental classification is slightly or moderately aggressive, provide a galvanized steel or NEMA 4X (non-metallic) box, as approved by the Engineer. Where the structure's environmental classification is extremely aggressive, provide a NEMA 4X (non-metallic) box, unless otherwise directed by the Engineer.

For embedded junction boxes exposed to vehicular impacts, provide a galvanized steel box regardless of the structure's environmental classification.

Barrier Terminal Blocks

Provide a barrier terminal block with a minimum of ten positions and rated at 600 VAC in all aerial and mounted junction boxes. Ensure each terminal block position has two screws electrically connected by a shorting bar or other Department approved method. Ensure all terminal block positions are numbered sequentially.

General

Do not install power and communication cables in the same box unless otherwise shown in the Plans. When signal or 120 volt (or greater) power is present, ground all metal covers in accordance with Section 620. Ensure metal junction boxes are grounded and bonded in accordance with the NEC Section 314.4.

Covers must be flush with the concrete apron or sidewalk. Do not install in roadways, driveways, parking areas, public sidewalk curb ramps, or in low-lying locations with poor

drainage. Do not subject the cable to a bend radius less than 14 times the diameter of the cable.

Placement and Spacing

Place pull boxes or splice boxes as shown in the Plans and at the following locations:

1. At all major conduit junctions.
2. At a maximum of 500 feet for electrical applications.
3. At each end of a tunnel, and on each side of a river or lake crossing.
4. On each side of an aboveground conduit installation, such as an attachment to a bridge or wall.
5. As required for bends in the conduit per Section 630.

Electronic Box Marker

Use an electronic box marker to mark the location of products buried below the finish grade surface. Ensure that the electronic box marker is a device specifically manufactured to electronically mark and locate underground facilities.

Ensure that the electronic box marker includes circuitry and an antenna encased in a waterproof polyethylene shell. Ensure that the outer shell is impervious to minerals, chemicals, and temperature extremes normally found in underground plant environments. Ensure that the electronic box marker does not require any batteries or active components to operate. Ensure that the electronic box marker's passive circuits produce an RF field when excited by a marker locator to direct the locator to the marker's position. Ensure that the electronic box marker has a minimum operating range of 5 feet from the marker locator.

Pull and Splice Boxes

Install pull and splice boxes in accordance with Standard Plans, Index 635-001.

Aerial Junction Boxes

Install aerial junction boxes in accordance with Standard Plans, Index 634-002.

Mounted Junction Boxes

Install mounted junction boxes in accordance with Standard Plans, Index 676-010. Ensure that the bottom surface of pole mounted junction boxes is a minimum of 4 feet above the finished grade.

Cable Terminations

Make cable terminations in junction boxes in accordance with Section 632. Route and form the cable to allow access to the terminal screws. Do not cover the terminal identification numbers with the cable.

Warranty

Ensure all pull, splice, and junction boxes have a manufacturer's warranty covering defects for a minimum of one year from the date of final acceptance in accordance with 5-11 and Section 608. Ensure the warranty includes providing replacements, within 30 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency.

METHOD OF MEASUREMENT

The Contract unit price for *each* furnished and installed pull box, splice box, junction box, splice vault, and site pull box will include all required hardware for the type of box and location as specified in the Contract Documents as well as all labor and materials necessary for a complete and accepted installation.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this item. No separate payment will be made for the removal of pull, splice, and junction boxes.

Payment will be made under:

Item No. 635-3-13	Pull Boxes- each.

END OF ITEM

635-3-13

ITEM 639-8-1 FPL LIGHT POLE RELOCATION/REMOVAL

DESCRIPTION

This section covers the requirements for the relocation of an existing Florida Power & Light (FPL) light pole, including the associated electrical service line, in conflict with proposed site improvements. Work shall include coordination with FPL, temporary and permanent disconnection/reconnection of service, removal and reinstallation (or replacement) of pole and fixtures, and restoration of affected surfaces.

The work shall be performed in accordance with all applicable FPL standards, local codes, utility company requirements, and as directed by the Engineer.

MATERIALS

Light Pole and Fixtures: Existing FPL-owned pole and fixtures shall be removed, unless relocation is required or directed otherwise. All materials shall meet FPL standards.

Service Line: Electrical service conductors shall be in accordance with FPL requirements. New conduit, cable, junction boxes, and accessories shall be UL-listed and rated for the service conditions.

Foundations: Concrete pole foundations (if applicable) shall conform to FPL specifications and approved design drawings.

Restoration Materials: Pavement, sidewalk, landscape, or other disturbed surfaces shall be restored to match existing conditions using materials that meet applicable FDOT or municipal standards.

CONSTRUCTION DETAILS

Coordination with FPL

- Contractor shall initiate coordination with FPL a minimum of (90) days prior to anticipated removal.
- Work shall not proceed without all necessary FPL approvals and scheduled service disconnection/reconnection.

Disconnection and Removal

- Existing light pole and service line shall be de-energized and disconnected by FPL personnel or authorized representatives.
- Existing pole shall be carefully removed and stored or disposed of per FPL direction.

