

Exhibit "A"

RESOLUTION NO. 139-24-16244

A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF SOUTH MIAMI, FLORIDA, SELECTING AND AWARDED A CONTRACT FOR CONSTRUCTION TO V ENGINEERING CORP. FOR THE CONSTRUCTION OF TRAFFIC CIRCLES AT SW 76TH TERRACE AND SW 61ST AVENUE AND SW 77TH TERRACE AND SW 58TH AVENUE IN AN AMOUNT NOT TO EXCEED \$828,328.74; PROVIDING FOR AUTHORIZATION; PROVIDING FOR IMPLEMENTATION, CORRECTIONS, AND AN EFFECTIVE DATE.

WHEREAS, the City of South Miami (the "City") desires to construct traffic circles at SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue (the "Project"); and

WHEREAS, on May 16, 2024, the City issued Invitation to Bid No. PW2024-06 (the "ITB") for construction of the Project; and

WHEREAS, on June 14, 2024, the City received a total of five (5) bids in response to the ITB; and

WHEREAS, V Engineering Corp. (the "Contractor") provided the lowest, responsive and responsible bid in the amount of \$828,328.74; and

WHEREAS, the City Commission desires to select and award the Contractor a contract for construction of the Project and authorize the City Manager to negotiate and execute a contract for construction, in substantially the form attached hereto as Exhibit "A" (the "Contract"), with the Contractor for the Project in an amount not to exceed \$828,328.74; and

WHEREAS, subject to the approval of the City's Fiscal Year 2024-25 Budget, the cost of the Project shall be charged to People's Transportation Fund Account No. 124-1730-541-6490, or such other funding source(s) as determined by the City Manager to be in the best interest of the City; and

WHEREAS, the City Commission finds that this Resolution is in the best interest and welfare of the City.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COMMISSION OF THE CITY OF SOUTH MIAMI, FLORIDA, AS FOLLOWS:

Section 1. Recitals. The above-stated recitals are true and correct and are incorporated herein by this reference.

Section 2. Selection and Award. The City Commission hereby selects and awards the Contract to the Contractor for construction of the Project.

Section 3. Authorization. The City Manager is hereby authorized to negotiate and execute the Contract with the Contractor for the Project, in substantially the form attached hereto as Exhibit "A," in an amount not to exceed \$828,328.74, subject to the approval as to form, content, and legal sufficiency by the City Manager and City Attorney. Subject to the approval of the City's Fiscal Year 2024-25 Budget, the expenses for the Project shall be charged to the People's Transportation Fund Account No. 124-1730-541-6490, or such other funding source(s) as determined by the City Manager to be in the best interest of the City.

Section 4. Implementation. The City Manager is hereby authorized to take all actions necessary to implement the purposes and intent of this Resolution.

Section 5. Corrections. Conforming language or technical scrivener-type corrections may be made by the City Attorney for any conforming amendments to be incorporated into the final resolution for signature.

Section 6. Effective Date. This Resolution shall become effective immediately upon adoption.

PASSED AND ADOPTED this 17th day of September, 2024.

ATTEST:



CITY CLERK

READ AND APPROVED AS TO FORM,
LANGUAGE, LEGALITY AND
EXECUTION THEREOF



WEISS/SEROTA HELFMAN COLE
& BIERMAN, P.L.
CITY ATTORNEY

APPROVED:



MAYOR

COMMISSION VOTE:	5-0
Mayor Fernández:	Yea
Vice Mayor Bonich:	Yea
Commissioner Calle:	Yea
Commissioner Liebman:	Yea
Commissioner Corey:	Yea

CONTRACT FOR CONSTRUCTION

THIS CONTRACT FOR CONSTRUCTION (this "Contract") is made on the Effective
Date 10/31/24 (the "Effective Date") by and between the **CITY OF SOUTH MIAMI, FLORIDA**, a Florida municipal corporation, (the "City"), and **V ENGINEERING CORP.**, a Florida profit corporation (the "Contractor").

WHEREAS, on May 16, 2024, the City issued Invitation to Bid No. PW2024-06 (the "ITB") for construction of Traffic Circles at SW 76th Terrace and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue (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, the Contractor submitted the lowest, responsive and responsible bid in the amount of \$828,328.74 in response to the ITB and was selected and awarded this Contract pursuant to Resolution No. XX for performance of the Work (as hereinafter defined); and

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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 ITB, the Contractor's Bid attached hereto as Exhibit "B," the Design Plans and Specifications prepared by SRS Engineering, Inc. (the "Project Consultant") attached hereto as Exhibit "C" (the "Plans") and any other documents incorporated herein by reference and made a part of this Contract for the following Project:

RESTROOM-CONCESSION FACILITY BUILDING AT SOUTH MIAMI PARK

- 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 (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. Staging Site.

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 fully completed in accordance with the Contract Documents within 120 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 fully complete the Work and achieve Final Completion within

the Final Completion Time, Contractor shall pay to City the sum of **\$1,699** 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 **\$828,328.74** 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: ARPA Addendum (if applicable);

4.4.3. Third Priority: This Base Agreement;

4.4.4. Fourth Priority: Exhibit “C,” the Design Plans and Specifications;

4.4.5. Fifth Priority: Exhibit “A,” the ITB;

4.4.6. Sixth Priority: Exhibit “B,” the Bid; and

4.4.7. Seventh 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 Contractor, 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. No recovery for changed market conditions.

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. Defective Work; Warranty and Guarantee.

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 Final Completion. If, within three (3) years after the date of final 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 Contract 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. Public Entity Crimes Affidavit. Contractor shall comply with Section 287.133, Florida Statutes, and (Public Entity Crimes Statute) notification of which is hereby incorporated herein by reference, including execution of any required affidavit.

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: NPayne@southmiamifl.gov

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

10.18.1. Public Entity Crimes Affidavit. Consultant 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.

10.18.2. 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 entering into this Agreement, the Consultant 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.

10.18.3. 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 Consultant 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.

10.18.4. 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 Consultant 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.

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 Devices 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. American Rescue Plan Act Contract Conditions. The Contractor acknowledges that the Work may be fully or partially funded utilizing Coronavirus State and Local Fiscal Recovery Funds allocated to the City pursuant to the American Rescue Plan Act (“ARPA”). Towards that end, the Contractor shall be required to comply with all laws, rules, regulations, policies, and guidelines (including any subsequent amendments to such laws, regulations, policies, and guidelines) required by ARPA, as further detailed in the ARPA Contract Conditions. If compliance with the ARPA Addendum is required, the City shall select this box: ☐.

11.8. 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

11.9. DBE Contract Assurance.

11.9.1. 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.

11.9.2. 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.

11.10. Scrutinized Companies.

11.10.1. 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.

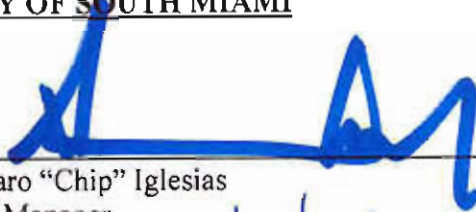
11.10.2. If this Agreement is for more than one million dollars, the Contractor certifies that it and its subcontractors are also not on the Scrutinized Companies with Activities in Sudan, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations 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.

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

11.10.4. 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.

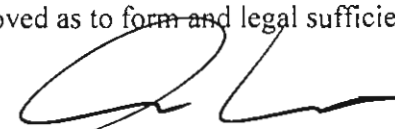
IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed the day and year as first stated above.

CITY OF SOUTH MIAMI

By: 
Genaro "Chip" Iglesias
City Manager
Effective Date: 10/31/24
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: Felix Valdes
Title: Secretary
Entity: V Engineering Corp.

Addresses for Notice:

2525 Ponce de Leon Blvd. #349
Coral Gables, FL 33134
305-342-5568 (telephone)
felix@veccorp.net (email)

With a copy to:

Felix Clavelo
2525 Ponce de Leon Blvd. #349
Coral Gables, FL 33134
305-970-3206 (telephone)
clavelo@veccorp.net (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-participation-enrollment-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:

Signed, sealed and delivered by:

Witness #1 Print Name: McVinn Lagos

Print Name: Felix Valdes

Witness #2 Print Name: Daniel Valdes

Title: Secretary

Entity Name: V Engineering Corp.

ACKNOWLEDGMENT

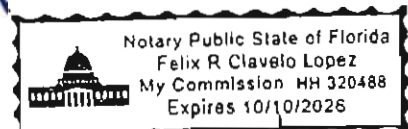
State of Florida

County of Dade.

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 19 day of September, 2024, by Felix Valdes (name of person) as Secretary (type of authority) for V Engineering Corp. (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 V Engineering Corp. a nongovernmental entity.
3. V Engineering Corp. does not use coercion for labor or services as defined in the relevant section of the law.

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: Melvin Lagos
Witness #2 Print Name: Daniel Valdes

Print Name: Felix Valdes
Title: Secretary
Entity Name: V Engineering Corp

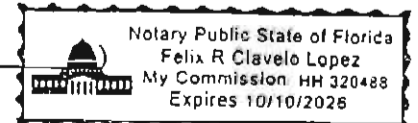
OATH OR AFFIRMATION

State of Florida
County of Dade

Sworn to (or affirmed) and subscribed before me by means of ☒ physical presence or ☐ online notarization, this 19 day of September, 2024, by Felix Valdes (name of person) as Secretary (type of authority) for V Engineering Corp. (name of party on behalf of whom instrument is executed).

[Signature]
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 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.

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. V Engineering Corp. ("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: Melvin Egas

Print Name: Felix Valdes

Witness #2 Print Name: Daniel Valdes

Title: Secretary

Entity Name: V Engineering Corp.

OATH OR AFFIRMATION

State of Florida
County of Dade

Sworn to (or affirmed) and subscribed before me by means of ☒ physical presence or ☐ online notarization, this 19 day of September, 2024, by Felix Valdes (name of person) as Secretary (type of authority) for V Engineering Corp. (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

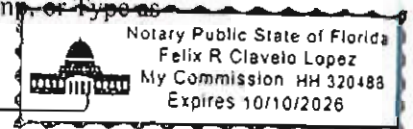


EXHIBIT A



**CITY OF SOUTH MIAMI
INVITATION TO BID (ITB) No. PW2024-06**

**CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS
LOCATIONS IN THE CITY OF SOUTH MIAMI**

City of South Miami Commission

**Mayor Javier Fernández
Commissioner Lisa Bonich
Commissioner Steve Calle
Commissioner Josh Liebman
Commissioner Brian Corey**

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

ISSUE DATE: May 16, 2024

BID CLOSING DATE: June 14, 2024

BID CLOSING TIME: 10:00 AM

BID OPENING TIME: 10:30 A.M.



PUBLIC NOTICE

INVITATION TO BID (ITB) No. PW2024-06

CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI

NOTICE IS HEREBY GIVEN that the City of South Miami ("City") is soliciting bids for the **CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI** (the "Project"). Interested companies, firms, and individuals ("Bidders") may obtain a copy of Invitation to Bid No. **PW2024-06** (the "ITB") to be issued on **May 16, 2024**, 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, ITB No. **PW2024-06** for the **CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI**". Bids must be received by the City by no later than **June 14, 2024 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-proposal 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: May 16, 2024

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SECTION I.

INFORMATION FOR BIDDERS

I.1. INTRODUCTION/GENERAL BACKGROUND.

The City of South Miami, Florida (the "City") is soliciting bids for the **"CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"** (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, most responsive and responsible Bidder whose bid meets the requirements and criteria set forth in this ITB for the Work described in this ITB.

I.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.

No.	Event	Date*	Time* (EST)
1	Advertisement/ Distribution of ITB	May 16, 2024	3:00 PM
2	Non-Mandatory / Mandatory Pre-Bid Conference and Site Visit	NONE SCHEDULED	
3	Deadline to Submit Questions / Requests for Clarification	June 4, 2024	10:00 AM
4	City Issues Addenda and Responds to Questions	June 7, 2024	10:00 AM
5	Deadline to Submit Sealed Bids ~ Submission Deadline	June 14, 2024	10:00 AM
6	E-BID OPENING VIA VIDEO CONFERENCING VIA THE ZOOM PLATFORM at https://zoom.us/j/3056636339 , or listen to the meeting on a dedicated phone line by dialing +1-786-635-1003 Meeting ID: 3056636339.	June 14, 2024	10:30 AM
7	City Manager issues recommendation to City Commission	July 2, 2024	7:00 PM
8	Award Bid(s) and Agreement(s) at City Commission Meeting	July 2, 2024	7:00 PM

1.3. BID DUE DATE.

Sealed Bids must be 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 June 14, 2024** (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 Non-Mandatory Pre-bid conference, will **NOT** be scheduled for this project. Please refer to the Schedule of Events on Page 4 of this solicitation.

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: skulick@southmiamifl.gov
Facsimile: (305)669-2636

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 **June 4, 2024 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 be 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. PW2024-06, "CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"** and addressed to:

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

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.

1.7.4.3. Additional qualifications. The Respondent must demonstrate that it has full-time personnel with the necessary experience to perform the Project's Scope of Work. This experience shall include work in successfully completed projects performed by the identified personnel whose bulk of work is similar in detail to the Project's Scope of Work described in these Solicitation Documents. Demonstrate the experience requirement by:

Providing a detailed description of at least three (3) projects similar in detail to the Project's Scope of Work described in these Solicitation Documents and in which the Bidder's identified personnel is currently engaged or has completed within the past five years. List and describe the aforementioned projects and state whether the work was performed for the County, other government clients, or private entities. The description must identify for each project:

1. The identified personnel and their assigned role and responsibilities for the listed project.
2. The client's name and address including a contact person and phone number for reference.
3. Description of work.
4. Total dollar value of the contract.
5. Contract duration.
6. Statement or notation of whether Bidder's referenced personnel is/was employed

by the prime contractor or subcontractor, and

7. For completed projects, provide letters of certification of final acceptance or similar project closure documentation issued by the client and available Contractor's performance evaluations.

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.** 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, most 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.

I.10. CODE OF ETHICS PROVISIONS.

I.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
Npayne@southmiamifl.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 responsibility 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 Code 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
Npayne@southmiamifl.gov

END OF SECTION I

SECTION 2. **TERMS AND CONDITIONS**

2.1. PURPOSE OF BID.

The City requests Bids from qualified firms for the “**CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI**” Project (the “Project”). The Work to be performed includes, but is not limited to, services related to the *Construction of Traffic Circles* as illustrated in the attached documents and, 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: ☐.**

2.9. BID GUARANTY/BID BOND. Each bid must be accompanied by a Bid Bond or Cashier's Check, in the amount of **five percent (5%) of the bid**, in the form provided in **Form 9**. Bid Guaranty shall be made by certified or cashier's check or by a bid bond made payable to the City and provided by a surety company authorized to do business as a surety in the state. All Bid Bonds shall be valid for a period of at least 90 days from the bid submission date. The Bid Bonds for all unsuccessful bids shall be returned after the 90-day period. The purpose of the bid bond is to ensure that bids are honored and that they remain valid for the required period. Accordingly, bid bonds are subject to forfeiture any time Bidders refuse to honor their bids for at least 90 days after bid opening. The Bid Guaranty of the successful bidder will be retained until such bidder has executed a contract and furnished any payment and performance bonds, along with all insurance policies, licenses, or other documentation that may be required by the City. If the successful bidder fails to furnish the required payment and performance bonds, fails to execute and deliver the contract, or fails to deliver the required insurance policies, licenses, or other documentation to the office of the purchasing agent within the time specified in the instructions to bidders, the City may annul the notice of award and the entire sum of the Bid Guaranty shall be forfeited to the City. All Bid Guarantees of unsuccessful Bidders will be returned after the Contract is awarded and executed.

Bid Bonds shall be submitted to the City Clerk's Office no later than the Submittal Due Date:

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

If the requirement for a Bid Guaranty/Bid Bond is waived, the City shall select this box: ☒.

2.10. 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.

2.11. 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.

2.12. 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.

2.13. 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.

2.14. 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.

2.15. 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.

2.16. 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.

2.17. 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.

2.18. 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."

2.19. 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.

2.20. 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:	NPayne@southmiamifl.gov

2.21. AMERICAN RESCUE PLAN ACT PROVISIONS.

Bidder acknowledges that the Work or Services may be fully or partially funded utilizing Coronavirus State and Local Fiscal Recovery Funds allocated to the City pursuant to the American Rescue Plan Act ("ARPA"). The selected Contractor shall be required to comply with all laws, rules, regulations, policies, and guidelines (including any subsequent amendments to such laws, regulations, policies, and guidelines) required by ARPA, as further detailed in the ARPA Addendum to this solicitation.

If compliance with this section is required, the City shall select this box: ☒.

2.22. 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

"CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"

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 Respondents) 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 Respondent/Contractor; however, in all cases; it is the responsibility of Respondent/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 6:00 p.m., on weekdays from Monday through Friday pursuant to Section 7-15 and 7-16 of the City Code of Ordinances.

3.2. SPECIFIC REQUIREMENTS.

The City is soliciting proposals from highly qualified firms for the construction of two new traffic circles located at various locations within the City of South Miami. Refer to the Design Plans and Specifications in **Attachment C**. All work must be completed by the respondent as per the specifications, engineering construction drawings, and in accordance with the terms and conditions described in **Section 3, "Scope of Services."** Respondents shall review enclosed specifications, engineering construction plan

documents, tree survey details. Respondents are required to follow all federal, state and local codes as well as all rule compliance and guidelines with Americans with Disabilities Act (ADA).

3.3. SITE LOCATION.

The Project will be held at various locations within the City of South Miami, FL at **SW 61 Ave & SW 76 ST and at SW 58 Ave & SW 77 Terrace.**

3.4. DESIGN PLANS & SPECIFICATIONS.

"TRAFFIC CIRCLES AT SW 76TH STREET AND SW 61ST AVENUE & SW 77TH TERRACE AND SW 58TH AVENUE" for this project are included as *"Attachment C Design Plans and Specifications"* prepared by **SRS Engineering.**

PROJECT DURATION.

After permit(s) have been secured/approved, the Bidder is responsible for completing this project within **one-hundred and twenty (120) calendar days** from issuance of Notice to Proceed/Purchase Order/Email Notification from the City's Project Manager.

3.5. WARRANTY.

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

- 3.5.1.** any conditions; and
- 3.5.2.** guaranteed response time for repair; and
- 3.5.3.** guaranteed replacement during the warranty period; and
- 3.5.4.** life expectancy under normal use; and
- 3.5.5.** Failures during the warranty period must be repaired or replaced to the satisfaction of the City; and
- 3.5.6.** 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.

PERFORMANCE AND PAYMENT BONDS ARE REQUIRED FOR THIS PROJECT.

A BID BOND IS NOT REQUIRED FOR THIS PROJECT

END OF SECTION 3

SECTION 4.**BID FORM PACKAGE**

As provided in the ITB, the following items must be attached to this Bid:

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	√

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**
- Attachment B: Declaration /Affidavit of Representation**
- Attachment C: Design Plans & Specifications, prepared by SRS ENGINEERING**
- Attachment D: American Rescue Plan Act (ARPA) Addendum**
- Attachment E: Performance and Payment Bond Forms**

FORM I

BID FORM PACKAGE ACKNOWLEDGEMENTS

I hereby propose to furnish the goods and services specified in the Invitation to Bid, ITB No. **PW2024-06, "CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI."**

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:

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

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**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 _____, 2023, 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, _____, 2023 to the City of South Miami for **ITB No. PW2024-06 "CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"** 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 _____, 2024.

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
_____, 2023, the following resolution was duly passed and adopted:

"RESOLVED, that _____,
as _____ of the Partnership,
be and is hereby authorized to execute the Bid dated _____, 2024, to the City of South Miami
for **ITB No. PW2024-06 "CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS
LOCATIONS IN THE CITY OF SOUTH MIAMI"** 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 _____, 2024.

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 12101-12213 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 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.

☐ 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

8. 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.
9. 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.
10. 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. PR2023-17** 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: _____

Print Name: _____

Witness #2 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 or 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
ITB No. PR2024-06**

Note:

Quantities are being provided for reference only. Contractors shall be responsible for verifying all quantities and take-offs, utilizing the furnished plans. Contractor's total sum shall reflect the inclusion of all improvements noted, drawn, specified and identified throughout the plans, without exception or exclusions.

NOTE: BID PRICES STATED IN THE PROPOSAL INCLUDE ALL COSTS AND EXPENSES FOR LABOR, EQUIPMENT, MATERIALS, CONTRACTOR'S OVERHEAD, AND PROFIT. PAYMENT FOR THIS PROJECT WILL BE BASED UPON COMPLETION OF THE ENTIRE PROJECT AS A UNIT PRICE CONTRACT, IN ACCORDANCE WITH THE PROJECT MANUAL.

NO. 1: TRAFFIC CIRCLE AT SW 76TH STREET & SW 61ST AVENUE

BID PROPOSAL**TRAFFIC CIRCLE AT SW 76th STREET AND SW 61st AVE**

Bid prices stated in the proposal include all costs and expenses for labor, equipment, materials, contractor's overhead, and profit. Payment for this project will be based upon completion of the entire project as a unit price contract, in accordance with the Project Manual.

ROADWAY						
Item	Pay Item No.	Description	Quantity	Unit Measure	Unit Price	Total
1	001	AS BUILT	1	LS		
2	101-1	MOBILIZATION	1	LS		
3	102-1	MAINTENANCE OF TRAFFIC	1	LS		
4	102-14	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR		
5	104-18	INLET PROTECTION SYSTEM	3	EA		
6	110-1-1	CLEARING AND GRUBBING	1	LS		
7	110-7-1	MAILBOX, F&I SINGLE	1	EA		
8	110-21	TREE PROTECTION BARRIER	350	LF		
9	110-4-10	REMOVAL OF EXISTING CONCRETE	230	SY		
10	102-1	REGULAR EXCAVATION	760	CY		
11	160-4	TYPE B STABILIZATION	1,270	SY		
12	285-706	LIMEROCK BASE (8") (OPTIONAL BASE, BASE GROUP 06)	1,270	SY		
13	334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, SP-9.5 (1" AND 1 1/2")	58	TN		
14	337-7-02	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22 (1")	58	TN		
15	425-1-2A	SD-3.1 SWALE INLET TYPE D-1 (17" x 27") < 10' (M-DPWO PAY ITEM)	2	EA		
16	425-1-2B	SD-3.1 SWALE INLET TYPE D-1 (17" x 27") > 10' (M-DPWO PAY ITEM)	1	EA		
17	425-1-201	INLETS, CURB, TYPE 9, < 10'	2	EA		
18	425-1-332	INLETS, CURB, TYPE P-3, < 10'	1	EA		
19	425-1-605	SD-2.7 SWALE INLETS (TYPE-P), > 10' (M-DPWO PAY ITEM)	1	EA		
20	425-2-41	SD-2.7 MANHOLES, P-7, < 10' (M-DPWO PAY ITEM)	2	EA		
21	425-4	INLETS, ADJUST	2	EA		
22	425-5	MANHOLE, ADJUST	1	EA		
23	425-6	VALVE BOXES, ADJUST	5	EA		
24	425-11	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA		
25	425-79	CORE AND TIE-IN TO EXISTING DRAIN STRUCTURE (18" PIPE, INCL. MORTAR SEAL) (M-DPWO PAY ITEM)	1	EA		
26	430-175-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SO (HOPE)	110	LF		
27	443-70-3	EXFILTRATION DRAIN (18")	120	LF		
28	520-1-10	CONCRETE CURB AND GUTTER (TYPE "F")/DROP CURB	465	LF		
29	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	75	LF		
30	520-3-8	CONCRETE CURB, TYPE RA	105	LF		
31	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	35	SY		
32	522-1	CONCRETE SIDEWALK, 4" THICK	160	SY		
33	522-2	CONCRETE SIDEWALK (6" THICK) (SIDEWALK, APRON, DRIVEWAY & SAIB)	120	SY		
34		8" REINFORCED STAMPED CONCRETE	55	SY		
35	527-2	DETECTABLE WARNINGS	45	SE		
36	526-1-1	PAVERS, ARCHITECTURAL, ROADWAY	55	SY		
37	570-1-2	PERFORMANCE TURF, SOD	300	SY		
38	580-7-253	BANDSCAPE- GROUND COVER (GREEN ISLAND FICUS)	70	EA		
39		REMOVE UTILITY WOOD POLE WITH/ FOUNDATION AND GUIDE WIRE	1	EA		
A		SUBTOTAL ROADWAY				

BID PROPOSAL**TRAFFIC CIRCLE AT SW 76th STREET AND SW 61st AVE**

Bid prices stated in the proposal include all costs and expenses for labor, equipment, materials, contractor's overhead, and profit. Payment for this project will be based upon completion of the entire project as a unit price contract, in accordance with the Project Manual.

PAVEMENT MARKING AND SIGNAGE						
Item	Pay Item No.	Description	Quantity	Unit Measure	Unit Price	Total
40	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	0.18	GM		
41	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR INTERCHANGE AND URBAN ISLAND, 8"	0.01	GM		
42	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	90	LF		
43	710-11-124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR DIAGONAL OR CHEVRON, 18"	60	LF		
44	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	70	LF		
45	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	0.02	GM		
46	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.18	GM		
47	710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	315	SF		
48		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS		
49	700-1111	SINGLE POST SIGN, FB&J GROUND MOUNT, UP TO 12 SF	21	AS		
50	700-1-50	SINGLE POST SIGN, RELOCATE	2	AS		
51	700-3-501	SIGN PANEL, RELOCATE, UP TO 12 SF	1	EA		
52	700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF	1	EA		
53	706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS (V/V, W/R & BLUE)	280	EA		
54	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	90	LF		
55	711-11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	60	LF		
56	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	0.02	GM		
57	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	70	LF		
58	711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	0.18	GM		
59	711-16-102	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	0.01	GM		
60	711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	0.18	GM		
8		SUBTOTAL PAVEMENT MARKING AND SIGNAGE				

SUBTOTAL GENERAL A+B						
		PROJECT SIGN	7	EA		
		CONTINGENCY FUND (15% OF SUBTOTAL GENERAL)	1	LS		
		BOND & INSURANCE FUND (2% OF SUBTOTAL GENERAL)	1	LS		
		TOTAL CONSTRUCTION				

FORM 7
BID FORM/SCHEDULE OF VALUES
ITB No. PR2024-06
(CONTINUED)

NO. 2: TRAFFIC CIRCLE AT SW 77TH TERRACE & SW 58TH AVENUE

BID PROPOSAL**TRAFFIC CIRCLE AT SW 77th TERRACE AND SW 58th AVENUE**

Bid prices stated in the proposal include all costs and expenses for labor, equipment, materials, contractor's overhead, and profit. Payment for this project will be based upon completion of the entire project as a unit price contract, in accordance with the Project Manual.

ROADWAY						
Item	Pay Item No.	Description	Quantity	Unit Measure	Unit Price	Total
1	001	AS BUILT	1	LS		
2	101-1	MOBILIZATION	1	LS		
3	102-1	MAINTENANCE OF TRAFFIC	1	LS		
4	102-1a	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR		
5	104-18	INLET PROTECTION SYSTEM	2	EA		
6	110-1-1	CLEARING AND GRUBBING	1	LS		
7	110-7-1	MAILBOX, F&I SINGLE	3	EA		
8	110-21	TREE PROTECTION BARRIER	210	LF		
9	110-4-10	REMOVAL OF EXISTING CONCRETE	110	SY		
10	102-1	REGULAR EXCAVATION	700	CY		
11	160-4	TYPE B STABILIZATION	1,250	SY		
12	285-706	LIMEROCK BASE (8") (OPTIONAL BASE, BASE GROUP 06)	1,250	SY		
13	314-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C, SP-9.5 (1" AND 1/2")	71	TN		
14	317-7-87	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22 (1")	65	TN		
15	425-1-7A	SD-3, 1 SWALE INLET TYPE D-1 (12" x 27") < 10' (M-OPWD PAY ITEM)	1	EA		
16	425-1-201	INLETS, CURB, TYPE S, < 10'	2	EA		
17	425-4	INLETS, ADJUST	1	EA		
18	425-5	MANHOLE, ADJUST	1	EA		
19	425-6	VALVE BOXES, ADJUST	1	EA		
20	425-13	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA		
21	425-79	CORE AND TIE-IN TO EXISTING DRAIN STRUCTURE (18" PIPE, INCL. MORTAR SEAL) (M-OPWD PAY ITEM)	1	EA		
22	430-175-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD (HDPE)	40	LF		
23	443-70-3	EXFILTRATION DRAIN (18")	50	LF		
24	520-1-10	CONCRETE CURB AND GUTTER (TYPE "F")/DROP CURB	450	LF		
25	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	95	LF		
26	520-2-8	CONCRETE CURB, TYPE RA	105	LF		
27	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	25	SY		
28	522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	130	SY		
29	522-2	CONCRETE SIDEWALK (6" THICK) (SIDEWALK, RAMP, APRON, DRIVEWAY & SALB)	60	SY		
30		8" REINFORCED STAMPED CONCRETE SLAB	45	SY		
31	527-2	DETECTABLE WARNINGS	20	SF		
32	526-1-1	PAVERS, ARCHITECTURAL, ROADWAY	60	SY		
33	570-1-2	PERFORMANCE TURF, SOD	950	SY		
34	580-7-251	LANDSCAPE- GROUND COVER (GREEN ISLAND FICUS)	68	EA		
35		LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 10' ARM LENGTH	1	EA		
36		LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	1	EA		
A		SUBTOTAL ROADWAY				

BID PROPOSAL

TRAFFIC CIRCLE AT SW 77th TERRACE AND SW 58th AVENUE

Bid prices stated in the proposal include all costs and expenses for labor, equipment, materials, contractor's overhead, and profit. Payment for this project will be based upon completion of the entire project as a unit price contract, in accordance with the Project Manual.

PAVEMENT MARKING AND SIGNAGE						
Item	Pay Item No.	Description	Quantity	Unit Measure	Unit Price	Total
37	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	0.16	GM		
38	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR INTERCHANGE AND URBAN ISLAND, 8"	0.01	GM		
39	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	50	LF		
40	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	10	LF		
41	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE / 6-10 DOTTED EXTENSION, 6"	0.02	GM		
42	710-11-160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA		
43	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.16	GM		
44	710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	205	SF		
45		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS		
46	700-1-111	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	18	AS		
47	700-1-50	SINGLE POST SIGN, RELOCATE	1	AS		
48	706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS (Y/Y, W/R & BLUE)	280	EA		
49	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	50	LF		
50	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE / 6-10 GAP EXTENSION 6"	0.02	GM		
51	711-11-260	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA		
52	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	30	LF		
53	711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	0.16	GM		
54	711-16-102	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 8"	0.01	GM		
55	711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	0.16	GM		
5	SUBTOTAL PAVEMENT MARKING AND SIGNAGE					

SUBTOTAL GENERAL A+B						
		PROJECT SIGN	2	EA		
		CONTINGENCY FUND (15% OF SUBTOTAL GENERAL)	1	LS		
		BOND & INSURANCE FUND (2% OF SUBTOTAL GENERAL)	1	LS		
TOTAL CONSTRUCTION						

COMBINED TOTAL CONSTRUCTION FOR TRAFFIC CIRCLES No. 1 AND No. 2:

\$ _____

SUBMITTED THIS _____ DAY OF _____ 20____.

BID SUBMITTED BY:

Company

Telephone Number

Name of Person Authorized to Submit Bid

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 _____

END OF SECTION 4

ATTACHMENT A
SAMPLE OF CONTRACT

CONTRACT FOR CONSTRUCTION

THIS CONTRACT FOR CONSTRUCTION (this "Contract") is made this _____ day of _____, 2024 (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. PW2024-06 (the "ITB")** for construction of **"CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"** (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:

I. SCOPE OF WORK

I.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 **SRS ENGINEERING** (the "Project Consultant") attached hereto as **Exhibit "C" (the "Design Plans & Specifications")** and any other documents incorporated herein by reference and made a part of this Contract for the following Project:

""CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI"

I.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.

I.3. Project Schedule. Contractor must submit a proposed Project Schedule as follows:

I.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. Staging Site.

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 twenty (120) 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 t one-hundred and twenty (120) 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 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 **\$1,699 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

3.5.1.1. 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. 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 Contractor, 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. No recovery for changed market conditions.

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. Defective Work; Warranty and Guarantee.

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

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:

NPayne@southmiamifl.gov

10.18. 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 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.

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 Devices 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. American Rescue Plan Act Contract Conditions. The Contractor acknowledges that the Work may be fully or partially funded utilizing Coronavirus State and Local Fiscal Recovery Funds allocated to the City pursuant to the American Rescue Plan Act ("ARPA"). Towards that end, the Contractor shall be required to comply with all laws, rules, regulations, policies, and guidelines (including any subsequent amendments to such laws, regulations, policies, and guidelines) required by ARPA, as further detailed in the ARPA Contract Conditions. **If compliance with the ARPA Addendum is required, the City shall select this box: ☒.**

11.8. 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: ☐.

11.9. DBE Contract Assurance.

11.9.1. 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.

11.9.2. 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.

11.10. Scrutinized Companies.

11.10.1. 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.

11.10.2. 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.

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

11.10.4. 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.

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-participation/enrollment-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:

Signed, sealed and delivered by:

Witness #1 Print Name: _____

Print Name: _____

Title: _____

Witness #2 Print Name: _____

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

NOTICE TO PROCEED

Dated: _____, 20____

To: _____

Project Name: **“CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI”**

You are hereby notified that the Contract Times under the above Contract will commence to run on _____, 2024. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 2 of the Contract, the dates of Substantial Completion and completion and readiness for final payment are _____, 2024 and _____, 2024, ____/____ days respectively.

Before you may start any Work at the site, Article 6 provides that you must deliver to the City (_____ check here if applicable, with copies to _____ and other identified additional insureds) Certificates of Insurance in accordance with the Contract Documents.

In addition, before you may start any Work at the site, you must: (add any additional requirements)

CITY OF SOUTH MIAMI

By: _____
Genaro "Chip" Iglesias
City Manager

ACCEPTANCE OF NOTICE TO PROCEED

[INSERT NAME OF CONTRACTOR]

By: _____
Name: _____
Title: _____
Date: _____

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.

<u>NAME</u>	<u>TITLE</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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 AND SPECIFICATIONS"

Prepared by:

SRS ENGINEERING



COMMISSION-CITY MANAGER

JAVIER E. FERNANDEZ, ESQ. MAYOR
 USA BONICH VICE MAYOR
 STEVE CALLE COMMISSIONERS, GROUP I
 JOSH LIEBHAW COMMISSIONERS, GROUP II
 BRIAN COREY COMMISSIONERS, GROUP III

CITY OF SOUTH MIAMI TRAFFIC CIRCLES

SW 76th STREET AND SW 61st AVE &
 SW 77th TERRACE AND SW 58th AVE



SECTION 36 - TOWNSHIP 54 SOUTH - RANGE 40 EAST

LOCATION MAP
SCALE: N.T.S.



Project Location

Project Location



THIS ITEM HAS BEEN DIGITALLY SIGNED
 AND SEALED BY IGNACIO SERRALLA, P.E.
 ON THE DATE ADJACENT TO THE SEAL.
 PRINTED COPIES OF THIS DOCUMENT ARE
 NOT CONSIDERED SIGNED AND SEALED
 AND THE SIGNATURE MUST BE VERIFIED
 ON ANY ELECTRONIC COPIES.

ENGINEER'S CERTIFICATION:

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE, CHAPTER 72-326 F.S.

IGNACIO SERRALLA, P.E. No. 45609

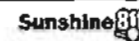
NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALL WITHIN SAID LIMITS.
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).

GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARDS PLANS FY 2022-23, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED JULY 03-04-2022 (LAST UPDATED).
- MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS.

PREPARED BY:



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!

REVISIONS-SUBMITTALS

REV.	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/29/2024 SHEET C-0



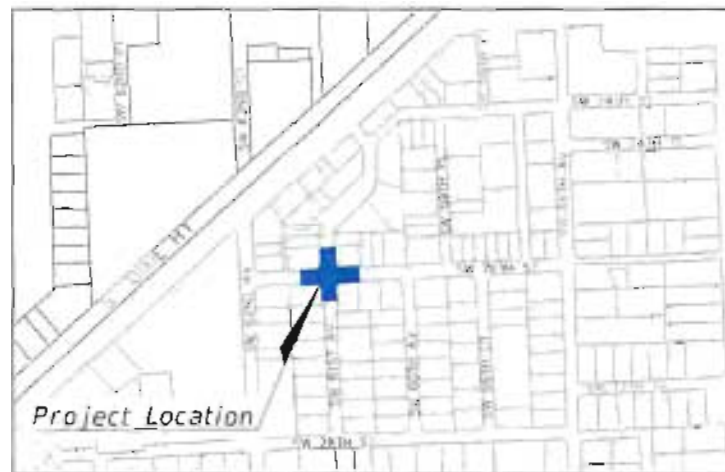
COMMISSION-CITY MANAGER

JAVIER E. FERNANDEZ, ESQ. MAYOR
LISA BONICH VICE MAYOR
STEVE CALLE COMMISSIONERS, GROUP I
JOSH LEBMAN COMMISSIONERS, GROUP II
BRYAN COREY COMMISSIONERS, GROUP IV

INDEX OF SHEETS

SHEET No.	SHEET DESCRIPTION
C-1	COVER SHEET
C-2.0 TO C-2.1	GENERAL NOTES
C-2.2	LEGEND AND ABBREVIATIONS
C-3.0	PRY ITEM NOTES
C-3.1	SUMMARY OF QUANTITIES
C-4.0 TO C-4.1	TYPICAL SECTION
C-5	ROADWAY PLAN
C-6	TRAFFIC CIRCLE MEDIAN DETAILS
C-7.0	SW 76th ST. - GRADING AND DRAINAGE PLAN AND PROFILE
C-7.1	SW 61st AVE. - GRADING AND DRAINAGE PLAN AND PROFILE
C-8	DRAINAGE PROFILE
C-9 TO C-10	DRAINAGE CROSS SECTION
C-11.0 TO C-11.2	MISCELLANEOUS DETAILS
C-12.0	STORMWATER POLLUTION PREVENTION NOTES & DETAILS
C-12.1	STORMWATER POLLUTION PREVENTION PLAN
C-13	PAVEMENT MARKING AND SIGNAGE PLANS
	SURVEY

CITY OF SOUTH MIAMI TRAFFIC CIRCLE AT SW 76th STREET AND SW 61st AVE



SECTION 3E - TOWNSHIP 54 SOUTH - RANGE 40 EAST

LOCATION MAP
SCALE: N.T.S.



THIS PLAN HAS BEEN DIGITALLY SIGNED AND SEALED BY IGNACIO SERRALLA, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

ENGINEER'S CERTIFICATION:

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE, CHAPTER 72-328 F.S.

IGNACIO SERRALLA, P.E. No. 45609

NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALL WITHIN SAID LIMITS.
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1928 (NGVD-29).

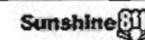
GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARDS PLANS FY 2024-25, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LAST UPDATED), MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS.

PREPARED BY:



100% SUBMITTAL



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REVISIONS-SUBMITTALS

REV.	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/30/2024 SHEET: C-1

GENERAL NOTES:

- 1 EXISTING TOPOGRAPHIC AND TREE LOCATION INFORMATION HAS BEEN OBTAINED FROM THE SURVEY PREPARED BY: MADONNIE LAND SURVEYORS AND MAPPERS ON 09/13/2022
- 2 ALL ELEVATIONS REFER TO THE NATIONAL GEODASTIC VERTICAL DATUM OF 1929 (NGVD-29)
- 3 FLOOD CRITERIA ELEVATION IS 10.56 FEET BASED ON MIAMI DADE COUNTY FLOOD CRITERIA MAPS OCTOBER WATER LEVEL 2.95
- 4 IN ACCORDANCE WITH THE MIAMI DADE COUNTY "PRELIMINARY FLOOD ZONES", THIS PROJECT IS LOCATED IN FLOOD ZONE "C"
- 5 ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONFLICT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED OR COVERED HAVE TO BE PROPERLY REFERENCED BY A PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THAT SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR OF REFERENCE, AND RESTORE UPON COMPLETION OF THE WORK, ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO THE ENGINEER A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.
- 6 ALL BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED AND REFERENCED BY THE CONTRACTOR IN THE SAME WAY AS PUBLIC LAND CORNERS EXCEPT THAT THE LAND SURVEYOR SHALL NOT BE REQUIRED TO RESTORE THE BENCH MARK UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL PROMPTLY REPORT ALL DISPLACED OR DAMAGED N.G.V.O. DISCS TO THE ENGINEER, WHO WILL NOTIFY THE GEODETIC INFORMATION CENTER.
- 7 ALL CONSTRUCTION ASSOCIATED WITH THIS PROJECT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES & AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT, MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STANDARDS, THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), MIAMI-DADE COUNTY'S REGULATORY AND ECONOMIC RESOURCES (RER). ANY DISCREPANCY MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF SOUTH MIAMI AND ENGINEER OF RECORD (EOR).
- 8 CONTRACTOR WILL SECURE AND PAY ALL PERMIT FEES FOR THE WORK NECESSARY TO COMPLETE THIS PROJECT. CONTRACTOR SHALL COORDINATE EFFORTS WITHIN THE CITY'S PUBLIC WORKS DEPARTMENT.
- 9 CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER OR OTHER EQUIPMENT) FOR CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK. CLEANING AND SWEEPING IS TO BE INCLUDED IN CONTRACTOR'S W.O.T. OR TRAFFIC PAY ITEM AND SHALL BE DONE ON A DAILY BASIS (MAY).
- 10 PERMANENT TURNOUTS AND DRIVEWAYS CONNECTIONS TO PRIVATE PROPERTY THAT LIE OUTSIDE THE LIMITS OF FRONT-OF-WAY AND WHERE ACCESS RIGHTS HAVE NOT BEEN ACQUIRED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TURNOUT DETAILS AND STANDARD SPECIFICATIONS FOR THESE PLANS. THE CONTRACTOR SHALL NOT ISOLATE ADJACENT AND/OR THE REMAINDER OF THE PROPERTY UNLESS ACCESS RIGHTS ARE ACQUIRED. ACCESS SHALL BE PROVIDED TO SUCH PROPERTY WHENEVER CONSTRUCTION INTERFERES WITH THE EXISTING MEANS OF ACCESS.
- 11 48 HOURS PRIOR TO DIGGING CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND UTILITY SERVICE COMPANIES TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO ASSURE THAT ALL UTILITIES HAVE BEEN IDENTIFIED.
- 12 CONTRACTOR SHALL VERIFY, PHOTOGRAPH AND INVENTORY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES, PAVEMENT OR OTHER FEATURES, ANY EXISTING STRUCTURE, PAVEMENT, TREE OR OTHER EXISTING FEATURE THAT IS IN CONFLICT OR DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THE CONTRACT AND PROVIDE COPIES TO THE CITY OF SOUTH MIAMI AND THE ENGINEER. THEY SHALL BE RESTORED PROMPTLY TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE PROJECT.
- 13 THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES. PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION, ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ARCHITECT/ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 14 THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- 15 UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS TAKEN FROM "AS-BUILT" DATA PROVIDED BY THE VARIOUS UTILITY COMPANIES AND SUPPLEMENTED BY FIELD MEASUREMENTS WHEN OBTAINABLE.

- 16 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A PROPER STAGING AREA APPROVED BY THE CITY OF SOUTH MIAMI. STOCKPILING OF MATERIAL IN ROADWAY IS NOT ALLOWED.
- 17 UTILITIES NEEDED TO BE ADJUSTED WILL BE ADJUSTED BY OTHERS. CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING THESE ADJUSTMENTS WITH THE UTILITY COMPANY.
- 18 THE CONTRACTOR SHALL REQUEST THE LOCATION OF ANY WATER, SEWER OR GAS LATERALS NOT SHOWN IN THE PLANS SERVING PROPERTIES ADJACENT TO THE PROJECT BEFORE EXCAVATING. THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVING SAID PROPERTIES SHALL BE INCLUDED IN HIS BID.
- 19 THE CONTRACTOR IS TO USE CAUTION WHEN WORKING, ESPECIALLY IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
- 20 ANY WATER AND SEWER LINES TO BE ADJUSTED SHALL BE APPROVED BY THE MIAMI-DADE DEPARTMENT OF WATER AND SEWER. THE CONTRACTOR SHALL NOTIFY THE CITY OF SOUTH MIAMI FOR ANY CONFLICTS DURING CONSTRUCTION FOR ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
- 21 ALL EXISTING ROCK BASE MATERIAL WHICH IS REMOVED IS TO BE INCORPORATED IN THE STABILIZED PORTION OF THE SUBGRADE, AS DIRECTED BY THE ENGINEER.
- 22 NONE OF THE EXISTING ROCK BASE THAT IS REMOVED IS TO BE INCORPORATED INTO THE PROPOSED UNDERCOT BASE.
- 23 ALL DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATED MATERIAL, DEMOLITION, VEGETATION, RUBBISH AND DEBRIS SHALL BE MADE OUTSIDE THE LIMITS OF CONSTRUCTION AT A LEGAL DISPOSAL SITE PROVIDED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE, WITH THE PRIOR APPROVAL OF THE ENGINEER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT AND/OR NEARBY PROPERTY.
- 24 ALL EXCESS MATERIALS AS DESIGNATED BY THE ENGINEER ARE TO BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY HIM AND AT THE CONTRACTOR'S EXPENSE.
- 25 ALL DRAINAGE CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF CITY OF SOUTH MIAMI AND MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER).
- 26 CONTRACTOR IS TO PROTECT EXISTING INLETS AND DRAINAGE COMPONENTS, ADJACENT TO CONSTRUCTION, THAT MAY BE SLOTTED OR EXPOSED TO DEBRIS DURING CONSTRUCTION. INLETS AND OTHER DRAINAGE COMPONENTS THAT ARE SLOTTED OR FULL OF DEBRIS AFTER CONSTRUCTION TO BE DESLUTTED/CLEANED BY CONTRACTOR PRIOR TO FINAL INSPECTION AND ACCEPTANCE.
- 27 ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RESEEDING.
- 28 ALL UNSUITABLE MATERIAL UNDER THE PAVEMENT SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS BEFORE PROCEEDING WITH CONSTRUCTION.
- 29 ALL MUCK AND ORGANIC MATERIALS FOUND WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL IN 6 INCH LIFTS COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH AASHTO T-150.
- 30 THE CONTRACTOR SHOULD TAKE SPECIAL NOTE OF THE SOIL CONDITIONS THROUGHOUT THE PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, EITHER PUBLIC OR PRIVATE, DURING EXCAVATION OF SUBSOIL MATERIAL AND DRAINAGE TRENCH OR DURING THE PLANS OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ONLY EXCEPTION WILL BE THE PROTECTION OF UTILITIES. ALL UTILITIES SHALL BE MAINTAINED BY THE OWNER OF THE UTILITY.
- 31 ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY CONTRACTOR AT ANY TIME DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION, AT NO EXPENSE TO THE OWNER OR THE CITY OF SOUTH MIAMI.
- 32 EXISTING CHAIN LINK FENCE, CONCRETE WALL AND METAL FENCE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED UNLESS OTHERWISE INDICATED.
- 33 CONTRACTOR SHALL ADJUST ALL EXISTING VALVES BOXES, CATCH BASINS GRATES, MANHOLES, COWERS, ETC. TO MEET NEW GRADES WHERE APPLICABLE.
- 34 ALL VALVES, A.R.V.'S, AND MANHOLES TO BE RAISED AND ADJUSTED TO PROPOSED ROADWAY ELEVATION.
- 35 SODDING TO BE USED AT LOCATIONS WHERE EXISTING LAWNS ARE DISTURBED OR AS DIRECTED BY THE ENGINEER.
- 36 ALL TREES ARE TO REMAIN UNLESS OTHERWISE DIRECTED BY THE ENGINEER. CONTRACTOR MUST TAKE CARE NOT TO DAMAGE ANY TREE OR PALM WITHIN CONSTRUCTION AREA. SMALL TREES OR PALMS MAY BE RELOCATED AS DIRECTED BY THE CITY OF SOUTH MIAMI. TREE PERMIT MUST BE OBTAINED PRIOR TO CONSTRUCTION. THERE ARE LARGE TREES WITH EXTENSIVE ROOT NETWORKS ON THE GROUND THAT ARE IMPACTING ADJACENT SIDEWALKS, CURBS AND PAVEMENT. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE WITH AN ARBORIST TO ENSURE THAT ROOT AND TREE PRUNING ACTIVITIES ARE CONDUCTED IN A MANNER THAT IT DOES NOT HARM OR DESTROY THE TREE.
- 37 RADAR ON CURB RETURNS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

- 38 PROVIDE A SMOOTH TRANSITION WHERE NEW PAVEMENT, SIDEWALK, OR CURB MEETS EXISTING GRASS AREAS.
- 39 PRIOR TO REMOVAL AND/OR RELOCATION OF EXISTING TREES, IF REQUIRED, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE CITY OF SOUTH MIAMI AS WELL AS D.E.R.M. OTHERWISE CONTRACTOR SHALL PROTECT EXISTING TREES WHERE APPLICABLE WITHIN THE LIMITS OF CONSTRUCTION.
- 40 WHERE NEW PAVEMENT MEETS EXISTING CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH EXISTING PAVEMENT. SAW CUT AT EXISTING PAVEMENT JOINT MATCHING TO NEW PAVEMENT.
- 41 ANY DISCREPANCY FOUND BETWEEN THE PLANS AND THE QUANTITIES SHEET MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE MUNICIPALITY/COUNTY AND ENGINEER OF RECORD (EOR). AN R.F.I. MUST BE PROVIDED AND SHOULD OUTLINE THE SPECIFIC ISSUE OR DISCREPANCY, PROVIDE SUPPORTING DOCUMENTATION OR EVIDENCE, AND SEEK CLARIFICATION OR APPROVAL BEFORE PROCEEDING WITH THE PROJECT/TASK.