Relocation/Installation if Needed

- New pole location shall be as shown on the plans or as directed by the Engineer in coordination with FPL.

- New or reused pole shall be installed with proper alignment, elevation, and setback.
- Electrical service line shall be rerouted underground or overhead, depending on existing conditions and FPL design.
- Conduit and wiring shall be installed per electrical code and FPL requirements.
- Proper grounding and bonding shall be ensured.

Restoration

- All disturbed areas including pavements, sidewalks, landscape, and grading shall be restored to original or better condition.
- All debris and excess materials shall be removed from the site.

Inspection and Acceptance

- Final installation shall be subject to inspection and acceptance by FPL and the Engineer prior to final payment.
- Pole shall be energized and confirmed operational.

METHOD OF MEASUREMENT

The quantities to be paid for will be the *lump sum* basis for work satisfactorily completed.

BASIS OF PAYMENT

Payment for relocating the FPL light pole and associated service line shall be made at the contract lump sum price as specified in the Bid Schedule of Values. This lump sum shall include full compensation for all work necessary to complete the relocation, including but not limited to the following:

- Coordination with FPL
- Disconnection and reconnection of electrical service
- Removal, transport, and reinstallation of the light pole
- Installation of new conduit, wiring, or service line as required
- Installation of a new pole foundation, if necessary
- Site restoration and cleanup
- All labor, equipment, materials, permits, and incidental work required to complete the relocation

The cost for removal shall reflect the net book value of the items being removed, as determined by FPL.

END OF ITEM

639-8-1

ITEM 639-9 LIGHT FIXTURES

DESCRIPTION

This section covers the furnishing and installation of LED parking lot luminaires manufactured by Gardco (a division of Signify/Philips). Luminaires shall provide uniform, energy-efficient illumination for vehicular and pedestrian use in parking areas. The contractor shall supply all equipment, materials, and labor required for a complete and operable lighting system in accordance with the construction documents and local codes.

MATERIALS

Luminaires shall be LED type and shall meet the following minimum requirements. The housing shall be constructed of die-cast aluminum with a corrosion-resistant powder-coated polyester finish in a color specified by the Engineer, typically bronze, black, or gray. Each luminaire shall be pole-mounted using side-arm, slipfitter, or direct mounting as shown on the plans and shall include all necessary mounting hardware.

Fixtures shall include full cutoff optics in IES Type III, IV, or V distribution as required by site conditions. The light source shall consist of high-performance LEDs with a minimum Color Rendering Index (CRI) of 70 and a Correlated Color Temperature (CCT) of either 3000K or 4000K, as specified. Each luminaire shall be equipped with a high-efficiency electronic driver compatible with either 120–277V or 347–480V service as needed.

Luminaires shall include integral heat sinking, be rated minimum IP65 or better for ingress protection, and be UL listed for wet locations. All fixtures shall be DesignLights Consortium (DLC) Premium listed and RoHS compliant. Where applicable, photoelectric cells or programmable dimming drivers shall be provided to meet energy code requirements. A minimum manufacturer’s warranty of five (5) years shall be provided for the fixture and driver.

Submittals

The contractor shall provide submittals for each luminaire type, including product cut sheets and photometric data. In addition, the contractor shall submit mounting detail shop drawings for each pole and fixture combination, showing mounting hardware, height, orientation, and any pole accessories or arms. Submittals must be reviewed and approved prior to ordering or installation.

CONSTRUCTION DETAILS

Luminaires shall be installed on poles and foundations as indicated on the plans and in accordance with the manufacturer's installation instructions. All pole locations and mounting heights shall be verified by the contractor in the field prior to installation. Conduit, conductors, and grounding systems shall comply with the National Electrical Code (NEC) and all applicable local requirements. Fixtures shall be properly aligned,

leveled, and adjusted to achieve uniform lighting and avoid glare. The contractor shall coordinate with the utility company and the City of South Miami for all inspections, service connections, and approvals.

METHOD OF MEASUREMENT

Light Fixtures shall be measured by *each* fixture measured in place furnished and installed.

BASIS OF PAYMENT

Payment for this item will be made at the contract unit price for *each* complete lfixture furnished and installed. This includes the fixture, driver, optics, finish, mounting hardware, pole interface, wiring, testing, documentation, and all labor and incidentals required for a fully functional installation.

END OF ITEM

639-9

ITEM 639-2-1 ELECTRICAL WIRE SERVICE

DESCRIPTION

Install electrical power service assemblies for underground service in accordance with the details shown in Standard Plans, Index 639-001 or 639-002.

Definitions

1. Overhead Service: A service assembly which is supplied electrical power from an overhead power company source. Include with an overhead electrical power service assembly the following components:
   A. Conduit
   B. Electrical Service wire
   C. Meter base (when required)
   D. Service disconnect
   E. Surge Protective Device

2. Underground Service: A service assembly which is supplied electrical power from an underground power company source. Include with an underground electrical power service assembly the following components:
   A. Conduit
   B. Electrical Service wire
   C. Meter base (when required)
   D. Service disconnect
   E. Surge Protective Device

MATERIALS

Conduit: Use conduit meeting the requirements of Section 630. Meet the requirements of Section 562 for coating all field cut and threaded galvanized pipe.