DRAINAGE

- 1 CONTRACTOR SHALL KEEP NEW AND EXISTING INLETS CLEAN OF PAVING MATERIALS AND DEBRIS. INLETS LOCATED NEAR CONSTRUCTION ACTIVITIES SHOULD BE PROTECTED BY APPROPRIATE EROSION CONTROL DEVICES.
- 2 THERE SHALL BE NO MORE THAN 3 LATERAL DRAINAGE INSTALLATION WITHOUT BACKSILLING. LATERAL DRAINAGE SHALL NOT LAG MORE THAN 72 HOURS BEHIND THE START OF EXCAVATION.
- 3 GRADES SHOWN ARE "FINISHED" GRADES.
- 4 DRAINAGE SYSTEM SHALL BE CLEANED AND DESLUTTED PRIOR TO PM FINAL INSPECTION APPROVAL.
- 5 EXISTING STRUCTURES AND PIPES TO REMAIN WITHIN LIMITS OF CONSTRUCTION SHALL BE VACUUM CLEANED.
- 6 ANY EXISTING DRAINAGE COMPONENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE CONSTRUCTION ARE TO BE RESTORED TO EXISTING EQUIVALENT OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE.

PRE-CONSTRUCTION RESPONSIBILITIES

- 1 PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION AND THE RECEIPT OF THE "NOTICE TO PROCEED" THE CONTRACTOR SHALL CONTACT CITY OF SOUTH MIAMI AND ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE THE ENGINEER OF RECORD. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE AND BE PREPARED TO DISCUSS ANY CONCERNS OR COORDINATION EFFORTS AND REQUIREMENTS WITH THE PARTIES INVOLVED.
- 2 THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA, INC. CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION. CONTACT 811, WWW.SUNSHINE811.COM

PROJECT RECORD DOCUMENTS

- 1 DURING THE DAILY PROGRESS OF THE JOB THE CONTRACTOR SHALL RECORD THE EXACT LOCATION, LENGTH, AND ELEVATION OF ALL PROPOSED IMPROVEMENTS ON HIS SET OF CONSTRUCTION DRAWINGS.
- 2 UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER TWO COMPLETE SETS OF ALL "AS-BUILT" CONSTRUCTION DRAWINGS. THE DRAWINGS SHALL INCLUDE CHANGES AND DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE IN ACCORDANCE WITH THE "SURVEY WORK" SECTION OF THE "SPECIFICATIONS AND CONTRACT DOCUMENTS" FOR THIS PROJECT.
- 3 ALL "AS-BUILT" INFORMATION AND ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND ALL FINAL MEASUREMENTS ARE TO BE IN THE FORM OF FIELD NOTES, PLANS AND CO (PDF FORMAT).

	TRAFFIC CIRCLE AT SW 76th ST. AND SW 61st AVE.	GENERAL NOTES	SCALE AS SHOWN PROJECT NO. 2020 SHEET NO. C-20

UTILITIES

- TWO FULL BUSINESS DAYS (48 HOURS) PRIOR TO DIGGING, THE CONTRACTOR SHALL CONTACT 811, WWW.SUNSHINE11.COM TO REQUEST UTILITY LOCATIONS BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES.
- EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO (VERTICALLY AND HORIZONTALLY) PROTECT ALL EXISTING UTILITIES ON THIS PROJECT. ANY DAMAGE TO UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE UTILITY OWNER. THE OWNER RESERVES THE RIGHT TO REMEDY SUCH DAMAGE BY ORDERING OUTSIDE PARTIES TO MAKE SUCH REPAIRS AT THE EXPENSE TO THE CONTRACTOR.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERAL SERVICES MUST BE INCLUDED IN THE BID RELATED ITEM FOR THE WORK BEING DONE.
- UTILITY OWNERS

- ATLANTIC BROADBAND	786-251-5889	- FLORIDA POWER & LIGHT	305-585-6403
- COMCAST CABLE	1888-447-8405	- LEVEL 3 COMMUNICATIONS	786-254-1554
- FLORIDA CITY GAS	786-575-8547	- M-D WATER & SEWER	786-288-5320
- PUBLIC WORKS & TRAFFIC	786-343-0936	- AT&T	501-987-0240

ENVIRONMENTAL NOTES

- DUE TO THE LIMITED SCOPE OF WORK, NO IMPACTS TO EXISTING HISTORICAL AND CULTURAL RESOURCES ARE EXPECTED AS A RESULT OF THE PROPOSED ACTION.
- NO STAGING OR OTHER ACTIVITIES FOR THIS PROJECT SHOULD OCCUR WITHIN THE SHIPLINE OF EXISTING TREES.
- PREVENT DAMAGING TREES AND PLANTERS WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT'S RIGHT-OF-WAY.
- AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE SHALL BE PRESENT ON SITE TO MONITOR CONSTRUCTION ACTIVITIES NEAR EXISTING TREES AND DIRECT ALL ROOT PRUNING AND/OR CANOPY TRIMMING ACTIVITIES.
- TREE PROTECTION SHOULD BE INSTALLED AROUND TREES TO REMAIN LOCATED ADJACENT TO CONSTRUCTION ACTIVITIES PER FOOT STANDARDS PLANS FY 2024-25, INDEX 110-100.
- 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/RELOCATION.
- CONTRACTOR SHALL REMOVE/CONTROL DUST USING WATER OR OTHER EQUIPMENT CAPABLE OF CONTROLLING DUST.

TRAFFIC CONTROL PLANS

- TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FOOT STANDARDS PLANS FY 2024-25 (SEE SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND MUTCD AS MINIMUM CRITERIA.
- NOTIFICATION OF LANE CLOSURES OR TEMPORARY DETOURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE. DETOUR OR NOT PHASE CHANGE SHALL BE SUBMITTED WITH THE REQUIRED LANE CLOSURE FORM, SKETCHES, CALCULATIONS, AND OTHER DATA TO PUBLIC WORKS DEPT.
- AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
- THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
- LANE CLOSURE SHALL OCCUR ONLY DURING NON-PEAK HOURS ON NON-EVENT DAYS/NIGHTS/WEEKENDS. NON-PEAK HOURS 8:00 AM TO 3:30 PM WEEKDAYS AND SATURDAYS. EXCEPTIONS MAY BE GRANTED UPON WRITTEN REQUEST TO THE CITY.
- TRAFFIC CONTROL PLANS FOR ALL PHASES ARE DESIGNED FOR NON-PEAK HOURS ONLY. THE CONTRACTOR SHALL KEEP ALL EXISTING LANES OPEN DURING PEAK HOURS IN THESE PHASES.

- AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AND UNCOVERING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSOVER. IN ADDITION, SOLID LANE AND EDGE LINES SHALL EXTEND 100 FT ON TANGENT BEYOND EACH END OF THE TRANSITION, SHIFT, OR CROSSOVER. EXCEPTION SHALL BE THROUGH INTERSECTIONS WHERE 2 FT TO 4 FT SHIP LINES WILL BE PLACED.
- ALL TEMPORARY STRIPES AND MARKINGS SHALL BE PAINT ONLY, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER. COST OF TEMPORARY STRIPING SHALL BE INCLUDED IN HOT PAVEMENT PAY ITEM.
- EACH EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- FOR DROP OFFS, THE CONTRACTOR'S SHALL FOLLOW TO THE FOOT STANDARDS PLANS FY 2024-25 INDEX NO. 102-600 SHEET 6 OF 11. THE CONTRACTOR SHALL USE SHOULDER TREATMENT DETAIL WHEN NO BARRIERS ARE REQUIRED IN THE PLANS.
- CONTRACTOR SHALL PREPARE AND SUBMIT AN ACCEPTABLE WET PLAN FOR THE PROJECT. THE WET PLAN SHALL BE SUBMITTED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
- LANE CLOSURES SHALL NOT BE PERMITTED DURING SCHOOL SPEED ZONE HOURS WHERE SUCH CLOSURES WILL AFFECT TRAFFIC FLOW IN THE VICINITY OF THE SCHOOL SPEED ZONES.

WORK ZONE LIMITS

- THE LENGTH OF AN OPEN TRENCH SHALL NOT EXCEED 500 FT. PROPERTY ACCESS SHALL BE MAINTAINED IN ACCORDANCE TO ARTICLE 102 - 0.5 OF THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
- NO MORE THAN TWO BLOCKS OF STREET SHALL BE UNDER CONSTRUCTION AT A TIME AND ALL WORK AND RESTORATION SHALL BE COMPLETED ON ONE OF SUCH BLOCKS BEFORE WORK MAY BEGIN IN A NEW BLOCK. FINAL RESURFACING SHALL BE PLACED WITHIN 48 HOURS OF THE MILLING OPERATION.

INTERSECTIONS

- ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER.
- INTERSECTIONS SHALL BE RECONSTRUCTED WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL THE STRUCTURAL COURSE IS PLACED.
- W.D.T. TRANSITIONS AND TEMPORARY INTERSECTION CROSSOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 0.20 TYPE SP ASPHALT CONCRETE SLOPE TO ACCOMMODATE VEHICULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL AND WORK, INCLUDING ITS REMOVAL, SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

PEDESTRIANS, BICYCLES, AND WHEELCHAIRS

- AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP OFF GREATER THAN 6 IN. ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE SAID PATHS OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL, OR APPROVED HANDRAIL. COST SHALL BE INCLUDED IN THE PAY ITEM 102-1, MAINTENANCE OF TRAFFIC.
- CONSTRUCTION ACTIVITIES THAT INVOLVES SIDEWALKS ON BOTH SIDES OF THE STREET ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.

SIGNING AND PAVEMENT MARKINGS

- ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM WITH THE CURRENT EDITION OF THE FOOT STANDARDS PLANS FY 2024-25, THE 2022 FOOT DESIGN MANUAL, AND MUTCD.
- ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE SPECIFIED. BEFORE STARTING THE PROJECT, THE CONTRACTOR WILL REMOVE EXISTING SIGNS SHOWN ON THE PLANS TO BE RELOCATED OR TO REMAIN. THE CONTRACTOR WILL NOTIFY IN WRITING TO THE PROJECT ENGINEER OF ANY MISSING SIGNS BEFORE CONSTRUCTION STARTS. SIGNS DAMAGED BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT NO COST TO THE DEPARTMENT. IF EXISTING SIGNS TO BE RELOCATED HAVE A DAMAGED POLE OR A POLE NOT MEETING HEIGHT SPECIFICATION REQUIREMENTS, THE COST OF A NEW POLE WILL BE INCLUDED IN THE RELOCATION BID ITEM.

- ALL PAVEMENT MARKINGS, MESSAGES, AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
- REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED AS INDICATED.
- MAINTAIN EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOGS OR OFFSETS.
- THE CONTRACTOR SHALL REMOVE EXISTING MARKINGS BY FOOT APPROVED METHOD WITHOUT DAMAGE TO THE FRICTION COURSE.
- SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, WHEELCHAIR RAMPS, ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY MIAMI-DADE SIGNALS AND SIGNS DIVISION.
- THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST-MOUNTED STREET NAME AND STOP SIGNS TO A VISIBLE AREA UNDISTURBED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS. NEW STREET NAME SIGNS WILL BE ATTACHED AT THE TOP OF THE NEW STOP SIGNS ON UNDER SIDE STREETS AT THE END OF CONSTRUCTION.
- EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE FOOT STANDARDS PLANS FY 2024-25, INDEX 200-010 AS IF THEY WERE NEW SIGNS. IF EXISTING CLAMPS, BRACKETS, POLES, ETC. NEED TO BE REPLACED THE COST SHALL BE INCLUDED IN THE RELOCATION PAY ITEM.
- REFLECTIVE PAVEMENT MARKERS AS PER FOOT STANDARD INDEX NO 206-001
- NEW STREET NAME SIGNS SHALL BE PER MIAMI-DADE COUNTY STANDARDS AND MUTCD

		TRAFFIC CIRCLE AT SW 76th ST AND SW 61st AVE		GENERAL NOTES	
4/20/2024		AS SHOWN PROJECT NO. 2225		SHEET 1C-21	

ABBREVIATIONS

B.D.G.	=	BUILDING
C.B.	=	CATCH BASIN
R.	=	BASE LINE
CL	=	CENTER LINE
C.O.	=	CLEANOUT
CONC.	=	CONCRETE
CONN	=	CONNECTION
CONT	=	CONTINUATION
CONST.	=	CONSTRUCT
DET.	=	DETAIL
D.I.P.	=	DUCTILE IRON PIPE
EXIST	=	EXISTING
F.F.E.	=	FINISHED FLOOR ELEVATION
F.H. / FH	=	FIRE HYDRANT
F.M. / FM	=	FORCE MAIN
H.D.P.E.	=	HIGH DENSITY POLYETHYLENE
HORIZ	=	HORIZONTAL
INV.	=	INVERT
L	=	LINEAL FEET
M-DWSD	=	MIAMI-DADE WATER AND SEWER DEPT
M-OPW	=	MIAMI-DADE PUBLIC WORKS
M.E.G.	=	MATCH EXISTING GRADE
MIN.	=	MINIMUM
P.I.V.	=	POST INDICATOR VALVE
P.E.P.	=	PROPOSED GRADING POINT
P.G.L.	=	PROPOSED GRADING LINE
P/L R.	=	PROPERTY LINE
PROP.	=	PROPOSED
SAW	=	SANITARY SEWER
R/W, ROW	=	RIGHT OF WAY
SEC.	=	SECTION
SERV.	=	SERVICE
S/L S.	=	SECTION LINE
STA.	=	STATION
STD.	=	STANDARD
SWK.	=	SIDEWALK
T.O.P.	=	TOP OF PIPE
U.S.F.	=	US FOUNDRY
VERT.	=	VERTICAL
W.M. / WM	=	WATER MAIN
W.S.	=	WATER SERVICE
T.B.F.V.	=	TO BE FIELD VERIFIED

UTILITIES LEGEND

AW	WW	EXISTING WATER MAIN (UNDERGROUND)
SAW	SAW	EXISTING SANITARY SEWER MAIN (UNDERGROUND)
FC	FC	EXISTING COMMUNICATION CONDUIT (UNDERGROUND)
FC	FC	EXISTING F.P.L. CONDUIT (UNDERGROUND)
FC	FC	EXISTING EXFILTRATION DRAIN (UNDERGROUND)
FC	FC	EXISTING F.P.L. CONDUIT (OVERHEAD)
FC	FC	PROPOSED EXFILTRATION DRAIN (UNDERGROUND)
FC	FC	PROPOSED SOLID DRAINAGE PIPE (UNDERGROUND)
S-H		PROPOSED DRAINAGE STRUCTURE (MANHOLE) ID
EX-H		EXISTING DRAINAGE STRUCTURE (INLET) ID
FM	FM	EXISTING FORCE MAIN (UNDERGROUND)
		EXISTING CATCH BASIN
		PROP. CATCH BASIN
		PROP. DRAINAGE MANHOLE
		EXISTING DRAINAGE MANHOLE
		EXISTING SAN. SEWER MANHOLE
		EXISTING WATER MAIN VALVE BOX
		EXISTING FORCE MAIN VALVE BOX
		EXISTING WATER METER
E	E	EXISTING ELECTRICAL PANEL/PULL BOX
C	C	EXISTING COMMUNICATION PANEL/PULL BOX
	FH	EXISTING FIRE HYDRANT
CAS	CAS	EXISTING GAS MAIN (UNDERGROUND)

ROADWAY PLANS LEGEND

	EXISTING SANITARY SEWER / DRAINAGE MANHOLE TO BE ADJUSTED BY A LICENSED CONTRACTOR
	EXISTING WATER/FORCE MAIN VALVE BOX & LID TO BE ADJUSTED BY A LICENSED CONTRACTOR
	EXISTING TREES/PALMS TO BE PROTECTED DURING CONSTRUCTION PROCESS PER FDOT INDEX 110-100
	CONSTRUCT 4' CONC. SIDEWALK, HANDICAP RAMPS AND 6' CONC. DRIVEWAYS & INLET APRONS
	PROP. CONCRETE PAVEMENT (SEE TYPICAL SECTION) TRAFFIC CIRCLE MEDIAN
	AREA TO BE RESURFACED
NEW PAVEMENT / DRAINAGE TRENCH RESTORATION	
- 2 LIFTS (17 SP-9.5 & 17 FC-9.5 ASPHALTIC CONC.	
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. UBR=100 PER AASHTO T-180	
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. UBR=40, PER AASHTO T-180	

PAY ITEM DESCRIPTION

1	CONTRACTOR SHALL FURNISH AS-BUILT PLANS SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR TO THE TOWN OF CUTLER BAY.
102-1	TO BE ACCOMPLISHED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION PUBLIC WORKS MANUAL OF MIAMI DADE COUNTY, THE LATEST REVISIONS OF THE FOREMENTIONED MANUALS AT TIME OF CONSTRUCTION WITH ENGINEER APPROVAL, AND IN ACCORDANCE WITH THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS INDEX 102 SERIES. INCLUDES THE COST OF CONSTRUCTION OF TEMPORARY PAVEMENT & ITS SUBSEQUENT REMOVAL.
104-18	THIS ITEM IS TO BE USED IN ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF EXISTING INLETS. PAYMENT PER EACH INLET INCLUDES ALL WORK AND MATERIALS FOR A COMPLETE SYSTEM. PROPOSED INLETS: THE PAYMENT FOR PROTECTING NEW INLETS IS INCIDENTAL TO THE COST OF THE NEW INLET. CURB INLET FILTERS, CURB INSERT PROTECTION SYSTEMS, PIPE END CAP FILTERS, DITCH BOTTOM INLET PROTECTION SYSTEMS ("CAPS", BARRIERS, AND OTHER MATERIALS), ARE INCLUDED IN THIS PAY ITEM.
110-1-1	CONSISTS OF COMPLETE REMOVAL AND DISPOSAL OF ALL VEGETATION, DEBRIS, DRAINAGE STRUCTURES, DRAINAGE PIPES, FLEXIBLE PAVEMENT, OR ANY OTHER OBSTRUCTIONS IN ALL AREAS WHERE EXCAVATION IS TO BE DONE, OR WHERE EMBANKMENTS OR STRUCTURES WILL BE CONSTRUCTED. THIS INCLUDES ROADWAY AREA, DITCH AREA, BORROW AND MATERIAL PITS, AND AREAS WHERE CULVERTS OR PIPELINES WILL BE CONSTRUCTED. ALSO INCLUDES SHRUB AND TREE TRIMMING. ALL DEBRIS SHOULD BE DISPOSED OF IN LEGAL AREAS PROVIDED BY THE CONTRACTOR.
110-1-10	CONSISTS OF REMOVING AND DISPOSING OF EXISTING CONCRETE PAVEMENT, CONCRETE SIDEWALKS, CONCRETE APRONS, DITCH PAVEMENT, CONCRETE PAVERS, AND CURB AND GUTTER.
160-4	INCLUDES ALL WORK AND MATERIALS SPECIFIED IN SECTION 160 (FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION) INCLUDING FURNISHING, SPREADING, AND MIXING OF ALL STABILIZING MATERIAL REQUIRED AND ANY REPROCESSING OF STABILIZATION AREAS NECESSARY TO ATTAIN THE SPECIFIED BEARING VALUE.
327-70-16	CONSISTS OF REMOVING EXISTING AC PAVEMENT TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENT, TO LOWER THE FINISHED GRADE ADJACENT TO EXISTING CURB PRIOR TO RESURFACING, OR TO COMPLETELY REMOVE EXISTING PAVEMENT. INCLUDES TRANSPORTING THE MILLED MATERIAL TO THE ASPHALT PLANT SITE AND STOCKPILING THE MATERIAL. ALSO INCLUDES REMOVAL OF EXISTING REFLECTIVE PAVEMENT MARKER.
425-1-SERIES 425-2-SERIES	INCLUDES POLLUTION RETARDANT Baffle & Inlet Protection (ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF PROPOSED INLETS). LABOR AND CONSTRUCTION SHALL BE INCLUDED IN COST OF STRUCTURES. FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND COMPLETING ALL WORK DESCRIBED ON FOOT SECTION 425 OR SHOWN IN THE PLANS, INCLUDING ALL CLEARING AND GRUBBING OUTSIDE THE LIMITS OF CLEARING AND GRUBBING AS SHOWN IN THE PLANS. ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE MEASUREMENT DESIGNATED TO BE PAID FOR UNDER THE ITEMS FOR THE GRADING WORK ON THE PROJECT. ALL BACKFILLING AROUND THE STRUCTURES, THE DISPOSAL OF SURPLUS MATERIAL, AND THE FURNISHING AND PLACING OF ALL GRATINGS, FRAMES, COVERS, AND ANY OTHER NECESSARY FITTINGS.
425-4 425-5 & 425-6	WITHIN PAVEMENT AREA, INLETS, MANHOLES AND VALVE BOXES TO BE ADJUSTED AS NECESSARY.
430-175-SERIES	INCLUDES FURNISHING AND PLACING: PIPE PLUGS, PIPE FITTING, CAPS, CONCRETE JACKET, AND SOLID PIPES. FULL COMPENSATION FOR ALL WORK SPECIFIED ON FOOT SECTION 430 INCLUDING ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE ITEMS FOR THE GRADING WORK ON THE PROJECT, ALL BACKFILLING MATERIAL AND COMPACTION, AND DISPOSAL OF SURPLUS MATERIAL.
443-70-SERIES	INCLUDES: EXCAVATION TO PLAN ELEVATION (15 FEET DEEP, SEE DETAILS SHEETS), FURNISHING AND PLACING: (PIPE PLUGS, PIPE FITTINGS, PERFORATED PIPES, BALLAST ROCK AND BACKFILLING WITH SELECT FILL, FILTER FABRIC AND ALL APPLICABLE ITEMS REQUIRED TO CONSTRUCT DRAIN). ALSO, IF IS INCLUDED THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVICING SAID PROPERTIES.
522-SERIES	ESTIMATED QUANTITY FOR: DRIVEWAYS, SIDEWALKS, RAMPS AND APRON TO BE CONSTRUCTED AT LOCATIONS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
526-1-1	INCLUDES ALL LABOR AND MATERIALS (PAVER, SAND, AND ANY PROCESSING OR MATERIAL NECESSARY TO COMPLETE PAVEMENT INSTALLATION).
570-1-2	INCLUDES TOPSOIL LAYER AND SOD TO BE USED IN THE RESTORATION OF LAWNS AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE TOWN OF CUTLER BAY, BAHIA SOD OR TO MATCH EXISTING SOD.
700-1111	THIS ITEM INCLUDES ALL SIGN PANEL(S), COLUMN(POST), FOUNDATION, HARDWARE AND MATERIALS NECESSARY FOR A COMPLETE ASSEMBLY.

QUANTITIES AND PAY ITEM NOTES:

1. EXCESS AND/OR UNDESIRABLE MATERIAL TO BE DISPOSED OF BY CONTRACTOR IN LEGAL AREAS PROVIDED BY HIM. NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM.
2. THE CONTINGENCY ITEM MUST BE APPROVED BY THE ENGINEER ON RECORD AND THE TOWN.
3. THE S.L.F. OF SOLID PIPE ON BOTH SIDES OF THE FRENCH DRAIN ARE INCLUDED IN THE QUANTITIES LISTED UNDER PAY ITEMS 430-175-SERIES.
4. REFER TO FOOT'S "DESIGN QUANTITIES AND ESTIMATES" (DQE) FOR MORE INFORMATION ON THE PAYMENT ITEM DESCRIPTIONS.
5. ANY EXCAVATED MATERIAL, IF UNSUITABLE, SHALL NOT BE USED IN THE CONSTRUCTION OF THE EMBANKMENT.

DATE: 4/26/2024				TRAFFIC CIRCLE AT SW 76th ST. AND SW 61st AVE.		PAY ITEM NOTES		10-30	

ROADWAY				
Item	Pay Item No.	Description	Quantity	Unit Measure
1	101	AS-BUILT	1	LS
2	101-1	MOBILIZATION	1	LS
3	102-1	MAINTENANCE OF TRAFFIC	1	LS
4	102-14	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR
5	104-18	INLET PROTECTION SYSTEM	3	EA
6	110-1.1	CLEARING AND GRUBBING	1	LS
7	110-7.1	MAILBOX, RM SINGLE	1	EA
8	110-21	TREE PROTECTION BARRIER	350	SF
9	110-4-10	REMOVAL OF EXISTING CONCRETE	230	SF
10	102-1	REGULAR MAINTENANCE	760	CY
11	160-4	TYPE B STABILIZATION	1,270	SY
12	205-705	UMBEROCK BASE (8") (OPTIONAL BASE GROUP 05)	1,270	SF
13	334-1-13	SUPERPAVE ASPHALTIC CONC. TRAFFIC C. SP-9.5 (1" AND 1/2")	58	TN
14	337-7-32	ASPHALT CONCRETE FRICTION COURSE TRAFFIC C. FC-9.5 PG 76-22 (1")	58	TN
15	425-1.2A	SD-3.1 SAWLE INLET TYPE D (117" x 27") x 10" (M-OPWD PAY ITEM)	2	EA
16	425-1.2B	SD-3.1 SAWLE INLET TYPE D (117" x 27") x 10" (M-OPWD PAY ITEM)	1	EA
17	425-1.201	INLETS, CURB, TYPE 9 x 10	2	EA
18	425-1.322	INLETS, CURB, TYPE 8.3 x 10	1	EA
19	425-1.405	SD-2.7 SAWLE INLETS, TYPE 15 x 10" (M-OPWD PAY ITEM)	1	EA
20	425-2-41	SD-2.7 MANHOLE, 15" x 10" (M-OPWD PAY ITEM)	2	EA
21	425-4	INLETS, ADJUST	2	EA
22	425-5	MANHOLE, ADJUST	3	EA
23	425-6	VALVE BOXES, ADJUST	5	EA
24	425-11	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA
25	425-79	CORE AND RE-IN TO EXISTING DRAIN STRUCTURE (18" HPIE INCL. MORTAR SEAL) (M-OPWD PAY ITEM)	1	EA
26	430-175-118	PIPE OULVERT, OPTIONAL MATERIAL, ROUND, 18" SD (4 HOLES)	110	LF
27	440-70-3	EXFILTRATION DRAIN (18")	120	LF
28	520-1-10	CONCRETE CURB AND GUTTER (TYPE "F") (DROP CURB)	455	LF
29	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	75	LF
30	520-2-5	CONCRETE CURB, TYPE 19A	105	LF
31	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL - VARIABLE WIDTH	35	SY
32	522-1	CONCRETE SIDEWALK, 4" THICK	160	SY
33	522-2	CONCRETE SIDEWALK (6" THICK) (SIDEWALK, APPROX. DRIVEWAY & SALB)	120	SY
34	527-2	8" REINFORCED STAMPED CONCRETE	55	SY
35	527-2	DETECTABLE WARNING	45	SF
36	525-1.1	PAVERS, ARCHITECTURAL ROADWAY	55	SY
37	570-1-2	PERFORMANCE TURF, 300	300	SY
38	600-7-253	LANDSCAPE, GROUND COVER (GREEN ISLAND FOLIAGE)	70	EA
39		REMOVE UTILITY WOOD POLE WITH FOUNDATION AND GUY WIRE	1	EA

PAVEMENT MARKING AND SIGNAGE				
Item	Pay Item No.	Description	Quantity	Unit Measure
40	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	515	GM
41	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR INTERCHANGE AND URBAN ISLAND, 6"	501	GM
42	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	90	LF
43	710-11-124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR DIAGONAL CROSSWALK, 11"	60	LF
44	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	70	LF
45	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXTENSION, 6"	0.02	GM
46	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.14	GM
47	710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	315	SF
48		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS
49	700-1151	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	21	AS
50	700-1-50	SINGLE POST SIGN, RELOCATE	2	AS
51	700-3-501	SIGN PANEL, RELOCATE, UP TO 12 SF	1	EA
52	700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF	1	EA
53	700-1-1	RAISED PAVEMENT MARKER, TYPE B WITH CUTRINAL SURFACE MARKINGS (CY, W/ R & BLUE)	280	EA
54	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	90	LF
55	711-11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONAL CROSSWALKS	60	LF
56	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAPEXTENSION, 6"	0.02	GM
57	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	70	LF
58	711-16-101	THERMOPLASTIC, STANDARD OTHER SURFACES, WHITE, SOLID, 6"	0.18	GM
59	711-16-102	THERMOPLASTIC, STANDARD OTHER SURFACES, WHITE, SOLID, 8"	0.01	GM
60	711-16-201	THERMOPLASTIC, STANDARD OTHER SURFACES, YELLOW, SOLID, 6"	0.14	GM

REV	DATE	BY	DESCRIPTION
	4/30/2024		

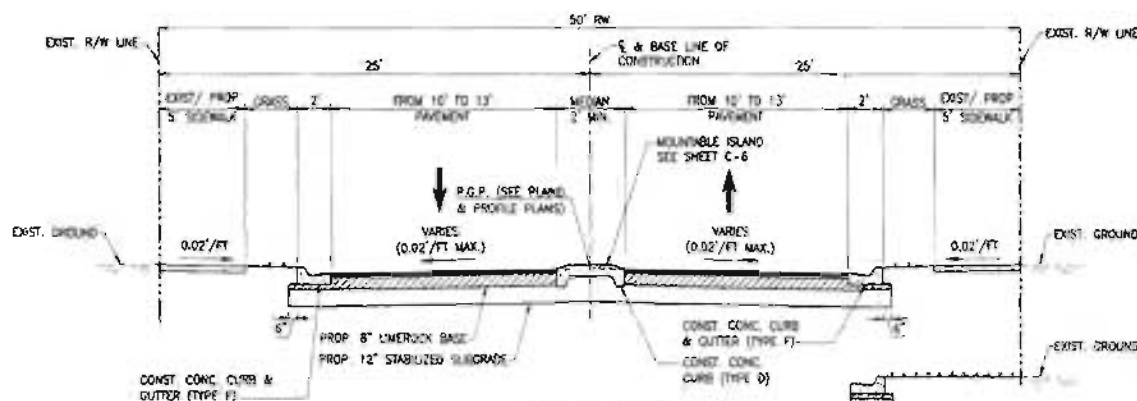


TRAFFIC CIRCLE
AT
SW 76th ST. AND SW 61st AVE

SUMMARY OF
QUANTITIES

SCALE	AS SHOWN
PROJECT NO.	2225
SHEET NO.	31

C-31



NEW PAVEMENT:

- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98%, MIN LBR=40, PER AASHTO T-180

DESIGN SPEED 15 MPH

POSTED SPEED 15 MPH

TYPICAL SECTION SW 61st AVE. N.T.S.

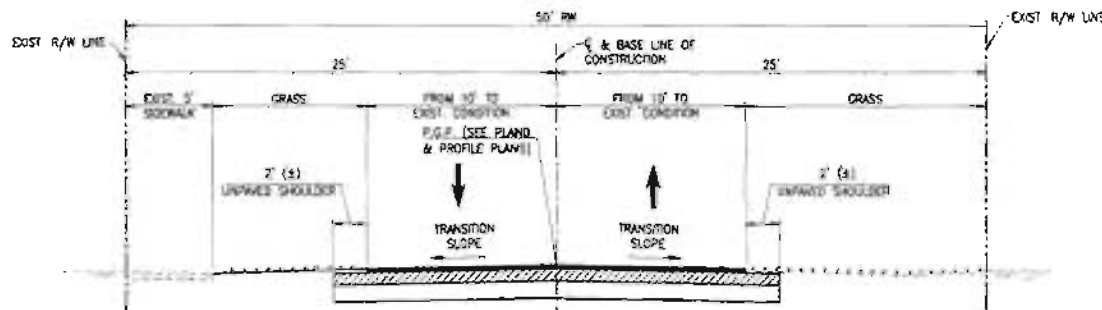
STA. 19+34 TO STA. 20+70

TYPICAL SECTION SW 76th ST.

STA. 9+19 TO STA. 10+67

STA. 19+34 TO STA. 20+00 (SW 61st AVE)

STA. 10+00 TO STA. 10+61 (SW 76th ST)



NEW PAVEMENT:

- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98%, MIN LBR=40, PER AASHTO T-180

DESIGN SPEED 30 MPH

POSTED SPEED 30 MPH

TYPICAL SECTION SW 61st AVE. N.T.S.

STA. 18+85 TO STA. 18+34

TYPICAL SECTION SW 76th ST.

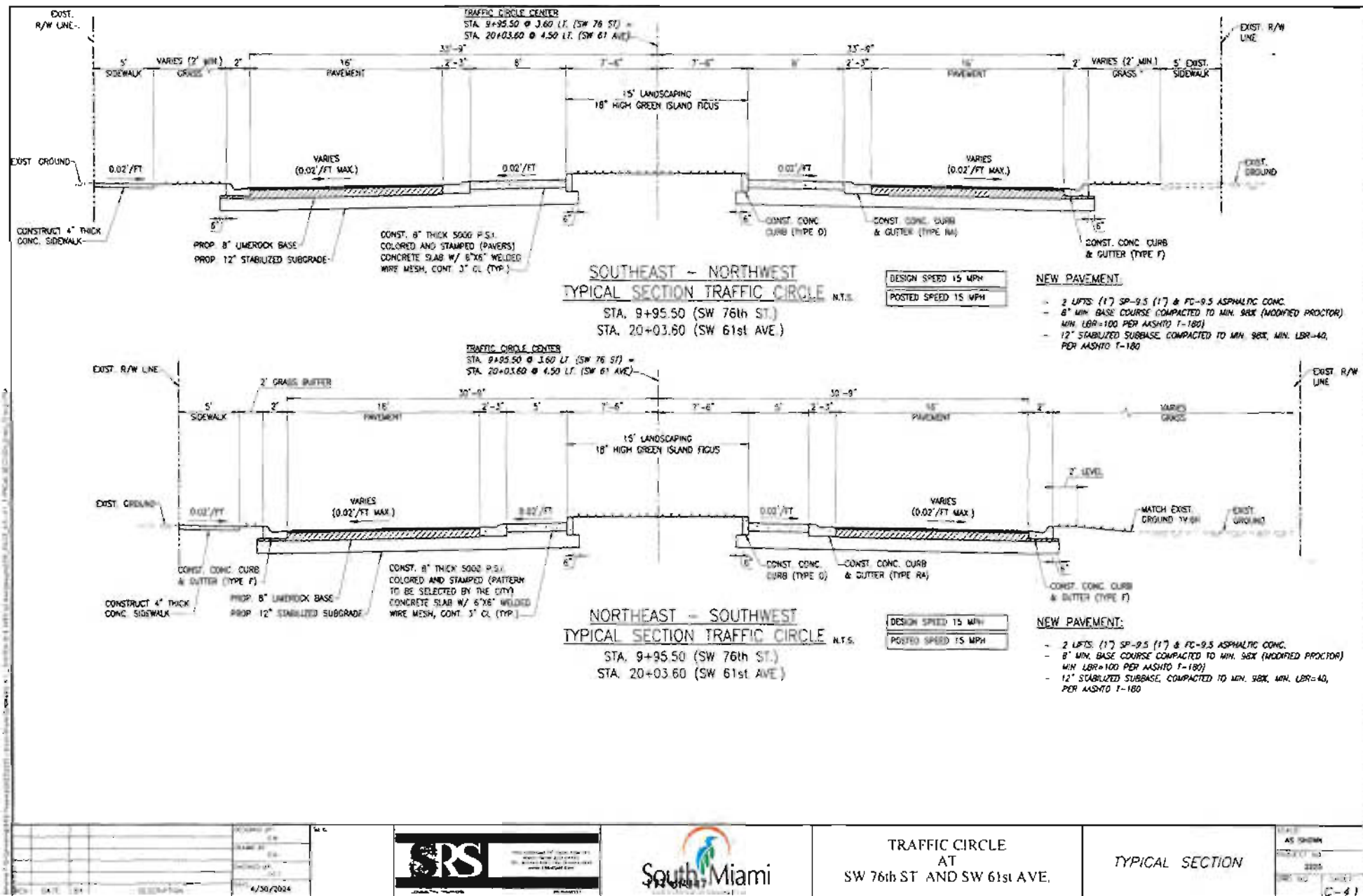
STA. 10+67 TO STA. 11+15

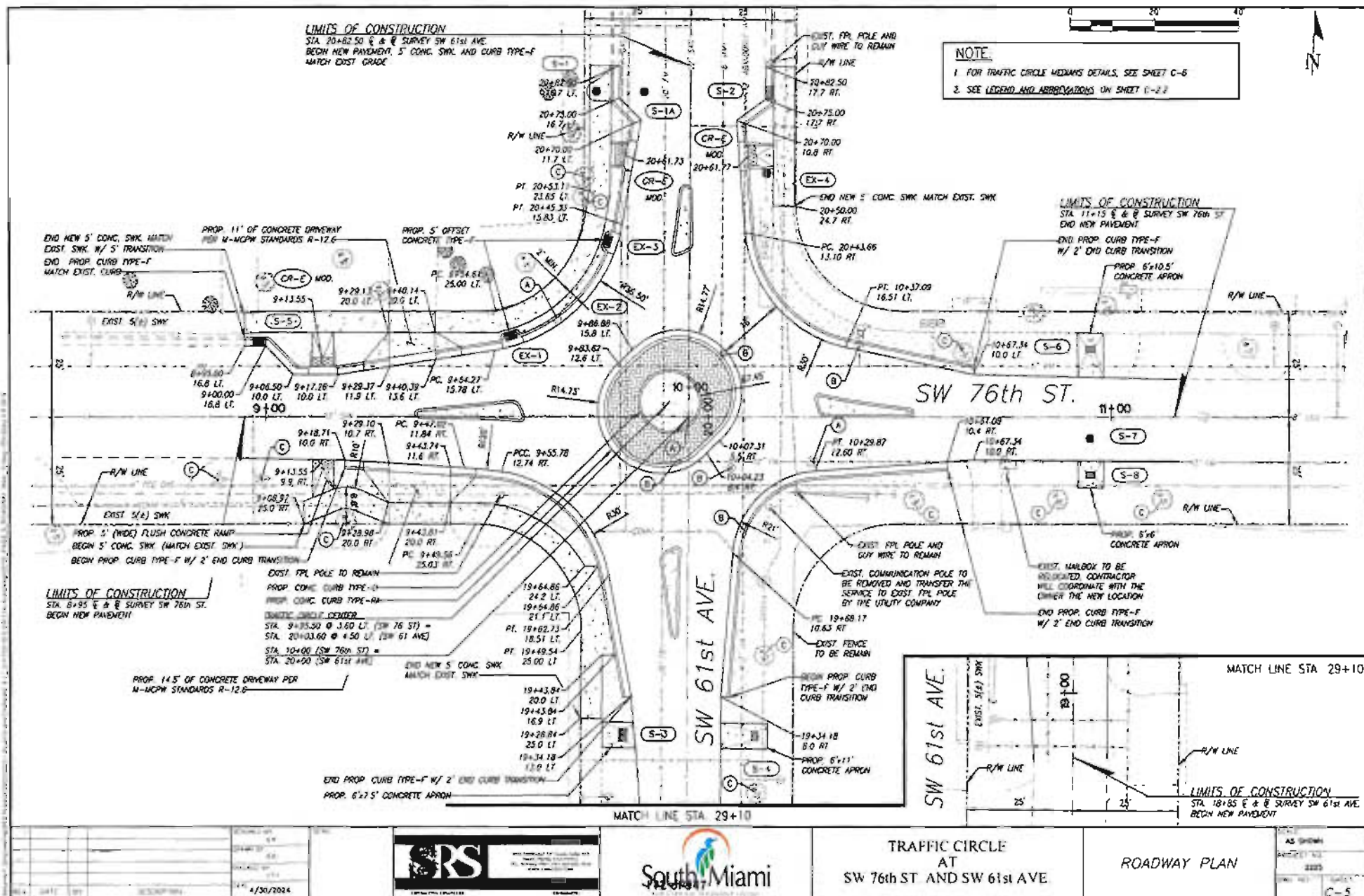


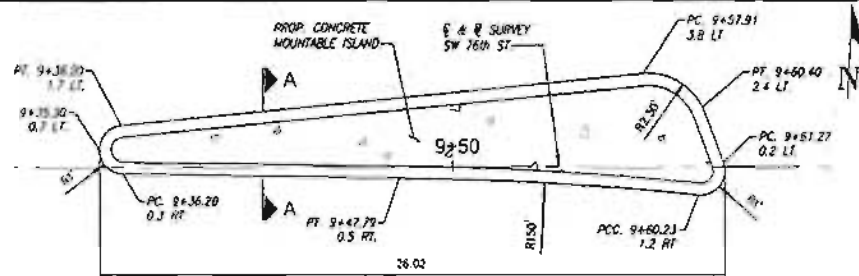
TRAFFIC CIRCLE
AT
SW 76th ST AND SW 61st AVE.

TYPICAL SECTION

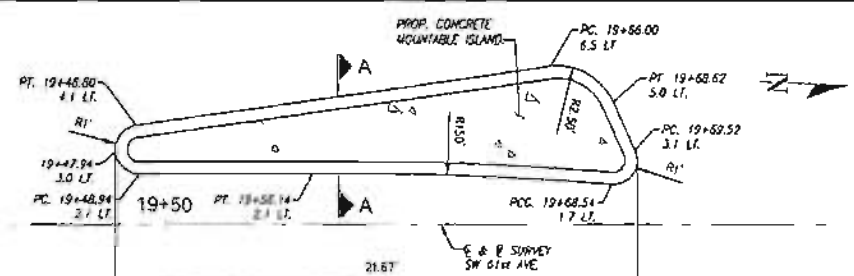
DATE	AS SHOWN
DRAWN BY	2208
CHECKED BY	
DATE	11/20/2023
SCALE	C-4.0



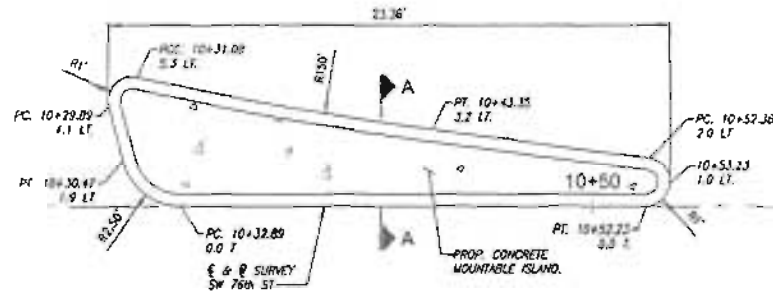




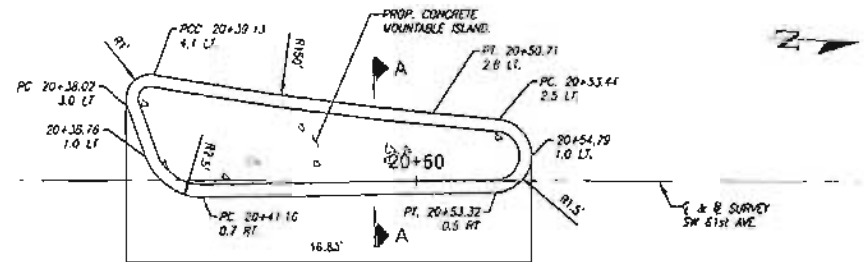
WEST MEDIAN DETAIL (SW 76th ST.)



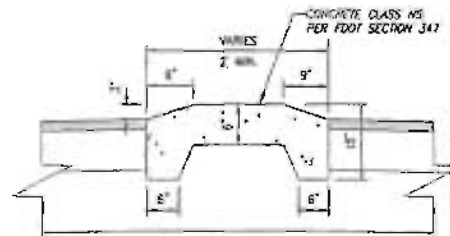
SOUTH MEDIAN DETAIL (SW 61st AVE)



EAST MEDIAN DETAIL (SW 76th ST.)



NORTH MEDIAN DETAIL (SW 61st AVE)



SECTION A-A

TYPICAL MOUNTABLE ISLAND SECTION
(APPROACH ROADWAY) N.T.S.