Service Wire: For lighting service points, use single-conductor cable Type THWN-2 no smaller than No. 6 AWG for connections between service disconnect and load center.

Meter Base: Use meter bases approved by the local electric power company.

Service Disconnect:

Enclosure (Cabinet): Use an enclosure conforming to National Electrical Manufacturers Association (NEMA) Standards for Type 3R, Type 3S, or Type 4, made of galvanized steel, aluminum, stainless steel or other materials approved by the Engineer.

Ensure that the enclosure has a hinged door which can be locked with a padlock. Provide padlock and two keys. Do not use external handles or switches. Ensure that the inside dimensions meet NEC requirements.

Circuit Breaker: Use a manually resettable circuit breaker which has a current rating above the current rating of the circuit breaker to which electrical power is provided. Do not use less than a 20A circuit breaker or as shown on plans.

Surge Protective Device: Use a lightning arrester rated for a maximum permissible line to ground voltage of 175 VAC.

Enclosure: Use an enclosure conforming to NEMA Standards for Type 3R, made of hot-dip galvanized steel, aluminum, stainless steel or other materials approved by the Engineer.

Attachment Hardware: Use attachment hardware that meets the requirements of Section 603.

Time Clock: Use a digital time clock programmable rated for the load provided in the plans and has built in Daylight Saving Time adjustment.

Contactor: Use a contactor compliant with the MUSCO Control-Link and Monitoring System installed on the Athletic Fields and is compliant with IEC 60947-4-1 for continuous operation at 100% rated current.

CONSTRUCTION DETAILS

Meet the following requirements for the installation of individual components of the electrical power service assembly:

Use extreme care and caution in the installation of all components of the electrical power service assembly.

Follow installation procedures recommended by NEC and National Electrical Safety Code (NESC).

Consider the location of electrical power service assemblies as shown in the Plans to be approximate, and coordinate with the appropriate electrical power company authority to determine the exact locations of each assembly.

Conduit: Securely attach all conduit to the pole or cabinet with a maximum distance of 5 feet between conduit attachment hardware.

Electrical Service Wire: Install the electrical service wire in a manner which will ensure that damage to the installation will not occur.

Ensure that the service wire is of sufficient length after installation in the conduit to provide for attachment to the power service and for termination within the panel for which power is required.

Use waterproof gel-filled splices to splice electrical wires in pull boxes only when the length of the cable run prohibits use of continuous wire. Wire nuts and electrical tape splicing are not acceptable.

Time Clock: Ensure that the supply voltage matches the time clock rating. Connect the line/load terminals properly per the manufacturer's wiring requirements. Place time clock in an accessible location for operation. Ensure that the unit is NEMA-rated for outdoor use.

Meter Base: When a meter base is required, securely fasten the meter base to the pole or cabinet. Install pole mounted meter bases at a minimum height of 5-1/2 feet above grade when measured from the center of the meter base or meet the local electric power company requirement, whichever is greater.

Contactor: The contractor must have prior experience with Musco products and follow all manufacturer guidelines, specifications, and approved shop drawings. All work shall meet the requirements for safety, performance, and quality as outlined in the project documentation and Musco's installation standards.

METHOD OF MEASUREMENT

Measurement for payment will be in accordance with the following work tasks.

Payment for conduit and electrical service wire which is vertically attached to the electrical power assembly is considered incidental and paid under item 639-2-1.

Furnish and Install: The Contract unit price per foot of electrical service wire, furnished and installed, will include furnishing all materials and hardware as specified in the Contract Documents, and all labor, equipment, and miscellaneous materials necessary for a complete and accepted installation.

BASIS OF PAYMENT

Prices and payments will be full compensation for all work specified in this item.

Payment will be made under:

Item No. 639-2-1	Electrical Service Wire - per foot.

END OF ITEM

639-2-1

ITEM 641-1 PRESTRESSED CONCRETE POLES

DESCRIPTION

Furnish and install prestressed concrete poles as shown in the Plans. Obtain precast, prestressed concrete poles from a manufacturing plant that is currently on the FDOT's Production Facility Listing. Producers seeking inclusion on the list shall meet the requirements of Section 105.

Ensure that each pole is constructed and permanently and legibly marked in accordance with Standard Plans, Index 641-010, including the date cast. Concrete closed circuit television (CCTV) poles must be constructed and permanently and legibly marked in accordance with Standard Plans, Index 641-020, unless shown otherwise in the Plans. The marking shall be visible after installation.

Ensure that the shipment of the products to the job site meets the requirements of 450-16.3 and Section 105.

MATERIALS

Poles: Meet the following requirements:
Portland Cement Concrete* ..... Section 346
Reinforcing Steel……..931-1
Prestressed Strands……933-1
Spiral Reinforcing.....ASTM A1064
* Class VI

Connector Block: Lubricate all components, including the connector block and contacts, in accordance with the manufacturer's recommendations.

Lowering Tool: Provide a minimum of one lowering tool and any additional tools as required in the Plans. Deliver the lowering tool to the Department before final acceptance.