NO.	DATE	BY	CHKD.	APP'D.
1	4/26/2024			



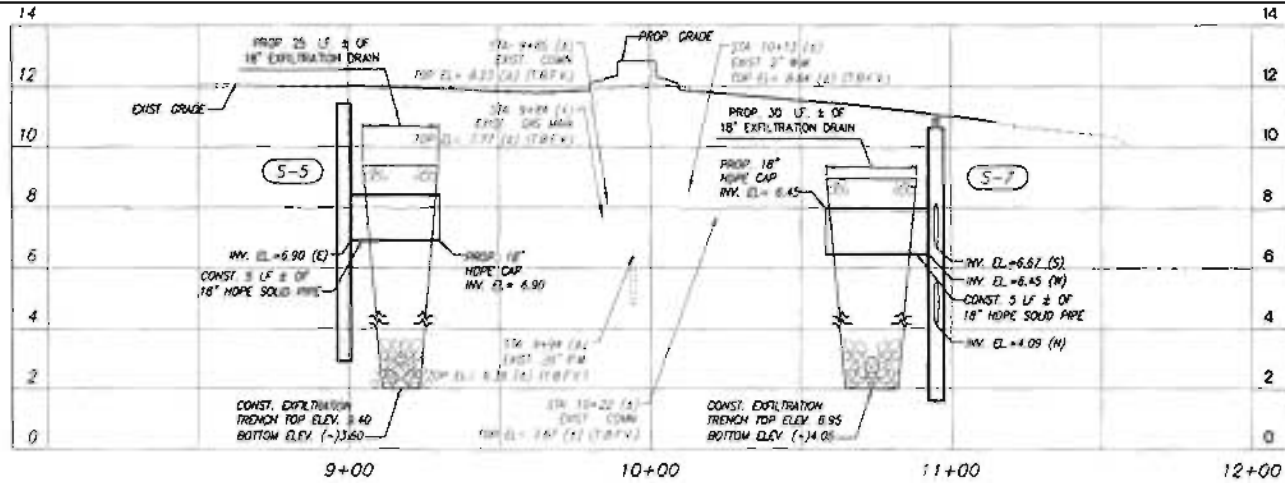
TRAFFIC CIRCLE
AT
SW 76th ST AND SW 61st AVE.

TRAFFIC CIRCLE
MEDIAN DETAILS

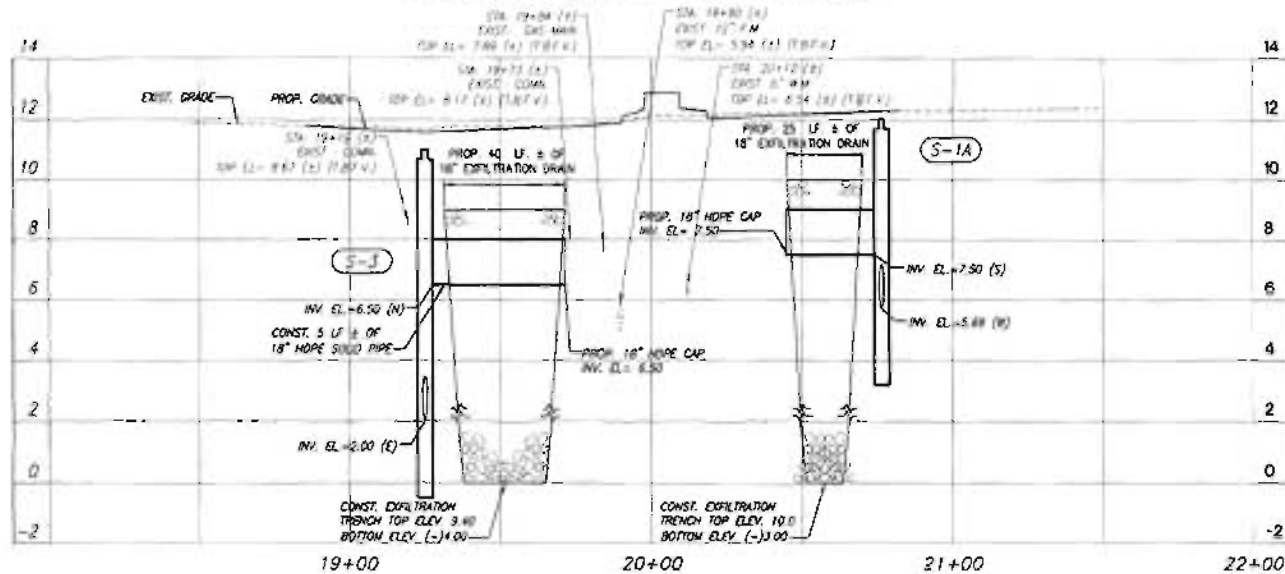
SCALE	AS SHOWN
DATE	2/2/24
NO.	C-6







DRAINAGE PROFILE "SW 76th ST"



DRAINAGE PROFILE "SW 61st AVE"

SCALE: 1"=40' (HOR.)
1"=8' (VER.)

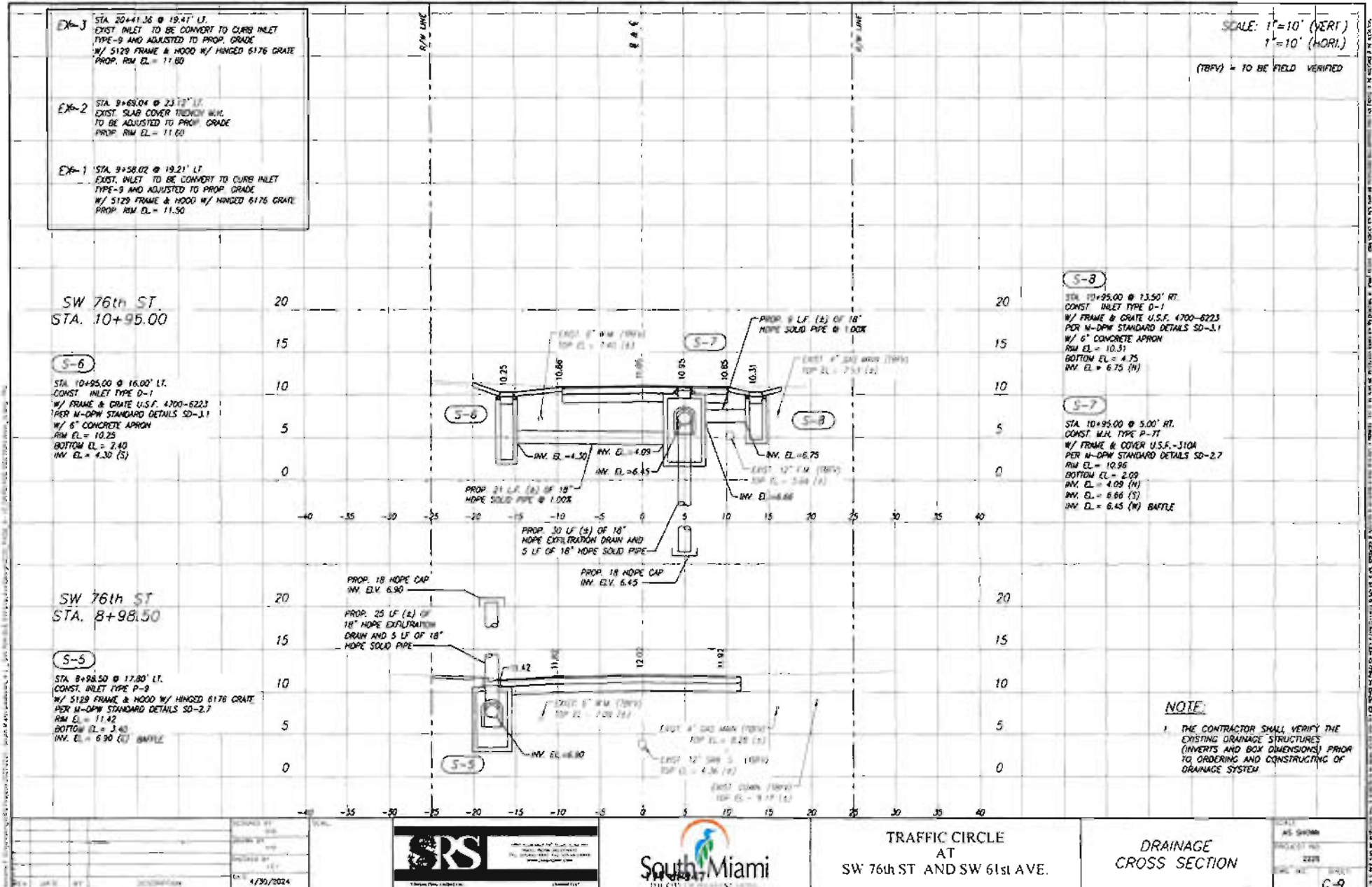
DATE	6/30/2024
BY	
CHECKED BY	
DATE	
PROJECT NO.	
SHEET NO.	

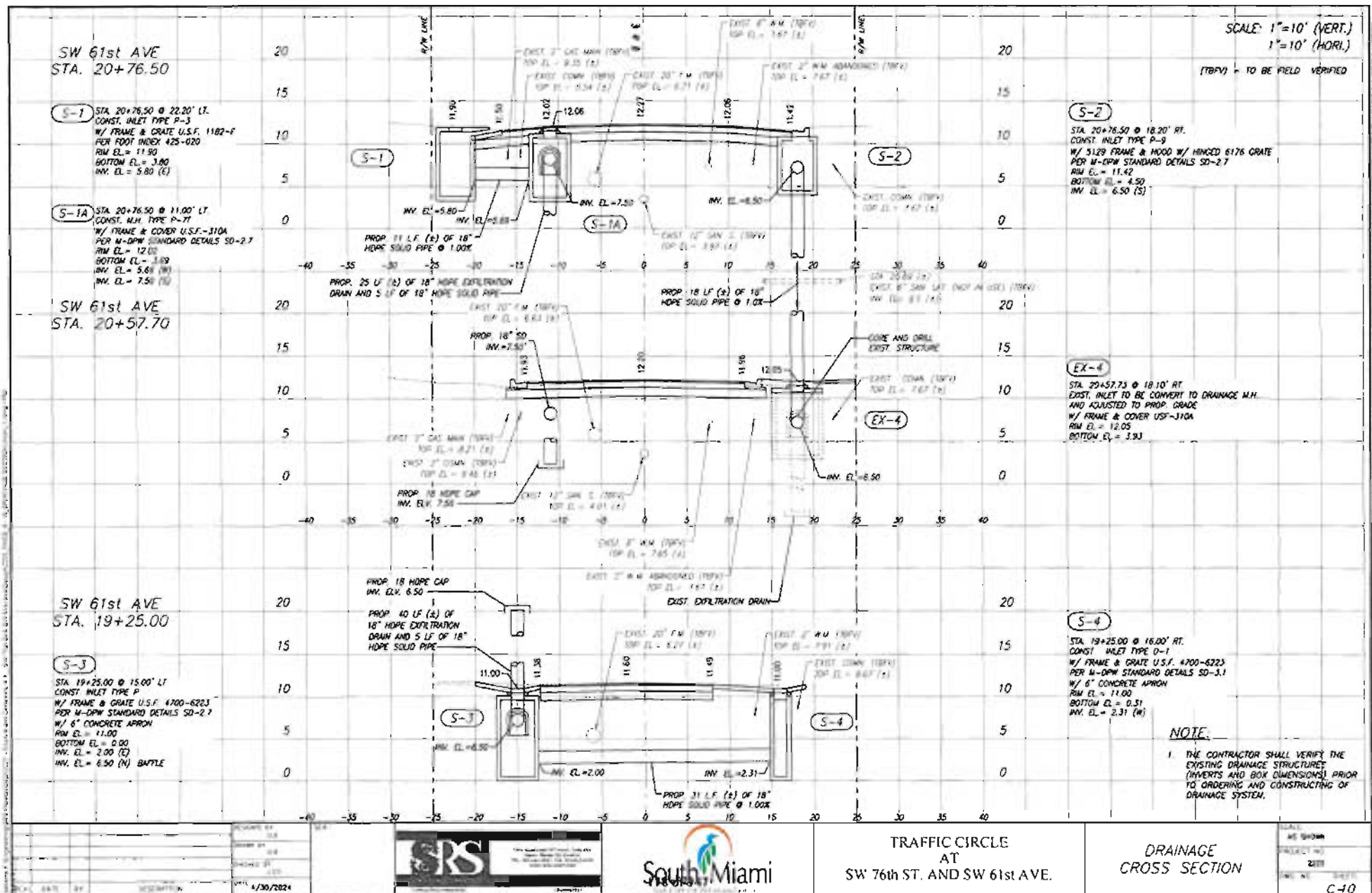


TRAFFIC CIRCLE
AT
SW 76th ST. AND SW 61st AVE.

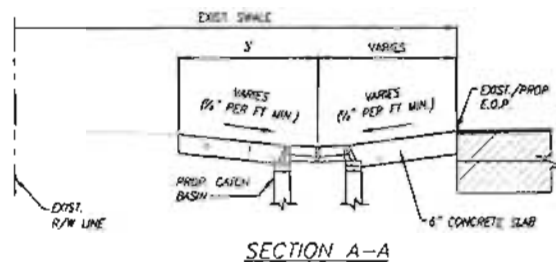
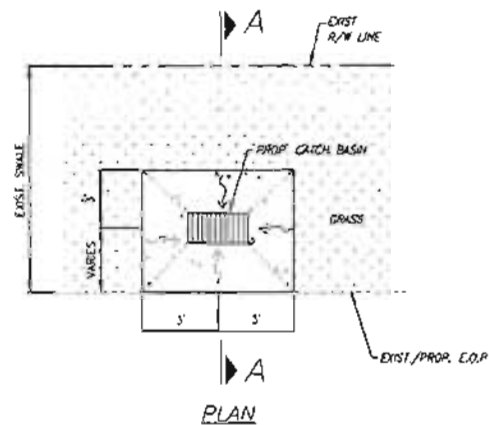
DRAINAGE PROFILE

SCALE	1"=40' (HOR.) 1"=8' (VER.)
PROJECT NO.	2225
SHEET NO.	C-8





NAME	AS SHORN
PROJECT NO	2201
DATE REC'D	10-11-77
	IC-110



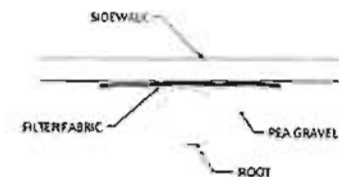
6" CONCRETE APRON DETAIL
N.T.S.

SKIMMER (BAFFLE) PER FDOT INDEX 443-002 N.T.S.

TABLE 1
INLET
DIMENSIONS

INLET	W	D	H
1	10'-0"	10'-0"	10'-0"
2	10'-0"	10'-0"	10'-0"
3	10'-0"	10'-0"	10'-0"
4	10'-0"	10'-0"	10'-0"

INLET TYPE-3 FDOT INDEX 425-020 N.T.S.



Sidewalk to maintain a standard thickness of 4 inches (5 inches at driveways). Reinforce with #3 welded wire fabric and avoid reinforcing with #4 within 2 feet of shallow base. Cover shallow roots with a 2 foot wide section of filter fabric prior to concrete pour.

Sidewalk cross slope is not to exceed 2% cross slope and 5% in the direction of travel.

Where full material is necessary adjacent to shallow or exposed roots place 3" of pea gravel (rounded edges).

No cutting or pruning of the root system of street trees without the review and consent of the Public Works Department.

ROOT BARRIER N.T.S.



TRAFFIC CIRCLE
AT
SW 76th ST AND SW 61st AVE

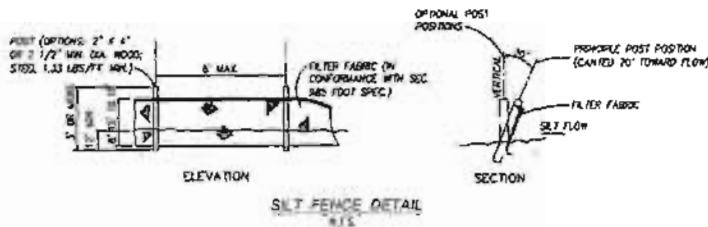
MISCELLANEOUS DETAILS

DATE	AS SHOWN
SHEET NO.	2023
DATE	4/30/2024
SHEET	C-11.1

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NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

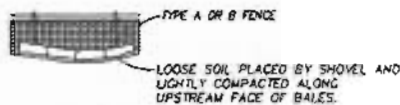
1. TYPE I AND II SYNTHETIC BARRIER SHOULD BE SPACED IN ACCORDANCE WITH CHART 1, SHEET 1 PER INDEX 102.
2. BALES SHALL BE ANCHORED WITH 2" X 2" (OR 1" DIA.) X 4' WOOD STAKES. STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. RAILS AND POSTS SHALL BE 2" X 4" WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER.
5. WHERE USED IN CONJUNCTION WITH Silt Fence, BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.



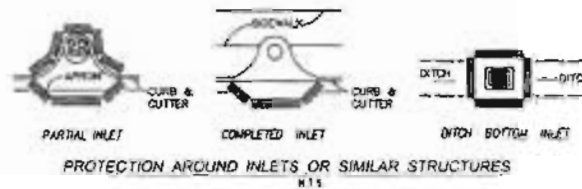
NOTES:

1. SPACING FOR TYPE II FENCE TO BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3 PER FOOT STANDARD INDEX 102.
2. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS N.T.S.



BALES BACKED BY FENCE N.T.S.



STORM WATER POLLUTION PREVENTION PRACTICES:

1. TREE PROTECTION AND PRUNING SHALL BE ACCOMPLISHED AS DETAILED IN SPECIAL PROVISIONS, THE CONSTRUCTION PLANS, AND OR PER TREE ORDINANCE 12636.
2. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMITTED TO PUBLIC WORKS, SHALL DESCRIBE IN DETAIL HOW THE CONSTRUCTION EFFORT WILL BE PHASED WITH REGARDS TO MINIMIZING EROSION PROBLEMS BY THE USE OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE VARIOUS SEQUENCES OF CONSTRUCTION OPERATIONS. ANY MODIFICATIONS MUST BE APPROVED BY THE TOWN OF CUTLER BAY - NPDES SECTION DEPARTMENT OF PUBLIC WORKS.
3. ENVIRONMENTAL CONTROL FEATURES AS PROVIDED IN THE SWPPP ARE TO BE INSTALLED AT ALL AREAS OF EXCAVATION OR FILL FOR DRAINAGE SYSTEM, OR STRUCTURE CONSTRUCTION PRIOR TO SUCH EXCAVATION OR FILL. INLET ENTRANCES ARE ALSO TO BE PROTECTED FROM SILTATION.
4. ALL ENVIRONMENTAL CONTROL FEATURES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN ACCORDANCE WITH NPDES REQUIREMENTS. THE CONTRACTOR MUST INSURE THAT ALL EROSION CONTROL FEATURES FUNCTION PROPERLY AT ALL TIMES.
5. ALL EROSION AND MATERIAL DEPOSITS MUST BE CONTAINED WITHIN THE PROJECT LIMITS.
6. ANY DAMAGED OR INEFFECTIVE ROCK BAGS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION OF ROCK BAGS INSTALLATION IS AS MENTIONED IN THE SWPPP PLANS. THE PROJECT ENGINEER MAY SPECIFY OTHER AREAS AS NECESSARY.
7. DITCH BOTTOM INLETS SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF GROUND OUTSIDE INLET TOP SHALL NOT BE HIGHER THAN INLET TOP. ROCK BAGS SHALL BE INSTALLED AROUND INLET TOP. COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH ROCK BAGS TO PREVENT SEDIMENT INTAKE.
8. CURB INLETS ALSO SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL THE PROJECT IS COMPLETE. ALL EXPOSED SLOPED MATERIAL ADJACENT TO INLET, SHALL BE COVERED WITH EROSION CONTROL MATTING WITH OUTER LIMITS PROTECTED BY ROCK BAGS.
9. STOCKPILED MATERIAL SHALL NOT BE LEFT IN EROSION PRONE AREAS UNLESS PROTECTED BY COVER OR ROCK BAGS.
10. INSPECTION OF EROSION CONTROL MEASURES AND CONDITION OF ADJACENT PROPERTIES, SHALL BE PERFORMED DAILY BY THE CONTRACTOR'S REPRESENTATIVE AND THE PROJECT ENGINEER. DEFICIENCIES SHALL BE NOTED AND CORRECTED.
11. ANY OFFSITE SEDIMENT DISCHARGE TO A MUNICIPAL SEWERAGE SYSTEM ARISING FROM THE CONTRACTOR'S ACTIVITIES IS NOT ALLOWED.
12. THE USE OF SANITARY SEWERS, FRENCH DRAINS, COVER DITCHES AND/OR ROCK DRAINS FOR THE DISPOSAL OF WASTEWATER IS EXPRESSLY PROHIBITED.

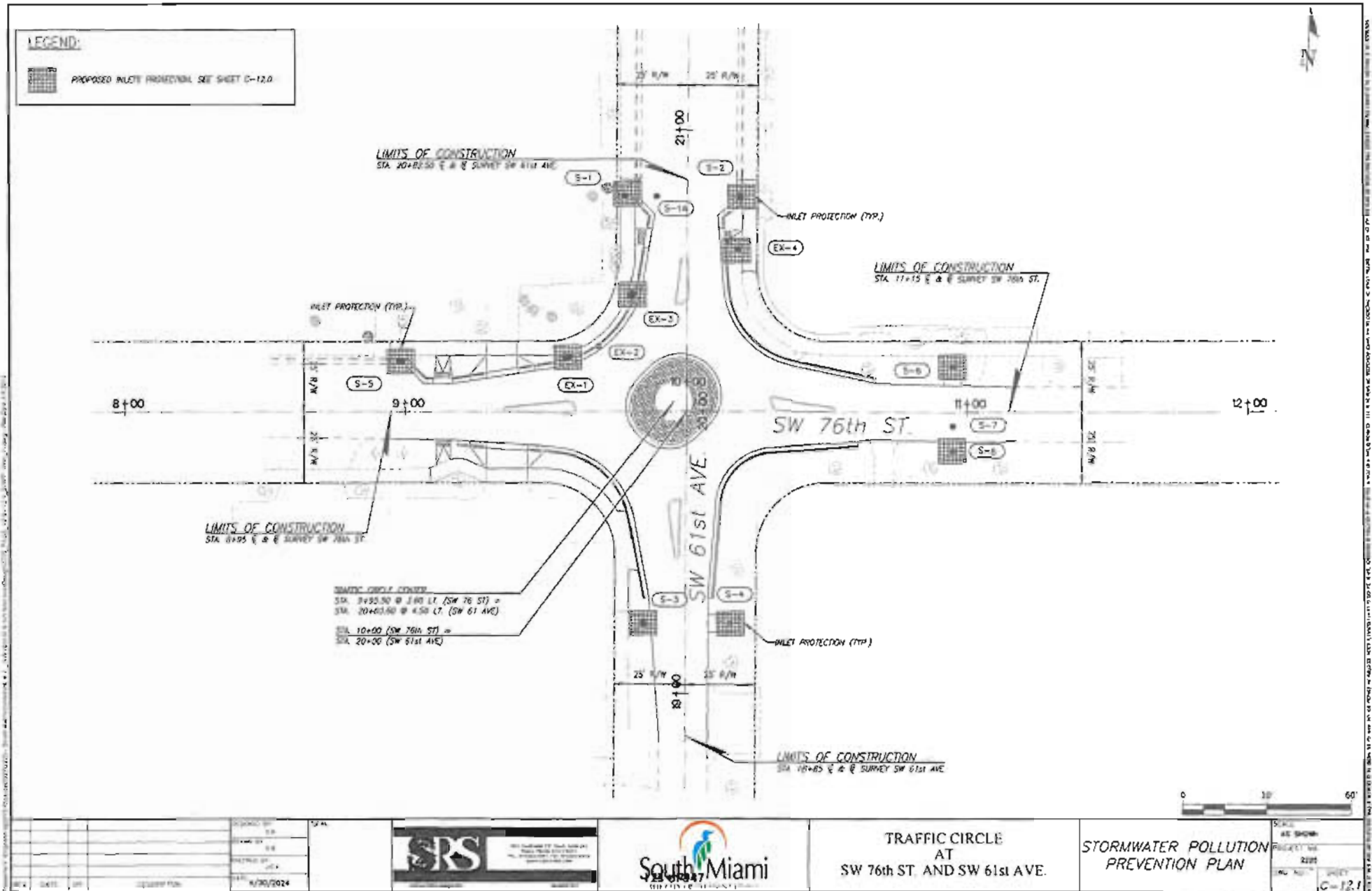
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

A. SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION OF CONTROLS.

1. CLEAR & GRUBBING
2. INSTALL DRAINAGE STRUCTURES
3. STABILIZATION
4. BASE PREPARATION
5. ASPHALT APPLICATION
6. PLACEMENT OF ROCK BAGS AROUND INLETS
7. PLACEMENT OF ROCK BAGS AROUND MANHOLES
8. APPLICATION OF TRICKLE COURSE A.C.
9. INSTALLATION OF STREET SIGNING
10. PAVEMENT MAINTENANCE
11. REMOVE ROCK BAGS
12. CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE

B. GENERAL

1. APPROVED STATE, LOCAL PLANS OF STORM WATER PERMITS.
2. ALL OF THE CONTROLS SHALL BE MAINTAINED AT ALL TIMES.
3. ALL CONTROLS SHALL BE INSPECTED DAILY.
4. APPLY FERTILIZERS AND PESTICIDES ACCORDING TO STANDARD SPECIFICATIONS, DESIGN AND SPECIAL PROVISIONS.
5. REPORT NON-STORM WATER DISCHARGE (INCLUDING SPILL) 305) 416-1200.
6. VISIT WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES/





COMMISSION-CITY MANAGER

JAVIER E. FERNANDEZ, ESO. MAYOR
 USA BONICH VICE MAYOR
 STEVE CALLE COMMISSIONERS, GROUP I
 JOSH LIEBMAN COMMISSIONERS, GROUP II
 BRIAN COREY COMMISSIONERS, GROUP III

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I	SURVEY

CITY OF SOUTH MIAMI

TRAFFIC CIRCLE AT SW 77th TERRACE AND SW 58th AVE



LOCATION MAP
SCALE: N.T.S.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY IGNACIO SERRALLA, P.E. ON THE DATE INDICATED TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

ENGINEER'S CERTIFICATION

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, COMPARES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE, CHAPTER 72-320 F.S.

IGNACIO SERRALLA, P.E. No. 45609

NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALL WITHIN SAID LIMITS
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29)

GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD PLANS FY 2021-25, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LAST UPDATED), MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS

PREPARED BY:



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Check please response rates before you dig!

REVISIONS-SUBMITTALS

REV	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/30/2024 SHEET: C-1

1. EXISTING TOPOGRAPHY AND THESE LOCATION INFORMATION HAS BEEN OBTAINED FROM THE SURVEY PREPARED BY MADONNE LAND SURVEYORS AND MAPPERS ON 09/13/2022.
2. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).
3. FLOOD CRITERIA ELEVATION IS 9.56 FEET BASED ON MIAMI DADE COUNTY FLOOD CRITERIA MAPS. OCTOBER WATER LEVEL 2.60
4. IN ACCORDANCE WITH THE MIAMI DADE COUNTY "PRELIMINARY FLOOD ZONES", THIS PROJECT IS LOCATED IN FLOOD ZONE "M" ELEV=19.56 (NGVD-29)
<https://mde.mmr.state.fl.us/mde/webcenter/index.html?id=53516667f84a99c690b0c8d4121b5c>
5. ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONFLICT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED OR CORRUPTED HAVE TO BE PROPERLY REFERENCED BY A PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THAT SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR'S REFERENCE, AND MAINTAIN UPON COMPLETION OF THE WORK. ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO THE ENGINEER A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.
6. ALL BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED AND REFERENCED BY THE CONTRACTOR IN THE SAME WAY AS PUBLIC LAND CORNERS EXCEPT THAT THE LAND SURVEYOR SHALL NOT BE REQUIRED TO RESTORE THE BENCH MARK UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL PROPERLY MAINTAIN ALL UNPLACED OR DAMAGED N.G.V.D. DISCS TO THE ENGINEER WHO WILL NOTIFY THE GEODETIC INFORMATION CENTER.
7. ALL CONSTRUCTION ASSOCIATED WITH THIS PROJECT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES & AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT, MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STANDARDS, THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), MIAMI-DADE COUNTY'S REGULATORY AND ECONOMIC RESOURCES (RER). ANY DISCREPANCY MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF SOUTH MIAMI AND ENGINEER OF RECORD (EOR).
8. CONTRACTOR WILL SECURE AND PAY ALL PERMIT FEES FOR THE WORK NECESSARY TO COMPLETE THIS PROJECT. CONTRACTOR SHALL COORDINATE EFFORTS WITHIN THE CITY'S PUBLIC WORKS DEPARTMENT.
9. CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER OR OTHER EQUIPMENT) FOR CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK. CLEANING AND SWEEPING IS TO BE INCLUDED IN CONTRACTOR'S M.O.T. OR TRAFFIC PAV. ITEM AND SHALL BE DONE ON A DAILY BASIS (N.W.).
10. PERMANENT FURNISHMENTS AND DRAINWAYS CONNECTIONS TO PRIVATE PROPERTY THAT LIE OUTSIDE THE LIMITS OF RIGHT-OF-WAY AND WHERE ACCESS RIGHTS HAVE NOT BEEN ACQUIRED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FURNISH DETAILS AND STANDARD SPECIFICATIONS FOR THESE PLANS. THE CONTRACTOR SHALL NOT ISOLATE ADJACENT AND/OR THE REMAINDER OF THE PROPERTY UNLESS ACCESS RIGHTS ARE ACQUIRED. ACCESS SHALL BE PROVIDED TO SUCH PROPERTY WHENEVER CONSTRUCTION INTERFERES WITH THE EXISTING MEANS OF ACCESS.
11. 48 HOURS PRIOR TO DIGGING CONSTRUCTION SHALL COORDINATE WITH ALL UNDERGROUND UTILITY SERVICE COMPANIES TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES, ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. (311) TO ASSURE THAT ALL UTILITIES HAVE BEEN IDENTIFIED.
12. CONTRACTOR SHALL VERIFY, PHOTOGRAPH AND INVENTORY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES, PAVEMENT OR OTHER FEATURES. ANY EXISTING STRUCTURE, PAVEMENT, TREE OR OTHER EXISTING FEATURE THAT IS IN CONFLICT OR DAMAGED, EXPOSED OR IN ANY WAY INTERFERED BY CONSTRUCTION PERFORMED UNDER THE CONTRACT AND PROVIDE COPIES TO THE CITY OF SOUTH MIAMI AND THE ENGINEER. THEY SHALL BE RESTORED PROMPTLY TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE PROJECT.
13. THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES. PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION, ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ARCHITECT/ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
14. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
15. UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS TAKEN FROM "AS-BUILT" DATA PROVIDED BY THE VARIOUS UTILITY COMPANIES AND SUPPLEMENTED BY FIELD MEASUREMENTS WHEN OBTAINABLE.

- 38 PROVIDE A SMOOTH TRANSITION WHERE NEW PAVEMENT, SIDEWALK, OR CURB MEETS EXISTING
CRACK AREAS.
- 39 PRIOR TO REMOVAL AND/OR RELOCATION OF EXISTING TREES, IF REQUIRED, THE CONTRACTOR MUST
OBTAIN APPROVAL FROM THE CITY OF SOUTHERN BEACH AS WELL AS D.E.R.M. OTHERWISE CONTRACTOR
SHALL PROTECT EXISTING TREES WHERE APPLICABLE WITHIN THE LIMITS OF CONSTRUCTION
- 40 WHERE NEW PAVEMENT MEETS EXISTING CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE
AND FLUSH WITH EXISTING PAVEMENT SAW CUT AT EXISTING PAVEMENT JOINT MATCHING TO NEW
PAVEMENT.
- 41 ANY DISCREPANCY FOUND BETWEEN THE PLANS AND THE QUANTITIES SHEET MUST BE IMMEDIATELY
BRINGED TO THE ATTENTION OF THE MUNICIPALITY/EDUCITY AND ENGINEER OF RECORD (EOR).
AN RFI MUST BE PROVIDED AND SHOULD OUTLINE THE SPECIFIC ISSUE OR DISCREPANCY
PROVIDE SUPPORTING DOCUMENTATION ON EVIDENCE, AND SEEK CLARIFICATION OR APPROVAL
BEFORE PROCEEDING WITH THE PROJECT/TASK.

1. CONSTRUCTOR SHALL KEEP NEW AND EXISTING INLETS CLEAN OF PAVING MATERIALS AND DEBRIS. INLETS LOCATED NEAR CONSTRUCTION ACTIVITIES SHALL BE PROTECTED BY APPROPRIATE EROSION CONTROL DEVICES.

2. THERE SHALL BE NO MORE THAN 3 LATERAL DRAINAGE INSTALLATION WITHOUT BACKFLOWING. LATERAL DRAINAGE SHALL NOT LAG MORE THAN 72 HOURS BEHIND THE START OF EXCAVATION.

3. GRADES SHOWN ARE "FINISHED" GRADES.

4. DRAINAGE SYSTEM SHALL BE CLEANED AND DESLUDGED PRIOR TO PM FINAL INSPECTION APPROVAL.

5. EXISTING STRUCTURES AND PIPES TO REMAIN WITHIN UNITS OF CONSTRUCTION SHALL BE VACUUM CLEANED.

6. ANY EXISTING DRAINAGE COMPONENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE CONSTRUCTION ARE TO BE RESTORED TO EXISTING EQUIVALENT OR BETTER CONDITIONS AT THE CONSTRUCTOR'S EXPENSE.

1 PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION AND THE RECEIPT OF THE "NOTICE TO
PROCEED" THE CONTRACTOR SHALL CONTACT CITY OF SOUTH MIAMI AND ARRANGE A
PRE-CONSTRUCTION CONFERENCE TO INCLUDE THE ENGINEER OF RECORD. THE CONTRACTOR SHALL
SUBMIT A CONSTRUCTION SCHEDULE AND BE PREPARED TO DISCUSS ANY CONCERNS OR
COORDINATION EFFORTS AND REQUIREMENTS WITH THE PARTIES INVOLVED.

2 THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE EMP CALL OF FLORIDA, INC. CERTIFICATION
NUMBER, AT LEAST 48 HOURS PRIOR TO BEGINNING ANY DISCUSSION. CONTACT 811.
WWW.SUNSHINE811.COM

1. DURING THE DAILY ADDRESS OF THE JOB THE CONTRACTOR SHALL RECORD THE EXACT LOCATION, LENGTH, AND ELEVATION OF ALL PROPOSED IMPROVEMENTS ON HIS SET OF CONSTRUCTION DRAWINGS.
2. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER TWO COMPLETE SETS OF ALL "AS-BUILT" CONSTRUCTION DRAWINGS. THE DRAWINGS SHALL INCLUDE CHANGES AND DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE IN ACCORDANCE WITH THE "SURVEY WORK" SECTION OF THE "SPECIFICATIONS AND CONTRACT DOCUMENTS" FOR THIS PROJECT.
3. ALL "AS-BUILT" INFORMATION AND ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND ALL FINAL MEASUREMENTS ARE TO BE IN THE FORM OF FIELD NOTES, PLANS AND CD (PDF FORMAT).

[illegible]

UTILITIES

- TWO FULL BUSINESS DAYS (48 HOURS) PRIOR TO DIGGING, THE CONTRACTOR SHALL CONTACT 311, WWW.SUNSHINEFL.COM TO REQUEST UTILITY LOCATIONS BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES.
- EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO (VERTICALLY AND HORIZONTALLY) PROTECT ALL EXISTING UTILITIES ON THIS PROJECT. ANY DAMAGE TO UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE UTILITY OWNER. THE OWNER RESERVES THE RIGHT TO REMEDY SUCH DAMAGE BY ORDERING OUTSIDE PARTIES TO MAKE SUCH REPAIRS AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERAL SERVICES MUST BE INCLUDED IN THE BID RELATED ITEM FOR THE WORK BEING DONE.
- UTILITY OWNERS:

- ATLANTIC BROADBAND	706-351-5989	- FLORIDA POWER & LIGHT	386-586-6403
- COMCAST CABLE	854-447-8405	- LEVEL 3 COMMUNICATIONS	781-356-1554
- FLORIDA CITY GAS	706-525-8547	- M-D WATER & SEWER	785-248-5320
- PUBLIC WORKS & TRAFFIC	706-345-0888	- AT&T	561-997-0240

ENVIRONMENTAL NOTES

- DUE TO THE LIMITED SCOPE OF WORK, NO IMPACTS TO EXISTING HISTORICAL AND CULTURAL RESOURCES ARE EXPECTED AS A RESULT OF THE PROPOSED ACTION.
- NO STAKING OR OTHER ACTIVITIES FOR THIS PROJECT SHOULD OCCUR WITHIN THE DRYLINE OF EXISTING TREES.
- PREVENT DAMAGING TREES AND PLANTERS WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT'S RIGHT-OF-WAY.
- AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE SHALL BE PRESENT ON SITE TO MONITOR CONSTRUCTION ACTIVITIES NEAR EXISTING TREES AND DIRECT ALL ROOT PRUNING AND/OR CANOPY TRIMMING ACTIVITIES.
- TREE PROTECTION SHOULD BE INSTALLED AROUND TREES TO REMAIN LOCATED ADJACENT TO CONSTRUCTION ACTIVITIES PER FOOT STANDARDS PLANS FY 2024-25, INDEX 110-100.
- 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/RELOCATION.
- CONTRACTOR SHALL REMOVE/CONTROL DUST USING WATER OR OTHER EQUIPMENT CAPABLE OF CONTROLLING DUST.

TRAFFIC CONTROL PLANS

- TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FOOT STANDARDS PLANS FY 2024-25 (102 SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND THE MUTCD NO. MINIMUM CRITERIA.
- NOTIFICATION OF LANE CLOSURES OR TEMPORARY DETOURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE. DETOUR OR MOT PHASE CHANGE SHALL BE SUBMITTED WITH THE REQUIRED LANE CLOSURE FORM, SKETCHES, CALCULATIONS, AND OTHER DATA TO PUBLIC WORKS DEPT.
- AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
- THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
- LANE CLOSURE SHALL OCCUR ONLY DURING NON-PEAK HOURS ON NON-WORK DATES/NIGHTS/WEEKENDS. NON PEAK HOURS 9:00 AM TO 3:30 PM WEEKDAYS AND SATURDAYS. EXCEPTIONS MAY BE GRANTED UPON WRITTEN REQUEST TO THE CITY.
- TRAFFIC CONTROL PLANS FOR ALL PHASES ARE DESIGNED FOR NON-PEAK HOURS ONLY. THE CONTRACTOR SHALL KEEP ALL EXISTING LANES OPEN DURING PEAK HOURS IN THESE PHASES.

- AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AND UNCOVERING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSOVER. IN ADDITION, SOLID LANE AND EDGE LINES SHALL EXTEND 100 FT ON TANGENT BEYOND EACH END OF THE TRANSITION, SHIFT, OR CROSSOVER. EXCEPTION SHALL BE THROUGH INTERSECTIONS WHERE 2 FT TO 4 FT SKIP LINES WILL BE PLACED.
- ALL TEMPORARY STRIPES AND MARKINGS SHALL BE PAINT ONLY, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER. COST OF TEMPORARY STRIPING SHALL BE INCLUDED IN MOT PAY ITEM.
- EACH EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- FOR DROP OFFS, THE CONTRACTOR SHALL FOLLOW TO THE FOOT, STANDARDS PLANS FY 2024-25 INDEX NO. 102-600 SHEET 8 OF 11. THE CONTRACTOR SHALL USE SHOULDER TREATMENT (SIGNAL WHEN NO BARRIERS ARE REQUIRED) IN THE PLANS.
- CONTRACTOR SHALL PREPARE AND SUBMIT AN ACCEPTABLE MOT PLAN FOR THE PROJECT. THE MOT PLAN SHALL BE SUBMITTED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
- LANE CLOSURES SHALL NOT BE PERMITTED DURING SCHOOL SPEED ZONE HOURS WHERE SUCH CLOSURES WILL AFFECT TRAFFIC FLOW IN THE VICINITY OF THE SCHOOL SPEED ZONES.

WORK ZONE LIMITS

- THE LENGTH OF AN OPEN TRENCH SHALL NOT EXCEED 500 FT. PROPERTY ACCESS SHALL BE MAINTAINED IN ACCORDANCE TO ARTICLE 102- 5.5 OF THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
- NO MORE THAN TWO BLOCKS OF STREET SHALL BE UNDER CONSTRUCTION AT A TIME AND ALL WORK AND RESTORATION SHALL BE COMPLETED ON ONE OF SUCH BLOCKS BEFORE WORK MAY BEGIN IN A NEW BLOCK. FINAL RESURFACING SHALL BE PLACED WITHIN 48 HOURS OF THE MILLING OPERATION.

INTERSECTIONS

- ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER.
- INTERSECTIONS SHALL BE RECONSTRUCTED WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL THE STRUCTURAL COURSE IS PLACED.
- M.O.T. TRANSITIONS AND TEMPORARY INTERSECTION CROSSOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 2 IN TYPE SP ASPHALT CONCRETE SLOPE TO ACCOMMODATE NONREGULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL AND WORK, INCLUDING ITS REMOVAL, SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

PEDESTRIANS, BICYCLES, AND WHEELCHAIRS

- AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP OFF GREATER THAN 6 IN. ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE SHOULDER OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL, OR IMPROVED HANDRAIL. COST SHALL BE INCLUDED IN THE PAY ITEM 102-1, MAINTENANCE OF TRAFFIC.
- CONSTRUCTION ACTIVITIES THAT INVOLVES SIDEWALKS ON BOTH SIDES OF THE STREET ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.

SIGNING AND PAVEMENT MARKINGS

- ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM WITH THE CURRENT EDITION OF THE FOOT, STANDARDS PLANS FY 2024-25, THE 2022 FOOT DESIGN MANUAL, AND MUTCD.
- ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE SPECIFIED. BEFORE STARTING THE PROJECT, THE CONTRACTOR WILL REVIEW EXISTING SIGNS SHOWN ON THE PLANS TO BE RELOCATED OR TO REMAIN. THE CONTRACTOR WILL NOTIFY IN WRITING TO THE PROJECT ENGINEER OF ANY MISSING SIGNS BEFORE CONSTRUCTION STARTS. SIGNS DAMAGED BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT NO COST TO THE DEPARTMENT. IF EXISTING SIGNS TO BE RELOCATED HAVE A DAMAGED POLE OR A POLE NOT MEETING WEIGHT SPECIFICATION REQUIREMENTS, THE COST OF A NEW POLE WILL BE INCLUDED IN THE RELOCATION BID ITEM.

- ALL PAVEMENT MARKINGS, MESSAGES, AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
- REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED AS INDICATED.
- MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOGS OR OFFSETS.
- THE CONTRACTOR SHALL REMOVE EXISTING MARKINGS BY FOOT APPROVED METHOD WITHOUT DAMAGE TO THE PAVEMENT COURSE.
- SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, WHEELCHAIR RAMPS, ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY MIAMI-DADE SIGNALS AND SIGNS DIVISION.
- THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST-MOUNTED STREET NAME AND STOP SIGNS TO A VEHICLE AREA UNOCCUPIED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS. NEW STREET NAME SIGNS WILL BE ATTACHED AT THE TOP OF THE NEW STOP SIGNS ON WHICH SIDE STREETS AT THE END OF CONSTRUCTION.
- EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE FOOT STANDARDS PLANS FY 2024-25 INDEX 700-010 AS IF THEY WERE NEW SIGNS. IF EXISTING CLAMPS, BRACKETS, POLES, ETC. NEED TO BE REPLACED THE COST SHALL BE INCLUDED IN THE RELOCATION PAY ITEM.
- REFLECTIVE PAVEMENT MARKERS AS PER FOOT STANDARD INDEX NO. 705-001.
- NEW STREET NAME SIGNS SHALL BE PER MIAMI-DADE COUNTY STANDARDS AND MUTCD.

				TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE		GENERAL NOTES	
4/29/2024		4/29/2024		4/29/2024		4/29/2024	

ABBREVIATIONS:

B.L.D.G.	=	BUILDING
C.B.	=	CATCH BASIN
R	=	BASE LINE
C	=	CENTER LINE
C.O.	=	CLEANOUT
CONC.	=	CONCRETE
CONN.	=	CONNECTION
CONT.	=	CONTINUATION
CONST.	=	CONSTRUCT
DET.	=	DETAIL
D.I.P.	=	DUCTILE IRON PIPE
EXIST.	=	EXISTING
F.F.E.	=	FINISHED FLOOR ELEVATION
F.H. / FH	=	FIRE HYDRANT
F.M. / FM	=	FORCE MAIN
H.D.P.E.	=	HIGH DENSITY POLYETHYLENE
HORIZ.	=	HORIZONTAL
INV.	=	INVERT
L.F.	=	LINEAR FEET
M-DWSD	=	MIAMI-DADE WATER AND SEWER DEPT
M-OPW	=	MIAMI-DADE PUBLIC WORKS
M.E.G.	=	MATCH EXISTING GRADE
MIN.	=	MINIMUM
P.I.V.	=	POST INDICATOR VALVE
P.G.P.	=	PROPOSED GRADING POINT
P.G.L.	=	PROPOSED GRADING LINE
P/L R	=	PROPERTY LINE
PROP.	=	PROPOSED
San	=	SANITARY SEWER
R/W, ROW	=	RIGHT OF WAY
SEC.	=	SECTION
SERV.	=	SERVICE
S/L R	=	SECTION LINE
STA.	=	STATION
STD.	=	STANDARD
SWK.	=	SIDEWALK
T.O.P.	=	TOP OF PIPE
U.S.F.	=	US. BOUNDARY
VERT.	=	VERTICAL
W.M. / WM	=	WATER MAIN
W.S.	=	WATER SERVICE
T.B.F.V.	=	TO BE FIELD VERIFIED

UTILITIES LEGEND:

	WM	EXISTING WATER MAIN (UNDERGROUND)
	SSM	EXISTING SANITARY SEWER MAIN (UNDERGROUND)
	CC	EXISTING COMMUNICATION CONDUIT (UNDERGROUND)
	FPL	EXISTING F.P.L. CONDUIT (UNDERGROUND)
	ED	EXISTING EXFILTRATION DRAIN (UNDERGROUND)
	FPL	EXISTING F.P.L. CONDUIT (OVERHEAD)
	ED	PROPOSED EXFILTRATION DRAIN (UNDERGROUND)
	SD	PROPOSED SOLID DRAINAGE PIPE (UNDERGROUND)
	S-P	PROPOSED DRAINAGE STRUCTURE (INLET/W.H.) ID
	EX-P	EXISTING DRAINAGE STRUCTURE (INLET) ID
	FM	EXISTING FORCE MAIN (UNDERGROUND)
		EXISTING CATCH BASIN
		PROP. CATCH BASIN
		PROP. DRAINAGE MANHOLE
		EXISTING DRAINAGE MANHOLE
		EXISTING SAN. SEWER MANHOLE
		EXISTING WATER MAIN VALVE BOX
		EXISTING FORCE MAIN VALVE BOX
		EXISTING WATER METER
		EXISTING ELECTRICAL PANEL/PULL BOX
		EXISTING COMMUNICATION PANEL/PULL BOX
	FH	EXISTING FIRE HYDRANT

ROADWAY PLANS LEGEND:

	1	EXISTING SANITARY SEWER / DRAINAGE MANHOLE TO BE ADJUSTED BY A LICENSED CONTRACTOR
	2	EXISTING WATER/FORCE MAIN VALVE BOX & LID TO BE ADJUSTED BY A LICENSED CONTRACTOR
	3	EXISTING TREES/PALMS TO BE PROTECTED DURING CONSTRUCTION PROCESS PER FOOT 110-100
	4	CONSTRUCT 6" CONC. SIDEWALK, HANDICAP RAMPS AND 6" CONC. DRIVEWAYS & INLET APRONS
	5	PROP. CONCRETE PAVER (SEE TYPICAL SECTION) TRAFFIC CIRCLE MEDIAN
	6	AREA TO BE RESODDED
	7	EXIST. PAVR DRIVEWAY TO BE RESURFACED SEE PAVR DRIVEWAY RESTORATION DETAIL (SHEET C-11.0)
NEW PAVEMENT / DRAINAGE TRENCH RESTORATION		
- 2 LIFTS: (1") SP-9.5 (1") FC-9.5 ASPHALTIC CONC.		
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR-100 PER AASHTO T-180		
- 12" STABILIZED SUBBASE COMPACTED TO MIN. 98% MIN. LBR-40, PER AASHTO T-160		
	8	EXIST. ASPHALT DRIVEWAY TO BE RESURFACED W/ 1" SP-9.5 CONCRETE ASPHALT



TRAFFIC CIRCLE
AT
SW 77th TER AND SW 58th AVE

LEGEND AND
ABBREVIATIONS

DATE	4/29/2024
BY	2205
CHECKED BY	2205
SCALE	C-2.2

PAY ITEM DESCRIPTION

1	CONTRACTOR SHALL FURNISH AS-BUILT PLANS SIGNED AND SEALED BY AND PROFESSIONAL LAND SURVEYOR TO THE TOWN OF CUTLER BAY
102-3	TO BE ACCOMPLISHED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, PUBLIC WORKS MANUAL OF MIAMI DADE COUNTY, THE LATEST REVISIONS OF THE AFOREMENTIONED MANUALS AT TIME OF CONSTRUCTION WITH ENGINEER APPROVAL, AND IN ACCORDANCE WITH THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS INDEX 102 SERIES. INCLUDES THE COST OF CONSTRUCTION OF TEMPORARY PAVEMENT & ITS SUBSEQUENT REMOVAL.
104-1B	THIS ITEM IS TO BE USED IN ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF EXISTING INLETS. PAYMENT PER EACH INLET INCLUDES ALL WORK AND MATERIALS FOR A COMPLETE SYSTEM. PROPOSED INLETS. THE PAYMENT FOR PROTECTING NEW INLETS IS INCIDENTAL TO THE COST OF THE NEW INLET. CURB INLET FILTERS, CURB INSERT PROTECTION SYSTEMS, PIPE END CAP FILTERS, DITCH BOTTOM INLET PROTECTION SYSTEMS ("CAPS", BARRIERS, AND OTHER MATERIALS), ARE INCLUDED IN THIS PAY ITEM.
110-1-1	CONSISTS OF COMPLETE REMOVAL AND DISPOSAL OF ALL VEGETATION, DEBRIS, DRAINAGE STRUCTURES, DRAINAGE PIPES, FLEXIBLE PAVEMENT, OR ANY OTHER OBSTRUCTIONS IN ALL AREAS WHERE EXCAVATION IS TO BE DONE, OR WHERE EMBANKMENTS OR STRUCTURES WILL BE CONSTRUCTED. THIS INCLUDES ROADWAY AREA, DITCH AREA, BORROW AND MATERIAL PITS, AND AREAS WHERE CULVERTS OR PIPELINES WILL BE CONSTRUCTED, ALSO INCLUDES SHRUB AND TREE TRIMMING. ALL DEBRIS SHOULD BE DISPOSED OF IN LEGAL AREAS PROVIDED BY THE CONTRACTOR.
110-4-10	CONSISTS OF REMOVING AND DISPOSING OF EXISTING CONCRETE PAVEMENT, CONCRETE SIDEWALKS, CONCRETE APRONS, DITCH PAVEMENT, CONCRETE PAVERS, AND CURB AND GUTTER.
160-4	INCLUDES ALL WORK AND MATERIALS SPECIFIED IN SECTION 160 (FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION), INCLUDING FURNISHING, SPREADING, AND MIXING OF ALL STABILIZING MATERIAL REQUIRED AND ANY REPROCESSING OF STABILIZATION AREAS NECESSARY TO ATTAIN THE SPECIFIED BEARING VALUE.
327-70-16	CONSISTS OF REMOVING EXISTING AC PAVEMENT TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENT, TO LOWER THE FINISHED GRADE ADJACENT TO EXISTING CURB PRIOR TO RESURFACING, OR TO COMPLETELY REMOVE EXISTING PAVEMENT. INCLUDES TRANSPORTING THE MILLED MATERIAL TO THE ASPHALT PLANT SITE AND STOCKPILING THE MATERIAL. ALSO INCLUDES REMOVAL OF EXISTING REFLECTIVE PAVEMENT MARKER.
425-1-SERIES 425-2-SERIES	INCLUDES POLLUTION RETARDANT Baffle & Inlet Protection (accordance with the plans, standards, and/or erosion and sediment control manual for the protection of proposed inlets). LABOR AND CONSTRUCTION SHALL BE INCLUDED IN COST OF STRUCTURES. FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND COMPLETING ALL WORK DESCRIBED ON FOOT SECTION 425 OR SHOWN IN THE PLANS, INCLUDING ALL CLEARING AND GRUBBING OUTSIDE THE LIMITS OF CLEARING AND GRUBBING AS SHOWN IN THE PLANS, ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE MEASUREMENT DESIGNATED TO BE PAID FOR UNDER THE ITEMS FOR THE GRADING WORK ON THE PROJECT. ALL BACKFILLING AROUND THE STRUCTURES, THE DISPOSAL OF SURPLUS MATERIAL, AND THE FURNISHING AND PLACING OF ALL GRATINGS, FRAMES, COVERS, AND ANY OTHER NECESSARY FITTINGS.
425-4 425-5 & 425-6	WITHIN PAVEMENT AREA, INLETS, MANHOLES AND VALVE BOXES TO BE ADJUSTED AS NECESSARY.
430-175-SERIES	INCLUDES FURNISHING AND PLACING PIPE PLUGS, PIPE FITTING, CAPS, CONCRETE JACKET, AND SOLID PIPES. FULL COMPENSATION FOR ALL WORK SPECIFIED ON FOOT SECTION 430, INCLUDING ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE ITEMS FOR THE GRADING WORK ON THE PROJECT. ALL BACKFILLING MATERIAL, AND COMPACTION, AND DISPOSAL OF SURPLUS MATERIAL.
443-70-SERIES	INCLUDES EXCAVATION TO PLAN ELEVATION (15 FEET DEEP, SEE DETAILS SHEETS), FURNISHING AND PLACING PIPE PLUGS, PIPE FITTINGS, PERFORATED PIPES, BALLAST ROCK AND BACKFILLING WITH SELECT FILL, FILTER FABRIC AND ALL APPLICABLE ITEMS REQUIRED TO CONSTRUCT DRAIN. ALSO IT IS INCLUDED THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVICING SAID PROPERTIES.
522-SERIES	ESTIMATED QUANTITY FOR DRIVEWAYS, SIDEWALKS, RAMPS AND APRON TO BE CONSTRUCTED AT LOCATIONS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
526-1-1	INCLUDES ALL LABOR AND MATERIALS (PAVER, SAND, AND ANY PROCESSING OR MATERIAL NECESSARY TO COMPLETE PAVEMENT INSTALLATION).
570-1-2	INCLUDES TOPSOIL LAYER AND SOO TO BE USED IN THE RESTORATION OF LAWNS AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE TOWN OF CUTLER BAY. BAHIA SOO OR TO MATCH EXISTING SOO.
700-1111	THIS ITEM INCLUDES ALL SIGN PANEL(S), COLUMN(POST), FOUNDATION, HARDWARE AND MATERIALS NECESSARY FOR A COMPLETE ASSEMBLY.

QUANTITIES AND PAY ITEM NOTES:

1. EXCESS AND/OR UNDESIRABLE MATERIAL TO BE DISPOSED OF BY CONTRACTOR IN LEGAL AREAS PROVIDED BY HIM. NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM.
2. THE CONTINGENCY ITEM MUST BE APPROVED BY THE ENGINEER ON RECORD AND THE TOWN.
3. THE S.I.F. OF SOLID PIPE ON BOTH SIDES OF THE FRENCH DRAIN ARE INCLUDED IN THE QUANTITIES LISTED UNDER PAY ITEMS 430-175-SERIES.
4. ITEM # 35 INCLUDES THE COST OF TRANSFER OF EXISTING UTILITIES TO THE NEW POLE.
5. REFER TO FOOT'S "DESIGN QUANTITIES AND ESTIMATES" (DQE) FOR MORE INFORMATION ON THE PAYMENT ITEM DESCRIPTIONS.
6. ANY EXCAVATED MATERIAL, IF UNSUITABLE, SHALL NOT BE USED IN THE CONSTRUCTION OF THE EMBANKMENT.



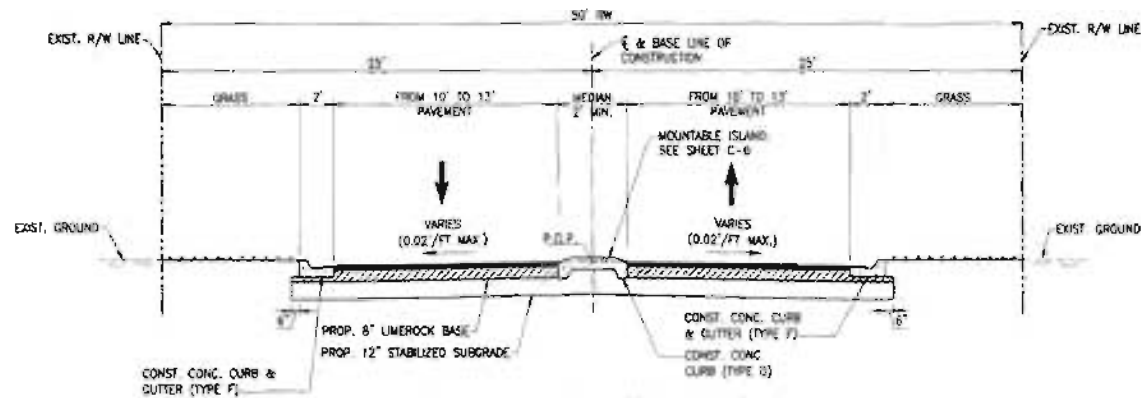
TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE

PAY ITEM NOTES

AS SHOWN
2025
C-3.0

ROADWAY				
Item	Pay Item No.	Description	Quantity	Unit Measure
1	001	AS BUILT	1	LS
2	101-1	MOBILIZATION	1	LS
3	102-1	MAINTENANCE OF TRAFFIC	1	LS
4	102-14	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR
5	104-18	INLET PROTECTION SYSTEM	2	EA
6	110-1-1	CLEAVING AND GRUBBING	1	LS
7	110-7-1	WALKBOX, RM SINGLE	3	EA
8	110-21	TREE PROTECTION BARRIER	240	LF
9	110-4-10	REMOVAL OF EXISTING CONCRETE	110	SY
10	102-1	REGULAR EXCAVATION	700	CY
11	160-4	TYPE B STABILIZATION	1,250	SY
12	285-705	OVERDOCK BASE (2") (OPTIONAL BASE BASE COURSE)	1,250	SY
13	314-1-12	SUPERPAVE ASPHALTIC CONC. TRAFFIC C. SP-95 (1" AND 1/2")	71	TN
14	317-7-02	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C. PG-45, PG-76-22 (1")	65	TN
15	425-1-2A	SD-3.1 SMALE INLET TYPE D-1 (5' x 27") x 10" (M-DPWD PAY ITEM)	1	EA
16	425-1-201	INLETS, CURB TYPE 9 x 10"	2	EA
17	425-4	INLETS, ADJUST	1	EA
18	425-5	MANHOLE ADJUST	1	EA
19	425-6	VALVE BOXES, ADJUST	2	EA
20	425-11	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA
21	425-79	CORE AND TIE INTO EXISTING DRAIN STRUCTURE (18" RPE INCL. MORTAR SEAL) (M-DPWD PAY ITEM)	1	EA
22	430-175-118	RPE CURB VERT. OPTIONAL MATERIAL ROUNO 11/80 (HORE)	40	LF
23	443-70-3	EXFILTRATION DRAIN (18")	50	LF
24	520-1-10	CONCRETE CURB AND GUTTER (TYPE "F") DROP CURB	450	LF
25	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	95	LF
26	520-2-8	CONCRETE CURB, TYPE RA	105	LF
27	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL, VARIABLE WIDTH	25	SY
28	522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	130	SY
29	522-2	CONCRETE SIDEWALK, 15" THICK (SIDEWALK, RAMP, APRON, DRIVEWAY & SALE)	60	SY
30	527-2	8" REINFORCED STAMPED CONCRETE SLAB	45	SY
31	527-2	DETECTABLE WARNING	20	SF
32	526-1-1	PAVERS, ARCHITECTURAL, ROADWAY	60	SY
33	575-1-2	PERFORMANCE TURF, SOO	500	SY
34	580-7-251	LANDSCAPE GROUND COVER (GREEN ISLAND PILES)	68	EA
35		LIGHT POLE COMPLETE, RM, STANDARD POLE STANDARD FOUNDATION, 35' MOUNTING HEIGHT, 10' ARM LENGTH	1	EA
36		LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	1	EA

PAVEMENT MARKING AND SIGNAGE				
Item	Pay Item No.	Description	Quantity	Unit Measure
37	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	0.15	GM
38	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR INTERCHANGE AND URBAN ISLAND, 6"	0.01	GM
39	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	50	LF
40	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 34"	30	LF
41	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE 6-10 DOTTED EXTENSION, 6"	0.02	GM
42	710-11-160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA
43	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.15	GM
44	710-11-260	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	205	SF
45		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS
46	705-1111	SINGLE POST SIGN, RM GROUND MOUNT, UP TO 12 SF	16	AS
47	700-1-30	SINGLE POST SIGN, RELOCATE	1	AS
48	705-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS (W/ W & BLUE)	280	EA
49	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	50	LF
50	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE 6-10 GAP EXTENSION, 6"	0.02	GM
51	711-11-260	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA
52	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	30	LF
53	711-16-101	THERMOPLASTIC, STANDARD, OTHER SURFACES, WHITE, SOLID, 6"	0.15	GM
54	711-16-102	THERMOPLASTIC, STANDARD, OTHER SURFACES, WHITE, SOLID, 8"	0.01	GM
55	711-16-201	THERMOPLASTIC, STANDARD, OTHER SURFACES, YELLOW, SOLID, 6"	0.15	GM



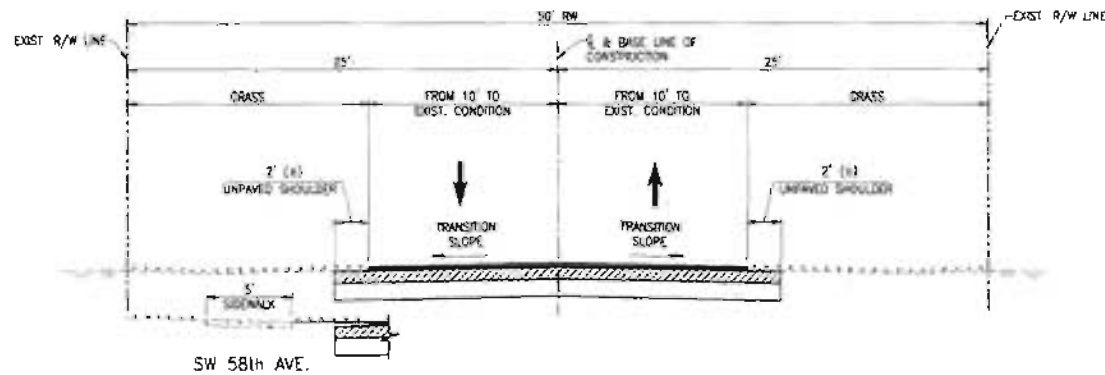
NEW PAVEMENT:

- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. LBR=40, PER AASHTO T-180

DESIGN SPEED 15 MPH

POSTED SPEED 15 MPH

TYPICAL SECTION SW 77th TER. N.T.S.
TRAFFIC CIRCLE
 STA. 9+25 TO STA. 10+75



NEW PAVEMENT:

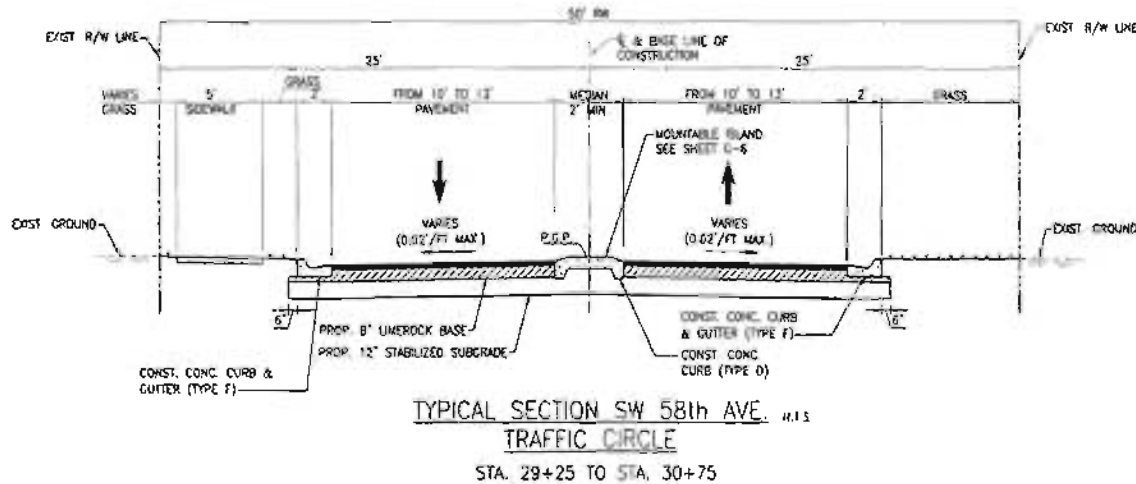
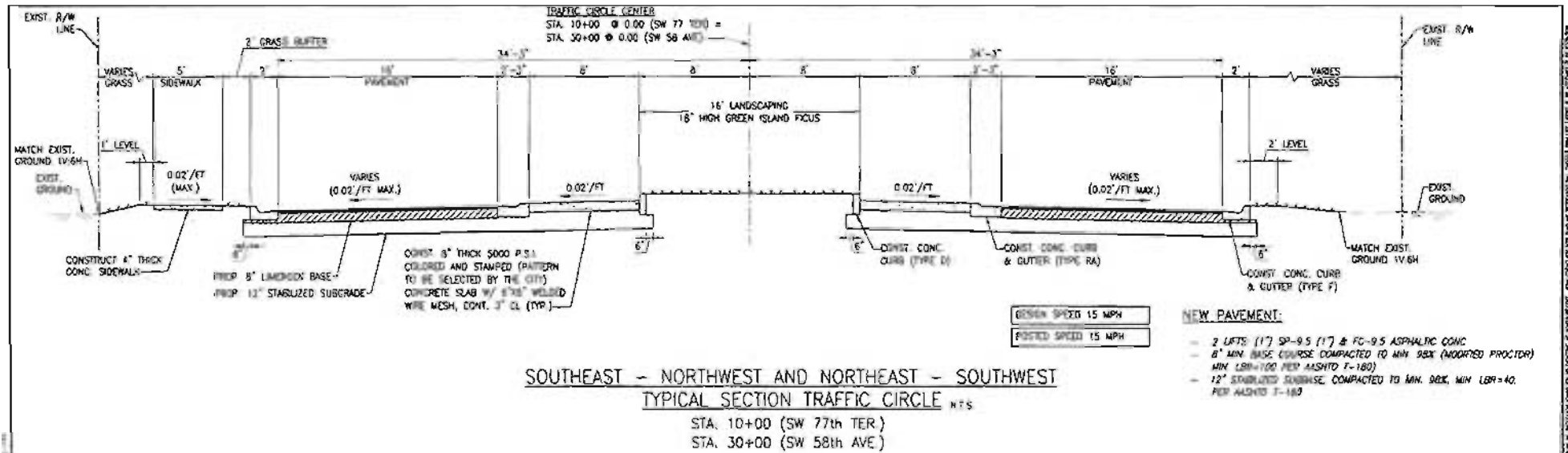
- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
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DESIGN SPEED 15 MPH

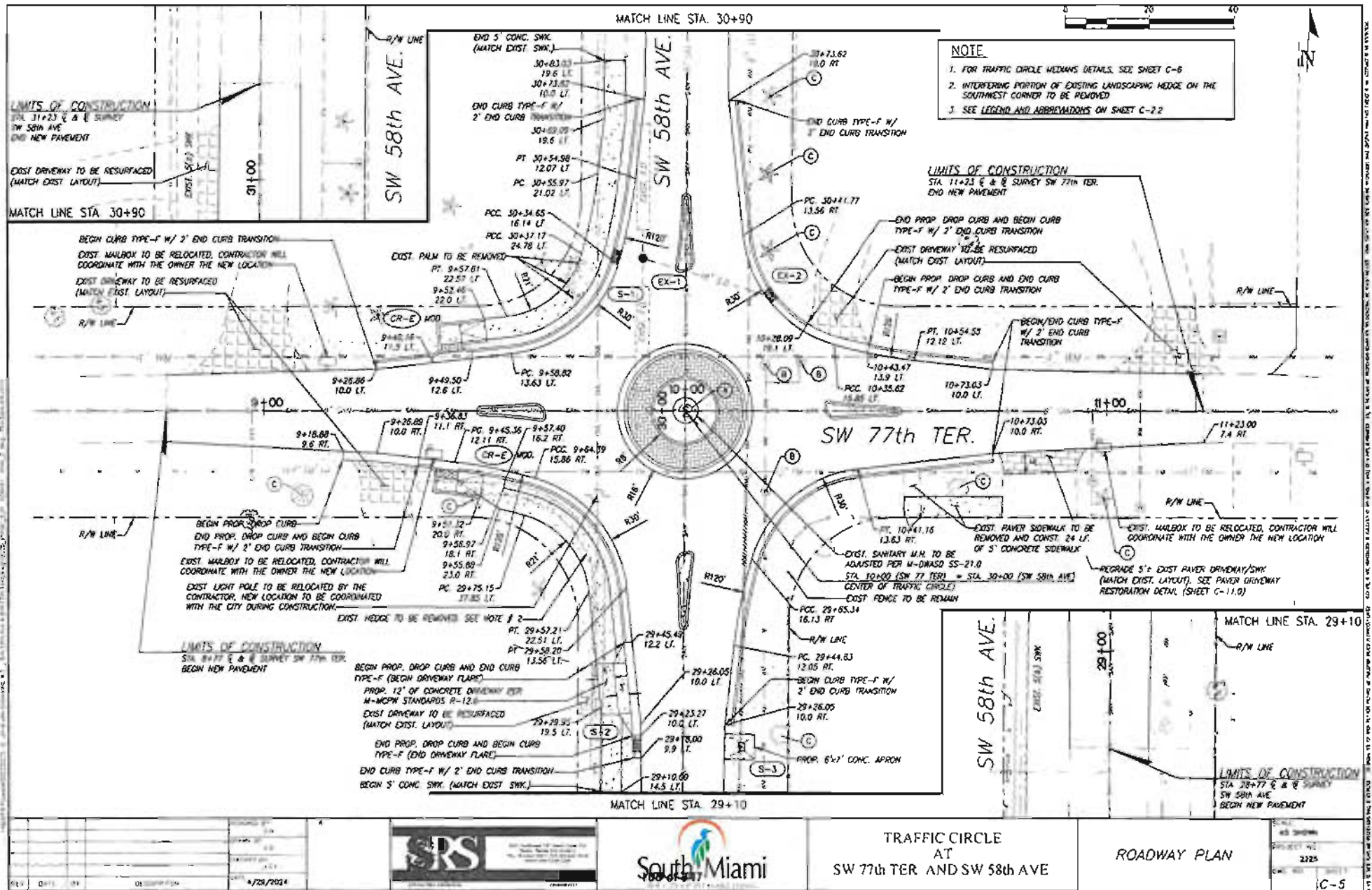
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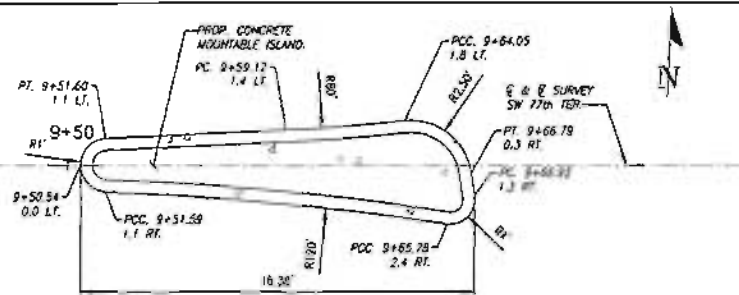
TYPICAL SECTION SW 77th TER. N.T.S.
 STA. 8+77 TO STA. 9+25
 STA. 10+75 TO STA. 11+23
TYPICAL SECTION SW 58th AVE.
 STA. 28+77 TO STA. 29+25
 STA. 30+75 TO STA. 31+23

DATE: 4/29/2024	DESIGNED BY: J.B. CHECKED BY: J.B. DATE: 4/29/2024	SRS South River Services, Inc.	South Miami	TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE	TYPICAL SECTION	2225 C-40

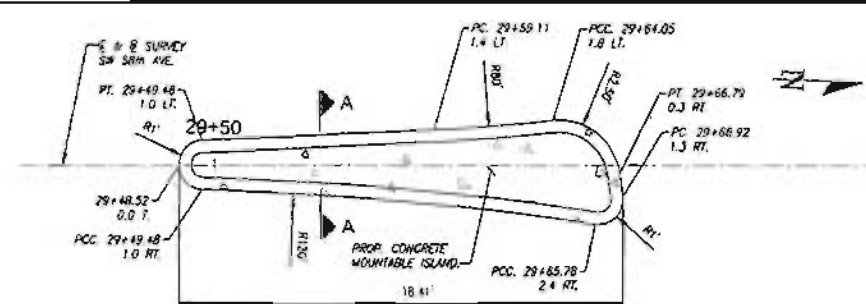


PROJECT: SW 77th TER AND SW 58th AVE DATE: 1/23/2024	DESIGNED BY: [Signature] CHECKED BY: [Signature]	APPROVED BY: [Signature]	TRAFFIC CIRCLE AT SW 77th TER AND SW 58th AVE	TYPICAL SECTION	AS SHOWN 2024 C-4.1

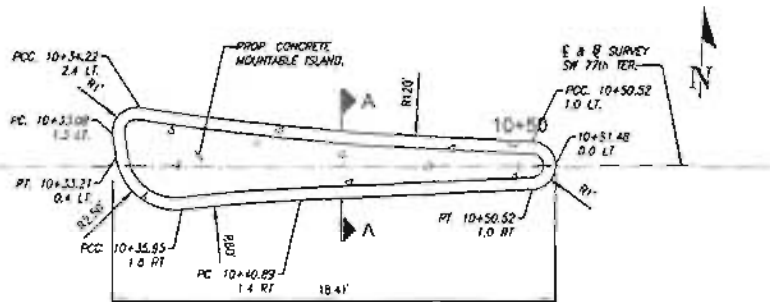




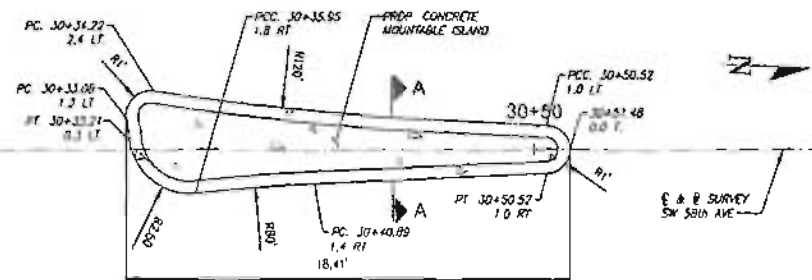
WEST MEDIAN DETAIL (SW 77th TER.)



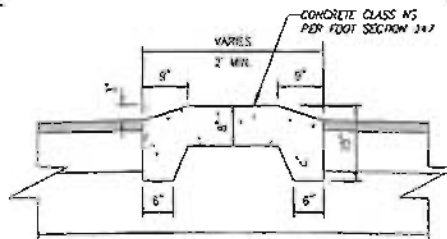
SOUTH MEDIAN DETAIL (SW 58th AVE)



EAST MEDIAN DETAIL (SW 77th TER.)

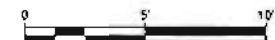


NORTH MEDIAN DETAIL (SW 58th AVE)



SECTION A-A

TYPICAL MOUNTABLE ISLAND SECTION
(APPROACH ROADWAY) N.T.S.



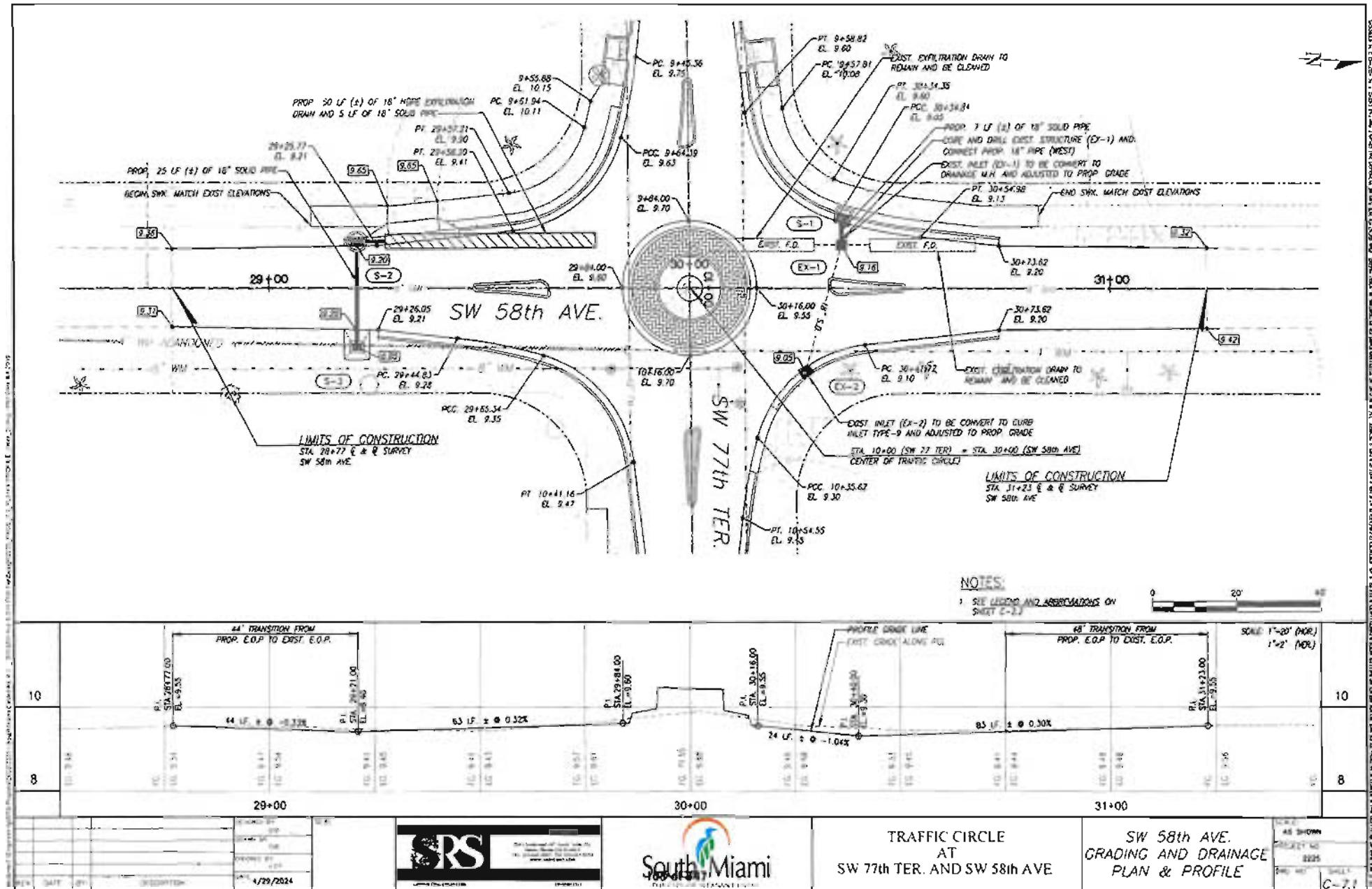
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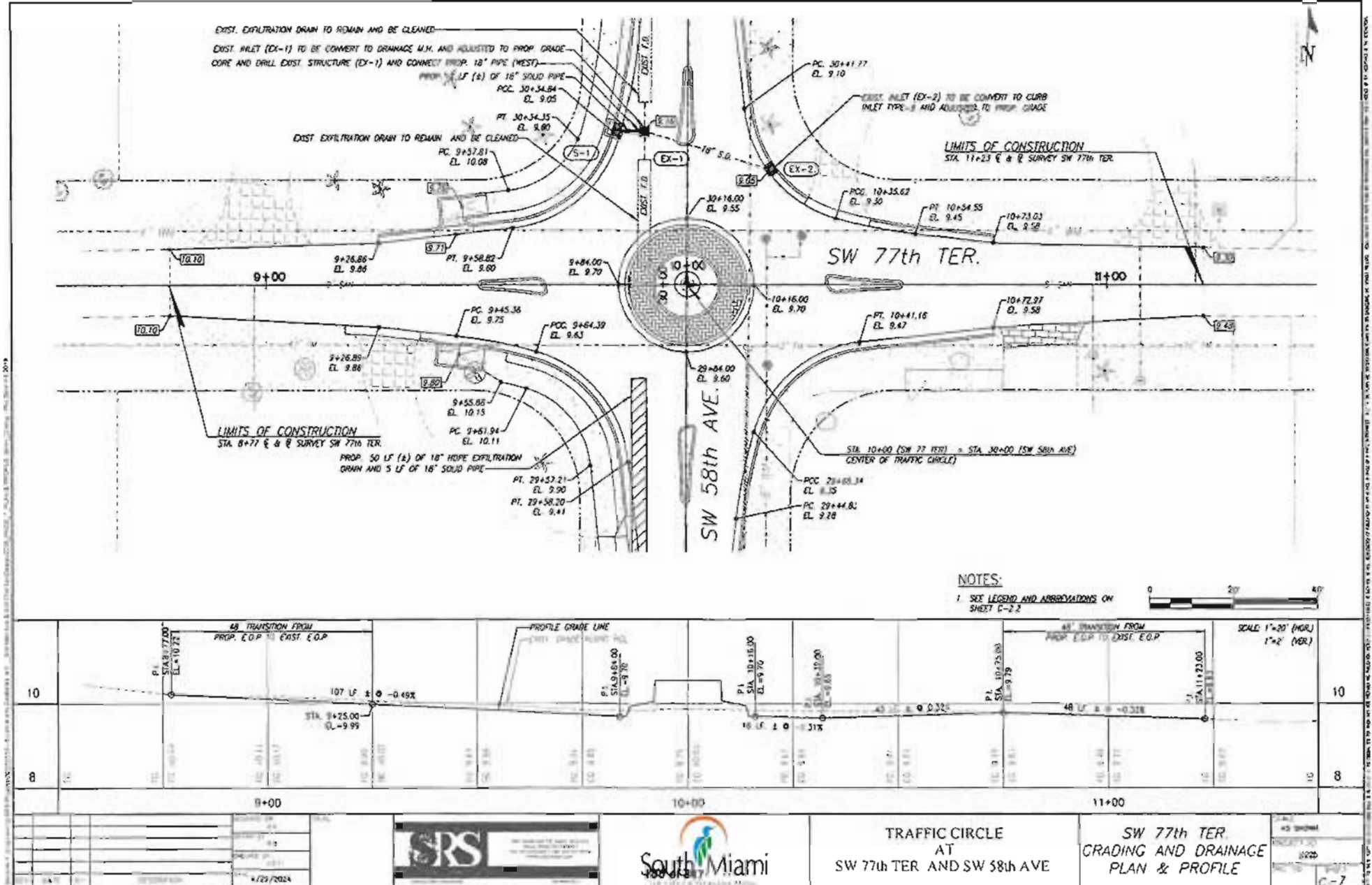


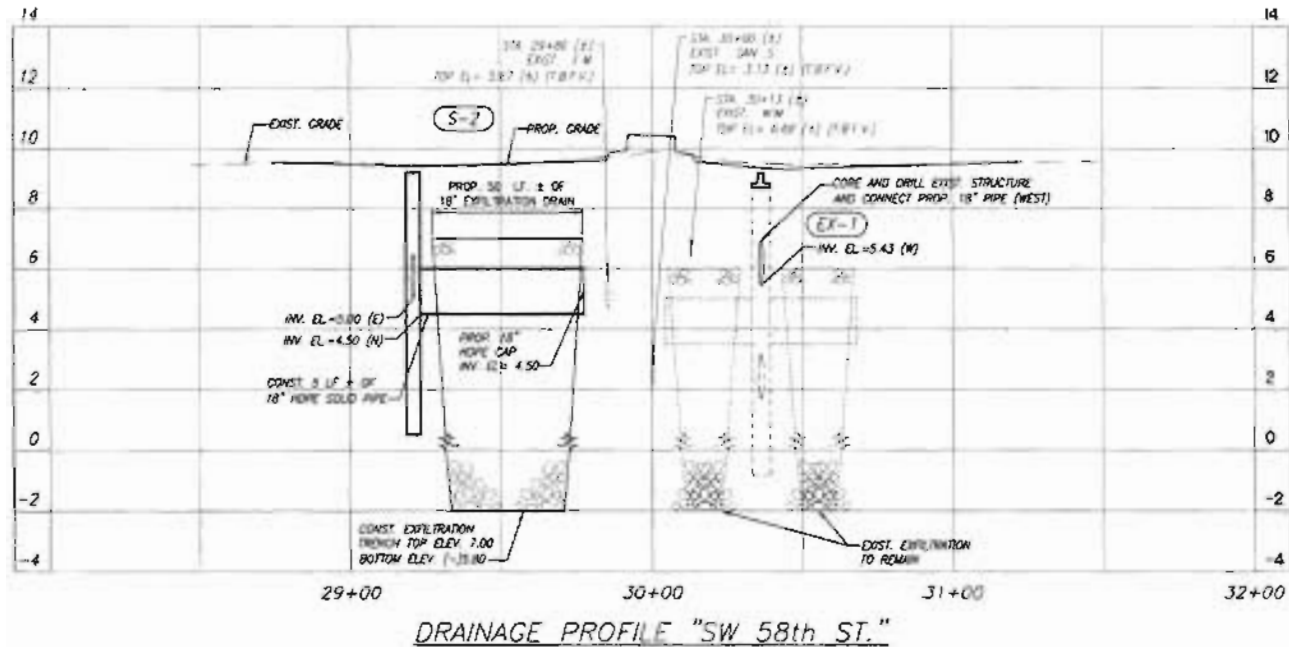
TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE.

TRAFFIC CIRCLE
MEDIANS DETAILS

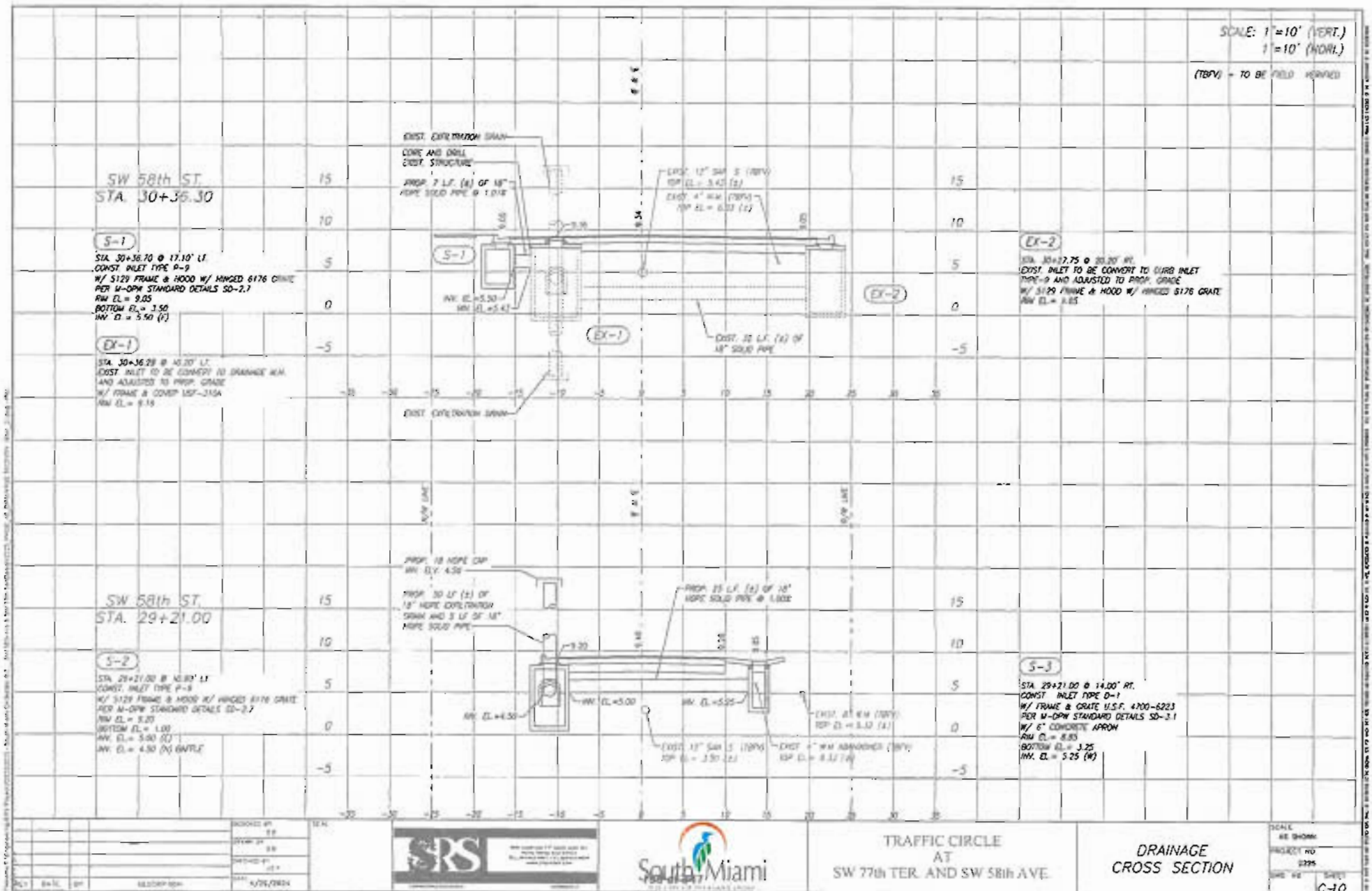
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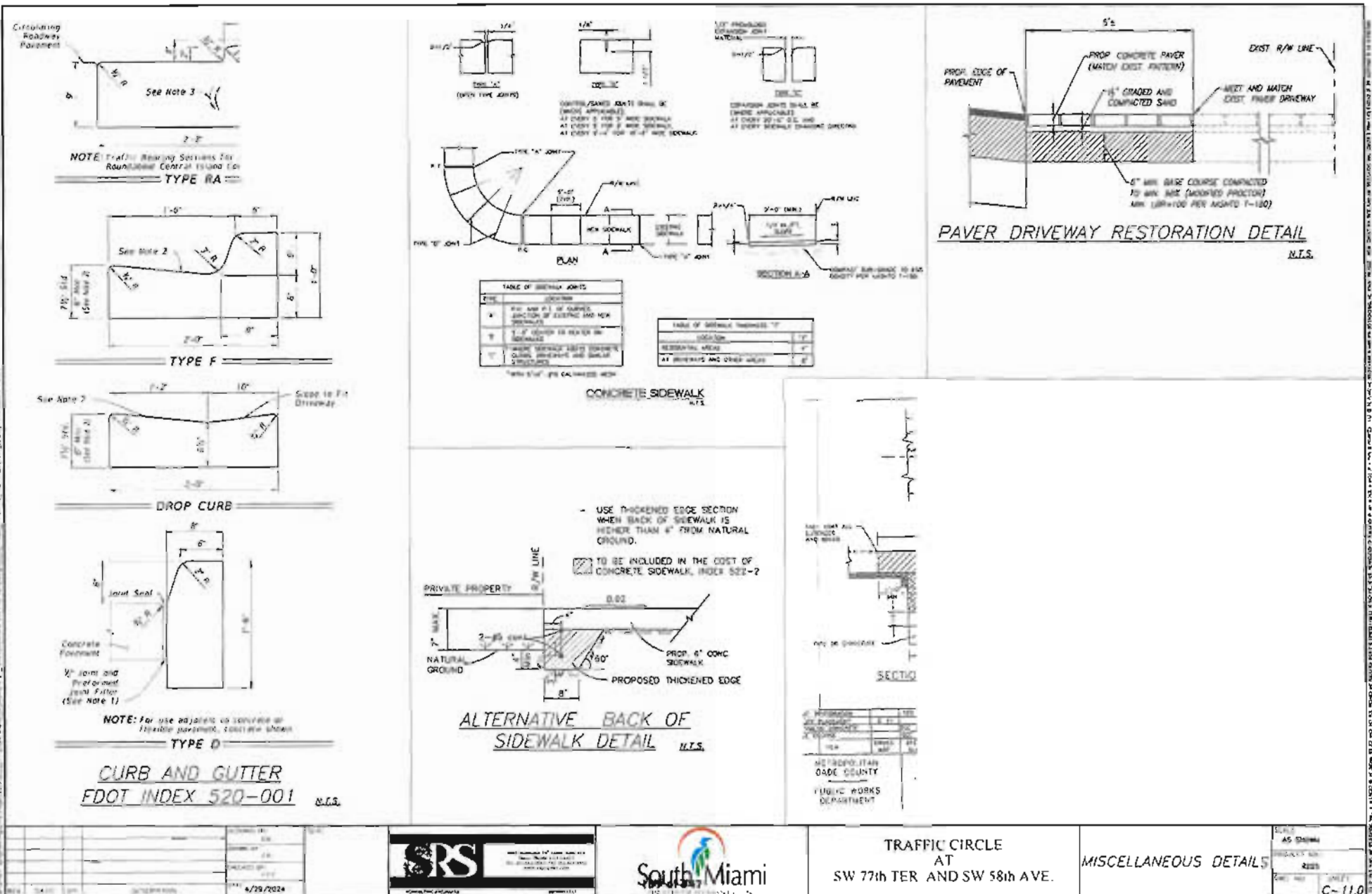


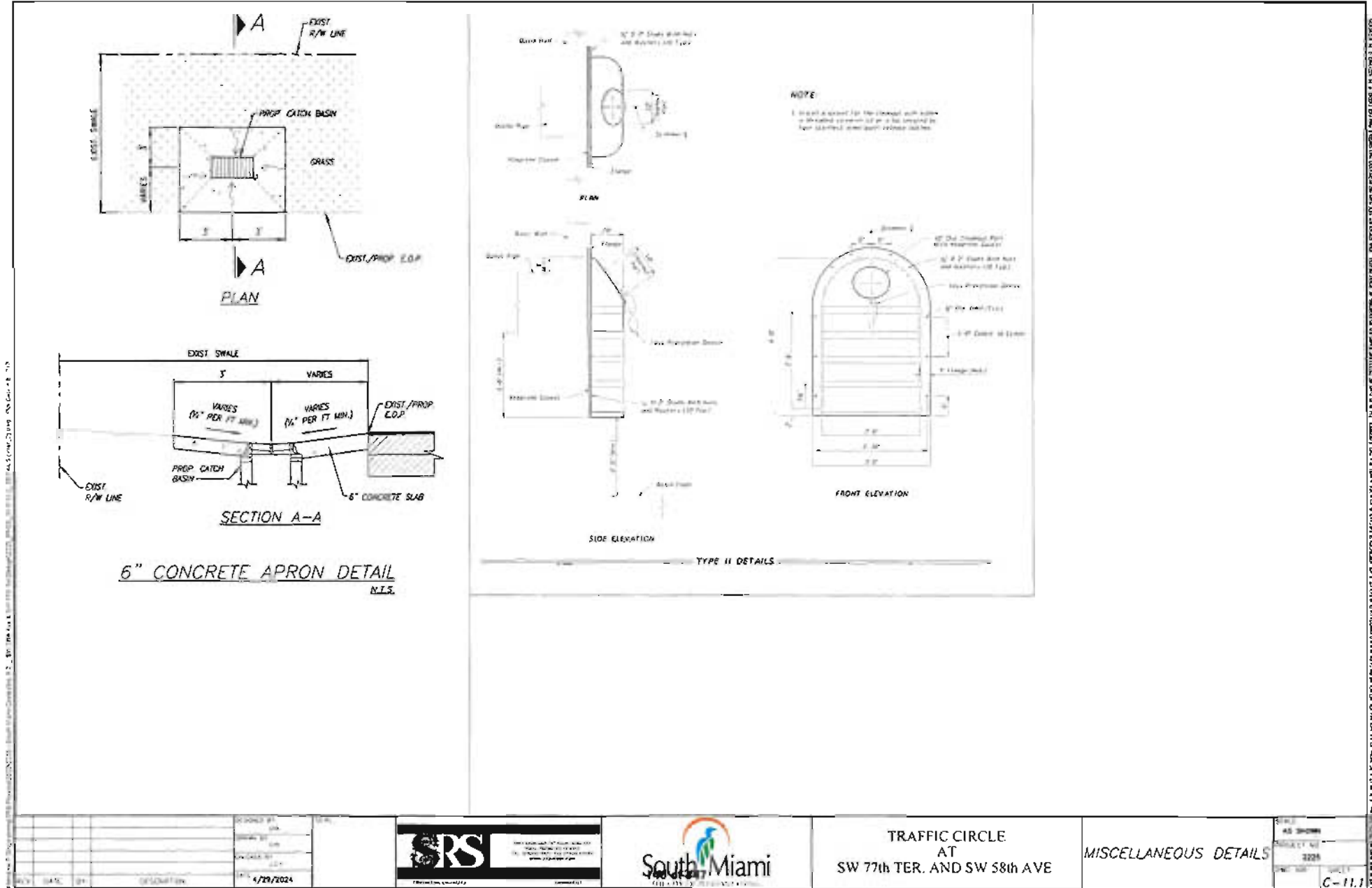




REVISION NO. 1 DATE 4/20/2024 BY [Signature] CHECKED BY [Signature]				TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE.	DRAINAGE PROFILE	SCALE 1"=40' (HOR.) 1"=4' (VER.) SHEET NO. 9 OF 9



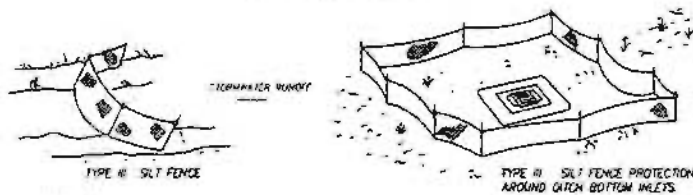
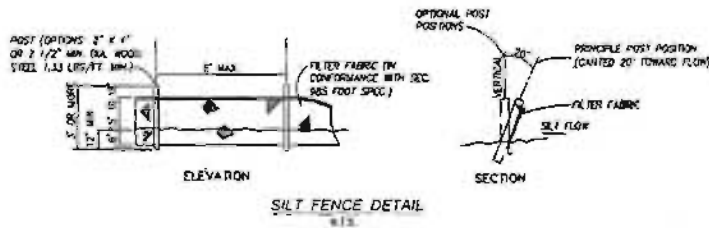
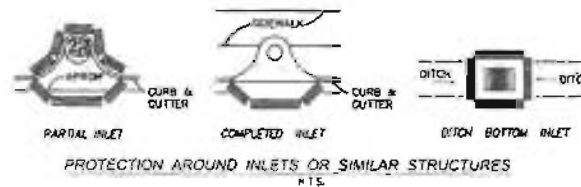




				APPROVED BY DATE 4/29/2024						TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE		MISCELLANEOUS DETAILS		SCALE AS SHOWN SHEET NO. 2024 C-11.2	
REV	DATE	BY	DESCRIPTION												

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

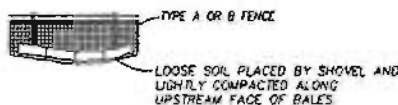
1. TYPE I AND II SYNTHETIC BARRIER SHOULD BE SPACED IN ACCORDANCE WITH CHART 1, SHEET 1 PER INDEX 102.
2. BALES SHALL BE ANCHORED WITH 2-1" X 2" (OR 1" DIA.) X 4' WOOD STAKES, STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. RAILS AND POSTS SHALL BE 2" X 4" WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER.
5. WHERE USED IN CONJUNCTION WITH SILT FENCE, BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.