Wiring: All wiring must meet NEC requirements and be installed in accordance with the equipment manufacturers' recommendations for each device connected on the pole, at the lowering device, and in the field cabinet.

Concrete Pole Construction: Construct concrete poles in accordance with Section 450. Assume responsibility for performance of all quality control testing and inspections required by Sections 346 and 450; however, the PCI personnel certifications are not required. Plant certification, in accordance with Section 105, is not required for plants that manufacture prestressed concrete poles.

Submittals: The contractor shall submit shop drawings for approval, and a wind load calculation sheet prior to installation

CONSTRUCTION DETAILS

Furnish poles of the type and length shown in the Plans. Provide catenary cable of the size shown in the Plans. Ground poles in accordance with Section 620. Install span wire assemblies in accordance with Section 634.

Do not consider the poles acceptable for use if the camber of the pole, measured as the maximum deviation between the centerline of the pole and a straight line connecting the centroids of the cross-sections at each end of the pole, is greater than the total pole length in inches divided by 140.

Foundations: Provide foundations 3 feet 6 inches in diameter and of the depth specified in the Plans for strain poles used for span wire support of traffic signals. Provide foundations for concrete CCTV poles in accordance with Standard Plans, Index 641-020.

Provide foundations for all other pole applications as specified in the Plans. Construct the foundation with concrete as specified in Section 347.

For the excavation and backfill of the foundation, meet the requirements specified in 125-4 and 125-8.2 with the exception of the backfill density. In lieu of the requirements for obtaining the specified density, the Contractor may hand tamp the backfill in 4 inch maximum layers or machine tamp the backfill in 6 inch maximum layers. When performing such operations, ensure that the material is neither dry nor saturated. The Contractor may backfill with concrete.

Use forms, when required, meeting the requirements of 400-5. If the foundation is cast in an oversize hole, place the concrete in the top 6 inches in a form. Trowel all exposed surfaces to a smooth finish.

Orientation of Poles: For poles supporting one catenary wire, orient the pole so that the load face is perpendicular to the catenary wire. For poles supporting two catenary wires, orient the pole so that the load face is perpendicular to a line bisecting the angle between the two catenary wires.

Rake pole back from the span wire as necessary to achieve a final rake of 1/2 inch per foot, plus or minus 1/4 inch.

Camera Lowering Device: Install the lowering device in a manner that does not place the operator directly under the device when it is being raised or lowered. Submit documentation showing connector block pin assignment for approval prior to installation.

The divided support arm and receiver brackets must self-align the contact unit with the pole centerline during installation. Additionally, the lowering device support arm must self-align the disconnect unit and attached device with the pole centerline and remain

centered after installation, without moving or twisting.

House the stainless steel lowering cable inside a 1.25 inch PVC conduit and provide a conduit mount adapter for the interface between the conduit and the internal back side of the lowering device.

The connection between the lowering device and tenon must be weather resistant. Use conduit straps to secure lowering cable conduit to the pole for externally mounted lowering systems. Stainless steel bands will not be allowed. Ensure that only the lowering cable is in motion inside the pole when the lowering device is operated. All other cables must remain stable and secure during lowering and raising operations. Label all wire leads with their function, label spares as spares. Install the correct length of lowering cable to prevent cable slack and to prevent the cable from jumping off the winch spool. The lowering cable strands must not twist or unwind when the lowering device is operated.

Ensure that crimps and other cable connection hardware associated with the lowering cable do not come in direct contact with the winch tool or guides when operating the system.

Furnish the Engineer with the manufacturer recommended field installation instructions, inspection instructions (including recommended schedules and procedures), and operating instructions.

METHOD OF MEASUREMENT

Poles will be paid for by *each* concrete pole measured in place, which shall include the cost of furnishing all labor to satisfactorily complete the work.

BASIS OF PAYMENT

The accepted quantities of poles will be paid by *each* pole at the contract unit price, which shall include the pole plus all labor, concrete for the foundation and other materials necessary for a complete and accepted installation as specified in the Contract Documents.

Payment will be made under:
Item No. 641-1 Prestressed Concrete Poles - each.

END OF ITEM

641-1

ITEM 682-1 SECURITY CAMERAS

DESCRIPTION

Furnish and install a closed-circuit television (CCTV) camera at the locations shown in the Plans. The installed equipment must provide video images of the roadway, traffic, and other current conditions around a roadside CCTV field site; and transmit video images to designated locations for observation.

MATERIALS

All equipment shall be permanently marked with manufacturer name or trademark, part number, and date of manufacture or serial number. Provide a CCTV camera as shown on the plans. Item is to include camera, mounting hardware, equipment,

Provide the appropriate type for the locations shown in the Plans. Use only equipment and components that meet the requirements of Section 996 and are approved by the City and shown on the plans. Materials included but are not limited to cameras, mounting hardware, routers, switches, PoE splicers/Extenders, and any necessary hardware needed to perform the work.

All CCTV cameras must support the communication links shown in the Plans.

Camera Models to use:

Manufacturer: Turing
Model: TP-MVD8MV2
Model: TP-MMB8AV2

CONSTRUCTION DETAILS

Install the CCTV camera on a pole as shown in the Plans. Furnish and install the power supplies and any other camera-related field electronic equipment and transient voltage surge suppressors within a pole- or base-mounted lockable cabinet.