NOTES:

1. SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3 PER FOOT STANDARD INDEX 102.
2. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS N.T.S.



BALES BACKED BY FENCE N.T.S.

STORM WATER POLLUTION PREVENTION PRACTICES:

1. TREE PROTECTION AND PRUNING SHALL BE ACCOMPLISHED AS DETAILED IN SPECIAL PROVISIONS, THE CONSTRUCTION PLANS, AND OR PER TREE ORDINANCE, 12636.
2. THE STORM WATER POLLUTION PREVENTION PLAN, SWPPP, SUBMITTED TO PUBLIC WORKS, SHALL DESCRIBE IN DETAIL HOW THE CONSTRUCTION EFFORT WILL BE PHASED WITH REGARDS TO MINIMIZING EROSION PROBLEMS BY THE USE OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES, FOR THE VARIOUS SEQUENCES OF CONSTRUCTION OPERATIONS. ANY MODIFICATIONS MUST BE APPROVED BY THE TOWN OF CUTLER BAY - NPDES SECTION, DEPARTMENT OF PUBLIC WORKS.
3. ENVIRONMENTAL CONTROL FEATURES AS PROVIDED IN THE SWPPP, ARE TO BE INSTALLED AT ALL AREAS OF EXCAVATION OR FILL FOR DRAINAGE SYSTEM, OR STRUCTURE CONSTRUCTION PRIOR TO SUCH EXCAVATION OR FILL. INLET ENTRANCES ARE ALSO TO BE PROTECTED FROM SILTATION.
4. ALL ENVIRONMENTAL CONTROL FEATURES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN ACCORDANCE WITH N.P.D.E.S. REQUIREMENTS. THE CONTRACTOR MUST INSURE THAT ALL EROSION CONTROL FEATURES FUNCTION PROPERLY AT ALL TIMES.
5. ALL EROSION AND MATERIAL DEPOSITS MUST BE CONTAINED WITHIN THE PROJECT LIMITS.
6. ANY DAMAGED OR INEFFECTIVE ROCK BAGS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION OF ROCK BAGS INSTALLATION IS AS MENTIONED IN THE SWPPP PLANS. THE PROJECT ENGINEER MAY SPECIFY OTHER AREAS AS NECESSARY.
7. DITCH BOTTOM INLETS SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF EXISTING OUTSIDE INLET TOP SHALL NOT BE HIGHER THAN INLET TOP. ROCK BAGS SHALL BE INSTALLED AROUND INLET TOP. COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH ROCK BAGS TO PREVENT SEDIMENT INTAKE.
8. CURB INLETS ALSO SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL THE PROJECT IS COMPLETE. ALL EXPOSED SLOPED MATERIAL ADJACENT TO INLET, SHALL BE COVERED WITH EROSION CONTROL MATTING WITH OUTER LIMITS PROTECTED BY ROCK BAGS.
9. STOCKPILED MATERIAL SHALL NOT BE LEFT IN EROSION PRONE AREAS UNLESS PROTECTED BY COVER OR ROCK BAGS.
10. INSPECTION OF EROSION CONTROL MEASURES AND CONDITION OF ADJACENT PROPERTIES, SHALL BE PERFORMED DAILY BY THE CONTRACTOR'S REPRESENTATIVE AND THE PROJECT ENGINEER. DEFICIENCIES SHALL BE NOTED AND CORRECTED.
11. ANY OFFSITE SEDIMENT DISCHARGE TO A MUNICIPAL SEPARATE STORM WATER SYSTEM ARISING FROM THE CONTRACTOR'S ACTIVITIES IS NOT ALLOWED.
12. THE USE OF SANITARY SEWERS, FRENCH DRAINS, COVER DITCHES AND/OR ROCK DRAINS FOR THE DISPOSAL OF WASTEWATER IS EXPRESSLY PROHIBITED.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

A. SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION OF CONTROLS:

1. CLEAR & GRUBBING
2. INSTALL GRADUATED STRUCTURES
3. STABILIZATION
4. BASE PREPARATION
5. ASPHALT APPLICATION
6. PLACEMENT OF ROCK BAGS AROUND INLETS
7. PLACEMENT OF ROCK BAGS AROUND MANHOLES
8. APPLICATION OF FRICTION COURSE A.C.
9. INSTALLATION OF STREET SIGNING
10. PAVEMENT MARKING
11. REMOVE ROCK BAGS
12. CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE

B. GENERAL

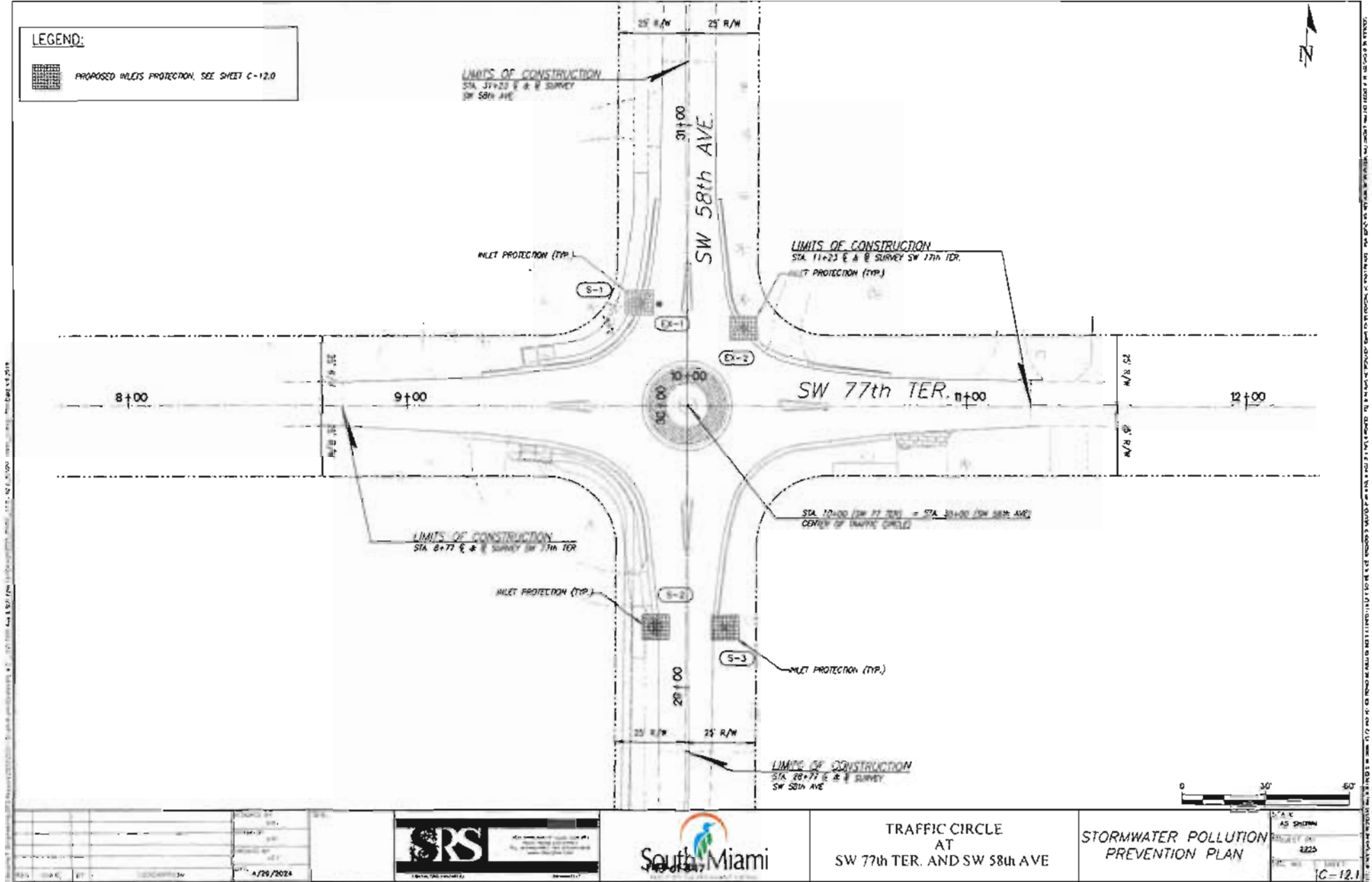
1. APPROVED STATE, LOCAL PLANS OR STORM WATER PERMITS
2. ALL OF THE CONTROLS SHALL BE MAINTAINED AT ALL TIMES.
3. ALL CONTROLS SHALL BE INSPECTED DAILY.
4. APPLY FERTILIZERS AND PESTICIDES ACCORDING TO STANDARD SPECIFICATIONS, DESIGN AND SPECIAL PROVISIONS.
5. REPORT HIGH-STORED WASTEWATER DISCHARGE (INCLUDING SPILL) 305) 410-1200.
6. VISIT WWW.BEP.STATE.FL.US/WATER/STORMWATER/NPDES/

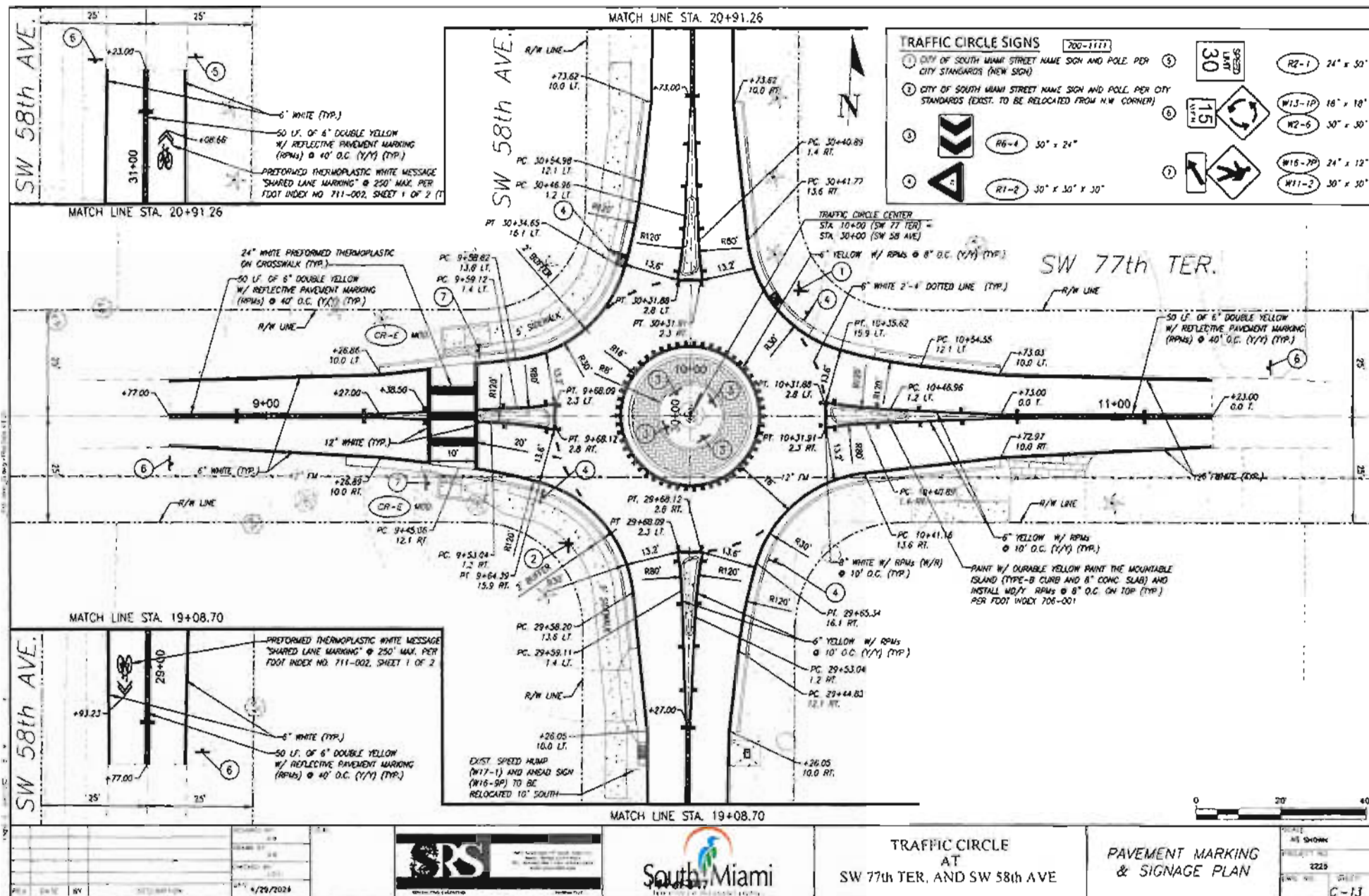


TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE

STORMWATER POLLUTION
PREVENTION
NOTES & DETAILS

AS SHOWN
SHEET NO.
2225
DATE
1C-12.0







TRAFFIC CIRCLES

SW 76TH STREET & SW 61ST AVENUE

AND

SW 77TH TERRACE & SW 58TH AVENUE

SPECIFICATIONS

SPECIFICATIONS

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**DIVISION 100 GENERAL CONSTRUCTION
OPERATIONS****101 MOBILIZATION (REV. 03-12-2013)****A. Description.**

1. 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.
2. 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.

B. Basis of Payment.

1. When No Separate Item for Mobilization is Included in the Contract:
 - a. All work and incidental costs specified as being covered under this Article will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.
2. When a Separate Pay Item for Mobilization is Included in the Contract:
 - a. 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, after an executed Notice to Proceed has been issued, by partial payments made in accordance with the following:
 - 1) For contracts of 120 contract days duration or less, partial payment will be made at 50% of the bid price per month for the first two months. For contracts in excess of 120 contract days duration, partial payment will be made at 25% of the bid price per month for the first four months. In no event shall more than 50% of the bid price be paid prior to commencing construction on the project site
 - 2) Total partial payments for Mobilization on any project, including when more than one project or job is included in the Contract, will be limited to 10% of the original Contract amount for that project. Any remaining amount will be paid upon completion of all work on the Contract.
 - 3) Retainage, as specified in the Contract Documents, will be applied to all partial payments.
 - 4) Partial payments made on this Subarticle will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

3. Basis of Payment:

- a. <<No separate item for Mobilization will be provided under this contract.>>
- b. Payment will be made under:

Item #	Description	Unit
101-1	Mobilization	Lump sum

102 MAINTENANCE OF TRAFFIC (REV. 12-15-2015)**A. Description.****1. General:**

- a. Maintain, for the duration of the construction period including any temporary suspensions of the Work, all traffic including pedestrian traffic within the limits of the Project starting the day work begins on the Project or the first day Contract time is charged, or on the day work begins on the work order, whichever is earlier
- b. Construct and maintain detours.
- c. Provide facilities for access to residences, businesses, etc., along the Project
- d. Furnish, install and maintain traffic control and safety devices during construction in accordance with FDOT Index 600 Series of the FDOT Design Standards, or as directed by Engineer. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone. Provide pickup, removal and disposal of litter and mow turf or vegetation within the MOT limits as required by Article 107.
- e. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas.
- f. Provide any other special requirements for safe and expeditious movement of traffic specified in the Plans or directed by Engineer.
2. Unless otherwise directed by Engineer or required by the Contract Documents, do not maintain traffic over those portions of the Project where no work is to be accomplished or where construction operations will not affect existing roads including sidewalks.
3. Do not obstruct or create a hazard to any traffic during the performance of the Work, and repair any damage to existing pavement open to traffic.
4. Traffic may be detoured only upon approval by the County Engineer. Contractor must submit for review and approval an updated MOT plan prior to closure of any roads.
5. The Department may temporarily suspend all activities, except traffic, erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions.
6. Due to traffic congestion, work hours other than normal established hours may be required by the Engineer. In the case of extreme traffic or weather conditions, Contractor may be required to remove their operation from the roadway and/or right of way, at the discretion of

the Engineer or the Traffic Control Officer at no additional compensation.

B. Materials.

1. Meet the following requirements:

Bituminous Adhesive	FDOT Section 970
Temporary Retroreflective Pavement Markers	FDOT Section 990
Paint	FDOT Section 971
Removable Tape	FDOT Section 990
Glass Spheres	FDOT Section 971
Temporary Traffic Control Device Materials	FDOT Section 990
Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices	FDOT Section 994

2. Temporary Traffic Control Devices: Use only the materials meeting the requirements of FDOT Section 990, FDOT Section 994, FDOT Design Standards and the Manual on Uniform Traffic Control Devices (MUTCD).
3. Detour: Provide all materials for the construction and maintenance of all detours.
4. Commercial Materials for Driveway Maintenance: Provide materials of the type typically used by FDOT for roadway base construction, including reclaimed asphalt pavement material, and having stability and drainage properties that will provide a firm surface under wet conditions.

C. Worksite Traffic Supervisor.

1. Provide a worksite traffic supervisor meeting the requirements of Article 105. Provide the worksite traffic supervisor with all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations.
2. Ensure that the worksite traffic supervisor performs the following duties:
 - a. On site direction of all traffic control on the Project.
 - b. Is on site during all MOT set up and take down, and performs a drive through inspection immediately after set up.
 - c. Is on site during all nighttime operations to ensure proper MOT.
 - d. Immediately corrects all safety deficiencies and does not permit minor deficiencies that are not immediate safety hazards to remain uncorrected for more than 24 hours.
 - e. Is available on a 24 hour per day basis and present within 45 minutes after notification of an emergency situation and is prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.
 - f. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime

work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations. Advise Engineer and the Project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as is deemed necessary.

3. The Department may disqualify and remove from the Project a worksite traffic supervisor who fails to comply with the provisions of this Article.

D. Submittals

1. Traffic Control Plan

- a. Submit at Contractor's own expense a Traffic Control Plan (TCP) for approval by the County. Sequence the Work in a manner that will minimize disruption of vehicular and pedestrian access through and around the Project's construction area(s).
- b. The TCP must detail procedures and protective measures proposed by Contractor to provide for protection and control of traffic affected by the Work consistent with the following applicable standards:
 - 1) The Contract Documents;
 - 2) "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and subsequent revisions and addendums, as published by the U.S. Department of Transportation, Federal Highway Administration;
 - 3) The 600 Series indices of the FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System; and
 - 4) The Miami-Dade County Public Works Manual.
- c. All references to the respective agencies in the above referenced standards shall be construed to also include more stringent requirements of the jurisdictional municipality as applicable for this Work.
- d. The TCP must be signed and sealed by a Professional Engineer registered in the state of Florida and shall include proposed locations and time durations of the following, as applicable:
 - 1) Pedestrian and public vehicular traffic routing.
 - 2) Lane and sidewalk closures, other traffic blockage and lane restrictions and reductions anticipated to be caused by construction operations. Show and describe the proposed location, dates, hours and duration of closure, vehicular and pedestrian traffic routing and management, traffic control devices for implementing pedestrian and vehicular movement around the closures, and details of barricades.
 - 3) Location, type and method of shoring to provide lateral support to the side of an excavation or embankment parallel to an open travel-way.
 - 4) Allowable on-street parking within the immediate vicinity of worksite.

- 5) Access to buildings immediately adjacent to worksite.
 - 6) Driveways blocked by construction operations.
 - 7) Temporary traffic control devices, temporary pavement striping and marking of streets and sidewalks affected by construction
 - 8) Temporary commercial and industrial loading and unloading zones.
 - 9) Construction vehicle reroutes, travel times, staging locations, and number and size of vehicles involved.
- e. Obtain and submit prior to erection, or otherwise impacting traffic, all required permits from all authorities having jurisdiction, including the Department, if applicable.
2. Alternative Traffic Control Plan.
- a. Where a TCP is provided by the County with the Contract Documents, Contractor may still propose an alternative TCP to the plan presented in the Contract Documents. Prepare the TCP in conformance with the requirements stipulated in this Specification and in the form outlined in the current version of FDOT's Plans Preparation Manual. Indicate in the plan a TCP for each phase of activities. Have Contractor's Engineer of Record sign and seal the alternative plan. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by Contractor, and notify the Department in writing of any such potential impacts to utilities.
 - b. Engineer's approval of the alternate TCP does not relieve Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, Design Plans (including TCPs) or other Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.
 - c. The Department reserves the right to reject any alternative TCP. Obtain Engineer's written approval before beginning work using an alternate TCP. Engineer's written approval is required for all modifications to the TCP. Engineer will only allow changes to the TCP in an emergency without the proper documentation.
3. Comprehensive Weekly Report:
- a. Submit to Engineer a comprehensive weekly report of the daily inspections performed and detailing the condition of all traffic control devices (including pavement markings) being used.
 - b. Include assurances in the report that pedestrians are accommodated with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities, that existing or detoured bicyclist paths are being maintained satisfactorily throughout the Project limits, and that existing businesses in work areas are being provided with adequate entrances for vehicular and pedestrian traffic during business hours.
- c. When deficiencies are found, the worksite traffic supervisor is to note such deficiencies and include the proposed or implemented corrective actions, including the date corrected.
- d. Have the worksite traffic supervisor sign the report and certify that all of the above issues are being handled in accordance with the Contract Documents.
- E. Traffic Control.
1. Standards: FDOT Design Standards are the minimum standards for the use in the development of all TCPs. The MUTCD, Part VI is the minimum national standard for traffic control for highway construction, maintenance, and utility operations. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers which are necessary to protect the public and workers from hazards within the Project limits.
 2. Maintenance of Roadway Surfaces:
 - a. Maintain all lanes that are being used for the MOT, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.
 3. Number of Traffic Lanes:
 - a. Maintain one lane of traffic in each direction.
 - b. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion.
 - c. Construct each lane used for MOT at least as wide as the traffic lanes existing in the area before commencement of construction.
 - d. Do not allow traffic control and warning devices to encroach on lanes used for MOT.
 - e. Engineer may allow Contractor to restrict traffic to one-way operation for short periods of time provided that Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicles, or use traffic signals.
 4. Crossings and Intersections:
 - a. Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any road or street crossing the Project unless approved by Engineer. Before beginning any construction, provide Engineer the names and phone numbers of persons that can be contacted when signal operation malfunctions.

5. Access for Residences and Businesses: Provide continuous access to all residences and all places of business.

6. Protection of the Work from Injury by Traffic: Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.

7. Flagger: Provide trained flaggers in accordance with Article 105.

8. Conflicting Pavement Markings:

- a. Where the lane use or where normal vehicle or pedestrian paths are altered during construction, remove all pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that will conflict with the adjusted vehicle or pedestrian paths. Use of paint to cover conflicting pavement markings is prohibited. Remove conflicting pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions.
- b. Remove all pavement markings that will be in conflict with "next phase of operation" vehicle pedestrian paths as described above, before opening to vehicle traffic or use by pedestrians.
- c. Cost for removing conflicting pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) to be included in the Project costs for Maintenance of Traffic (General).

9. Vehicle and Equipment Visibility:

- a. Equip all pickups and automobiles used on the Project with a minimum of one Class 2 amber or white warning light that meets the Society of Automotive Engineers Recommended Practice SAE J595, dated November 1, 2008, or SAE J845, dated December 1, 2007, and incorporated herein by reference. Existing lights that meet SAE J845, dated March, 1992, or SAE J1318, dated April, 1986, may be used to its end of service life. Warning lights shall be a high intensity amber or white rotating, flashing, oscillating or strobe light. Lights should be unobstructed by ancillary vehicle equipment such as ladders, racks or booms. If the light is obstructed, additional lights will be required. The lights shall be operating when a vehicle is in a work area where a potential hazard exists, when operating the vehicle at less than the average speed for the facility while performing work activities, making frequent stops or called for in the Plans or FDOT Design Standards.
- b. Equip all other vehicles and equipment with a minimum of 4 square feet of retroreflective sheeting or flashing lights.
- c. To avoid distraction to motorists, do not operate the lights on the vehicles or equipment when the vehicles are outside the clear zone or behind a barrier.

10. No Waiver of Liability: Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies

described herein in no way acts as a waiver of any terms of the liability of Contractor or his surety.

F. Detours.

1. General: Construct and maintain detour facilities wherever it becomes necessary to divert traffic from any existing roadway or bridge, or wherever construction operations block the flow of traffic.
2. Construction: Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement. Where pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities.
3. Construction Methods: Select and use construction methods and materials that provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.
4. Removal of Detours: Remove detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for the materials on loan from the Department with the stipulation that they are returned.
5. Detours Over Existing Roads and Streets: When the Department specifies that traffic be detoured over roads or streets outside the Project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.
6. Operation of Existing Movable Bridges:
 - a. At the pre-construction meeting, the Engineer and the Contractor will select a date for the County to turn over the bridge maintenance and operations responsibilities. In the event that this date is not discussed, the Contractor will take full responsibility at the NTP date.
 - b. In addition to bridge maintenance responsibilities during the duration of the project, Contractor is responsible for having qualified and sufficient number of bridge operators to be able to operate the bridge in accordance USCG regulations – specifically, Title 33- Navigation and Navigable Waters, Chapter I - U.S. Coast Guard, Department of Homeland Security, Subchapter J-Bridges, Part 117-Drawbridge Operation Regulations, Subpart B--Specific Requirements § 117.5.
 - c. County's bridge operators are scheduled as follows:

1st Shift:	12am to 8am
2nd Shift:	8am to 4pm
3rd Shift:	4pm to 12am
 - d. This allows the bridge to be operational on a 7 days/week, 365 days per year basis.

- e. When removing bridges: Once the bridge is removed Contractor is relieved of this responsibility; however, upon completion of the construction of the new bridge and until the new bridge is officially returned to the County, the contractor is obligated to operate the bridge in accordance with the established USCG regulation.
- f. Make immediate repairs of any damage to such structures caused by use or operations related to the work at no expense to the County, but do not provide routine repairs or maintenance. In the event that use or operations result in damage to a bridge requiring repairs, give such repairs top priority to any equipment, material, or labor available.

G. Traffic Control Officer.

- 1. Provide uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone as required by Engineer and when the following types of work is necessary on projects:
 - a. Directing traffic/overriding the signal in a signalized intersection
 - b. When FDOT Design Standards, Index No. 655 Traffic Pacing for overhead work is called for in the Plans or approved by Engineer.
 - c. When pulling conductor/cable above an open traffic lane on limited access facilities, when called for in the Plans or approved by Engineer.
 - d. When FDOT Design Standards, Index No. 625 Temporary Road Closure 5 Minutes or Less is used.

H. 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.

I. Temporary Traffic Control Devices.

- 1. Installation and Maintenance:
 - a. Install and maintain temporary traffic control devices as detailed in the Plans, Index 600 of the FDOT Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on FDOT's Approved Products List (APL) and the TSSQPL. Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the FDOT APL and the TSSQPL. Immediately remove or

cover any devices that do not apply to existing conditions.

- b. All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) or the Manual for Assessing Safety Hardware 2009 (MASH) and current FHWA directives.
 - c. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida.
 - d. Ensure that the FDOT APL number is permanently marked on the device at a readily visible location. Sheeting used on devices is exempt from this marking requirement.
 - e. Notify Engineer of any scheduled operation which will affect traffic patterns or safety sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of temporary traffic control devices.
 - f. Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep Engineer advised at all times of the identification and means of contacting this employee on a 24 hour basis.
 - g. Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA) "Quality Guidelines for Temporary Traffic Control Devices and Features". Immediately repair, replace or clean damaged, defaced or dirty devices. Traffic control devices shall not be cleaned while installed/used. Use of warning lights on any temporary traffic control device is prohibited.
2. Work Zone Signs:
- a. Furnish, install, maintain, remove and relocate signs in accordance with the Plans and FDOT Design Standards, Index No. 600. Use signs that meet the material and process requirements of FDOT Section 994. Use Type IV sheeting for fluorescent orange work zone signs. Roll-up signs must meet the requirements of Type VI sheeting. Use Type IV or Type XI sheeting for all other work zone signs. Attach the sign to the sign support using hardware meeting the manufacturer's recommendations on the FDOT APL vendor drawings or as specified in the FDOT Design Standards.
 - 1) Post Mounted Signs:
 - a) Meet the requirements of FDOT Section 990-8.
 - 2) Portable Signs:
 - a) Use only approved systems, which includes sign stands and attachment hardware (nuts, bolts, clamps, brackets, braces, etc.), meeting the vendor requirements specified on the FDOT APL drawings.

- b) Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the NCHRP Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."
- 3) Barrier Mounted Signs:
 - a) When post mounting criteria cannot be achieved in accordance with FDOT Design Standards, Index No. 600 and a barrier or traffic railing exists, use temporary sign criteria provided in FDOT Design Standards, Index No. 11871.
3. Business Signs:
 - a. Provide and place signs in accordance with the Plans and FDOT Design Standards, Index No. 600 series. Furnish signs having retroreflective sheeting meeting the requirements of FDOT Section 990.
4. High Intensity Flashing Lights:
 - a. Furnish Type B lights in accordance with the Plans and FDOT Design Standards.
5. Warning/Channelizing Devices:
 - a. Furnish warning/channelizing devices in accordance with the Plans and FDOT Design Standards.
 - b. Retroreflective Collars for Traffic Cones:
 - 1) Use collars for traffic cones listed on the FDOT APL that meets the requirements of FDOT Section 990. Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inch collar a uniform 3-1/2 inches distance from the top of the cone and the lower 4 inch collar a uniform 2 inches distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
 - c. Barrier Wall (Temporary):
 - 1) Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the Plans. Ensure that temporary concrete barrier wall for use on roadway sections, complies with FDOT Design Standards, Index Nos. 412, 415 or 414 as specified in the Plans. Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with FDOT Design Standards, Index No 414 as specified in the Plans.
 - 2) Ensure that temporary water filled barrier wall used on roadway sections meets the NCHRP Report 350 criteria or the MASH and is listed on the FDOT APL. Barriers meeting the requirements of FDOT Design Standards, Index Nos. 412, 415 or temporary water filled barriers on the FDOT APL will not be accepted as an alternate to barriers meeting the requirements of FDOT Design Standards, Index No. 414.
- 3) Trailer mounted barriers listed on the FDOT APL may be used at the option of the Contractor. Trailer mounted barriers listed on the FDOT APL must have an FHWA eligibility letter and be successfully crash tested in accordance with MASH TL-3 criteria. All trailer mounted barriers must be equipped with an FDOT APL listed truck mounted attenuator, an FDOT APL listed vehicle mounted arrow board and vehicle warning lights in accordance with this Article
- 4) Temporary Barrier Wall Meeting the Requirements of Design Standards, Index Nos. 412 and 414:
 - a) Ensure the marking requirements of the respective Index are met.
- 5) Proprietary Precast Temporary Barrier Wall Fabricated prior to 2005:
 - a) Contractor must submit a certification stating that all unmarked barrier wall units meet the requirements of the Specifications and the FDOT Design Standards. Certifications will be project specific and non-transferable
- 6) Proprietary Precast Temporary Barrier Wall Fabricated in 2005 or later:
 - a) Ensure each wall unit has permanent clear markings, showing the manufacture date, serial number, manufacturer's name or symbol, and the FDOT APL number. Label the markings on a plate, plaque, or cast in the unit. Proprietary barrier wall fabricated prior to 2016 and marked with the "INDX 521" in lieu of the FDOT APL number will be permitted.
- 7) Glare Screen (Temporary):
 - a) Use temporary glare screens listed on the FDOT APL that meet the requirements of FDOT Section 990. Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the Plans.
 - b) Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 pounds per foot of glare screen, with a requirement to use a minimum of three fasteners per barrier section.
 - c) When glare screen is utilized on temporary barrier wall, warning lights will not be required.
- 8) Longitudinal Channelizing Devices (LCDs):
 - a) Furnish LCDs in accordance with the Plans and FDOT Design Standards. LCDs are categorized as vehicular or pedestrian and shall be interlocked. For LCDs requiring internal ballasting, an indicator that clearly identifies the proper ballast level will be required.
 - b) Use alternating orange and white pattern for solid color vehicular LCDs. Vehicular LCDs may be substituted for drums, vertical panels, or barricades.

6. Temporary Crash Cushion (Redirective/Galing):

- a. Furnish, install, maintain and subsequently remove temporary crash cushions in accordance with the details and notes shown in the Plans, the FDOT Design Standards, and requirements of the pre-approved alternatives listed on the FDOT APL.
- b. Maintain the crash cushions until their authorized removal. Repair all attachment scars to permanent structures and pavements after crash cushion removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department.
- c. Restore crash cushions damaged by the traveling public within 24 hours after notification as authorized by Engineer.

7. Guardrail (Temporary):

- a. Furnish guardrail (temporary) in accordance with the Plans and Design Standards. Meet the requirements of Article 536.

8. Arrow Board:

- a. Furnish arrow boards that meet the requirements of FDOT Section 990 as required by the Plans and Design Standards to advise approaching traffic of lane closures or shoulder work.
- b. Type B arrow boards may be used on low to intermediate speed (0 mph to 50 mph) facilities or for maintenance or moving operations on any speed facility.
- c. Type C arrow boards shall be used for all other operations on high-speed (50 mph and greater) facilities and may be substituted for Type B arrow boards on any speed facility.

9. Portable Changeable Message Sign (PCMS):

- a. Furnish PCMSs or truck mounted changeable message signs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to supplement other temporary traffic control devices used in work zones.

10. Portable Regulatory Signs (PRS):

- a. Furnish PRSs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards.
- b. Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.

11. Radar Speed Display Unit (RSDU):

- a. Furnish RSDUs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to inform motorists of the posted speed and their actual speed.
- b. Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.

12. Temporary Signalization and Maintenance:

- a. Provide temporary signalization and maintenance at existing, temporary, and new intersections including but not limited to the following:
 - 1) Installation of temporary poles and span wire assemblies as shown in the Plans,
 - 2) Temporary portable traffic signals as shown in the Plans,
 - 3) Adding or shifting signal heads,
 - 4) Trouble calls,
 - 5) Maintaining intersection and coordination timing and preemption devices.
- b. Restore any loss of operation within 12 hours after notification
- c. Provide traffic signal equipment that meets the requirements of Article 603 of FDOT Design Standards. Engineer may approve used signal equipment if it is in acceptable condition. Replacement components for traffic signal cabinet assemblies will be provided by the maintaining agency.

13. Temporary Traffic Detection and Maintenance:

- a. Provide temporary traffic detection and maintenance at existing, temporary, and new signalized intersections. Provide temporary traffic detection equipment listed on the FDOT APL. Restore any loss of detection within 12 hours. Ensure 90% accuracy per signal phase, measured at the initial installation and after any lane shifts, by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect the sample and ground truth data for a minimum of five minutes during a peak and five minutes during an off-peak period with a minimum three detections for each signal phase. Perform the test in the presence of Engineer.

14. Truck Mounted Attenuators and Trailer Mounted Attenuators:

- a. Furnish, install and maintain only those attenuators that meet the requirements of NCHRP 350 or the MASH.
- b. Use truck mounted attenuators or trailer mounted attenuators, when called for in the FDOT Design Standards. Use attenuators listed on the FDOT APL.
- c. When attenuators are called for, use either a truck mounted attenuator or a trailer mounted attenuator system designed and installed in accordance with the manufacturers recommendations.
- d. Equip the attenuator cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.
- e. Install either alternating black with yellow or white with orange sheeting on the rear of trailer mounted attenuators and on truck mounted attenuators, in both the operating and raised position. Use Type III (work zone) or Type IV sheeting consisting of 4 or 6 inch wide stripes installed to form chevrons that point

upward. All sheeting except black shall be retroreflective.

- f. Attenuators will not be paid for separately. Include the cost of the truck with either a truck mounted attenuator or a trailer mounted attenuator under Maintenance of Traffic (General). Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

15. Temporary Raised Rumble Strip Sets:

- a. When called for in the Plans, furnish, install, maintain, remove, and reinstall temporary raised rumble strip sets.
- b. Install the temporary raised rumble strip sets per the manufacturer's recommendations and in accordance with FDOT Design Standards, Index No. 603.
- c. The temporary raised rumble strip may be either a removable polymer striping tape or a molded engineered polymer material.

16. Automated Flagger Assistance Devices (AFAD):

- a. Furnish, install, maintain, remove and relocate AFADs in accordance with the Plans and FDOT Design Standards. Position AFADs where they are clearly visible to oncoming traffic and out of the lane of traffic. The devices may be operated either by a single flagger at one end of the traffic control zone, from a central location, or by a separate flagger near each device's location.
- b. AFADs may be either a remotely controlled Stop/Slow AFAD mounted on either a trailer or a movable cart system, or a remotely controlled Red/Yellow Lens AFAD.
- c. AFADs will not be paid for separately. AFADs may be used as a supplement or an alternate to flaggers in accordance with FDOT Index 603. Include the cost for AFADs in Maintenance of Traffic (General).

17. Temporary Lane Separator:

- a. Furnish, install, maintain, remove and relocate temporary lane separator in accordance with the Plans and FDOT Design Standards, Index No 600.
- b. Anchor the portable temporary lane separator with a removable anchor bolt. Use epoxy on bridge decks where anchoring is not allowed. Remove the epoxy from the bridge deck by hydroblasting or other method approved by Engineer.

J. Work Zone Pavement Marking.

1. Description:

- a. Furnish and install work zone pavement markings for MOT in construction areas and in close conformity with the lines and details shown in the Plans and FDOT Design Standards.
- b. Centerlines, lane lines, edge lines, stop bars and turn arrows will be required in work zones prior to opening the road to traffic.
- c. The most common types of work zone pavement markings are painted pavement markings and

removable tape. Other types of work zone pavement markings may be identified in the Plans.

2. Painted Pavement Markings:

- a. General: Use painted pavement markings meeting the requirements of Article 710 Use standard waterborne paint unless otherwise identified in the Plans or approved by Engineer.

3. Removable Tape:

- a. General: Use removable tape listed on the FDOT APL and meeting the requirements of FDOT 990-4.
- b. Application: Apply removable tape with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and accumulatively measure the length of each line placed within an accuracy tolerance of plus or minus 2%. Ensure removable tape adheres to the road surface. Removable tape may be placed by hand on short sections, 500 feet or less, if it is done in a neat accurate manner.
- c. Retroreflectivity: Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 300 mcd/lx-m² for white and contrast markings and not less than 250 mcd/lx-m² for yellow markings. Black portions of contrast tapes and black masking tapes must be non-reflective and have a reflectance of less than 5 mcd/lx m². At the end of the six month service life, the retroreflectance of white and yellow removable tape shall not be less than 150 mcd/lx-m².
- d. Removability: Provide removable tape capable of being removed from bituminous concrete and portland cement concrete pavement intact or in substantially large strips, either manually or by a mechanical roll-up device, at temperatures above 40°F, without the use of heat, solvents, grinding or blasting.

4. Temporary Retroreflective Pavement Markers (RPM's): Use markers listed on the FDOT APL and meeting the requirements of FDOT 990-5. Apply all markers in accordance with the FDOT Design Standards, Index Nos. 600 and 17352, prior to opening the road to traffic. Replace markers any time after installation when more than three consecutive markers fall or are missing, at no expense to the Department, in a timely manner, as directed by Engineer.

K. Method of Measurement.

1. General:

- a. 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 unit price for the applicable pay item, except those paid for as Maintenance of Traffic (General).
- b. One or more of the following items may appear in a contract in addition to a direct payment item for Maintenance of Traffic (Lump Sum). Unless otherwise stipulated in the Contract Documents, only those items with an Awarded Unit Price will be considered for direct payment.

2. Traffic Control Officers:

- a. The County will reimburse Contractor for the services of uniformed law enforcement officers authorized to serve as traffic control officers for the purpose of controlling or directing traffic in the work zone as part of the County approved Traffic Control Plan and Maintenance of Traffic provided by Contractor pursuant to the Contract Documents.
- b. The quantity to be paid for will be the invoice unit price per hour for the actual number of officers certified to be on the project site, including any law enforcement vehicles and all other direct and indirect costs.
- c. Payment will be made at invoice cost from an appropriate dedicated allowance established by the County.
- d. Payment will be made only for those Traffic Control Officers specified in the Plans and authorized by the Engineer. The necessary invoices and documentation must be submitted to the Engineer along with the payment request.

3. Special Detours:

- a. When a detour facility is specifically detailed in the Plans, or is otherwise described or detailed as a special item, and an item for separate payment is included in the proposal, the work of constructing, maintaining, and subsequently removing such detour facilities will be paid for separately. Traffic control devices, warning devices, barriers, signing, and pavement markings for special detours will also be paid for separately.
- b. When the Plans show more than one detour, each detour will be paid for separately, at the Contract lump sum price for each.
- c. Where a separate item for a specific detour facility is included in the proposal, payment will be made under special detour.

4. Commercial Material for Driveway Maintenance:

- a. The quantity to be paid for will be the certified volume, in cubic yards, of all materials authorized by the Engineer, acceptably placed, compacted and maintained for driveway maintenance. The volume, which is authorized to be reused, and which is acceptably salvaged, placed, compacted and maintained in other designated driveways will be included again for payment.
- b. Arrow Board: The quantity to be paid at the contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the contract time.