Furnish and install all power, video, and data cables necessary to provide connection points for camera video and PTZ control signals within the cabinet. Furnish and install any and all ancillary equipment required to provide a complete and fully operational CCTV camera. Verify that all wiring meets National Electric Code (NEC) requirements where applicable.

Route the data and video cables from the pole or support structure to the camera inside the mounting hardware and protect from exposure to the outside environment.

Coat the exterior of the dome-type enclosure’s lower half with a clear, rain repellant product prior to final acceptance.

Field Acceptance Testing: Conduct field acceptance testing in accordance with Section 611.Perform local field inspection at each local CCTV field site to verify and conform the following:

1. Physical construction has been completed as specified in the Plans and all existing and proposed lanes are clearly visible with no line of site obstructions.
2. The quality and tightness of ground and surge protector connections.
3. Proper voltages for all power supplies and related power circuits.
4. All connections, including correct installation of communication and power cables.
5. Proper sight of all cameras are clearly visible and no obstructions are present.

Video Display Equipment

Connect to video display equipment. Contractor is to coordinate with the City and ongoing construction projects to determine termination point for all equipment and hardware for connection.

Provide equipment, mounting hardware, cabling, and other video display components that are compatible with each other. All equipment and materials furnished and installed must be reviewed and approved by the Engineer.

Warranty

Ensure that CCTV cameras and video display equipment have a manufacturer's warranty covering defects for a minimum of one year from the date of final acceptance. Ensure that the warranty requires the manufacturer to furnish replacements for any part or equipment found to be defective during the warranty period at no cost to the City or the maintaining agency within 10 calendar days of notification.

Warranty repairs of the video display control system and related TMC display equipment must commence within 24 hours after notification by the City.

METHOD OF MEASUREMENT

The Contract unit price for each CCTV camera or video display device or system, furnished and installed, will include furnishing, placement, and testing of all equipment and materials, and for all tools, labor, operational software packages and firmware, supplies, hardware, , shop drawings, documentation, and incidentals necessary to complete the work.

The video display equipment will be measured as each major system component is furnished, installed, made fully operational, and tested in accordance with this Specification or as directed by the Engineer.

BASIS OF PAYMENT

Price and payment will be full compensation for all work specified in this Item.

Payment will be made under:

Item No. 682-1	CCTV Camera - each.

END OF ITEM

682-1

ITEM 700-1-40 SINGLE COLUMN GROUND SIGN

DESCRIPTION

Furnish and install roadway signs in accordance with the details in the Standard Plans and as shown in the Plans.

Fabricate standard sign panel messages in accordance with details included in the Standard Highway Signs (SHS) manual published by the U.S. Department of Transportation, the Plans, or Standard Plans. Submit shop drawings to the City for approval.

All Traffic Control Signals and Devices must meet the requirements of Section 603.

MATERIALS

Meet the following requirements:
Flowable Fill for precast foundation.....Section 121
Structural Concrete .....Section 346
Non-Structural Concrete .....Section 347
Reinforcing Steel .....Section 415
Structural Steel Welding .....Section 460
Aluminum Items .....Section 965
Retroreflective Sign Sheeting* .....Section 994
Sign Panel Fabrication .....Section 994
In-street Sign*..... Section 995-19
*Use products listed on the Department's Approved Products List (APL).
700-2.2 Static Sign Assembly Requirements:

Static Sign Panels: Provide aluminum sheets for sign panels meeting the requirements of Section 965 and Section 994. Meet the minimum thickness requirements of Table 700-1.

Table 700-1
Static Sign Panel Requirements

Type	Minimum Thickness
Single column ground sign	0.08 inch

Sign Panel Mounting Hardware: Provide aluminum materials (plates, bars, shapes, bolts, nuts, and washers) in accordance with Section 965. Stainless steel mounting hardware meeting Table 962-6 (ASTM F593 for bolts and ASTM F594 for nuts) may be substituted. Steel plates, shapes and hardware must meet Section 962.

Retroreflective Sign Sheeting: Sign sheeting must meet the requirements of Section 994 and Table 700-2.

Table 700-2 Retroreflective Sign Sheeting*		
Application	Sheeting System Type	Notes
All signs and retroreflective strips, except as otherwise noted below	Type XI	
Pedestrian: R1-6, R1-6a, R1-6b, R1 6c, R1-9, R1-9a, R10-15, W11-2 Shared Use Path (trail): W11-15, W11-15a	Type XI fluorescent yellow green sheeting**	Includes supplemental panels
* All digitally printed signs and red silkscreen inks require a clear overlay for UV protection. **Do not mix signs having fluorescent yellow green sheeting with signs having yellow retroreflective sheeting.		

Galvanized Bolt Assemblies (Bolts, Nuts, Washers): Provide galvanized bolt assemblies meeting Section 962 for high-strength steel fastener assemblies. Provide galvanized anchor rods, plate washers, U-bolts, and shims meeting the requirements of Section 962 for hardware not designated as high strength.