5. Work Zone Signs:

- a. The number of temporary post-mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for work zone signs. When multiple signs are located on single or multiple posts, each sign panel will be paid individually. Signs greater than 20 square feet and detailed in the Plans will be paid for under Maintenance of Traffic (General).

- b. Temporary portable signs (excluding mesh signs) and vehicular mounted signs will be included for payment under work zone signs, only if used in accordance with the FDOT Design Standards.
- c. The number of temporary barrier mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for barrier mounted work zone signs.

6. Business Signs:

- a. The number of business signs certified as installed/used on the project will be paid for at the Contract unit price for business signs.

7. High Intensity Flashing Lights:

- a. The number of high intensity flashing lights (Type B) certified as installed/used on the project will be paid for at the Contract unit price for high intensity flashing lights (temporary - Type B).

8. Channelizing Devices:

- a. The number of drums, vertical panels, pedestrian LCDs, and Type I, Type II, Type III, or direction Indicator barricades, certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit prices for channelizing device.
- b. Payment for vehicular LCDs will be paid as the length in feet installed divided by the device spacing for barricades, vertical panels, and drums and certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit price for channelizing device.
- c. Payment will not be made for channelizing devices unsatisfactorily maintained, as determined by the Engineer.
- d. Payment will be made for each channelizing device that is used to delineate trailer mounted devices.
- e. Payment will be made for channelizing devices delineating portable changeable message signs during the period beginning 14 working days before Contract Time begins as authorized by the Engineer.

9. Barrier Wall (Temporary):

- a. The Contract unit price for barrier wall (temporary) will be full compensation for furnishing, installing, maintaining, and removing the barrier wall. When called for, the Contract unit price for barrier wall (temporary/relocate) will be full compensation for relocating the barrier. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.

10. Barrier Delineators:

- a. The number of barrier delineators, installed on top of barrier wall, used on the project, meeting the requirements of FDOT Design Standards and Article 705.

11. Lights, Temporary, Barrier Wall Mount:

- a. The number of Type C steady burn lights, mounted on barrier wall, certified as installed/used on the project, meeting the requirements of the Design Standards and have been properly maintained will be paid for at the Contract unit price for lights temporary, barrier wall mount.

12. Glare Screen (Temporary):

- a. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.

13. Temporary Crash Cushions:

- a. Redirective:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (redirective) certified as installed/used and maintained on the project, including object marker.
- b. Gating:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (gating) certified as installed/used and maintained on the project, including object marker.

14. Temporary Guardrail:

- a. The quantity to be paid for will be the length, in feet, of temporary guardrail constructed and certified as installed/used on the project. The length of a run of guardrail will be determined as a multiple of the nominal panel lengths.

15. Arrow Board:

- a. The quantity to be paid at the Contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the Contract time.

16. Portable Changeable Message Sign:

- a. The quantity to be paid at the Contract unit price will be for the number of portable changeable message signs or truck mounted changeable message signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time.
- b. Payment will be made for each portable changeable message sign that is used during the period beginning fourteen working days before Contract Time begins as authorized by Engineer.

17. Portable Regulatory Signs:

- a. The quantity to be paid for will be the number of portable regulatory signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time, will be paid for the Contract unit price for portable regulatory sign.

18. Radar Speed Display Unit:

- a. The quantity to be paid for will be the number of radar speed display units certified as installed/used on the project on any calendar day or portion thereof within the Contract Time, will be paid for the Contract unit price for radar speed display unit.

19. Temporary Signalization and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day for the full duration of the Contract. For temporary intersections, the quantity to be paid for will be the number of signalized intersections per day for the duration of the temporary intersection. No separate payment will be made for temporary signalization and maintenance at new intersections.

20. Temporary Traffic Detection and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day Contract Time begins and ending the day the permanent detection is operational and the final lane configuration is in place. For temporary and new intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day the temporary detection is functional and ending the day the permanent detection is operational and the final lane configuration is in place for a new intersection; or, when the detection is removed for a temporary intersection.

21. Work Zone Pavement Markings:

- a. The quantities, furnished and installed, to be paid for will be the length of skip and solid pavement markings, and the area of pavement markings placed as follows:
 - 1) The total transverse distance, in feet, of skip pavement marking authorized and acceptably applied. The length of actual applied line will depend on the skip ratio of the material used. Measurement will be the distance from the beginning of the first stripe to the end of the last stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of the Contract Documents.
 - 2) The net length, in feet, of solid pavement marking authorized and acceptably applied.
 - 3) The number of directional arrows or pavement messages authorized and acceptably applied.
 - 4) The number of temporary RPM's authorized and acceptably applied.

22. Temporary Raised Rumble Strips:

- a. The quantity to be paid for will be the number of temporary raised rumble strip sets certified as installed/used on the project on any calendar day or portion thereof within the Contract Time.
- b. The number of strips used must meet the requirements of FDOT Design Standards, Index No. 603. No adjustment will be made to the per day measurement for the number of strips or sets used, or for the number of times the sets are relocated.

23. Temporary Lane Separator:

- a. The quantity of temporary lane separator to be paid for will be plan quantity, in feet, including drainage gaps, completed and accepted.

L. Submittals.

1. Submittal Instructions.

- a. Prepare a certification of quantities for certified MOT payment items for each project in the Contract. Submit the certification of quantities to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.

2. Contractor's Certification of Quantities:

- a. Request payment by submitting a certification of quantities as directed by Engineer, based on the amount of work done or completed. Ensure the certification consists of the following:
- b. Contract Number, Certification Date and the period that the certification represents.
- c. The basis for arriving at the amount of the progress certification, less payments previously made and less an amount previously retained or withheld. The basis will include a detail breakdown provided on the certification of items of payment in accordance with 102-M. After the initial setup of the MOT items and counts, the interval for recording the counts will be made weekly on the certification sheet unless there is a change. This change will be documented on the day of occurrence. Some items may necessitate a daily interval of recording the counts

M. Basis of Payment.

1. Maintenance of Traffic (General):

- a. No Direct Payment Provided: When no item for direct payment of Maintenance of Traffic (Lump Sum) is provided by the Contract, the costs for performing all work and requirements specified under this Article, except as may be specifically covered for payment under other items, will be included among the various scheduled items of the Contract.
- b. Direct Payment Provided: When direct payment for Maintenance of Traffic (Lump Sum) is provided in the Contract, the quantity to be paid all work and costs specified under this Article, except as may be specifically covered for payment under other items, will be the lump sum Contract Price.

2. Additional items of Direct Payment. Only those items with an Awarded Unit Price will be considered for direct payment.

a. Traffic Control Officers:

- 1) Price and payment will be full compensation for the services of the traffic control officers at invoice cost as specified under subarticle 102.K.2 above.

b. Special Detours:

- 1) Price and payment will be full compensation for providing all detour facilities shown in the Plans and all costs incurred in carrying out all requirements of this Article for general MOT within the limits of the detour, as shown in the Plans.

c. Commercial Materials for Driveway Maintenance:

- 1) Price and payment will be full compensation for all work and materials specified for this item, including

specifically all required shaping and maintaining of driveways.

d. Work Zone Signs:

- 1) Price and payment will be full compensation for all work and materials for furnishing signs, supports and necessary hardware, installation, relocating, maintaining and removing signs.

e. Business Signs:

- 1) Price and payment will be full compensation for all materials and labor required for furnishing, installing, relocating, maintaining, and removing the signs as well as the cost of installing any logos provided by business owners.

f. High Intensity Warning Lights:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing high intensity flashing lights (Type B).

g. Channelizing Devices:

- 1) Prices and payment will be full compensation for furnishing, installing, relocating, maintaining and removing the channelizing devices, including the costs associated with attached warning lights as required.

h. Barrier Wall (Temporary):

- 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the barrier. When called for, barrier wall (temporary) (relocate) will be full compensation for relocating the barrier.

i. Lights, Temporary, Barrier Wall Mount:

- 1) Price and payment will be full compensation for all work and materials for furnishing, installing and maintaining the warning lights mounted on barrier wall. Payment will not be made for lights that are improperly placed or are not working.

j. Barrier Delineators:

- 1) No separate payment will be made for barrier delineators installed on top of temporary barrier wall. The cost of furnishing, installing and maintaining the barrier delineators will be included in the cost of the temporary barrier wall.

k. Glare Screen (Temporary).

- 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the glare screen certified as installed/used on the project. When called for, glare screen (relocate) will be full compensation for relocating the glare screen.

l. Temporary Crash Cushion (Redirrective/Gating):

- 1) Price and payment will be full compensation for furnishing, installing, maintaining and subsequently removing such crash cushions. Payment for restoring damaged crash cushions will be the manufacturer's/distributor's invoice price for the

new materials/parts plus 20% markup. The 20% markup is compensation for all necessary work including: but not limited to, labor, equipment, supplies and profit, as authorized by Engineer. Additional MOT required for the repair of the crash cushion will be paid for under the appropriate MOT pay item.

m. Temporary Guardrail:

- 1) Price and payment will be full compensation for furnishing all materials required for a complete installation, including end anchorage assemblies and any end connections to other structures and for installing, maintaining and removing guardrail.

n. Arrow Board:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing arrow boards.

o. Portable Changeable Message Sign:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable changeable message signs.

p. Portable Regulatory Signs:

- 1) Price and payment will be full compensation for furnishing, installing, relocating, maintaining and removing a completely functioning system as described in these Specifications portable regulatory signs. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable regulatory signs.
- 2) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations.

q. Radar Speed Display Unit:

- 1) Price and payment will be made only for a completely functioning system as described in these specifications. Payment will include all labor, hardware, accessories, signs, and incidental items necessary for a complete system.
- 2) Payment will include any measurements needed to insure that the unit conforms to all specification requirements.
- 3) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing radar speed display unit.

r. Temporary Signalization and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic control

signals including all equipment and components necessary to provide an operable traffic signal. Payment will be withheld for each day at each intersection where the temporary signalization is not operational within 12 hours after notification.

s. Temporary Traffic Detection and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic detection including all equipment and components necessary to provide an acceptable signalized intersection. Take ownership of all equipment and components. Payment will be withheld for each day at each intersection where the temporary detection is not operational within 12 hours after notification.

t. Temporary Raised Rumble Strips:

- 1) Price and payment will be full compensation for all work and materials described in this Article, including all cleaning and preparing of surfaces, disposal of all debris, furnishing of all materials, application, curing, removal, reinstalling and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work.

u. Work Zone Pavement Markings:

- 1) Price and payment will be full compensation for all work specified including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
- 2) Removable tape may be substituted for work zone paint at no additional cost to the Department.
- 3) Payment for temporary RPMs used to supplement line markings will be paid for under temporary retroreflective pavement markers. Install these markers as detailed in the Design Standards.

v. Temporary Lane Separator:

- 1) Price and payment will be full compensation for all work specified in this Article.

3. Payment Items: Payment will be made under:

- 1) <<No separate item(s) for Maintenance of Traffic will be provided under this contract.>>

Item No.	Description	Unit
102- 1	Maintenance of Traffic	LS
102- 2-	Special Detour	LS
102- 3A	Commercial Material for Driveway Maintenance	CY
102- 60A	Work Zone Sign	EA/DAY
102- 61-	Business Sign	EA
102-62	Barrier Mounted Work Zone	EA/DAY

	Sign FDOT Index 11871			(Solid)	
102- 71-11A	Temporary Barrier Wall (Concrete) (Furnish & Install)	LF	102-91	Pavement Marking Temporary (Skip) (Any width) (Yellow or White) (Tape or Paint)	LF
102-71-12	Temporary Barrier Wall (Furnish & Install) (Water filled)	LF			
102-71-14	Barrier Wall (Temporary) (F&I) (Type K)	LF	102-91-1	Pavement Marking Temporary (Solid) (Any width) (Yellow or White) (Tape or Paint)	LF
102-71-21	Barrier Wall (Temporary) (Relocate) (Concrete)	LF			
102-71-22	Temporary Barrier Wall (Relocate) (Water filled)	LF			
102-71-24	Barrier Wall (Temporary) (Relocate) (Type K)	LF			
102-73	Temporary Guardrail	LF			
102-74-1	Barricades (Temporary- Type I, II, VP & DRUM) [Channelization Devices]	EA/DAY	110 CLEARING AND GRUBBING (REV. 05-16-11)		
			A. General.		
102-74-2	Barricades (Temporary, Type III, 6')	EA/DAY	1. Perform all Clearing and Grubbing required by the Contract Documents or necessary to prepare the Project site for the proposed construction.		
102-74-6	Channelizing Device- Pedestrian LCD (Longitudinal Channelizing Device)	EA/DAY	2. Remove and dispose of all structures, material, product and debris not required to be salvaged or not required to complete the construction.		
102- 75B	Temporary Lane Separator	LF	3. Trim trees and shrubs within the Project right-of-way that are required by the Contract Documents or necessary for the construction of the Project.		
102- 76	Flashing Arrow Board (Temporary Multimode)	EA/DAY	4. Perform the work and meet all the requirements for the miscellaneous operations described in Subarticle B.6 herein.		
102- 77	High Intensity Flashing Lights (Temporary - Type B)	EA/DAY	5. Protect and do not displace structures which are to remain in place.		
102- 78A	Temporary Retroreflective Pavement Markers	EA			
102- 79-	Lights, Temporary, Barrier Wall Mount	EA/DAY	B. Clearing and Grubbing:		
102- 81-3	Crash Cushion (Gating) (Temporary)	per location	1. Standard Clearing and Grubbing.		
102- 89-	Temporary Impact Attenuator	per location	a. Perform Standard Clearing and Grubbing within:		
102-89-1	Crash Cushion (Redirective) (Temporary)	Per location	1) Right-of-way of the roadway to be constructed.		
102- 94-1	Glare Screen, Temporary, F&I, Wall Material-Concrete	LF	2) All Project areas, whether or not shown in the Plans, that require Clearing and Grubbing including:		
102- 99A	Portable Changeable Message Sign (Temporary)	EA/DAY	a) Areas where excavation is to be done.		
102-104	Temporary Signalization and Maintenance, Intersection	EA/DAY	b) Areas where roadway embankments will be constructed.		
102-107-1	Temporary Traffic Detection and Maintenance, Intersection	EA/DAY	c) Areas where structures will be constructed or installed		
102-150-1	Portable Regulatory Sign	EA/DAY	b. Work includes complete removal and disposal of:		
102-150-2	Radar Speed Display Unit	EA/DAY	1) All buildings, structures, appurtenances, existing pavement, trees, plants, vegetation, timber, brush, stumps, roots, rubbish, debris, and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas.		
102-909-	Temporary Raised Rumble Strips- Per Day, Includes all Sets and Relocations	EA/DAY	2) All other structures and obstructions necessary to be removed and for which other items of the Contract do not specify the removal thereof.		
102-911-1A	Pavement Marking Removable Tape, White-Black, Skip	LF			
102-911-2A	Pavement Marking Removable Tape, White-Black, Solid	LF			
102-912-1	Removable Tape (Yellow) (Skip)	LF			
102-912-2	Removable Tape (Yellow)	LF			

- 3) Any boulders encountered in the roadway excavation or found on the surface of the ground unless otherwise permitted by the Contract Documents
- c. Depths of Removal of Roots, Stumps, and Other Debris:
 - 1) Completely remove and dispose of all stumps found within the roadway right-of-way.
 - 2) Remove roots and other debris from all excavated material to be used in the construction of roadway embankment.
 - 3) In all areas where excavation is to be performed or roadway embankments are to be constructed, plow the surface to a depth of at least 6 inches, and remove roots and other debris to a depth of 12 inches below the ground surface.
 - 4) Remove all roots and other debris protruding through or appearing on the surface of the completed excavation within the roadway area and for structures, to a depth of at least 12 inches below the finished excavation surface.
 - 5) In borrow pits, material pits, and lateral ditches, remove or cut off all stumps, roots, etc. below the surface of the completed excavation. Do not perform any clearing or grubbing within 3 feet inside the right-of-way line in borrow and material pits.
 - 6) Within all other areas where Standard Clearing and Grubbing is to be performed, remove roots and other debris projecting through or appearing on the surface of the original ground to a depth of 12 inches below the surface, but do not plow or harrow these areas.
- d. Trees to Remain:
 - 1) As an exception to the above provisions, where so directed by the Engineer, trim, protect, and leave standing desirable trees within the Project area.
 - 2) Trim branches of trees extending over the area occupied by the roadway as directed, to give a clear height of 16 feet above the roadway.

2. Selective Clearing and Grubbing.

- a. Perform Selective Clearing and Grubbing only in areas so designated in the Plans or where directed by the Engineer.
- b. Completely remove and dispose of stumps and remove and dispose of all vegetation, obstructions, etc., as required for Standard Clearing and Grubbing except that, where so elected, the Contractor may cut roots flush with the ground surface.
- c. Entirely remove undergrowth except in specific areas designated by the Engineer to remain for aesthetic purposes.
- d. Trim, protect, and leave standing desirable trees, with the exception of such trees as the Engineer may designate to be removed in order to facilitate right-of-way maintenance. Remove undesirable or damaged trees as so designated by the Engineer.

3. Removal of Buildings.

- a. Completely remove all parts of the buildings, including utilities, plumbing, foundations, floors, basements, steps, connecting concrete sidewalks or other pavement, septic tanks, and any other appurtenances, by any practical manner which is not detrimental to other property and improvements. Remove utilities to the point of connection to the utility authority's cut-in.
- b. After removing the sewer connections to the point of cut-in, construct a concrete plug at the cut-in point, as directed by the Engineer, except where the utility owners may elect to perform their own plugging. Contact the appropriate utility companies prior to removal of any part of the building to ensure disconnection of services.
- c. Removal by Others: Where buildings within the area to be cleared and grubbed are so specified to be removed by others, remove and dispose of any foundations, curtain walls, concrete floors, basements or other foundation parts which might be left in place after such removal of buildings by others.

4. Removal of Existing Structures.

- a. Structures to be removed include:
 - 1) Structures, or portions of structures, shown in the Plans to be removed;
 - 2) Structures, or portions of structures, found within the areas requiring Clearing and Grubbing, and directed by the Engineer to be removed;
 - 3) Structures, or portion of structures, which are necessary to be removed in order to construct new structures; and
 - 4) All other appurtenances or obstructions which may be designated in the Contract Documents as to be included for removal under this Article.

b. Removal Requirements:

- 1) General:
 - a) Remove and dispose of all materials from existing structures required to be removed.
 - b) Remove the structures in a neat manner so as to leave no obstructions to any proposed new structures, construction, or to any waterways.
 - c) Pull, cut off, or break off pilings to the requirements of the permit or other Contract Documents, whichever requires the deepest removal, but not less than 2 feet below the finish ground line.
 - d) If Plans indicate channel excavation to be done by others, consider the finish ground line as the limits of such excavation.
 - e) For materials which are to remain the property of the Department or are to be salvaged for use in temporary structures, avoid damage to such materials, and entirely remove all bolts, nails, etc. from timbers to be so salvaged.
 - f) Mark structural steel members for identification as directed.

- 2) Removal of Steel Members With Hazardous Coatings:
 - a) Provide to the Engineer for approval, a copy of the "Contractor's Lead In Construction Compliance Program" from the firm actually removing and disposing of these steel members before any members are disturbed.
 - b) Vacuum power tool clean any coated steel member to bare metal as defined by SSPC-SP11 a minimum of 4 inches either side of any area to be heated (torch cutting, sawing, grinding, etc.) in accordance with 29 CFR 1926.354. Abrasive blasting is prohibited.
 - c) Provide air supplied respirators in accordance with 29 CFR 1926.62 and 29 CFR 1910.134.
- c. Partial Removal of Bridges:
 - 1) For all demolition methods, submit for review and approval of the Engineer, a demolition plan that describes the method of removal, equipment to be used, types of rebar splices or couplers, and method of straightening or cutting rebars. In addition, for hydro-demolition, describe the method for control of water or slurry runoff and measures for safe containment of concrete fragments that are thrown out by the hydro-demolition machine.
 - 2) Where concrete is to be removed to neat lines, use concrete saws or hydro-demolition methods capable of providing a reasonably uniform cleavage face. If the equipment used will not provide a uniform cut without surface spalling, first score the outlines of the work with small trenches or grooves.
 - 3) On concrete bridges to be partially removed and widened, remove concrete by manually or mechanically operated pavement breakers, by concrete saws, by chipping hammers, or by hydro-demolition methods. Do not use explosives.
- d. Authority of U.S. Coast Guard: For structures in navigable waters, when constructing the project under authority of a U.S. Coast Guard permit, the U.S. Coast Guard may inspect and approve the work to remove any existing structures involved therein, prior to acceptance by the Department.
- e. Asbestos Containing Materials (ACM) Not Identified Prior to the Work:
 - 1) When encountering or exposing any condition indicating the presence of asbestos, cease operations immediately in the vicinity and notify the Engineer.
 - 2) Make every effort to minimize the disturbance of the ACM. Immediately provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Provisions shall meet all applicable laws, rules or regulations covering hazardous conditions and will be in a manner commensurate with the gravity of the conditions.
 - 3) The Engineer will direct the Prime Contractor when operations may resume in the affected area.
5. Removal of Existing Concrete Pavement.
 - a. Remove and dispose of existing rigid portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter etc., where shown in the plans or ordered by the Engineer to be removed or where required because of the construction operations.
 - b. The work under Removal of Existing Concrete Pavement does not include the removal of retaining walls, drainage structures and flexible asphalt pavement.
6. Miscellaneous Operations.
 - a. Water Wells Required to be Plugged:
 - 1) Fill or plug all water wells within the right-of-way, including areas of borrow pits and lateral ditches that are not to remain in service, in accordance with applicable Water Management District rules or the Department of Environmental Protection regulations
 - 2) Cut off the casing of cased wells at least 12 inches below the ground line or 12 inches below the elevation of the finished excavation surface, whichever is lower. Water wells, as referred to herein, are defined either as artesian or non-artesian, as follows:
 - a) An artesian well is an artificial hole in the ground from which water supplies may be obtained and which penetrates any water-bearing rock, the water in which is raised to the surface by natural flow or which rises to an elevation above the top of the water-bearing bed. Artesian wells are further defined to include all holes drilled as a source of water that penetrate any water-bearing beds that are a part of the artesian water system of Florida, as determined by representatives of the applicable Water Management District.
 - b) A non-artesian (water-table) well is a well in which the source of water is an unconfined aquifer. The water in a non-artesian well does not rise above the source bed.
 - b. Landscape Areas: When certain areas of the right-of-way, outside of the limits of construction, are shown in the plans or designated by the Engineer to be landscaped, either under the construction Contract or at a later time, remove undesirable trees, stumps, undergrowth, and vegetation, as directed, and preserve and trim natural growth and trees as directed by the Engineer.
 - c. Leveling Terrain: Within the areas between the limits of construction and the outer limits of clearing and grubbing, fill all holes and other depressions, and cut down all mounds and ridges. Make the area of a sufficient uniform contour so that the Department's subsequent mowing and cutting operations are not hindered by irregularity of terrain. Perform this work regardless of whether the irregularities were the result of construction operations or existed originally.
 - d. Mailboxes: When the Contract Documents require furnishing and installing mailboxes, permit each owner to remove the existing mailbox. Work with the Local

Postmaster to develop a method of temporary mail service for the period between removal and installation of the new mailboxes. Install the mailboxes in accordance with the Design Standards.

C. Ownership of Materials.

1. Except as may be otherwise specified in the Contract Documents, the Contractor shall take ownership of all buildings, structures, appurtenances, and other materials removed by him and shall dispose of them in accordance with subarticle D below.

D Disposal of Materials.

1. General:

- a. Dispose of all debris, timber, stumps, brush, roots, rubbish, and other waste material resulting from clearing and grubbing in areas and by methods meeting the applicable requirements of all Local, State and Federal regulations.

2. Disposal of Treated Wood:

- a. Treated wood, including that which comes from bridge channel fender systems, must be handled and disposed of properly during removal.
- b. Treated wood should not be cut or otherwise mechanically altered in a manner that would generate dust or particles without proper respiratory and dermal protection.
- c. Treated wood must be disposed of in at least a lined solid waste facility or through recycling/reuse.
- d. Treated wood shall not be disposed by burning or placement in a construction and demolition (C&D) debris landfill.
- e. All compensation for the cost of removal and disposal of treated wood will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

3. Hazardous Materials/Waste:

a. General:

- 1) Handle, transport and dispose of hazardous materials in accordance with all Local, State and Federal requirements including the following:
 - a) SSPC Guide 7
 - b) Federal Water Pollution Control Act, and
 - c) Resource Conservation and Recovery Act (RCRA).
- 2) Accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer and required

agencies for all hazardous materials/waste stabilization methods before implementation.

- 3) Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste.
- 4) List the Department as the generator of all hazardous materials/waste.
- 5) Submit the following for the Engineers' approval before transporting, treatment or disposal of any hazardous materials/waste:
 - a) Name, address and qualifications of the transporter,
 - b) Name, address and qualifications of the treatment facility,
 - c) Proposed treatment and/or disposal of all Hazardous Materials/Waste.
- 6) Transport all hazardous materials/waste in accordance with applicable 40 CFR 263 Standards. Provide a copy of all completed Hazardous Materials/Waste manifest/bills of lading to the Engineer within 21 days of each shipment.
- b. Steel Members With Hazardous Coating:
 - 1) Unless otherwise required by the Contract Documents, dispose of steel members with hazardous coating in one of the following manners:
 - a) Deliver the steel members and other hazardous waste to a licensed recycling or treatment facility capable of processing steel members with hazardous coating.
 - b) Deliver any other hazardous materials/waste to a licensed hazardous materials/waste recycling treatment facility.
 - 2) Dismantle and/or cut steel members to meet the required dimensions of the recycling facility, treatment facility or other regulatory agency.
 - 3) All compensation for the cost of removal and disposal of hazardous materials/waste will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.
- c. Certification of Compliance:
 - 1) Furnish two copies of Certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification.
 - 2) The Certification of Compliance shall be attested to by a person having legal authority to bind the company.

- d. Maintain all records required by this Specification and ensure they are available to the Department upon request.

E. Method of Measurement.

1. Clearing and Grubbing.

- a. No Direct Payment Provided: When no item for direct payment of Clearing and Grubbing is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.
- b. Direct Payment Provided: When direct payment for Clearing and Grubbing is provided in the Contract, the quantity to be paid for will be the lump sum quantity.

- 2. One or more of the following items may appear in a contract where no direct payment item for Clearing and Grubbing is provided. Only those items with an Awarded Unit Price will be considered for direct payment. All other work of Clearing and Grubbing is included among the various scheduled items of the Contract.

- a. Removal of Existing Structures: When a separate item for the Removal of Existing Structures is provided for direct payment in the Contract, the quantity to be paid for will be the lump sum quantity or actual quantities for the specific structures removed, as stipulated in the Contract Documents.
- b. Removal of Existing Concrete Pavement: When a separate item for Removal of Existing Concrete Pavement is provided for direct payment in the Contract, the quantity to be paid for will be the number of square yards of existing pavement of the types listed in subarticle B.5 herein, acceptably removed and disposed of, as specified. The quantity will be determined by actual measurement along the surface of the pavement before its removal. Measurements for appurtenances which have irregular surface configurations, such as curb and gutter, steps, and ditch pavement, will be the area as projected to an approximate horizontal plane. Where the removal of pavement areas is necessary only for the construction of box culverts, pipe culverts, storm sewers, french drains, inlets, manholes, etc., these areas will not be included in the measurements.
- c. Removal of Trees: When separate items for the Removal of Trees are provided for direct payment in the Contract, trees that are greater than 6 inches in diameter, will be paid on a per each basis by actual count by the Engineer of such trees under the appropriate item provided in the Contract. The diameter of a tree shall be obtained by measuring its circumference at 4.5 feet above the ground using a flexible tape measure and dividing the circumference by 3.14. If the tree is growing on a slope, the circumference is measured at 4.5 feet from the center of the slope. If the tree begins to branch below 4.5 feet, measure at the smallest circumference below the first branch.
- d. Plugging Water Wells: When a separate item for Plugging of Water Wells is provided for direct payment

in the Contract, the quantity to be paid for will be the number of water wells plugged, for each type of well (artesian or non-artesian)

- e. Mailboxes: When a separate item is provided in the Contract for furnishing and installing mailboxes, the quantity to be paid for will be the number of mailboxes acceptably furnished and installed.
- f. Delivery of Salvageable Material to the Department: When a separate item is provided in the Contract for the delivery of salvageable material to the Department, the quantity to be paid for will be the Lump Sum quantity for delivery of salvageable materials to the Department as indicated in the Plans or as directed by the Engineer

F. Basis of Payment.

1. Clearing and Grubbing:

- a. No Direct Payment Provided: When direct payment for Clearing and Grubbing is not provided in the Contract, the cost of any work of clearing and grubbing necessary for the proper construction of the Project and meeting all requirements of this Article, is included in the Contract price for the structure or other item of work for which such clearing and grubbing is required.
- b. Direct Payment Provided:
 - 1) Price and payment will be full compensation for all clearing and grubbing indicated or required for the construction of the entire Project, including all necessary hauling, furnishing equipment, equipment operation, furnishing any areas required for disposal of debris, leveling of terrain and the landscaping work of trimming, etc., as specified herein, except for any areas designated to be paid for separately or to be specifically included in the costs of other work under the Contract.
 - 2) Unless otherwise provided by the Contract, price and payment will be full compensation for all work required by this Article including Removal of Existing Structures, Removal of Existing Concrete Pavement, Removal of Trees, Plugging of Water Wells, Mailboxes, and Delivery of Salvageable Material to the Department.
 - 3) Where construction easements are specified in the Plans and the limits of clearing and grubbing for such easements are dependent upon the final construction requirements, no adjustment will be made in the lump sum price and payment, either over or under, for variations from the limits of the easement defined on the Plans.
- c. The Contractor shall include the cost of all clearing and grubbing which might be necessary in pits or areas from which base material is obtained in the Contract price for the base in which such material is used.
- d. The clearing and grubbing of areas for obtaining stabilizing materials, where required only for the purpose of obtaining materials for stabilizing, will not be paid for separately.

2. Removal of Existing Structures:

- a. Price and payment will be full compensation for all work of removal and disposal of the designated structures.
- b. When direct payment for the removal of existing structures is not provided in the Contract, the cost of removing all structures is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included, in the compensation for the other items covering the new structure being constructed.

3. Removal of Existing Concrete Pavement:

- a. Price and payment will be full compensation for performing and completing all the work of removal and satisfactory disposal including any saw cutting required.
- b. When direct payment for the removal of existing concrete pavement is not provided in the Contract and no applicable item of excavation or embankment covering such work is included in the Contract, the Contractor shall include the costs of this work in the Contract price for the item of Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in any work, pipe or other structure for which the concrete pavement removal is required.

4. Removal of Trees:

- a. Price and payment will be full compensation for complete removal and disposal of each tree counted by the Engineer pursuant to these specifications.
- b. When direct payment for the removal of trees is not provided in the Contract, the cost of removing all trees is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

5. Plugging Water Wells:

- a. Price and payment will be full compensation for each type of well acceptably plugged.
- b. When direct payment for plugging water wells is not provided in the Contract, the cost plugging water wells is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

6. Mailboxes:

- a. Price and payment will be full compensation for all work and materials required, including supports and numbers.
- b. When direct payment for mailboxes is not provided in the Contract, the cost for all work and materials required, including supports and numbers, is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

7. Delivery of Salvageable Material to the Department:

- a. Price and payment will be full compensation for all work required for delivery of the materials to the Department.

- b. When the Contract does not provide direct payment for the Delivery of Salvageable Material that is to be delivered to the County, the cost of Delivery of Salvageable Material is Included in the Contract price for Clearing and Grubbing or, where no item for Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

8. Payment Items: Payment will be made under:

- a. <<No separate item(s) for Clearing and Grubbing will be provided under this contract.>>

Item No	Description	Unit
110- 1-1B	Clearing and Grubbing	LS
110- 3	Removal of Existing Structures	LS
110- 4-	Removal of Existing Pavement	SY
110- 5A	Plugging Water Wells (Artesian)	EA
110- 6A	Plugging Water Wells (Non-Artesian)	EA
110- 7A	Mailbox (Furnish and Install)	EA
110-7-1	Relocation of Existing Mail Box	EA
110-7-1A	Install New Mail Box	EA

120 EARTHWORK AND RELATED OPERATIONS

A. Description.

1. General:

- a. Earthwork and Related Operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes
- b. Perform Earthwork and Related Operations based on the type of work specified in the Contract Documents.
- c. Meet the applicable requirements for materials, equipment and construction as specified in the Contract Documents.

B. Classes of Excavation.

1. Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.
2. Lateral Ditch Excavation: Lateral Ditch Excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way.

3. Channel Excavation: Channel Excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the Plans
4. Excavation for Structures and Pipe: Excavation for Structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

C. Excavation Requirements.

1. Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the Plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of ± 0.2 foot in depth and ± 6 inches (each side) in width.
2. Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the Plans.
3. Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the Plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.
4. Excavation for Structures and Pipe.
 - a. General: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the Plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.
 - b. Earth Excavation:
 - 1) Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require

excavation to a greater depth and to backfill to grade with approved material.

- 2) Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.
- 3) Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.
- c. Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrat the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.
- d. Pipe Trench Excavation:
 - 1) Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified herein for suitable backfill material for backfilling around pipe to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.
 - 2) For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

D. Disposal of Surplus and Unsuitable Material.

1. Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the Plans or, if the Plans do not indicate the method of disposal, take ownership of the materials and dispose of them in an authorized and lawful manner.
2. Disposal of Muck on Side Slopes: As an exception to the provisions herein for Ownership of Excavated Materials, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The

Engineer will determine the limits adjacent to channels within which such materials may be disposed.

3. Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

4. Disposal Areas:

- a. Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

E. Materials for Embankment.

1. General Requirements for Embankment Materials:

- a. Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.
- b. Construct the embankment using maximum particle sizes (in any dimension) as follows:
 - 1) In top 12 inches: 3 1/2 inches (in any dimension).
 - 2) 12 to 24 inches: 6 inches (in any dimension).
 - 3) In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.
- c. Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with the requirements herein for Compaction of Embankments.
- d. When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.

2. Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

3. Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly

construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until authorized by the Engineer, and then only use material from approved borrow pits.

a. Haul Routes for Borrow Pits:

- 1) Provide and maintain, at no expense to the County, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.
- 2) Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

- b. Borrow Material for Shoulder Build-up: When so indicated in the Plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

4. Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

F. Embankment Construction

1. General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

2. Dry Fill Method:

a. General:

- 1) Construct embankments to meet the requirements of subarticle G (Compaction Requirements) and in accordance with the Acceptance Program requirements herein. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.
- 2) As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.
- 3) Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.
 - a) For A-3 and A-2-4 Materials with up to 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.
 - b) For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct

the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

- c) Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.
 - 4) When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with the requirements herein for Compaction Where Plastic Material Has Been Removed.
 - b. Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions herein for Compaction Where Plastic Material Has Been Removed and for Compaction of Grassed Shoulder Areas.
 - c. Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.
 - d. Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.
3. Hydraulic Method:
- a. Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is rehandled, or moved and placed in its final position by any other method, as specified herein for Compaction of Embankments. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the Plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.
 - b. Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.
 - c. Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.
- G. Compaction Requirements.
1. Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.
 2. Compaction of Embankments:
 - a. Density requirements for earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities; and for earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement:
 - 1) Reduce the minimum required density from 100% to 95% of AASHTO T99 Method C for all earthwork items requiring densities.
 - b. Density Requirements for earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement:
 - 1) Except for embankments constructed by the hydraulic method as specified herein, and for the material placed outside the standard minimum slope as specified herein for Placing Outside Standard Minimum Slope, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to a density of at least 100% of the maximum density as required by AASHTO T 99, Method C.
 - 2) Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.
 - c. Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided herein under the requirements for Placing in Unstable Areas), compact the top 6 inches

(compacted thickness) of such layer to the density as specified in the Acceptance Criteria herein.

- d. **Compaction Where Plastic Material Has Been Removed:** Where unsuitable material is removed and the remaining surface is of the A 4, A 5, A 6, or A 7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.
- e. **Compaction of Material to Be Used In Base, Pavement, or Stabilized Areas:** Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.
- f. **Compaction of Grassed Shoulder Areas:** For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.
- g. **Compaction of Grassed Embankment Areas:** For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.

3. Compaction of Subgrade:

- a. If the Plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in the Acceptance Criteria herein. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.
- b. Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.
- c. Maintain the required density until the base or pavement is placed on the subgrade.

H. Backfilling Around Structures and Pipe.

1. Backfill Materials:

- a. Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.
- b. Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.

- c. **Use of A-7 Material:** In the backfilling of trenches, A 7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A 7 material.
- d. **Time of Placing Backfill:** Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28 day compressive strength occurs.
- e. **Placement and Compaction:**

- 1) Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. When the backfill material is deposited in water, compact per the requirements herein for Compaction Under Wet Conditions and Backfill Under Wet Conditions.

- 2) The Contractor may elect to place material in thicker lifts of no more than 12 inches compacted thickness outside the soil envelope if he can demonstrate with a successful test section that density can be achieved. Notify the Engineer prior to beginning construction of a test section. Construct a test section of 500 feet in length. Perform five tests at random locations within the test section. All five tests must meet the density required by the Compaction of Embankments specified herein. Identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. When a test fails the Compaction Requirements specified herein, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time.

2. Additional Requirements for Structures Other than Pipe.

- a. **Density:** Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before verifying the layer and density requirements. Meet the requirements of the density Acceptance Criteria.
- b. **Box Culverts:** For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.
- c. **Other Limited Areas:** Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

- d. Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.
 - e. Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A 3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.
3. Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:
- a. General: Trenches for pipe may have up to four zones that must be backfilled.
 - 1) Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.
 - 2) Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.
 - 3) Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.
 - 4) Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.
 - b. Material:
 - 1) Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.
 - 2) Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A 1, A 2, or A 3. Material classified as A-4 may be used if the pipe is concrete pipe.
 - 3) Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.
 - c. Compaction:
 - 1) Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.
 - 2) Bedding Zone:
 - a) If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.
 - b) If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).
 - 3) Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.
 - 4) Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.
 - 5) Backfill Under Wet Conditions:
 - a) Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.
 - b) Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A 3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that its moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.
1. Acceptance Program.
1. Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, test an additional sample for acceptance in accordance with AASHTO T 99, Method C.
 2. Maximum Density Determination: Determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed below for Density Testing Requirements.
 3. Density Testing Requirements: Ensure compliance, with the requirements of the Acceptance Criteria herein, by Nuclear Density testing in accordance with FDOT Florida Method FM 1 T 238. Determine the in-place moisture content for each density test. Use Florida

Method FM 1 T 238, FM 5 507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.

4. Soil Classification: Perform soil classification tests in accordance with AASHTO T 88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements
5. Acceptance Criteria: Obtain a minimum density in accordance with the requirements herein for Compaction of Embankments with the following exceptions:
 - a. Embankment constructed by the Hydraulic Method as specified herein;
 - b. Material placed outside the standard minimum slope as specified in the requirements herein for Placing Outside Standard Minimum Slope;
 - c. Other areas specifically excluded herein
6. Frequency: Conduct sampling and testing at a minimum frequency listed in the table below

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

J. Maintenance and Protection of Work.

1. While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.
2. Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the Plans, until final acceptance of the Project.

K. Construction.

1. Construction Tolerances:

- a. Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the Plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:
 - 1) Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
 - 2) Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.

3) Shape the bottom of ditches so that the ditch impounds no water.

4) When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

- b. Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the Plans.

2. Operations Adjacent to Pavement:

- a. Carefully dress areas adjacent to pavement areas to avoid damage to such pavement.
- b. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface
- c. When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic

L. Method of Measurement

1. Excavation: Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation and disposal of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the Plans or authorized by the Engineer. Shrinkage or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

2. Embankment:

- a. Will be paid for in cubic yards, as accepted by Engineer, calculated by the method of average end areas, unless Engineer determines that another method of calculation will provide a more accurate result. Embankment will be measured in its final position by field survey or by photogrammetric means as designated by Engineer.
- b. The measurement will include only material actually placed and compacted above the original ground line, within the lines and grades indicated in the Plans or directed by the Engineer. The length used in the computations will be the station-to-station length actually constructed. The original ground line used in the computations will be as determined prior to placing of embankment and no allowance will be made for subsidence of material below the surface of the original ground.
- c. Deduct any quantity beyond the limits shown in the Plans or authorized by Engineer. No payment will be made for additional material required to obtain compaction, material placed by Contractor outside the limits of the typical cross section, or material placed to correct for settlement of the embankment. Shrinkage

or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

120-5	Channel Excavation	CY
120-6	Embankment	CY

M. Basis of Payment.

1. When No Direct Payment is Provided:

- a. When no item for Excavation or Embankment is included in the list of Contract Unit Prices, the cost of any excavation or embankment necessary for the proper construction of the Project is included in the Contract Prices for the work requiring excavation or embankment.
- b. Where the Work includes structures including pipe culvert and french drain, all earthwork costs for the installation of these items are included in their associated Contract Price.

2. When Direct Payment for Excavation or Embankment is Provided in the Contract:

- a. Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

b. Excavation:

- 1) The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation.
- 2) No payment will be made for the excavation of any materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

c. Embankment:

- 1) The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment.
- 2) No payment will be made for materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials placed outside the lines and grades given by the Engineer.

3. Payment will be made under:

- a. <<No separate item(s) for Earthwork and Related Operations will be provided under this contract.>>

Item No.	Description	Unit
120-1	Regular Excavation	CY
120-2A	Borrow Excavation	CY
120-3	Lateral Ditch Excavation	CY
120-4	Subsoil Excavation	CY

160 TYPE "B" STABILIZATION (SECTION 160)

A. Page 188, Section 160 - Stabilizing:

1. Delete the words "bearing value" or "Limerock Bearing Ratio Method" where they occur throughout this section and substitute the words "California Bearing Ratio."
2. Delete all contrary references to density requirements and substitute with the following:
 - a. Compaction - The density requirements for all embankment and subgrade involved in this Section shall be a minimum ninety five (95) percent for non-roadway areas and ninety eight (98) percent for roadway areas, of maximum density as determined by AASHTO T-180.
3. Delete all mention of Bearing Value requirements entirely and substitute with the following:
 - a. California Bearing Ratio Requirements: Suitability of the soil to be compacted shall be determined by the California Bearing Ratio Test as outlined in ASTM D 1883-87. Tests shall be made on each separate course, generally before the materials have been compacted. Any areas where the materials have a C.B.R. value of less than thirty (30) at ninety five (95) percent of the maximum density as determined by AASHTO T-180 shall be stabilized (or further stabilized) as specified herein.

B. Page 189, Subarticle 160-4.1- Commercial and Local Materials – Add the following:

1. Except that the limerock used for stabilization shall have a minimum of at least fifty (50) percent carbonates of calcium and magnesium.

C. Page 192, Subarticle 160-7.2.1.2- Undertolerances In...; is deleted in its entirety and replaced with the following:

1. There shall be no undertolerances in the C.B.R. permitted.

D. Page 195, Article 160-9- Basis of Payment; Is deleted in its entirety and replaced with the following:

1. Payment for stabilizing including all labor and materials shall be made at the Contract Unit Price Bid as indicated in the Bid Form of the Proposal.
2. Such price and payments shall constitute full compensation for all work specified in this Section for Type "B" Stabilization, including furnishing, spreading

and mixing of all stabilizing material required and any reprocessing of stabilization areas necessary to attain the specified bearing value.

DIVISION 200 BASE COURSE

285 LIMEROCK BASE (REV. 08-23-12)

A. Description.

- 1 Construct a base composed of limerock material. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications.

B. Materials.

1. Limerock base:
 - a. Meet the requirements of FDOT Section 911.
 - b. Produced and obtained from an FDOT approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
2. More than one source of base rock on a single Contract may be used provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base.
3. Intermittent placement or "Blending" of sources is not permitted.
4. Do not use any of the existing base that is removed to construct the new base.
5. Limerock is referred to hereinafter as "rock".

C. 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.

D. 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.

E. 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.

3. Approval requirements for thicker lifts.

- a. If, through field tests, Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness. Engineer will base approval on results of a test section constructed using Contractor's specified compaction effort as follows:

- 1) Notify Engineer prior to beginning construction of a test section.
- 2) Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by the Acceptance Criteria in this Article.
- 3) Identify the test section with the compaction effort and thickness in the Logbook. Remove the materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section.
- 4) Maintain the exposed surface as close to "undisturbed" as possible, no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. Contractor may elect to place material in 6 inches compacted thickness at any time.
- 5) Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.
- 6) Engineer may terminate the use of thick lift construction and instruct Contractor to revert to the 6 inches maximum lift thickness if Contractor fails to achieve satisfactory results or meet applicable specifications.

4. Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent

pavement. Immediately sweep off any rock material that is deposited on the surface course.

F. Compacting and Finishing Base.

1. General:

- a. Perform 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. Perform 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 rescarifying, reshaping, adding base material where necessary, and recompacting.

7. Compaction of Widening Strips:

- a. Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.
- b. When multiple course base construction is required, compact each course prior to spreading material for the overlaying course

G. Acceptance Criteria:

1. Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D. For shoulder only areas and bike/shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T 180, Method D.
2. Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. Engineer will perform Verification sampling and tests at a minimum frequency listed in the tables below.

Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Shoulder-Only, Bike/Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 600 consecutive feet	Witness

3. Initial Equipment Comparison:

- a. Before initial production, perform a comparison test using the Quality Control, Verifications and Independent Assurance gauges. Unless Engineer instructs, do not perform the initial equipment comparison more than once per project. When comparing the computed dry density of one nuclear gauge to a second gauge, ensure that the difference

between the two computed dry densities does not exceed 2 lb/ft³ between gauges from the same manufacturer, and 3 lb/ft³ between gauges from different manufacturers. Repair or replace any Quality Control gauge that does not compare favorably with the Independent Assurance gauge.

- b. Perform a comparison analysis between the Quality Control nuclear gauge and the Verification nuclear gauge any time a nuclear gauge or repaired nuclear gauge is first brought to the project. Repair and replace any Quality Control gauge that does not compare favorably with the Verification gauge at any time during the remainder of the project. Calibrate all Quality Control gauges annually.
4. Initial Production Lot:
- a. Before construction of any other LOT, prepare a 500-foot initial control section consisting of one full LOT in accordance with the approved Quality Control Plan for the Project.
 - b. Notify Engineer at least 24 hours prior to production of the initial control section. Perform all QC tests required herein below. When the initial Quality Control test results pass specifications, Engineer will perform a Verification test to verify compliance with the specifications.
 - c. Do not begin constructing another LOT until successfully completing the initial production LOT. Engineer will notify Contractor of the initial production lot approval within three working days after receiving Contractor's Quality Control data when test results meet the following conditions:
 - 1) Quality Control tests must meet the specifications.
 - 2) Verification test must meet the specifications.
 - 3) Difference between Quality Control and Verification computed Dry Density results shall meet the requirements provided above for Initial Equipment Comparison.
 - 4) If Verification test result fails the density requirements of the Acceptance Criteria, correct the areas of non-compliance. The Quality Control and Verification tests will then be repeated. Engineer will reject Contractor's Quality Control Plan after three unsuccessful Verification attempts. Submit a revised Quality Control Plan to Engineer for approval.