Single Column Ground Signs: Use aluminum tubing meeting the requirements of Section 965. Steel shapes and welding must meet 962-10.

Storage, Handling and Labeling: If signs are stored prior to installation, store them in accordance with the manufacturer's recommendations. Properly package signs to protect them during storage, shipment and handling to prevent damage to the sign face and panel.

Sign Inspection: Submit certification that the sign assembly meets the material and installation requirements of the Contract Documents. The Engineer will inspect the signs upon delivery to the storage or project site and again at the final construction inspection. Repair and replace damaged signs at no expense to the Department.

Imperfections and Repairs: Replace signs containing imperfections or damage regardless of the kind, type, or cause of the imperfections or damage. Make repairs according to the manufacturer's recommendations. Ensure that completed repairs provide a level of quality necessary to maintain the service life of the sign and are satisfactory in appearance to the Engineer.

METHOD OF MEASUREMENT

Measurement will be made per *each* sign post assembly and will consist of all signs mounted on a single column (post). Area measurement for an assembly will include the total sheeting area, excluding any reflective sign strips.

BASIS OF PAYMENT

The Contract unit price per *each* for single column ground mounted signs will include the sign panels, sheeting, support structure, foundation, hardware, and labor necessary for a complete and accepted installation.

Payment will be made under:

Item No. 700- 1-40	Single Column Ground Sign Assembly- each.

END OF ITEM

700-1-40

Item No. 711-11-121	**Thermoplastic (White) Solid 6"**
Item No. 711-11-123	**Thermoplastic (White) Solid 12"**
Item No. 711-11-125	**Thermoplastic (White) Solid 24"**
Item No. 711-11-160	**Thermoplastic (White) Symbol**
Item No. 711-11-170	**Thermoplastic (White) Arrow**
Item No. 711-11-421	**Thermoplastic (Blue) Solid 6"**

DESCRIPTION

Apply new thermoplastic pavement markings, or refurbish existing thermoplastic pavement markings, in accordance with the Contract Documents.

MATERIALS

Thermoplastic: Use only thermoplastic materials listed on the FDOT Qualified Products List (QPL). Engineer may require random samples of all material. Use materials meeting the following requirements:

Hot-Applied Standard and Refurbished Thermoplastic	FDOT 971-1 and 971-5
Refurbishing Existing Stripes and Markings:	FDOT 971-1 and 971-5
Preformed Stripes and Markings:	FDOT 971-1 and 971-6

Glass Spheres: Use only glass spheres listed on the FDOT QPL, meeting the requirements of FDOT 971-1 and 971-2. Engineer may require random samples of all glass spheres in accordance with ASTM D 1214.

Sand: Use materials meeting the requirements of FDOT 971-5.4.

EQUIPMENT

1. Use equipment capable of providing continuous, uniform heating of the pavement marking material to temperatures exceeding 390ºF, mixing and agitation of the material in the reservoir to provide a homogeneous mixture without segregation. Use equipment that will maintain the pavement marking material in a plastic state, in all mixing and conveying parts, including the line dispensing device until applied.
2. Use equipment which can produce varying line widths and which meets the following requirements:
   A. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, to produce a uniform application of pavement marking material and capable of following straight lines and making normal curves in a true arc.
   B. Capable of applying glass spheres to the surface of the completed pavement marking by a double drop application for standard thermoplastic pavement markings and a single drop application for recapping and refurbishment thermoplastic pavement markings. The bead dispenser for the first bead drop shall be attached to the pavement marking machine in such a manner that the

beads are dispensed closely behind the installed line. The second bead dispenser bead shall be attached to the pavement marking machine in such a manner that the beads are dispensed immediately after the first bead drop application. Use glass spheres dispensers equipped with an automatic cut-off control that is synchronized with the cut-off of the thermoplastic material and applies the glass spheres uniformly on the entire pavement markings surface with 50 to 60% embedment.

3. Equipped with a special kettle for uniformly heating and melting the pavement marking material. The kettle must be equipped with an automatic temperature control device and material thermometer for positive temperature control and to prevent overheating or scorching of the thermoplastic material.
4. Meet the requirements of the National Fire Protection Association, state, and local authorities.

CONSTRUCTION DETAILS

1. General:
   A. Remove, by a method approved by Engineer, existing pavement markings such that scars or traces of removed markings will not conflict with new stripes and markings. Clean and dispose at an approved site all resulting debris. Use of paint to cover conflicting pavement markings is prohibited. Cost for removal of pavement markings is incidental to the work specified in this Article. Cost for removing conflicting pavement markings during maintenance of traffic operations to be included in Maintenance of Traffic.
   B. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.
   C. Before applying traffic stripes and markings remove, by a method approved by Engineer and consistent with manufacturer's specifications, any material that would adversely affect the bond of the traffic stripes. Before applying traffic stripes to any Portland cement concrete surface, apply a primer, sealer or surface preparation adhesive of the type recommended by the manufacturer. Offset longitudinal lines at least 2 inches from any longitudinal joints of Portland cement concrete pavement.
   D. Apply traffic stripes or markings only to dry surfaces, and when the ambient air and surface temperature is at least 50ºF and rising for asphalt surfaces and 60°F and rising for concrete surfaces.
   E. Apply striping to the same tolerances in dimensions and in alignment specified under "Tolerances in Dimension and in Alignment" below. When applying traffic stripes and markings over existing markings, ensure that not more than 2 inches on either end and not more than 1 inch on either side of the existing line is visible.
   F. Apply thermoplastic material to the pavement either by spray, extrusion or other means approved by Engineer.
   G. Conduct field tests in accordance with Florida Method (FM) 5-541. Take test

readings representative of the striping performance. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.