5. Density over 105%:

- a. When a QC computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, Engineer will perform an Independent Verification density test within 5 feet.
- b. If the Independent Verification density results in a value greater than 105%, Engineer will investigate the compaction methods, examine the applicable Standard Proctor Maximum Density and material description.
- c. Engineer may collect and test an Independent Verification Standard Proctor Maximum Density sample for acceptance in accordance with the Acceptance Criteria.

6. Quality Control Tests:

- a. Standard Proctor Maximum Density Determination: Determine the Quality Control standard Proctor maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in the Acceptance Criteria.
- b. Density Testing Requirements: Ensure compliance to the requirements of the Acceptance Criteria by Nuclear Density testing in accordance with FM 1-T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1-T 238, FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D-4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.
- c. Soil Classification. Perform soil classification tests on the sample collected for the Standard Proctor Maximum Density Determination above, in accordance with AASHTO T-88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements. Unless required by Engineer, do not test or classify materials for stabilized subgrade or base.

7. Department Verification:

- a. Engineer will conduct a Verification test(s) in order to accept all materials and work associated with the Quality Control Tests. Engineer will verify the Quality Control results if they meet the Verification Comparison Criteria, otherwise Engineer will implement Resolution procedures.
- b. Engineer will select test locations, including Station, Offset, and Lift, using a Random Number generator based on the Lots under consideration. Each Verification test evaluates all work represented by the Quality Control testing completed in those LOTs.
- c. In addition to the Verification testing, Engineer may perform additional Independent Verification (IV) testing. Engineer will evaluate and act upon the IV test results in the same manner as Verification test results.
- d. When the project requires less than four Quality Control tests per material type, Engineer reserves the right to accept the materials and work through visual inspection.

8. Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC density testing to one test every two LOTs by identifying the substantiating tests in the Density Log Book and notifying Engineer in writing prior to starting reduced frequency of testing. Generate random numbers based on the two LOTs under consideration. When Quality Control test frequency is reduced to one every two LOTs, obtain Engineer's approval to place more than one LOT over an untested LOT. Assure similar compaction efforts for the untested LOTs. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing, the Quality Control testing will revert to the original frequency of one Quality Control test per LOT. Do not apply reduced testing

frequency in construction of shoulder-only areas, bike/shared use paths and sidewalks.

9. Quality Control Testing:

a. Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for Engineer's Verification and Resolution testing until Engineer accepts the 16 LOTS represented by the samples.

b. Depth and Surface Testing Requirements:

1) Notify Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until Engineer is present to witness. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.

2) The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.

3) Check the finished surface of the base course with a template cut to the required crown and with a 15 foot straightedge laid parallel to the centerline of the road. Correct all irregularities greater than 1/4 inch to the satisfaction of the Engineer by scarifying and removing or adding rock as required, and recompact the entire area as specified hereinbefore.

c. Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTS, or if required, the QC test data was upheld, reduce the QC surface and/or thickness checks to one half the minimum requirements as stated in the frequency requirements above (e.g. Reduce frequency from ten per LOT to ten per two LOTS) by identifying the substantiating tests and notifying Engineer in writing prior to starting reduced frequency of testing. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing the Quality Control testing will revert to the original frequency required by the Acceptance Criteria above. The results of the Independent Verification testing will not affect the frequency of the Quality Control testing.

10. Department Verification Tests:

a. Maximum Density: Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T 180, Method D.

b. Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with the Depth and Surface Testing Requirements above. If the QC test results are not deficient as defined therein, the LOT or 500-foot section will be accepted. If the QC test results are deficient, resolve deficiencies in accordance with the Depth and Surface Testing Requirements. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

c. Verification Comparison Criteria and Resolution Procedures:

1) Modified Proctor Maximum Density: Engineer will compare the Verification test results for Maximum Density to the corresponding Quality Control test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTS will be verified. Otherwise, Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

2) Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding Quality Control test result, Engineer will use the Quality Control test results for material acceptance purposes for each corresponding set of LOTS. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding Quality Control test, Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTS in question.

3) Density: When a Verification or Independent Verification density test does not meet the requirements of the Acceptance Criteria, retest at a site within a 5 feet radius of the Verification test location and observe the following:

a) If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, Engineer will accept the LOTS in question.

b) If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. Engineer will re-verify the LOTS in question.

c) If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new Equipment-Comparison Analysis. Once acceptable comparison is achieved, retest the LOTS. Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until Contractor has a gauge that meets the comparison requirements.

4) Thickness and Surface Testing Requirements:
Resolve deficiencies in accordance with the Depth and Surface Testing Requirements above.

H. 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.

I. 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.

J. Method of Measurement.

1. The quantity to be paid for will be the pay area in square yards of limerock base constructed pursuant to these specifications that is measured, adjusted as specified below, and accepted by Engineer
 - a. Normal Thickness Base: The surface area of specified normal thickness base to be adjusted will be the measured quantity as specified above, omitting any areas not accepted for payment under Subarticle 200-J.2 below, and omitting areas which are to be included for payment under the Method of Measurement for Variable Thickness Base Authorized by Engineer. The pay area is determined by adjusting the aforementioned surface area using the formula below limited to a maximum for the final pay area of 105 percent of the surface area.
 - 1) Pay Area = Surface Area × ((Calculated Average Thickness per these Specifications)/(Plan or Specified Thickness))
 - b. Variable Thickness Base Authorized by Engineer: Where the base is constructed to an authorized compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified on the Plans, the thickness specified in the description of the Contract pay item, or ordered as by Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting

pavements; the volume of such authorized variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by Engineer, and converted to equivalent square yards of normal thickness base for payment.

2. Additional areas that will not be included in the above measurements for payment include:

- a. Areas of existing base left in place;
- b. Areas where under-thickness is in excess of the allowable tolerance as specified in Subarticle 200-G.9; and
- c. Areas where the work under other Contract pay item(s) includes the construction or restoration of a limerock base

K. Basis of Payment.

1. Price and payment will be full compensation for all the work specified in this Article, including correcting all defective surface and deficient thickness, removing cracks and checks as provided above in Crack and Checks, prime coat application meeting the requirements of FDOT Section 300, and the additional rock required for crack elimination.
2. Payment will be made under the item(s) below that are provided in the Contract having awarded Contract unit price(s):
 - a. <<No separate item for Limerock base will be provided under this contract.>>

Item No.	Description	Unit
285-704	Limerock Base (6 inch thickness)	SY
285-706	Limerock Base (8 inch thickness)	SY
285-709	Limerock Base (10 inch thickness)	SY

DIVISION 300 BITUMINOUS TREATMENTS SURFACE COURSES AND CONCRETE PAVEMENT

	Friction Mixes: Types FC-9.5 or FC-12.5	
⁽¹⁾ Equivalent mixes may be approved as determined by the Engineer.		
⁽²⁾ Traffic Level (1x10 ⁶ ESAL's): A is <0.3; B is 0.3 to <3; and C is 3 to <10		

334 HOT MIX ASPHALT (REV. 01-29-15)

A. Description.

1. General.

- Construct plant mixed Hot Mix Asphalt (HMA) pavements based on the type of mixture specified in the Contract Documents and for the Asphalt Work Categories defined below.
- Meet all applicable requirements for plants, material, equipment, and construction specified herein.

2. Asphalt Work Categories.

- Asphalt Work Category 1: Includes the construction of shared use paths and miscellaneous asphalt.
- Asphalt Work Category 2: Includes the construction of new asphalt turn lanes, paved shoulders and other non-mainline pavement locations
- Asphalt Work Category 3: Includes the construction of new mainline asphalt pavement I, milling and resurfacing.

3. Mix Types.

- Use a HMA mix that meets the requirements of this specification.
- In the event a mix type is not identified in the Contract Documents use, subject to Engineer's approval, the appropriate HMA mix from Table 1 below.
- Mixtures are based on the design traffic level of the project, expressed in 18,000 pounds Equivalent Single Axle Loads (ESAL's).
- A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost.

Table 1 HMA Fine Mix Types		
Asphalt Work Category	Mix Types	Traffic Level ⁽²⁾
1	Type SP-9.5 ⁽¹⁾	A
2	Structural Mixes: Types SP-9.5 or SP-12.5 ⁽¹⁾ Friction Mixes: Types FC-9.5 or FC-12.5 ⁽¹⁾	B or C
3	Structural Mixes: Types SP-9.5 or SP-12.5	C

4. Gradation Classification.

- Use only fine HMA mixes meeting the requirements of subarticle C.2.b 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")
- Type SP-12.5, FC-12.5 12.5 mm (1/2")

5. Total Pavement Thickness.

- 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.

- 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:

$$1) \text{ Spread rate (lbs/yd}^2\text{)} = t \times G_{mm} \times 43.3 \quad \text{where:}$$

- t = Thickness (in.) (Plan thickness or individual layer thickness)
 - G_{mm} = Maximum specific gravity from the mix design
 - For target purposes only, spread rate calculations shall be rounded to the nearest whole number.
- Plan quantities are based on a G_{mm} 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.

6. Layer Thicknesses.

a. Structural Course Layer(s):

- 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 1/2 inches
- Type SP-12.5 1 1/2 - 2 1/2 inches

- Fine Type SP-9.5 mixes are limited to the top two structural layers, two layers maximum.

b. Friction Course Layer (FC-12.5 and FC-9.5):

- The thickness of the friction course layer will be the plan thickness as shown in the Contract Document or as directed in writing by the Engineer. For construction purposes, the plan

thickness will be converted to spread rate as defined in Subarticle A.5 above.

7. Additional Requirements.

a. Type SP HMA fine mixtures:

- 1) When construction includes the paving of adjacent shoulders (≤5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
- 2) For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

8. Weight of Mixture.

- a. The weight of the mixture shall be determined as provided in FDOT 320-2.2 (Electronic Weigh Systems).

B. 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.

b. For Type FC Mixtures:

- 1) Use an ARB-5 asphalt rubber binder meeting the requirements of FDOT Section 336 and any additional requirements or modifications specified herein for the various mixtures.
- 2) If called for in the Contract Documents, use a PG 76-22 asphalt binder meeting the requirements of FDOT 916-1.
- 3) For projects with a total quantity of FC-9.5 or FC-12.5 less than 500 tons, the Contractor may elect to substitute for the ARB-5, a PG 76-22 Asphalt Binder that meets the requirements of FDOT 916-1.

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.
- c. For Type FC mixes:

- 1) Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:
 - a) Up to 40% fine aggregate from other sources, or
 - b) A combination of up to 15% Reclaimed Asphalt Pavement (RAP) Material and the remaining fine aggregate from other sources.
 - c) A list of aggregates approved for use in friction courses may be available on the FDOT's website. The URL for obtaining this information, if available, is: <https://mac.fdot.gov/smreports>

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 (G_{sb}) 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

C. 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 T 283. 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 (N_{design}).
 - 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 (G_{sb}) 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.

D. 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.

E. 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 40°F for layers greater than 1 inch (100 lb/yd²) in thickness and at least 45°F 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 50°F.
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 ±30°F 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.
 - f. Thickness of Layers: Construct each course of Type SP mixtures in layers of thickness pursuant to subarticle A.6.a above

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.

1) Asphalt Work Category 3:

- a) Acceptance Testing: Using a rolling straightedge, test the final Type SP structural layer and the Type FC layer, where a friction course is called for in the Contract Documents. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.
- b) Rolling Straightedge Exceptions: Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas where they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with the requirement below for Correcting Unacceptable Pavement. The Engineer may waive or modify straightedging requirements if no milling, leveling, overbuild or underlying structural layer was placed on the project and the underlying layer was determined to be exceptionally irregular.
- c) Final Type SP Structural Layer: Straightedge the final Type SP structural layer with a rolling straightedge behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). If the Type SP layer is to be the final surface, corrections may be waived by the Engineer. Retest the corrected areas.
- d) Friction Course Layer: Where a friction course is called for in the Contract, at the completion of all paving operations, straightedge the friction course either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (friction

course), unless waived by the Engineer. Retest all corrected areas.

- 2) 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.

d. 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:
 - a) 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.
 - b) 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.

F Acceptance of the Mixture.

- 1 General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:
 - a. Asphalt Work Category 1 – Certification by the Contractor as defined below.
 - b. Asphalt Work Category 2 – Certification and quality control testing by the Contractor as defined below.
 - c. Asphalt Work Category 3 – Quality control testing by the Contractor and acceptance testing by the Engineer as defined below.
2. Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications. The Engineer may run independent tests to determine the acceptability of the material.
3. Certification and Quality Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed

on the project was in substantial compliance with the Specifications, along with supporting test data documenting all quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a. below). If so required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the quality control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material.

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 (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} 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) Assume 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 $\pm$ 0.55
Passing No. 8 Sieve (percent)	Target $\pm$ 6.00
Passing No. 200 Sieve (percent)	Target $\pm$ 2.00
Roadway Density (average of three cores)	91.5% G _{mm}
Roadway Density (any single core)	90.0 % G _{mm}

4. Quality Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a above). In addition, the Engineer will accept the mixture at the plant with respect to gradation (P-8 and P-200) and asphalt binder content (Pb). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in subarticle F.3.a above. The

Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 3 above. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer

a. Acceptance Testing Exceptions:

- 1) When the total quantity of any mix type in the Project is less than 500 tons, or on Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.
- 2) Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, levelling courses, first lift of asphalt base course placed on subgrade, miscellaneous asphalt pavement, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lbs/sy. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet in length: crossovers, intersections, turning lanes, acceleration lanes, deceleration lanes, or ramps. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-2-23-2	Hot Mix Asphalt, Traffic C, SP-12.5, PG 76-22	Ton
337-7-82	Hot Mix Asphalt Friction Course, Traffic C, FC-9.5, Rubber	Ton
337-8-33	Hot Mix Asphalt Friction Course, Traffic C, FC-12.5, Rubber	Ton
337-8-42	Hot Mix Asphalt Friction Course, Traffic C, FC-9.5, PG 76-22	Ton
337-8-43	Hot Mix Asphalt Friction Course, Traffic C, FC-12.5, PG 76-22	Ton

G. Method of Measurement.

1. For the work specified under this Article, the quantity to be paid for will be the weight of the mixture, in tons.
2. The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified herein.

H. Basis of Payment.

1. <<No separate pay item(s) for Hot Mix Asphalt will be provided under this contract.>>
2. General: Price and payment will be full compensation for all the work specified under this Article

Item No.	Description	Unit
334-2-11	Hot Mix Asphalt, Traffic A	Ton
334-2-12	Hot Mix Asphalt, Traffic B	Ton
334-1-13	Hot Mix Asphalt, Traffic C, SP-9.5	Ton
334-2-13-2	Hot Mix Asphalt, Traffic C, SP-12.5	Ton
334-2-21	Hot Mix Asphalt, Traffic A, PG 76-22	Ton
334-2-22	Hot Mix Asphalt, Traffic B, PG 76-22	Ton
334-2-23-1	Hot Mix Asphalt, Traffic C, SP-9.5, PG 76-22	Ton

DIVISION 400 STRUCTURES**425 INLETS, MANHOLES AND JUNCTION BOXES
(SECTION 425)**

A. Page 417, Subarticle 425-6.6 - Placing Pipe; The third sentence of this sub-article is modified to read:

1. When catch basins are called for, the inlet and outlet pipe may extend into the structure not to exceed 4 inches beyond the interior face of the wall.

B. Page 417, Subarticle 425-6.7 Backfilling; is modified to include the following:

1. Select material shall be used for backfill adjacent to catch basins and riser inlets, as detailed in the Plans. It shall consist of well-graded limerock or limerock and sand fill. Sand or fill having a high proportion of sand will not be accepted as select fill. All select fill shall be approved by the Engineer prior to placing. No separate payment will be made for select fill, but shall be included in the unit bid price for each particular item as indicated in the Bid Form of the Proposal.

C. Page 417, Subarticle 425-8.2 - Adjusted Structures; is expanded to include the following:

1. Upon completion of the work, and prior to acceptance and final payment, all such structures will be inspected by the Engineer to ensure that they are free of all debris and thoroughly cleaned. All drainage structures within the project limits shall be cleaned thoroughly and made free of all debris prior to final acceptance by the County. The Contractor shall include within the scheduled items listed on the Contract's Bid Form, the cost of all work necessary for cleaning and debris removal.

D. Page 418, Subarticle 425-8.3 - Payment Items; is expanded to include the following:

1. When a separate item is listed on the Bid Form for cleaning of structures, said item shall only be used when indicated on the Engineering Plans or as directed by the Engineer, and only for the cleaning of drainage structures that were not impacted by construction activities.
2. <<No separate pay item(s) for Inlets, Manholes and Junction Boxes will be provided under this contract.>>
3. Payment will be made under:

Item No.	Description	Unit
425- 1- 321	Inlets (Curb)(Type P-2) <10'	EA
425- 1- 351	Inlets (Curb)(Type P-5) <10'	EA
425- 1- 361	Inlets (Curb)(Type P-6) <10'	EA
425- 1- 461	Inlet Curb (Type J-6)	EA
425- 1- 541	Inlets Type D	EA
425-1-907A	Pollution Retardant Baffle (Any Type) (Any Dimension)	EA

425-2-41	Manhole (Type P-7t, Any Dimension, Maximum 15' Deep)	EA
425-33	Convert Drainage Inlet To Manhole Top, Adjusting Elevation If Necessary	EA
425-1-312A	Inlet Curb (Type P-11)	EA

425A ADJUSTMENT OR RELOCATION OF VALVE, METER AND JUNCTION BOXES

1. The work under these pay items includes any adjustments (raising or lowering) of existing boxes or fire hydrants. When relocation of the box is required, the Contractor shall make all necessary arrangements with the utility companies, as the utility companies are responsible to relocate the valves and meters and valve and meter boxes.
2. <<No separate pay item(s) for Adjustment or Relocation of Valve, Meter and Junction Boxes will be provided under this contract>>
3. Payment shall be made under the following:

Item Number	Description	Unit
425-5	Adjust Manhole	EA
425-5-1	Adjust Manhole (Utilities) (Miami-Dade Water & Sewer Only)	EA
425-6	Adjust Existing Valve Boxes (Miami-Dade County Only)	EA
425-74	Adjust And / Or Relocate Existing Fire Hydrants Valve And Valve Boxes (Miami-Dade County Only)	EA
425-82B	Grate, Solid Cover, Replace (Includes the removal of existing grate and the replacement with a solid cover or vice versa)	EA

430 PIPE CULVERTS (REV. 01-12-16)

A. Description.

1. Furnish and install drainage pipe and end sections at the locations called for in the Plans or as directed by Engineer. Furnish and construct joints and connections to existing pipes, catch basins, inlets, manholes, walls, etc., as may be required to complete the work.
2. Construct structural plate pipe culverts or underdrains in accordance with FDOT Sections 435 and 440.
3. Obtain pipe culverts from a Producer currently on the FDOT's list of Producers with Accepted Quality Control Programs. Producers seeking inclusion on the list shall meet the requirements of FDOT 105-3.
4. When the producer's FDOT Quality Control Program is suspended, accept responsibility of either obtaining drainage products from another producer with an

accepted FDOT Quality Control Program or await re-approval of the producer's FDOT Quality Control Program. Engineer will not allow changes in Contract Time or completion dates as a result of the producer's FDOT Quality Control Program suspension. Accept responsibility for all delay costs or other costs associated with the producer's FDOT Quality Control Program suspension

B. Materials.

1. Pipe: Meet the following requirements:

Concrete Pipe	FDOT Section 449
Round Rubber Gaskets	FDOT Section 942
Corrugated Steel Pipe and Pipe Arch	FDOT Section 943
Corrugated Aluminum Pipe and Pipe Arch	FDOT Section 945
Corrugated Polyethylene Pipe	FDOT Section 948
Polyvinyl Chloride (PVC) Pipe	FDOT Section 948

2. Joint Materials: Use joint materials specified in this Article according to type of pipe and conditions of usage.
3. Mortar: Use mortar composed of one part portland cement and two parts of clean, sharp sand, to which mixture Contractor may add hydrated lime in an amount not to exceed 15% of the cement content. Use mortar within 30 minutes after its preparation.

C Type of Pipe to Be Used

1. When the Plans designate a type (or types) of pipe, use only the type (or choose from the types) designated.
2. If the Plans do not designate a type (or types) of pipe, Contractor, subject to Engineer's approval, may use either a minimum Class I concrete pipe, corrugated steel pipe, corrugated aluminum pipe, corrugated polyethylene pipe or PVC pipe. If one of the metal types is chosen, use the minimum gage specified in FDOT Section 943 for steel pipe or FDOT Section 945 for aluminum pipe.
3. Class I corrugated Polyethylene Pipe may be used on local (non-arterial or non-collector) roads only

D. Laying Pipe.

1. General:

- a. Lay all pipe, true to the lines and grades given, with hubs up and long end fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, install the pipe in a position such that the manufacturer's marks designating "top" and "bottom" of the pipe are not more than five degrees from the vertical plane through the longitudinal axis of the pipe. Do not allow departure from and return to plan alignment and grade to exceed 1/16 inch per foot of

nominal pipe length, with a total of not more than 1 inch departure from theoretical line and grade. Take up and relay any pipe that is not in true alignment or which shows any settlement after laying at no additional expense to the Department.

- b. Do not use concrete pipe with lift holes except round pipe which has an inside diameter in excess of 54 inches or any elliptical pipe.
- c. Repair lift holes, if present, by use of a hand-placed, stiff, non-shrink, 1-to-1 mortar of cement and fine sand, after first washing out the hole with water. Completely fill the void created by the lift hole with mortar. Cover the repaired area with a 24 by 24 inches piece of filter fabric secured to the pipe. Use a Type D-3 filter fabric meeting the requirements shown on FDOT Design Standards, Index 199 and the Contract Documents.
- d. Secure the filter fabric to the pipe using a method that holds the fabric in place until the backfill is placed and compacted. Use a grout mixture, mastics, or strapping devices to secure the fabric to the pipe.
- e. When installing pipes in structures, construct inlet and outlet pipes of the same size and kind as the connecting pipe shown in the Plans. Extend the pipes through the walls for a distance beyond the outside surface sufficient for the intended connections, and construct the concrete around them neatly to prevent leakage along their outer surface as shown on the FDOT Design Standards, Index 201. Keep the inlet and outlet pipes flush with the inside of the wall. Resilient connectors as specified in FDOT 942-3 may be used in lieu of a masonry seal.
- f. Furnish and install a filter fabric jacket around all pipe joints and the joint between the pipe and the structure in accordance with FDOT Design Standards, Index Nos. 201 and 280. Use fabric meeting the physical requirements of Type D-3 specified on the FDOT Design Standards, Index 199 and the Contract Documents. The fabric shall extend a minimum of 12 inches beyond each side of the joint or both edges of the coupling band, if a coupling band is used. The fabric shall have a minimum width of 24 inches, and a length sufficient to provide a minimum overlap of 24 inches. Secure the filter fabric jacket against the outside of the pipe by metal or plastic strapping or by other methods approved by Engineer.
- g. Meet the following minimum joint standards:

Pipe Application	Minimum Standard
Storm and Cross Drains	Water-tight
Gutter Drain	Water-tight
Side Drains	Soil-tight
- h. When rubber gaskets are to be installed in the pipe joint, the gasket shall be the sole element relied on to maintain a tight joint. Soil tight joints must be watertight to 2 psi. Water-tight joints must be water-tight to 5 psi unless a higher pressure rating is required in the Plans.
2. Trench Excavation: Excavate the trench for storm and cross drains, and side drains as specified in the Contract Documents.

3. Foundation: Provide a suitable foundation, where the foundation material is of inadequate supporting value, as determined by Engineer. Remove the unsuitable material and replace it with suitable material, as specified in Article 120 (Earthwork and Related Operations) of these Specifications. Where in Engineer's opinion, the removal and replacement of unsuitable material is not practicable, he may direct alternates in the design of the pipe line, as required to provide adequate support. Minor changes in the grade or alignment will not be considered as an adequate basis for extra compensation. Do not lay pipe on blocks or timbers, or on other unyielding material, except where the use of such devices is called for in the Plans.
 4. Backfilling: Backfill around the pipe as specified in Article 120 (Earthwork and Related Operations) of these Specifications unless specific backfilling procedures are described in the Contract Documents.
 5. Plugging Pipe:
 - a. When existing pipe culverts are to be permanently placed out of service, fill them with flowable fill that is non-excavatable, contains a minimum 350 lbs/cy of cementitious material and meets the requirements Article 121 (Flowable Fill) and/or plug them with masonry plugs as required by the Contract Documents. Install masonry plugs that are a minimum of 8 inches in thickness. In accordance with FDOT Design Standards Index 280.
 - b. When proposed or existing pipe culverts are to be temporarily placed out of service, plug them with prefabricated plugs as shown in the Plans. Install prefabricated plugs in accordance with the manufacturer's recommendations. Do not fill, or construct masonry plugs in, any pipe culverts intended for current or future service.
 6. End Treatment:
 - a. Place an end treatment at each storm and cross drain, and side drain as shown in the Plans. Refer to the FDOT Design Standards for types of end treatment details.
 - b. As an exception to the above, when concrete mitered end sections are permitted, Contractor may use reinforced concrete U-endwalls, if shop drawings are submitted to Engineer for approval prior to use.
 - c. Provide end treatments for corrugated polyethylene pipe and PVC pipe as specified in FDOT Section 948, or as detailed in the Plans.
 7. Metal Pipe Protection:
 - a. Apply a bituminous coating to the surface area of the pipe within and 12 inches beyond the concrete or mortar seal prior to sealing, to protect corrugated steel or aluminum pipe embedded in a concrete structure, such as an inlet, manhole, junction box, endwall, or concrete jacket.
 - b. Ensure that the surface preparation, application methods (dry film thickness and conditions during application), and equipment used are in accordance with the coating manufacturers' published specifications.
 - c. Obtain Engineer's approval of the coating products used.
 8. Final Pipe Inspection:
 - a. Pipe must be lay under direct supervision of Engineer at all times. In the event that a specific job site requires a video inspection, and it is approved by Engineer, pipe must be inspected as per FDOT Article 430-4.8. County will pay for the cost of inspection and report.
- E. Removing Existing Pipe.
1. If the Plans indicate that existing pipe is to remain the property of the Department, collect and stack along the right-of-way all existing pipe or pipe arch so indicated in the Plans to be removed, or that does not conform to the lines and grades of the proposed work and that is not to be re-laid, as directed by Engineer. Take care to prevent damage to salvageable pipe during removal and stacking operations.
- F. Placing Pipe Under Railroad
1. General: Construct pipe culverts under railroad tracks in accordance with the requirements of the railroad company. Perform all the shoring under the tracks, and sheeting and bracing of the trench, required by the railroad company or deemed necessary by Engineer in order to ensure safe and uninterrupted movement of the railroad equipment, at no expense to the Department
 2. Requirements of the Railroad Company:
 - a. Install pipe using methods required by the railroad company and shown in the Contract Documents.
 - b. When the general method of installation required by the railroad company is indicated in the Plans, do not alter such method, or any other specific details of the installation which might be indicated in the Plans, without receiving approval or direction from the railroad, followed by written approval from Engineer.
 3. Notification to Railroad Company: Notify the railroad company and Engineer at least ten days prior to the date on which pipe is to be placed under the railroad tracks.
 4. Placing Pipe by Jacking: Obtain Engineer's and the railroad company's approval of the details of the jacking method to be used, when placing pipe through the railroad embankment, before the work is started.
 5. Use of Tunnel Liner: When the railroad company requires that a tunnel liner be used for placing the pipe in lieu of the jacking method, the Department will pay for the tunnel liner material separately in cases where the Contract Documents do not require the use of a tunnel liner. For these cases the Department will reimburse Contractor for the actual cost of the liner, delivered at the site. The Department will base such cost on a liner having the minimum gage acceptable to the railroad.
- G. Specific Requirements for Concrete Pipe.

1. **Sealing Joints:** Seal the pipe joints with round rubber or profile gaskets meeting the requirements of FDOT Section 449. Ensure that the gasket and the surface of the pipe joint, including the gasket recess, are clean and free from grit, dirt and other foreign matter, at the time the joints are made. In order to facilitate closure of the joint, application of a vegetable soap lubricant immediately before closing of the joint will be permitted. Prelubricated gaskets may be used in lieu of a vegetable soap lubricant when the lubricating material is certified to be inert with respect to the rubber material.
 2. **Laying Requirements for Concrete Pipe with Rubber Gasket Joints:** Do not allow the gap between sections of pipe to exceed 5/8 inch for pipe diameters of 12 inches through 18 inches, 7/8 inch for pipe diameters of 24 inches through 66 inches, and 1 inch for pipe diameters 72 inches and larger. Where minor imperfections in the manufacture of the pipe create an apparent gap in excess of the tabulated gap, Engineer will accept the joint provided that the imperfection does not exceed 1/3 the circumference of the pipe, and the rubber gasket is 1/4 inch or more past the pipe joint entrance taper. Where concrete pipes are outside of these tolerances, replace them at no expense to the Department. Do not apply mortar, joint compound, or other filler to the gap which would restrict the flexibility of the joint.
 3. **Field Joints for Elliptical Concrete Pipe:** Use either a preformed plastic gasket material or an approved rubber gasket to make a field joint.
 - a. **Plastic Gasket.** For field joints that are made from preformed plastic gasket material; install field joints in accordance with the manufacturer's instructions and the following:
 - 1) **Material:** Meet the requirements of FDOT 942-2.
 - 2) **Joint Design:** Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and the amount of gasket material required to affect a satisfactory seal. Do not brush or wipe joint surfaces which are to be in contact with the gasket material with a cement slurry. Fill minor voids with cement slurry.
 - 3) **Primer:** Apply a primer of the type recommended by the manufacturer of the gasket material to all joint surfaces which are to be in contact with the gasket material, prior to application of the gasket material. Thoroughly clean and dry the surface to be primed.
 - 4) **Application of Gasket:** Apply gasket material to form a continuous gasket around the entire circumference of the leading edge of the tongue and the groove joint, in accordance with the detail shown on the Design Standards, Index No. 280. Do not remove the paper wrapper on the exterior surface of the gasket material until immediately prior to joining of sections. Apply plastic gasket material only to surfaces which are dry. When the atmospheric temperature is below 60°F, either store plastic joint seal gaskets in an area above 70°F, or artificially warm the gaskets to 70°F in a manner satisfactory to Engineer.
 - 5) **Installation of Pipe:** Remove and reposition or replace any displaced or contaminated gasket as directed by Engineer. Install the pipe in a dry trench. Carefully shape the bottom of the trench to minimize the need for realignment of sections of pipe after they are placed in the trench. Hold to a minimum any realignment of a joint after the gaskets come into contact. Prior to joining the pipes, fill the entire joint with gasket material and ensure that when the pipes are joined there is evidence of squeeze-out of gasket material for the entire internal and external circumference of the joint. Trim excess material on the interior of the pipe to provide a smooth interior surface. If a joint is defective, remove the leading section of pipe and reseal the joint.
 - b. **Rubber Gasket.** For field joints that are made with profile rubber gaskets; install field joints in accordance with the manufacturer's instructions and the following:
 - 1) **Material:** Meet the requirements of FDOT 942-4
 - 2) **Joint Design:** Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and gasket required to effect a satisfactory seal. Do not apply mortar, joint compound, or other filler which would restrict the flexibility of the gasket joint.
 4. **Requirements for Concrete Radius Pipe:**
 - a. **Design:** Construct concrete radius pipe in segments not longer than 4 feet (along the pipe centerline), except where another length is called for in the Contract Documents. Join each segment using round rubber gaskets. Ensure that the pipe manufacturer submits details of the proposed joint, segment length and shape for approval by Engineer, prior to manufacture.
 - b. **Pre-Assembly:** Ensure that the manufacturer pre-assembles the entire radius section in his yard, in the presence of Engineer, to ensure a proper fit for all parts. At the option of the manufacturer, Contractor may assemble the pipe without gaskets. Consecutively number the joints on both the interior and exterior surfaces of each joint, and make match marks showing proper position of joints. Install the pipe at the project site in the same order as pre-assembly.
- H. **Specific Requirements for Corrugated Metal Pipe.**
1. **Field Joints:**
 - a. **General:**
 - 1) Make a field joint with locking bands, as specified in Article 9 of AASHTO M 36 and AASHTO M 196M for aluminum pipe. For aluminum pipe, fabricate bands from the same alloy as the culvert sheeting.
 - 2) When existing pipe to be extended is helically fabricated, make a field joint between the existing pipe and the new pipe using one of the following methods:

- a) Cut the new pipe to remove one of the re-rolled annular end sections required in FDOT Sections 943 or 945, or fabricate the pipe so that the re-rolled annular section is fabricated only on one end. Use either a spiral (helical) band with a gasket or a flat band with gaskets as required by Subarticle 430-H.1.b.1) b) to join the pipe sections.
- b) Contractor may construct a concrete jacket as shown on the FDOT Design Standards, Index No. 280, provided that the minimum cover required by the FDOT Design Standards, Index No. 205 can be obtained
- b. Side Drain, Storm and Cross Drain, and Gutter Drains: Where corrugated metal pipe is used as side drain, storm and cross drain, or gutter drain, use a rubber or neoprene gasket of a design shown to provide a joint as specified in Subarticle 430-D.
 - 1) Use a gasket of one of the following dimensions:
 - a) For annular joints with 1/2 inch depth corrugation: either a single gasket a minimum of 7 inches by 3/8 inch or two gaskets a minimum of 3 1/2 inches by 3/8 inch; and for annular joints with 1 inch depth corrugations: either a single gasket a minimum of 7 inches by 7/8 inch or two gaskets a minimum of 3 1/2 inches by 7/8 inch.
 - b) For helical joints with 1/2 inch depth corrugation: either a single gasket a minimum of 5 inches by 1 inch or two gaskets a minimum of 3 1/2 inches by 1 inch; and for helical joints with 1 inch depth corrugations: either a single gasket a minimum of 5 inches by 1 1/2 inches or two gaskets a minimum of 3 1/2 inches by 1 1/2 inches.
 - c) Such other gasket designs as may be approved by Engineer.
 - 2) If, in lieu of a single gasket spanning the joint, two gaskets are used, place these individual gaskets approximately 2 inches from each pipe end at the joint. When two gaskets are used, seal the overlapping area on the coupling band between the gaskets consistent with the joint performance specified. Contractor may tuck a strip of preformed gasket material over the bottom lip of the band for this purpose. Use coupling bands that provide a minimum circumferential overlap of 3 inches. As the end connections on the coupling band are tightened, ensure that there is no local bending of the band or the connection. Use precurved coupling bands on pipe diameters of 24 inches or less.
 - 3) Use flat gaskets meeting the requirements of ASTM D-1056, designation 2C2 or 2B3. In placing flat gaskets on pipe prior to placing the coupling band, do not stretch the gasket more than 15% of its original circumference. Use circular gaskets meeting the requirements of ASTM C-361. Do not stretch the circular gasket more than 20% of its original circumference in placing the gasket on pipe. Use preformed plastic gasket material

meeting the composition requirements of FDOT 942-2.2.

- 4) Apply an approved vegetable soap lubricant, as specified for concrete pipe in Subarticle 430-G.1.
- c. Alternate Joint: In lieu of the above-specified combination of locking bands and flat gaskets, Contractor may make field joints for these pipe installations by the following combinations:
 - 1) Use the metal bands as specified in Article 9 of AASHTO M 36M that are at least 10 1/2 inches wide and consist of a flat central section with a corrugated section near each end, designed to match the annular corrugation in the pipe with which they are to be used. Connect the bands in a manner approved by Engineer, with a suitable fastening device such as the use of two galvanized 1/2 inch diameter bolts through a galvanized bar and galvanized strap, suitably welded to the band. Use a strap that is the same gage as the band.
 - 2) Where helically corrugated pipe is to be jointed by this alternate combination, ensure that at least the last two corrugations of each pipe section are annular, and designed such that the band will engage each pipe end with the next-to-outside annular corrugation.
 - 3) For these bands, use a rubber gasket with a circular cross-section of the "O-ring" type conforming to ASTM C-361. Use gaskets having the following cross-sectional diameter for the given size of pipe:

<u>Pipe Size</u>	<u>Gasket Diameter</u>
12 inches through 36 inches (with 1/2 inch depth corrugations)	13/16 inch
42 inches through 96 inches (with 1/2 inch depth corrugations)	7/8 inch
36 inches through 120 inches (with 1 inch depth corrugations)	1 3/8 inches

- 4) Use preformed gasket material to seal the overlapping area on the coupling band between gaskets.
- 5) Use channel band couplers in helical pipe with ends which have been reformed and flanged specifically to receive these bands. Use channel band couplers that are of a two piece design, are fabricated from galvanized steel stock conforming to AASHTO M 36, have 2 by 2 by 3/16 inch angles fastened to the band ends to allow for proper tightening, and meet the following:

<u>Band Thickness</u>	<u>Pipe Wall Thickness</u>
0.079 inch	0.109 inch or lighter
0.109 inch	0.138 inch or heavier
3/4 inch wide	0.109 inch or lighter
1 inch wide	0.138 inch or heavier

- 6) Furnish two 1/2 inch diameter connection bolts with each band, that conform to ASTM A-307, Grade A and are electroplated in accordance with ASTM B-633.
 - 7) Use a gasket with the joint that is a hydrocarbon blend of butyl rubber meeting the chemical composition and physical properties of FDOT 942-2.2. Use a 3/8 by 3/4 inch gasket for pipe fabricated from 0.109 inch or lighter material and a 3/8 by 1 inch gasket for pipe fabricated from 0.138 inch and heavier material.
 - 8) Contractor may use a flange band coupler without the gasket for all applications other than side drain, storm and cross drain, and gutter drain.
 - 9) Do not use the flange band coupler to join dissimilar types of pipe.
 - 10) Contractor may join reformed flanged helical pipe to existing annular or reformed pipe having annular ends. On non-gasketed installations, use either an annular band or an alternate joint described in Subarticle 430-H 1.c. On gasketed installations, use an annular band, minimum of five corrugations in width, in conjunction with two O-ring gaskets as specified in Subarticle 430-H.1.c. Use mastic material to seal the area of band overlap.
 - 11) The minimum joint performance standards specified in Subarticle 430-D.1 applies.
2. Laying and Shape Requirements for Corrugated Metal Pipe: Install pipe using either a trench or open ditch procedure.
- a. Check pipe shape regularly during backfilling to verify acceptability of the construction method used. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department. Deflection measurements are taken at the point of smallest diameter on the corrugations.
- I. Specific Requirements for Corrugated Polyethylene Pipe and Polyvinyl Chloride (PVC) Pipe.
1. Field Joints: Use gasketed joints to seal side drain, and storm and cross drain. Use gaskets meeting the requirements of FDOT Section 449. Ensure that the pipe manufacturer provides a joint design approved by Engineer before use.
 2. Installation Requirements Including Trenching, Foundation and Backfilling Operations: Check structure shape regularly during backfilling to verify acceptability of the construction method used.
 3. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department.
- J. Desilting Pipe Culverts, Box Culverts, and Inlet Structures
1. Description: Completely remove and dispose of silt, debris, vegetation, soil, rock, and any type of blockage inside existing pipe culvert(s), box culvert(s) or inlet

structure(s) specified in the Contract Documents or directed by Engineer.

2. General.

- a. Access to the pipe or box culvert may require temporary removal of fence, signs, guardrail, grates or manhole covers.
- b. Clean the existing pipe or box culvert by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage to restore the hydraulic conveyance design capacity of the pipe or box culvert.
- c. Clean the existing inlet structure by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage.
- d. Perform desilting operations in a manner not to damage the pipe culverts, box culverts, and inlet structures or surrounding area.
- e. Meet the requirements of Federal, State and local environmental standards and laws when performing all activities.
- f. Meet the requirements of Article 104 of these Specifications (Prevention, Control, and Abatement of Erosion and Water Pollution).
- g. Identify and report to Engineer necessary repairs to the pipes or box culverts and structures exposed during the desilting operation.
- h. Pipe or Box Culverts:
 - 1) Replace according to Department standards at the completion of the desilting operation or each day, as appropriate for safety.
 - 2) Align infall and outfall ditches 50 feet from the pipe or box culvert to meet the existing line and grade. If the Right-of-Way line is less than 50 feet from the pipe or box culvert, align infall and outfall ditches to the Right-of-Way line. Grade and sod any disturbed areas caused by the desilting operation.
- 3) Dispose of all silt and debris removed in the desilting operations in areas meeting Federal, State and local rules and regulations.
- 4) Repair or replace damage to turf, pavement, signs or structures, etc. due to negligence to the satisfaction of Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished.

3. Inspection.

- a. When directed by Engineer, de-water the pipe or box culvert to facilitate inspection.
- b. Re-clean culverts and structures determined to be unacceptable by Engineer within the time directed at no additional cost to the Department.

K. Method of Measurement.

1. General:

- a. The quantity to be paid for will be the number completed pursuant to these specifications that is measured and accepted by Engineer.

- b. Only items of work required by this Article that have a Contract Unit Price will be measured by Engineer for payment. All other work described in this Article that is required by the Contract Documents but does not have a Contract Unit Price is considered incidental to the Work and its costs are included among the various scheduled items of the Contract.
 2. New Pipe: The quantities of storm and cross drain pipe, storm drain trench, side drain pipe and gutter drain pipe to be paid for will be quantity, measured in place and accepted by Engineer. The quantity of pipe will be measured from the inside wall of the structure, along the centerline of the pipe.
 3. Mitered End Section: The quantity to be paid for will be the number completed and accepted.
 4. Desilting Pipe Culverts, Box Culverts, and Inlet Structures:
 - a. General:
 - 1) The cost of temporary removal and subsequent replacement of fence, signs, guardrail, grates or manhole covers will be included in the contract unit price for the related item.
 - 2) Infall and outfall ditch alignment, grading and sodding will be included in the contract unit price of the related item
 - 3) Pipes or structures that are impacted by the Work must be cleaned at no cost to the County and will not be measured for payment.
 - b. Desilting Pipe Culverts: The quantities for payment will be the length in feet of existing pipe desilted and accepted by Engineer.
 - c. Desilting Box Culverts: The quantities for payment will be the volume in cubic yard of material removed from the existing box culvert as measured and accepted by Engineer.
 - d. Desilting Structures: The quantities for payment will be the number of existing Inlet Structures desilted and cleaned as counted and accepted by Engineer.
- L. Basis of Payment.
1. General:
 - a. Prices and payments will be full compensation for all work specified in this Article including:
 - 1) All excavation except the volume included in the items for the grading work on the Project, and except for other items specified for separate payment in Article 120 (Earthwork And Related Operations) of these Specifications;
 - 2) All backfilling material and compaction; disposal of surplus material; and
 - 3) All clearing and grubbing outside of the required limits of clearing and grubbing as shown in the Plans.
 2. Removing Existing Pipe: When existing pipe is removed and replaced with new pipe approximately at the same location, the cost of excavating and removing the old pipe and of its disposal will be included in the Contract unit price for clearing and grubbing.
 3. Site Restoration: The cost of completely restoring the areas of the Project Site that is disturbed for the purpose of constructing pipe culvert is included in the Contract unit price for the pipe culvert, unless designated specifically to be paid for under other items.
 4. Plugging Pipes:
 - a. The cost of temporarily plugging a pipe culvert, either proposed or existing, will be incidental to the contract unit price for new pipe culvert.
 - b. The cost of filling and/or plugging an existing pipe culvert that is to be permanently placed out of service will be paid for at the contract unit price for filling and plugging pipe, per cubic yard. Price and payment will be full compensation for flowable fill, masonry, concrete, mortar, and all labor and materials necessary to complete the work.
 5. Desilting Pipe Culverts, Box Culverts, and Drainage Structures: Price and payment will be full compensation for furnishing all equipment, tools, labor, removal and disposal of silt, debris, vegetation, soil, rock, and any type of blockage, de-watering, erosion and water pollution control, clean up and all incidentals necessary for the satisfactory performance of the work.
 6. Flared End Sections: Price and payment will be full compensation for all work and materials required.
 7. Mitered End Sections: Price and payment will be full compensation for all pipe, grates when required, fasteners, reinforcing, connectors, anchors, concrete, sealants, jackets and coupling bands, and all work required.
 8. Railroad Requirements:
 - a. Where pipe culvert is constructed under railroad tracks, the Contract unit price for the pipe culvert will include the costs of any jacking operations and the operation of placing the pipe by use of a tunnel liner, (except as specified for unanticipated tunnel liner, in Subarticle 430-F.5, where reimbursement is to be made for such unanticipated liner), and all other work necessary to meet the requirements of the railroad company, excluding the costs of watchman or flagman services provided by the railroad company, except as provided below.
 - b. The Department will reimburse Contractor for the actual costs of any trestle bridge work which is performed by the railroad's forces, as billed to him by the railroad, less the value of any salvage materials derived there from, whether such salvage materials are retained by the railroad company or by Contractor. When the work of shoring and bracing is to be performed by the railroad, such fact will be stipulated in the Contract Documents and Contractor will be required to pay to the railroad the amount of such costs, which amount will be reimbursed to him by the Department. The Contract unit price for the pipe culvert shall include the costs of all other work of shoring and bracing.
 9. Payment Items:

- a. << No separate pay item(s) for Pipes Culverts will be provided under this contract>>
- b. Payment will be made under the items below having an awarded Contract Unit Price.

plastic filter fabric (geotextile). Construct in accordance with FDOT Design Standards, Index No. 285 as modified by or otherwise specified in the Contract Documents.

Item No.	Description	Unit
430-174-115	Pipe Culvert 15" Diameter (Round)	LF
430-174-118	Pipe Culvert 18" Diameter (Round)	LF
430-174-124	Pipe Culvert 24" Diameter (Round)	LF
430-171-130	Pipe Culvert 30" Diameter (Round)	LF
430-171-136	Pipe Culvert 36" Diameter (Round)	LF
430-171-142	Pipe Culvert 42" Diameter (Round)	LF
430-171-215	Pipe Culvert 15" Diameter (Elliptical/Arch)	LF
430-171-218	Pipe Culvert 18" Diameter (Elliptical/Arch)	LF
430-171-224	Pipe Culvert 24" Diameter (Elliptical/Arch)	LF
430-171-230	Pipe Culvert 30" Diameter (Elliptical/Arch)	LF
430-171-236	Pipe Culvert 36" Diameter (Elliptical/Arch)	LF
430-94-1-1	Desilting Pipe, 0 - 48"	LF
430-94-1-2	Desilting Pipe, 49" or greater"	LF
430-95-0	Desilting Concrete Box Culvert	CY
430-95-2	Desilting Drainage Structure	EA

B. Materials.

1. Pipe: Unless a particular type is specified in the Contract Documents, pipe furnished may be any of the following types:
 - a. Concrete Pipe (Bell & Spigot): Slotted or perforated concrete pipe may be used.
 - 1) Meet the requirements of FDOT 449 for concrete pipe. Use the class of pipe specified on the FDOT Design Standards, Index No. 205. Do not use gaskets. Fully insert the spigot in the bell, and bring home. Conform to FDOT Design Standards, Index No. 285 for slotted pipe. Use perforated pipe having perforations equally located 360 degrees around the pipe.
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of inside pipe surface. Extend perforations to within 6 inches of the bell or spigot area. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - b. Corrugated Aluminum Alloy Culvert Perforated Pipe:
 - 1) Meet the requirements of FDOT 945. Use perforated pipe having perforations equally located 360 degrees around the pipe. Locate perforations either on the inside crests or on the neutral axis of all corrugations except that perforations are not required within 4 inches of each end of each length of pipe or in a corrugation where seams are located
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of pipe surface. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - c. Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above.
 - d. Bituminous Coated Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above. Place the perforations prior to the bituminous coating. The Engineer will accept the minimum opening of not less than 3.31 in²/ft² of pipe if 50% of the opening area is maintained after coating.
 - e. Corrugated Polyethylene Pipe:
 - 1) Meet the requirements of FDOT 948-2.3 except that Class I corrugated Polyethylene Pipe may only be used on local roads (non-arterial or non-collector).