H. Apply all final pavement markings prior to opening the road to traffic.

I. Preformed Thermoplastic: Apply markings only to dry surfaces and when ambient air temperature is at least 32°F. Prior to installation, follow the manufacturer's recommendations for pre-heating.

2. Thickness:

A. Initial or Recapped Stripes and Markings:

1) Apply or recap traffic stripes or markings such that all lane lines, center lines, transverse markings and traffic stripes and markings within traffic wearing areas, will have a thickness of 0.10 to 0.15 inch when measured above the pavement surface.
2) Gore, island, and diagonal stripe markings, bike lane symbols and messages, wherever located, will have a thickness of 0.09 to 0.12 inch when measured above the pavement surface.
3) Measure, record, certify and submit to Engineer, the thickness of white and yellow pavement markings in accordance with FM 5-541.

B. Refurbishing Existing Traffic Stripes and Markings: Apply a minimum of 0.06 inch of thermoplastic material. Ensure that the combination of the existing stripe and the overlay after application of glass spheres does not exceed the maximum thickness of 0.150 inch for all lines.

3. Retroreflectivity:

A. Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 450 mcd/lx•m2 and not less than 350 mcd/lx•m2, respectively for all longitudinal lines.

B. All transverse lines, messages and arrows will attain an initial retroreflectivity of not less than 300 mcd/lx•m2 and 250 mcd/lx•m2 for white and yellow respectively.

C. All pedestrian crosswalks, bike lane symbols or messages in a proposed bike lane shall attain an initial retroreflectivity of not less than 275 mcd/lx•m2.

D. Measure, record, certify, and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.

4. Glass Spheres:

A. Longitudinal Lines:

1) For initial traffic striping and marking, apply the first drop of Type 4 or larger glass spheres immediately followed by the second drop of Type 1 glass spheres.
2) For refurbishing, apply a single drop of Type 3 glass spheres.
3) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.

B. Transverse Stripes and Markings:

1) Apply a single drop of Type 1 glass spheres.

2) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.
3) Apply a mixture consisting of 50 percent glass spheres and 50 percent sharp silica sand to all thermoplastic pedestrian crosswalk lines and bike lane symbols at the rates determined by the manufacturer's recommendations.

C. Preformed Markings: These markings are factory supplied with glass spheres and skid resistant material. No additional glass spheres or skid resistant material should be applied during installation.

5. Tolerances in Dimensions and in Alignment.

6. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.

7. Dimensions
   A. Longitudinal Lines: Apply thermoplastic skip line segments with no more than ±12 inches variance, so that over-tolerance and under-tolerance lengths between skip line and the gap will approximately balance. Apply longitudinal lines at least 2 inches from construction joints of Portland cement concrete pavement.
   B. Transverse Markings, Gore Markings, Arrows, and Messages: Apply thermoplastic in multiple passes when the marking cannot be completed in one pass, with an overall line width allowable tolerance of ±1 inch
   C. Contrast Lines: Use black paint to provide contrast on concrete or light asphalt pavement, when specified by Engineer. Apply black paint in 10 foot segments following each longitudinal skip line.

8. Alignment
   A. Apply thermoplastic stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.
   B. Apply thermoplastic stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree.
   C. Apply thermoplastic edge stripes uniformly, not less than 2 inches or more than 4 inches from the edge of pavement, without noticeable breaks or deviations in alignment or width.
   D. Remove and replace at no additional cost to the Department, traffic stripes that deviate more than the above stated requirements.

9. Correction Rates
   A. Make corrections of variations in width at a maximum rate of 10 feet for each 0.5 inches of correction. Make corrections of variations in alignment at a maximum rate of 25 feet for each 1 inch of correction, to return to the stringline.
   B. Contractor's Responsibility for Notification.
      1) Notify Engineer prior to the placement of the thermoplastic materials.
      2) Furnish Engineer with the manufacturer's name and batch numbers of the thermoplastic materials and glass spheres to be used.

3) Ensure that the approved batch numbers appear on the thermoplastic materials and glass spheres packages.

C. Protection of Newly Applied Traffic Stripes and Markings.

1) Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry.
2) Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.

10. Observation Period

A. Pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work.

B. The pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The retroreflectivity must meet the initial requirements stipulated above. The Department reserves the right to check the color and retroreflectivity any time prior to the end of the observation period.

C. Replace, at no additional expense to the Department, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

11. Corrections for Deficiencies

A. Recapping applies to conditions where additional striping material is applied to new or refurbished traffic stripes or markings to correct a deficiency. Recap a 1.0 mile section centered around the deficiency with additional striping material or by complete removal and reapplication at no additional cost to the Department.

B. If recapping will result in a thickness exceeding the maximum allowed, the traffic stripes or markings must be removed and reapplied.

12. Submittals

A. Submittal Instructions: Prepare a certification of quantities, for each project in the Contract. Submit the certification of quantities and daily worksheets to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.

B. Contractor's Certification of Quantities: Request payment by submitting a certification of quantities with each payment requisition, based on the amount of work done or completed. Ensure the certification of quantities includes the following:

1) Contract Number, Certification Number, Certification Date and the period that the certification represents.
2) The basis for arriving at the amount of the progress certification, less payments previously made and less any amount previously retained or withheld. The basis will include a detailed breakdown provided on the certification of items of payment.

13. Temporary Striping

A. The Contractor shall schedule the pavement marking work so that each phase of the contract is completed within that phase. The Contractor may elect to complete all thermoplastic pavement markings at the end of the construction period; however, temporary pavement markings shall be provided upon completion of each phase. The cost of temporary pavement markings shall be at no expense to the Owner.

METHOD OF MEASUREMENT

Pavement striping will be measured in either *linear feet* along the centerline of the pavement stripe and will be based on thickness of stripe or *each* measured in place for symbols or arrow.

BASIS OF PAYMENT

The accepted quantities of markings will be paid for by *each*/*linear feet* at the contract unit price, which shall include the cost of furnishing all labor, materials, and equipment to satisfactorily complete the work.

Payment, for the completed quantities measured and accepted by Engineer, will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s).

Payment will be made under:

Item No. 711-11-121	Thermoplastic (White) Solid 6"- per foot.
Item No. 711-11-123	Thermoplastic (White) Solid 12"- per foot.
Item No. 711-11-125	Thermoplastic (White) Solid 24"- per foot.
Item No. 711-11-160	Thermoplastic (White) Symbol – per each
Item No. 711-11-170	Thermoplastic (White) Arrow- per each
Item No. 711-11-421	Thermoplastic (Blue) Solid 6"- per foot.

END OF ITEM

711-11

ATTACHMENT E

FORM OF PERFORMANCE AND PAYMENT BOND

NOTE: PRIOR TO PERFORMING ANY PORTION OF THE WORK THE AWARDED CONTRACTOR SHALL DELIVER TO THE CITY THE BONDS REQUIRED TO BE PROVIDED BY CONTRACTOR

BY THIS BOND, we, _____, as Principal, (the "Contractor") and _____, as Surety, are bound to the City of South Miami (the "City"), as Obligee, in the amount of _____ _____Dollars ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, Contractor has by written agreement entered into a Contract pursuant to **ITB No. PR2026-05,** which was awarded on _____, 2026, pursuant to Resolution No. _____, with the City, which contract documents are by reference incorporated herein and made a part hereof, and specifically include provision for liquidated and other damages, and for the purpose of this Bond are referred to as the "Contract."

NOW, THEREFORE, THE CONDITION OF THIS PAYMENT BOND/OBLIGATION are that if Contractor shall promptly make payment to all claimants, as herein below defined, then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, subject to the following terms and conditions:

1. A claimant is defined as any person supplying the Principal with labor, material and supplies, used directly or indirectly by the said Principal or any subcontractor in the prosecution of the work provided for in said Contract, and is further defined in Section 255.05(1) of the Florida Statutes; and
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after performance of the labor or after complete delivery of materials and supplies by such claimant, may sue on this Bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit; and
3. No suit or action shall be commenced hereunder by any claimant:
    a. Unless claimant, other than one having a direct contract with the Principal, shall within forty-five (45) days after beginning to furnish labor, materials or supplies for the prosecution of the work, furnish the Principal with a notice that he intends to look to this bond for protection;
    b. Unless claimant, other than one having a direct contract with the Principal, shall within ninety (90) days after such claimant's performance of the labor or complete delivery of materials and supplies, deliver to the Principal written notice of the performance of such labor or delivery of such material and supplies and the nonpayment therefore;

c. After the expiration of one (1) year from the performance of the labor or completion of delivery of the materials and supplies; it being understood, however, that if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof such limitations shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law;

d. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The Principal and the Surety jointly and severally, shall repay the Owner any sum which the Owner may be compelled to pay because of any lien for labor or materials furnished for any work included in or provided by said Contract.

5. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration of or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications applicable thereto shall in any way affect its obligations on this Bond, and the Surety hereby waives notice of any such change, extension of time, alterations of or addition to the terms of the Contract, or to the work or to the Specifications.

6. The Surety represents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's rating of "_____" and Financial Category of "Class _____".

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this _____ day of _____2026, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: If Sole Ownership or Partnership, two (2) Witnesses Required; If Corporation, Secretary Only will attest and affix seal.

FOR THE CONTRACTOR:
WITNESS:

_____ _____

Secretary Name of Corporation

By: _____

(Affix Corporate Seal) Print Name: _____

Title: _____

FOR THE SURETY:
WITNESS:

_____ _____

_____ Agent and Attorney-in-Fact

_____ Print Name: _____

Title: _____

Address: _____

_____

Telephone: _____

END OF DOCUMENT