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A. Description.

1. Construct french drains, utilizing one of the authorized types of pipes listed below, with coarse aggregate, and

2) Space the perforations and meet the requirements as specified in b. 2) above.

- f. Polyvinyl Chloride (PVC) Pipe: Meet the requirements of FDOT 948-1.7. Space the perforations and meet the requirements as specified in b. 2) above.
2. Coarse Aggregate: No. 4 limestone aggregate meeting the requirements of FDOT 901. Aggregates must be an approved product from an approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
3. Select Fill: Use select fill meeting the requirements of either FDOT 911, 913, 913A or 915.

C. Excavating Trench.

1. Excavate the trench in accordance with the Contract specifications for Earthwork and Related Operations (hereinafter referred to as Earthwork specifications) unless specific trench excavation procedures are described in the Plans.
2. Carefully excavate the trench to such depths as required to permit the filter fabric, coarse aggregate and the pipe to be placed in accordance with the details shown on the Plans.

D. Laying Pipe.

1. Lay all pipe conforming with the lines and grades specified in the plans and in accordance with these Specifications. Unless otherwise specified in the Plans or directed by the Engineer, set the pipe with a minimum cover of 30 inches in paved areas (24 inches for non-paved areas) and a maximum cover of 66 inches.

E. Placing Coarse Aggregate and Backfilling

1. After placing the pipe and without disturbing the pipe, carefully place the coarse aggregate around the pipe to a depth shown in the plans. Fold the filter fabric over the coarse aggregate. Backfill and compact as described below.
 - a. French Drains Under Pavement: Fill the area above the coarse aggregate with select fill material meeting the requirements of this Section. Place and compact the select fill according to the requirements for pipe as specified in the Earthwork specifications. The Department will allow use of additional coarse aggregate over the top of the pipe instead of select fill material. In this case, the filter fabric shall be extended to wrap the additional coarse aggregate. The top of the coarse aggregate shall not be higher than the bottom of the base, unless shown in the plans. The Department will not pay additional costs associated with substituting coarse aggregate for select fill.
 - b. French Drains not Under Pavement: Fill and compact the area above the coarse aggregate according to the requirements for pipe in the Earthwork specifications, unless specific procedures are described in the Plans as specified in the Earthwork specifications.

F. Method of Measurement

1. Quantity of french drains to be paid for under this Article shall be the length in linear feet completed in accordance with Plans and specifications; measured in place and accepted by the Engineer subject to the following conditions:

- a. French drain lengths having a depth of trench less than 10 feet below land surface (BLS) will not be accepted for payment by the Engineer.
- b. For french drains with specified depth of trench of 15 feet BLS or greater, any length not meeting the specified depth for reasons approved by the Engineer will have the payment quantity calculated as:

1) Quantity for Payment (LF) = Quantity Measured by the Engineer (LF) x Engineer Approved Depth Rounded to the Lowest Whole Foot (ft) / Specified Depth (ft)

G. Basis of Payment.

1. The quantities determined as provided above will be paid for at the Contract unit price for french drains. Such prices and payments will be full compensation for all work, labor, equipment and material necessary for construction of the french drains as specified in these Contract Documents including excavation, sheeting or shoring if required, the disposal of surplus material, providing plastic filter fabric, pipe, coarse aggregate, select backfill, lamping, and final dressing.
2. Price and payment shall also include all clearing and grubbing; and pavement, sidewalk, curb, and gutter restoration unless these items are specifically provided for under separate payment items in this Contract.
3. <<No separate pay item(s) for French Drains will be provided under this contract.>>
4. Payment will be made under:

Item No.	Description	Unit
443-70-3-2	French Drain (18" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-3-3	French Drain (18" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.
443-70-4	French Drain (24" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-4-3	French Drain (24" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.
443-70-6-2	French Drain (36" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-6-3	French Drain (36" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.

DIVISION 500 MISCELLANEOUS CONSTRUCTION

514 GEOTEXTILE (REV. 11-04-11)

A. Description.

1. Install a geotextile (plastic filter) fabric.

B. Material.

1. Meet the plastic filter fabric requirements as specified in FDOT 985.
2. Geotextile used in the Drainage class (type D-3) applications listed in FDOT Design Standards Index 199 shall be woven monofilament geotextiles only. No Slit Film geotextiles are allowed

C. Construction Methods.

1. General:

- a. Place the fabric in the manner and locations as shown on the construction drawings, in accordance with the manufacturer's directions, and as specified in these Specifications.
- b. Place the fabric on areas with a uniform slope that are reasonably smooth, free from mounds and windrows, and free of any debris or projections which might damage the fabric.
- c. Loosely lay the material. Do not stretch the material
- d. Replace or repair any fabric damaged or displaced before or during placement of overlying layers to the satisfaction of the Engineer and at no expense to the Department.
- e. When overlapping is necessary, the Contractor may sew the seams to reduce overlaps as specified in FDOT 985-3.
- f. Schedule work so that covering the fabric with the specified material does not exceed the manufacturer's recommendations for exposure to ultraviolet light or five days, whichever is less. If the Engineer determines the exposure time was exceeded, the Contractor shall replace the fabric at no expense to the Department.

2. Subsurface Drainage: When indicated in the plans, place the fabric with the long dimension parallel to the trench. Place the fabric to provide a minimum 12 inch overlap for each joint. Do not drop the filter material from heights greater than 3 feet.

3. Stabilization and Reinforcement: Overlap adjacent strips of fabric a minimum of 2 feet.

4. Riprap Filter:

- a. Overlap adjacent strips of fabric a minimum of 24 inches, and anchor them with securing pins (as recommended by the manufacturer) inserted through both strips of fabric along a line through the midpoint

of the overlap and to the extent necessary to prevent displacement of the fabric.

- b. Place the fabric so that the upstream (upper) strip of fabric overlaps the downstream (lower) strip.
- c. Stagger vertical laps a minimum of 5 feet. Use full rolls of fabric whenever possible in order to reduce the number of vertical laps.
- d. Do not drop bedding stone or riprap from heights greater than 3 feet onto the fabric.

D. Method of Measurement.

1. No separate payment for furnishing and placing the geotextile fabric is contained in the Contract Documents

E. Basis of Payment.

1. All costs for the work specified herein, including furnishing, placing, and sewing or overlapping the fabric is included in the Contract price for the item or items to which the geotextile fabric is incidental.

520 CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR (SECTION 520)

- A. Page 583, Article 520-1, Description: Is expanded to include the following:

1. The work specified under this section includes any type of curb and /or gutter in accordance with FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System 2008 and the Public Works Manual of Metropolitan Dade County (Standard Road Details R.14.1 and R.14.2) curb with or without gutter, driveway curbs, Type "C" median curb and Type "A" median curb, including the necessary preparation and compaction of the subgrade in both cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.

- B. Page 583, Article 520-2, Materials: Is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days

- C. Page 591 Article 520-12, Basis of Payment: Is deleted in its entirety and replaced with the following:

1. The quantity of curb or curb and gutter, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer and does not include ramp and sidewalk curb. Such price and payment shall be full compensation for all work specified under this Section, including the necessary preparation, limerock or suitable material and compaction of the subgrade in

both, cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.

2. <<No separate pay item(s) for Concrete Gutter, Curb Elements, and Traffic Separator will be provided under this contract.>>
3. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
520-1-10	Concrete Curb and Gutter, Type F, Includes base	LF
520-5-4	Concrete Traffic Separator (Type IV) 4' wide, includes base	LF
520-2-4	Concrete Curb, Type D, includes base.	LF

522 CONCRETE SIDEWALK (SECTION 522)

- A. Page 589, Article 522-1, Description: Is expanded to include the following:

1. The work specified under this Section consists of the forming, furnishing, placement, and finishing of concrete for the construction of concrete sidewalks, pedestrian ramps and sidewalk curbs (back of sidewalk) utilizing Class I Concrete. The width, thickness and type shall be as shown and noted in the Plans. All work will be in accordance with this Section except as modified herein.

- B. Page 589, Article 522-2, Materials: is amended as follows.

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

- C. Page 591 Article 522-9, Method of Measurement: is expanded to include the following:

1. The quantity to be paid for under this Article shall be the area in square yards of concrete sidewalk and pedestrian ramps, measured in place, complete and accepted. Measurement shall be the final dimensions measured along the surface of the completed work within the neat lines shown on the Plans or designated by the Engineer. No deduction will be made for the area occupied by trees left within the area of sidewalks or for any area occupied by manholes, inlets or other drainage or public utility appurtenances within the sidewalk area.

- D. Page 591 Article 522-10, Basis of Payment: is deleted in its entirety and replaced with the following:

1. The quantity, determined as provided above, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer. Such price and payment shall be full compensation for all work specified under this Section.

2. When curb and gutter is required for the construction of pedestrian ramps and no specific pay item has been included for the construction of the curb and gutter, such payment shall be included in the pay item for Sidewalk (including pedestrian ramps and sidewalk curbs).

3. No separate payment shall be made for the removal of forms or the filling of excavated area left by removal of forms. Contractor shall be responsible for any vandalized sidewalk until it is finally accepted by the Engineer.

4. <<No separate pay item(s) for Concrete Sidewalk will be provided under this contract.>>

5. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
522-1(1)	CONCRETE SIDEWALK (4" Thick, 3000 p.s.i. Concrete at 28 Days) (Includes the cost of Pedestrian Ramps and Sidewalk Curbs)	S.Y.
522-2	CONCRETE SIDEWALK (6" Thick, 3000 p.s.i. Concrete at 28 Days) (Includes the cost of Pedestrian Ramps and Sidewalk Curbs)	S.Y.

527 DETECTABLE WARNINGS ON WALKING SURFACES (REV. 12-20-16)

- A. Description.

1. Furnish and install Safety Yellow Colored Detectable Warning devices on newly constructed and/or existing concrete or asphalt walking surfaces (curb ramps, sidewalks, shared-use paths, etc.) constructed in accordance with the FDOT Design Standards Index No. 304 and these specifications, where indicated on the Plans or directed by the Engineer.

- B. Materials.

1. General:

- a. Provide Detectable Warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
- b. Provide only embedded Detectable Warning devices, set in wet concrete, for all construction except where retrofit applications of surface applied detectable warnings have been approved in writing by the Engineer.
- c. Use Detectable Warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic.
- d. Use Detectable Warnings with size and pattern shown in the plans comprised of truncated domes aligned in parallel rows in accordance with the FDOT Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.

- e. Concrete stamping, field-formed materials, or methods or products used to form Detectable Warnings in wet concrete are not permitted.

2. Material Properties:

- a. Provide Detectable Warnings that meet the following minimum material property requirements when tested in accordance with the indicated Standard appropriate to the material.

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C 1028	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm ³
Water Absorption*	ASTM D-570	Not to exceed 5%.
Adhesion/Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C
* Applies only to plastic materials.		
** Applies only to surface-applied materials.		

3. Color/Contrast: Use Safety Yellow colored Detectable Warnings on concrete or asphalt walking surfaces. Acceptable Detectable Warnings must maintain a Light Reflectance Value (LRV) CAP Y of 25 – 45, as measured with a spectrophotometer, for a minimum duration of three years.

4. Approved Products List:

- a. Use Detectable Warnings listed on the FDOT Approved Products List (APL) and that have been further evaluated and found acceptable by the Department. At the option of the Contractor, an "or equal" product evaluation request, for an equivalent FDOT APL approved product that meets or exceeds the specification stipulated herein, may be submitted in writing to the Engineer for review and acceptance.
- b. The following products, subject to continued listing on the FDOT APL, have been evaluated by the Department for use on Department projects:

SURFACE APPLIED DETECTABLE WARNING DEVICES		
Manufacturer	Product	APL Number

Engineered Plastics, Inc.	Armor-Tile Surface Applied Inline Dome	527-000-006
TufTile	TufTile Polymer (Surface Applied)	527-000-045
TufTile	TufTile Polymer (Surface Applied) Radius	527-000-045-RW

EMBEDDED DETECTABLE WARNING DEVICES

Manufacturer	Product	APL Number
ADA Solutions, Inc.	Cast-In-Place Composite TacTile	527-000-003
ADA Solutions, Inc.	Replaceable Wet Set Composite	527-000-018
Engineered Plastics, Inc.	Armor-Tile Replaceable Cast in Place	527-000-026
Engineered Plastics, Inc.	Armor-Tile Cast-In-Place Inline Dome Tile	527-000-027
Cape Fear Systems, LLC	AlertCast (Replaceable) Cast-In-Place	527-000-029
Access Products, Inc.	Access Tile Replaceable Cast in Place	527-000-033
StrongGo Industries	TekWay Dome Tile	527-000-035
TufTile, Inc.	TufTile Cast Iron (Wet-set) Replaceable	527-000-044
TufTile	TufTile Polymer (Wet Set) Replaceable	527-000-046
TufTile	TufTile Polymer (Wet Set) Radius	527-000-046-RW

A. Installation Procedures.

1. Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners.

B. Method of Measurement

1. The quantity to be paid for will be the area, in square feet, of Detectable Warnings furnished and installed pursuant to these specifications, measured in place and accepted by the Engineer.

C. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including all labor, surface preparation, materials and incidentals necessary to

complete the work for installation of Detectable Warnings on walking surfaces.

2. <<No separate pay item(s) for Detectable Warning On Walking Surface will be provided under this contract.>>
3. Payment will be made under:

Item No.	Description	Unit
527-2	Detectable Warning On Walking Surface	SF

570 SODDING

A. Description.

1. Establish a stand of grass within the specified areas, by furnishing and placing sod, and rolling, watering, and maintaining the sodded areas to ensure a healthy stand of grass.

B. Materials. Meet the following requirements:

1. Sod FDOT 981-2
2. Water FDOT Section 983

C. Construction Methods.

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 72 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.
- b. Mowing Schedule
 - 1) Minimum bi-weekly after established, and
 - 2) Immediately prior to final acceptance

D. 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.

E. Method of Measurement.

1. The quantities to be paid for will be the area of sodding measured and accepted by the Engineer.
2. 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).

F. Basis of Payment.

1. Prices and payments for Sodding will be full compensation for all work, water, and materials required to perform the work as specified in this Article, the satisfactory disposal of excavated material, and the furnishing and application of the water.
2. The costs for watering, mowing, and maintaining the sod in a moist condition for a period of at least two weeks, shall be included in the Contract unit price for Sodding.
3. <<No separate pay item(s) for Sodding will be provided under this contract.>>
4. Payment will be made under.

570-1-2 Sodding (Pensacola, Bahia or SY
Match existing) (includes watering)

575 RELOCATION OF TREES OR PALMS; AND PROTECTION OF EXISTING LANDSCAPE

A Relocation of trees or palms

1. General

- a. Work consists of relocating trees and/or palms within the existing right of way, within a one (1) mile radius, in locations indicated in the drawings or as directed by the Engineer. Where drainage work is required, minor adjustments to the system may be necessary to minimize relocations.
- b. The Contractor shall be cognizant of and comply with the Miami-Dade County Ordinance regulating the removal and/or relocation of all trees. Permits required for tree removal and/or relocation shall be the responsibility of the Contractor.

2. Material

- a. Water: provide water by a method approved by the Engineer meeting the requirements of FDOT Section 983.
- b. Backfill Material: the existing material excavated from the planting pit is to be used as backfill.

3. Pruning

a. Trees

- 1) Prior to root pruning, prune tree canopy to ISA Standards and conform to ANSI A300. The extent

of pruning shall be the minimum needed to reduce shock resulting from severing of roots.

- 2) No more than 30 percent of total canopy branches greater than one inch in diameter may be removed. Interior sucker growth and dead wood shall be removed first, followed by selective pruning of branches and limbs. Limbs that run through the tree crown shall be removed before other limbs are removed. Pruning shall not destroy the form of the tree. All cuts shall be made outside of the branch collar.
- 3) Trees shall be root pruned six (6) weeks prior to relocation. No backhoes or trenchers shall be used in the process. Backfill trench within 24 hours after root pruning with coarse sand.
- 4) Where required by the Engineer or the designated County arborist, brace and guy the root pruned tree to support and maintain the tree in a stable vertical position until relocation.

4. Replanting

a. Trees

- 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Trees shall be watered in during the planting process to eliminate air pockets in the backfill.
- 2) Size of the trees will be the trunk diameter measured at breast height (54 inches above grade).
- 3) All trees are to be fertilized at the time of planting with Atlantic Florida East Coast Fertilizer Mixture (No. 5231) 12-06-08 slow-release fertilizer or approved equal. This fertilizer is to be spread evenly over the top of the planting pit after backfilling. The application rate is 2 lbs/tree.

b. Palms

- 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Burlap is to be untied and pulled away from the top of the ball, unless specified in writing by the Engineer. Plants are to be watered-in during the planting process to eliminate all air pockets in the backfill material.
- 2) Size of the palm will be determined by measuring ground level to the topmost portion of the palm.
- 3) All palms are to be fertilized at time of planting with Atlantic Florida East Coast Fertilizer Mixture 08-04-12 slow-release improved palm special fertilizer or equal. This fertilizer is to be spread evenly over the top of the planting pit after backfilling. The application rate of 3 lbs/palm.

5. Mulching:

- a. A planting saucer will be established, the same size as the diameter of the planting pit and the rim shall be no higher than 4 inches. The mulch is to be Forestry Research Products Florimulch (Melaleuca mulch) free of viable seed and burrowing nematodes and certified by the Florida Department of Agriculture, or equal, and is to be spread evenly inside the saucer to a depth of 3 inches.
- b. Remove saucer prior to Project completion or as directed by the Engineer.

6. Staking and Guying:

- a. This work shall be performed in accordance with the standard planting detail for trees and/or palms.
- b. Palms shall be staked using the Arborlock Staking System or equal (with the approval of County representative).
- c. Trees shall be guyed using Arbor Tie (a flat woven polypropylene material with 900 lbs. Break strength) manufactured by Deep Root Partners, L.P., or equal.
- d. Six (6) month after planting, the Contractor shall return to the site and remove all materials used for staking and guying. At the discretion of the Engineer, the period for staking and guying may be extended beyond six (6) months but for no longer than one (1) year.

7. Watering Schedule:

- a. After replanting trees and palms, they are to be watered as follows:
 - 1) for the first 4 weeks 3 times/week
 - 2) for the second 4 weeks 2 times/week
 - 3) for the third 4 weeks 1 time/week
- b. Application Rate:
 - 1) Trees and slender trunk palms 6 gal/watering
 - 2) Moderate and heavy trunk palms 10 gal/watering

8. Guarantee of Relocated Trees and Palms

- a. All trees and palms that are relocated shall be guaranteed for a period of one year after relocation.

B. Protection of Existing Landscaping

1. Description:

- a. Install tree protection barricades when called for in the Contract Documents or by the Engineer to protect existing trees and landscape from damage during project construction. Place barricades, as directed by the Engineer, at the drip line of the landscape foliage or as far from the base of the tree trunk as possible. Barricades shall consist of Heavy-Duty Construction (Orange) Barrier Fence (Minimum 4-feet high) attached to 2-inch by 4-inch by 8-foot long vertical wooden posts per FDOT Index No. 544 except that 2-inch by 4-inch horizontal wooden top bars with a maximum 8-foot spacing between posts shall be used. Barricades shall be able to withstand bumps by heavy

equipment and trucks. Maintain barricades in good condition.

- b. All trees, shrubbery, and landscaping (on the R/W or adjacent property) irreparably damaged or destroyed by the Contractor during construction, as determined by the Engineer, shall be replaced by and at the Contractor's expense. Trees and shrubbery shall be replaced with like-sized plants; except for trees or shrubs removed pursuant to the requirements of the Contract Documents or at the specific direction of the Engineer. Replacement plant size shall be determined by calculating the total diameter at breast height (DBH) of affected trees, palms, and/or shrubbery, or the total averaged height of affected trees, palms, and/or shrubs. All replacement material must be Florida #1 Grade or better.

C. Method of Measurement:

1. The quantity to be paid for relocation of trees or palms will be the quantities measured, completed and accepted by the Engineer, under the items shown in the Contract Document.
2. The quantity to be paid for protection of existing landscape will be the quantity in linear feet of barricade, completed and accepted, measured by the Engineer.

D. Basis of Payment:

1. Price and payment shall be full compensation for all work specified in this Section inclusive of all labor, material, and equipment necessary for the proper relocation of trees or palms and protection of existing landscape as required by the Contract Documents.
2. <<No separate pay item(s) for Relocation of Trees or Palms; and Protection of Existing Landscape will be provided under this contract.>>
3. Payment will be under:

Item No.	Description	Unit
580-327-21R	Relocation of Trees greater than 6" diameter up to 12" diameter	EA
580-327-23R	Relocation of Trees greater than 12" diameter up to 24" diameter	EA
580-327-24R	Relocation of Trees greater than 24" diameter up to 36" diameter	EA
580-327-25R	Relocation of Trees greater than 36" diameter up to 54" diameter	EA
580-327-26R	Relocation of Trees greater than 54" diameter up to 60" diameter	EA
110-21	Tree protection barricades	LF

580 LANDSCAPE INSTALLATION

A. Description.

1. Plant trees and shrubs of the species, size, and quality indicated in the plans.
2. The Engineer reserves the right to adjust the number and location of any of the designated types and species to be used at any of the locations shown, in order to provide for any unanticipated effects which might become apparent after the substantial completion of other phases of the Project, or for other causes.

B. Materials.

1. Plants:

- a. Authority for Nomenclature; Species, etc.: For the designated authority in the identification of all plant material, refer to two publications of L.H. Bailey: "Hortus III" and "Manual of Cultivated Plants," and ensure that all specimens are true to type, name, etc., as described therein. For the standard nomenclature, refer to the publication of the American Joint Committee on Horticultural Nomenclature, "Standardized Plant Names."

- b. Grade Standards and Conformity with Type and Species: Only use nursery grown plant material except where specified as Collected Material. Use nursery grown plant material that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of the Florida Department of Agriculture's "Grades and Standards for Nursery Plants".

- 1) Except where a lesser grade might be specifically specified in the plans, ensure that the minimum grade for all trees and shrubs is Florida No. 1. Ensure that all plants are the proper size and grade at the time of delivery to the site, throughout the project construction period and during any designated plant establishment period.

- 2) Ensure that plant materials are true to type and species and that any plant materials not specifically covered in Florida Department of Agriculture's "Grades and Standards for Nursery Plants" conform in type and species with the standards and designations in general acceptance by Florida nurseries.

- 3) Ensure that plant materials are shipped with tags stating the botanical and common name of the plant

- c. Inspection and Transporting: Move nursery stock in accordance with all Federal and State regulations and accompany each shipment with the required inspection certificates for filing with the Engineer.

2. Water: Water used in landscaping operations may be obtained from any approved source. Ensure that water is free of any substance which might be detrimental to plant growth. The use of effluent water is subject to approval and must meet all Federal, State and Local requirements

C. Specific Requirements for the Various Plant Designations.

1. Balled-and-Burlapped Plants (B&B), and Wired Balled-and-Burlapped (WB & B):

- a. General: Properly protect the root ball of these plants until planting them. The Engineer may reject any plant which shows evidence of having been mishandled.

- 1) Set the B&B and WB&B plants then remove the top 2/3 of all wire, rope, and binding surrounding the plant. Remove the burlap from the top 4 inches [100 mm] of the root ball. Do not disturb the root ball in any way. Bare root material is not allowed for substitution.

- 2) At least 90 days before digging out B & B and WB & B plants, root-prune those 1 1/2 inches [38 mm] or greater in diameter and certify such fact on accompanying invoices.

- b. Provisions for Wiring: For plants grown in soil of a loose texture, which does not readily adhere to the root system (and especially in the case of large plants or trees), the Engineer may require WB & B plants. For WB & B plants, before removing the plant from the excavated hole, place sound hog wire around the burlapped ball, and loop and tension it until the tightened wire netting substantially packages the burlapped ball such as to prevent disturbing of the loose soil around the roots during handling.

2. Container-Grown Plants (CG): The Engineer will not accept any CG plants with roots which have become pot-bound or for which the top system is too large for the size of the container. Fully cut and open all containers in a manner that will not damage the root system. Do not remove CG plants from the container until immediately before planting to prevent damage to the root system.

3. Collected Plants (Trees and Shrubs) (C): Use C plants which have a root ball according to "Florida Grades and Standards for Nursery Plants". Do not plant any C plant before the Engineer's inspection and acceptance at the planting site.

4. Collected Plants (Herbaceous) (HC): The root mass and vegetative portions of collected herbaceous plants shall be as large as the specified container-grown equivalent. Do not plant any collected plant before inspection and acceptance by the Engineer.

5. Specimen Plants (Special Grade): When Specimen (or Special Grade) plants are required, label them as such on the plant list, and tag the plant to be furnished.

6. Palms: Wrap the roots of all plants of the palm species before transporting, except if they are CG plants and ensure that they have an adequate root ball structure and mass for healthy transplantation as defined in "Florida Grades and Standards for Nursery Plants".

- a. The Engineer will not require burlapping if the palm is carefully dug from marl or heavy soil that adheres to the roots and retains its shape without crumbling. During transporting and after arrival, carefully protect root balls of palms from wind and exposure to the sun. Muck grown palms are not allowed. After delivery to the job site, if not planting the palm within 24 hours, cover the root ball with a moist material. Plant all palms within 48 hours of delivery to the site.

1. Uniformly apply mulch material, consisting of wood chips (no Cypress Mulch is allowed), pine straw, compost, or other suitable material approved by the Engineer, to a minimum loose thickness of 3 inches [75 mm] over the entire area of the backfilled hole or bed within two days after the planting. Maintain the mulch continuously in place until the time of final inspection.

I. Disposal of Surplus Materials and Debris.

1. Dispose of surplus excavated material from plant holes by scattering or otherwise as might be directed so that it is not readily visible or conspicuous to the passing motorist or pedestrian. Remove all debris and other objectionable material from the site and clean up the entire area and leave it in neat condition

J. Contractor's Responsibility for Condition of the Plantings.

1. Ensure that the plants are kept watered, that the staking and guying is kept adjusted as necessary, that all planting areas and beds are kept free of weeds and undesirable plant growth and that the plants are maintained so that they are healthy, vigorous, and undamaged at the time of acceptance.

K. Plant Establishment Period.

1. If the Contract Documents designate a Plant Establishment Period, assume responsibility for the proper maintenance, survival and condition of all landscape items during such period at no additional cost.

L. Method of Measurement.

1. The quantities to be paid for will be the items shown in the plans, completed and accepted.

M. Basis of Payment.

1. Separate pay item(s) for Landscape Installation will be provided under this contract.
2. Prices and payments will be full compensation for all work specified in this Article. (See Landscaping Plan pay items)

DIVISION 700 TRAFFIC CONTROL

710 PAINTED PAVEMENT MARKINGS (REV. 05-02-12)

A. Description.

1. Apply Painted Traffic Stripes and Raised Retro-Reflective Pavement Markers (RPMs), in accordance with the Contract Documents.

B. Materials.

- 1 Use only materials listed on the FDOT Qualified Products List (QPL) meeting the following requirements:

Raised Retro-reflective Pavement Markers and Bituminous Adhesive	FDOT Section 970
Standard Waterborne Fast Dry Traffic Paint	FDOT 971-1 and 971-3
Fast Dry Solvent Paint	FDOT 971-1 and 971-4
Glass Spheres	FDOT 971-1 and 971-2

C. Equipment.

1. Use equipment that will produce continuous uniform dimensions of pavement markings of varying widths and meet the following requirements:
 - a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of paint 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 stripe by an automatic sphere dispenser attached to the striping machine such that the glass spheres are dispensed closely behind the installed line. Use a glass spheres dispenser equipped with an automatic cut-off control that is synchronized with the cut-off of the traffic paint and applies the glass spheres in a manner such that the spheres appear uniform on the entire pavement markings surface with 50 to 60 percent embedment.
 - c. Capable of spraying the paint to the required thickness and width without thinning of the paint.
2. Paint tank must be equipped with nozzles having cut-off valves, which will apply broken or skip lines automatically.

D. Application:

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. Refer to Subarticle J below for Removal of Existing Painted Traffic 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 and will not be measured separately for payment. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in general costs for Maintenance of Traffic.
 - b. Before applying traffic stripes and markings, remove any material that would adversely affect the bond of the traffic stripes by a method approved by Engineer and consistent with manufacturer's specifications.
 - c. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.
 - d. Apply traffic stripes and markings only to dry surfaces, and when the ambient air and surface temperature is at least 40°F and rising. Do not apply traffic stripes and markings when winds are sufficient to cause spray dust.
 - e. Apply traffic stripes and markings, having well defined edges, over existing pavement markings such that not more than 2 inches on either end and not more than 1 inch on either side is visible.
 - f. Mix the paint thoroughly prior to pouring into the painting machine. Apply paint to the pavement by spray or other means approved by Engineer.
 - g. Conduct field testing in accordance with Florida Method (FM) 5-541. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.
 - h. Apply all pavement markings prior to opening the road to traffic.
 - i. Apply all retro-reflective pavement markers per the requirements of Article 706 (Raised Retro-Reflective Pavement Markers and Bituminous Adhesive).
2. Painted Pavement Markings (Final Surface), when included as a single lumps sum item in the Contract having and awarded Contract price, will include two applications of standard painted pavement markings and one application of retro-reflective pavement markers applied to the final surface. Wait at least 14 days after the first application to apply the second application of Painted Pavement Markings (Final Surface). Second application must be applied prior to final acceptance of the project.
 3. Thickness: Apply paint to attain a minimum wet film thickness in accordance with the manufacturer's recommendations.
 4. Retroreflectivity:
 - a. Apply white and yellow standard pavement markings that will attain an initial retroreflectance of not less than 300 mcd/lx·m² and not less than 250 mcd/lx·m², respectively. Measure, record and certify on a

Department approved form and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.

- b. The Department reserves the right to test the markings within 3 days of receipt of the Contractor's certification. Failure to afford the Department opportunity to test the markings will result in non-payment. The test readings should be representative of the Contractor's striping performance. If the retroreflectivity values measure below values shown above, reapply the pavement markings at no additional cost to the Department.
 - c. For standard pavement markings, ensure that the minimum retroreflectance of white and yellow pavement markings are not less than 150 mcd/lx m². If the retroreflectivity values fall below the 150 mcd/lx m² value within six months of initial application, the striping will be reapplied at the Contractor's expense.
5. Color: Use paint material that meets the requirements of FDOT 971-1.
6. Glass Spheres: Apply glass spheres on all pavement markings immediately and uniformly following the paint application. The rate of application shall be based on the manufacturer's recommendation.

E. Tolerances in Dimensions and in Alignment.

1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.
2. Dimensions:
 - a. Longitudinal Lines: Apply painted 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 paint 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.
3. Alignment:
 - a. Apply painted stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.
 - b. Apply painted stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree
 - c. Apply painted 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.

4. Correction Rates: 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.

F. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of the materials. Furnish Engineer with the manufacturer's name and batch numbers of the materials and glass spheres to be used. Ensure that the approved batch numbers appear on the materials and glass spheres packages.

G. Protection of Newly Painted Pavement 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.

H. Corrections for Deficiencies to Applied Painted Pavement Markings.

1. Reapply a 10 mile section centered around any deficiency, at no additional cost to the Department

I. Submittals.

1. Submittal Instructions: Prepare a certification of quantities, using the Department's current approved form, 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.
2. Contractor's Certification of Quantities: Request payment by providing to Engineer a monthly certification of quantities with each payment requisition or as directed by Engineer, based on the amount of work done or completed. Ensure the certification of quantities include the following:
 - a. Contract Number, Certification Number, Certification Date and the period that the certification represents.
 - b. 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.

J. Removal of Existing Painted Traffic Stripes and Markings.

1. Removal Requirements.
 - a. Remove existing pavement markings by water blasting, sandblasting, or other method approved by the Engineer. Do not use chemicals for the removal of painted traffic stripes and/or markings. Provide positive means to control dust and accumulation of

debris from the removal operations. Remove all pavement marking materials from the pavement surface. Remove accumulated piles of any debris as a result of the removal operation from the right of way and dispose of in accordance with applicable Federal, State, and Local regulations, at no additional cost to the Department.

2. Protection of Existing Pavement Surfaces.
3. Conduct removal operations in a manner that will not damage existing pavement surfaces (concrete or asphalt) or damage pavement joint materials. Repair, to the satisfaction of the Engineer, any damage as a result of the removal operations.
4. Do not paint over existing pavement markings to blackout, hide, or disguise markings.

K. Method of Measurement.

1. The quantities to be paid for under this Article will be as follows:
 - a. Length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.
 - b. Total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.
 - c. Net length, in feet, of each of all other types of lines and stripes, authorized and acceptably applied.
 - d. Number of pavement messages, symbols and directional arrows, authorized and acceptably applied. For bicycle marking, the bicycle symbol and the arrow will be paid as one unit.
 - e. Lump Sum, as specified under Final Surface above, when the item for Painted Pavement Markings (Final Surface) is provided in the Contract with an awarded Contract Unit Price.
2. The net length, in feet of dotted and skip stripes other than 10-30 and 3-9 will be measured as the distance from the beginning of the first painted stripe to the end of the last painted stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 (Determination of Pay Areas) of the General Requirements to these Specifications. Unpainted intervals will not be included in pay quantity.
3. The gross-mile measurement of 10-30 and 3-9 Skip Traffic Stripes will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and will include the unpainted intervals. It will not include any lengths of unpainted intervals which, by design or by other intent of the Department, are greater than 30 feet. Final measurement will be determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 of the General Requirements to these Specifications.
4. Removal:
 - a. The area, in square feet, for removal of existing markings acceptably removed.

- b. Payment for removal of conflicting markings will be in accordance with 102-E.8. Payment for removal of non-conflicting markings will be paid separately.
- c. The gross mile measurement will be taken as the distance from the beginning of the painted line to the end of the painted line and will include the unmarked gaps for skip and dotted lines
- d. The gross mile measurement will not include designated unmarked lengths at intersections, turn lanes, etc.

L. Basis of Payment.

1 General:

- a. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. There will be no separate payment for removal of conflicting markings.
- b. Final payment will be withheld until all deficiencies are corrected.
2. Lump Sum Payment: When the item for Painted Pavement Markings (Final Surface) is included in the proposal, prices and payments will be full compensation for two applications of all painted pavement markings applied to the final surface, and one application of retro-reflective pavement markers applied to the final surface in accordance Article 706 of these Specifications.
3. <<No separate pay item(s) Painted Pavement will be provided under this contract.>>
4. 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).

Item	Description	Unit
710-11-1	Removal of Pavement Messages (Per word, Paint or Thermoplastic)	EA
710-11-2	Removal Of Existing Directional Arrows (Paint or Thermoplastic)	EA
710-11-3	Removal of Existing School Crossing Pavement Messages	EA
710-11-4	Removal of Existing Rail Road Crossing Messages	EA
710-72	Removal of Existing Pavement marking (Paint or Thermoplastic)	SF
710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	NM
710-11-121	Painted Pavement Markings, Standard, White, Solid, 6"	LF
710-11-102	Painted Pavement Markings, Standard, White, Solid, 8"	LF

710-11-123	Painted Pavement Markings, Standard, White, Solid, 12"	LF
710-11-124	Painted Pavement Markings, Standard, White, Solid, 18"	LF
710-11-125	Painted Pavement Markings, Standard, White, Solid, 24"	LF
710-11-131	Painted Pavement Markings, Standard, White, Skip, 6", 10-30 Or 3-9skip	GM
710-11-133	Painted Pavement Marking, Standard, White, 12" Wide, 3'-9' Skip And Approach To Toll Plaza	GM
710-11-141	Painted Pavement Markings (Standard) (White) (Skip) (6")	LF
710-11-151	Painted Pavement Markings, Standard, White, Dotted/Guideline/6-10 Gap Extension, 6"	LF
710-11-160	Painted Pavement Markings, Standard, White, Message	EA
710-11-170	Painted Pavement Markings, Standard, White, Arrows	EA
710-11-180	Painted Pavement Markings, Standard, White, Yield line	LF
710-11-190	Painted Pavement Markings, Standard, White, Island Nose	SF
710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	NM
710-11-221	Painted Pavement Markings, Standard, Yellow, Solid, 6"	LF
710-11-222	Painted Pavement Markings, Standard, Yellow, Solid, 8"	LF
710-11-223	Painted Pavement Markings, Standard, Yellow, Solid, 12"	LF
710-11-224	Painted Pavement Markings, Standard, Yellow, Solid, 18"	LF
710-11-225	Painted Pavement Markings, Standard, Yellow, Solid, 24"	LF
710-11-231	Painted Pavement Markings, Standard, Yellow, Skip, 6"	GM
710-11-241	Painted Pavement Markings, Standard, Yellow, Skip, 6"	LF
710-11-251	Painted Pavement Markings, Standard, Yellow, Dotted/Guideline/6-10 Gap Extension, 6"	LF
710-11-260	Painted Pavement Markings, Standard, Yellow, Message Nose	EA
710-11-290	Painted Pavement Markings, Standard, Yellow, Island Nose	SF
710-11-421	Painted Pavement Markings, Standard, Blue, Solid, 6"	LF
710-11-460	Painted Pavement Markings, Standard, Blue, Message	EA

710-90	Painted Pavement Markings, Final Surface	LS

711 THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS (REV. 05-02-12)

A. Description.

1. Apply new thermoplastic traffic stripes and markings, or refurbish existing thermoplastic traffic stripes and markings, in accordance with the Contract Documents.

B. Materials.

1. 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:

Initial or Recapped Stripes FDOT 971-1 and 971-5 and Markings:

Refurbishing Existing Stripes FDOT 971-1 and 971-5 and Markings:

Preformed Stripes and Markings: FDOT 971-1 and 971-6

2. 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.

3. Sand: Use materials meeting the requirements of FDOT 971-5.4.

C. Equipment.

1. Use equipment capable of providing continuous uniform heating of striping materials to temperatures exceeding 390°F, mixing and agitation of the material reservoir to provide a homogeneous mixture without segregation. Use equipment that will maintain the striping 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 width traffic stripes and which meets the following requirements:

- a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of striping 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 stripe by a double drop application for initial traffic striping and marking and a single drop application for recapping and refurbishing. The bead dispenser for the first bead drop shall be attached to the striping machine in such a manner that the beads are dispensed closely behind with the thermoplastic material. The second bead dispenser bead shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first bead drop application. Glass spheres dispensers shall be equipped with an automatic cut-off control that

is synchronized with the cut-off of the thermoplastic material and applies the glass spheres in a manner such that the spheres appear uniform on the entire traffic stripes and markings surface with, 50 to 60 percent embedment.

- c. Equipped with a special kettle for uniformly heating and melting the striping 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.
- d. Meet the requirements of the National Fire Protection Association, state, and local authorities.

D. Application.

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 50°F 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.

E. Tolerances in Dimensions and in Alignment.

1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy

2. 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.

3. 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.

4. 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.

F. 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.

G. 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.

H. Observation Period.

1. 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.
2. 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.
3. Replace, at no additional expense to the Department, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

I. Corrections for Deficiencies.

1. 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.
2. If recapping will result in a thickness exceeding the maximum allowed, the traffic stripes or markings must be removed and reapplied.

J. Submittals.

1. **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.
- 2 **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:

a. Contract Number, Certification Number, Certification Date and the period that the certification represents.	711-11-224	Thermoplastic (Yellow) Solid 18"	LF
b. 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.	711-11-231	Thermoplastic (Std)(Yellow)(Skip)6"	GM
	711-16-241	Thermoplastic (Yellow)(Skip) 6"	LF
	711-11-251	Thermoplastic (Yellow) Dotted/Guideline 6"	LF
	711-3-2	Pavement Messages (Rr) (Thermoplastic)]	EA
K. Method of Measurement.	711-3-3	Pavement Messages (Thermoplastic) School	EA
1. Quantities to be measured by Engineer for payment under this Article will be as follows:	711-31-41	Skip Traffic Stripe (4" White)(Thermoplastic)	GM
a. The length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.	711-32-41	Skip Traffic Stripe (4" Yellow, Thermoplastic)	GM
b. The total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance, for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.	711-33-541	Skip Traffic Stripe (4" White, Thermoplastic) 6'-10'	LF
c. The net length, in feet, of all other types of lines and stripes, authorized and acceptably applied.	711-34-641	Skip Traffic Stripe (4" Yellow, Thermoplastic) 6'-10' Skip	LF
d. The area, in square feet, of Removal of Existing Pavement Markings, acceptably removed. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in Maintenance of Traffic.	711-35-41	Solid Traffic Stripe (4" White)(Thermoplastic)	LF
e. The number of pavement messages, symbols and directional arrows, authorized and acceptably applied.	711-36-41	Solid Traffic Stripe (4" Yellow)(Thermoplastic)	LF
	711-14-160	Thermoplastic,Preformed,White,Message	EA
	711-5-541	Guidelines ((4" White) (Thermoplastic))	LF
L. Basis of Payment.	711-5-641	Guidelines 4' Yellow (Thermoplastic)	LF
1. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.	711-72	Removal Of Existing Pavement Markings	SF
2. <<No separate pay item(s) for Thermoplastic Traffic Stripes and Markings will be provided under this contract.>>	715-5-30	Luminaire & Bracket Arm, Install	EA
	715-5-50	Luminaire & Bracket Arm, Remove	EA
3. 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).	715-7-11G	Load Center, F&I, Secondary Voltage	EA
	715-7-12	Load Center, F&I, Primary Voltage	EA
	715-7-21	Load Center, Rework, Secondary Voltage	EA
	715-7-31	Load Center, Relocate, Secondary Voltage	EA
	715-7-32	Load Center, Relocate, Secondary Voltage	EA
	715-7-41	Load Center, Remove, Secondary Voltage	EA
	715-7-42	Load Center, Remove, Primary Voltage	EA
	715-10-2D	Light Pole Foundation, F&I	EA
	715-10-3	Light Pole Foundation, Repair	EA
	715-10-4A	Light Pole Foundation, Straighten Existing Foundation	EA
	715-10-5B	Light Pole Foundation, Remove	EA
	715-11-111D	Luminaire, Furnish & Install, Roadway, Cobra head (480V)(400 Watts)	EA
	715-11-113	Luminaire, F&I, Roadway, Pole Top	EA
Item Description Unit			
711-16-101	Thermoplastic (White) Solid 6"	LF	
711-16-102	Thermoplastic (White) Solid 8"	LF	
711-11-123	Thermoplastic (White) Solid 12"	LF	
711-11-124	Thermoplastic (White) Solid 18"	LF	
711-11-125	Thermoplastic (White) Solid 24"	LF	
711-11-131	Thermoplastic (Std)(White)(Skip)6"	GM	
711-11-141	Thermoplastic (White)(Skip) 6"	LF	
711-11-151	Thermoplastic (White) Dotted/Guideline 6"	LF	
711-11-160	Thermoplastic (White) Message	EA	
711-11-170	Thermoplastic (White) Arrows	EA	
711-16-201	Thermoplastic (Yellow) Solid 6"	LF	

715-11-115	Luminaire, F&I, Roadway, Wall Mount	EA
715-11-116A	Luminaire, F&I, Roadway, Pendant	EA
715-11-125A	Luminaire, F&I, Under Deck, Wall Mount	EA
715-11-400	Luminaire, Relocate	EA
715-11-500	Luminaire, Remove	EA
715-11-600	Luminaire, Repair & Reinstall	EA
715-16-5	Lighting-Ballast, Replace	EA
715-17-52	Lighting-Lamp, Replace, Mercury Vapor	EA
715-17-53	Lighting-Lamp, Replace, Metal Halide	EA
715-17-55	Lighting-Lamp, Replace, Low Pressure Sodium	EA

ATTACHMENT D

ADDENDUM:

AMERICAN RESCUE PLAN ACT (ARPA)

ATTACHMENT D

AMERICAN RESCUE PLAN ACT ADDENDUM TO
CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY
OF SOUTH MIAMI

BETWEEN
THE CITY OF SOUTH MIAMI
AND

[NAME OF ENTITY]

THIS ADDENDUM to the CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI (the "Addendum") is entered into as of the _ day of _____, 2024 (the "Effective Date of this Addendum"), by and between the CITY OF SOUTH MIAMI, a Florida municipal corporation, (the "City") and **NAME OF ENTITY**, a [State] [type of entity] [if out of state entity, add and confirm that the entity is: authorized to do business in Florida] (hereinafter, the "Contractor"). Collectively, the City and the Contractor are referred to as "Parties."

WHEREAS, on **[DATE]**, the City entered into a Construction Agreement (the "Agreement") with the Contractor for the Construction Agreement related to the CONSTRUCTION OF TRAFFIC CIRCLES AT VARIOUS LOCATIONS IN THE CITY OF SOUTH MIAMI project(s) for contractor to implement] (the "Project"), as further defined in the Agreement; and

WHEREAS, on March 11, 2021, the federal government adopted the American Rescue Plan Act ("ARPA"), which, among other things, provides local governments with emergency COVID-19 funding; and

WHEREAS, the City desires to utilize ARPA funding to implement the Project; and

WHEREAS, in order to utilize ARPA funding for the Project, the City desires to incorporate federally required contract provisions relating to ARPA into the Agreement, as set forth in this ARPA Addendum; and

WHEREAS, the City and Contractor wish to modify the terms of the Agreement in accordance with the terms and conditions set forth in this ARPA Addendum.

NOW, THEREFORE, for and in consideration of the mutual promises set forth herein, the City and Contractor agree as follows:¹

1. **Recitals Incorporated.** The above recitals are true and correct and incorporated herein.
2. **American Rescue Plan Act Provisions.** The Agreement is hereby amended by adding the following provisions to the Agreement:

¹ Coding: ~~Strikethrough words~~ are deletions to the existing words. Underlined words are additions to the existing words

2.1.Mandated Federal Agreement Conditions.

2.1.1. In connection with the performance of this Agreement, Contractor acknowledges that compensation for the Project services under this Agreement shall be fully or partially funded using the Coronavirus State and Local Fiscal Recovery Funds allocated to the City pursuant to the American Rescue Plan Act. As such, Contractor shall comply with all laws, rules, regulations, policies, and guidelines (including any subsequent amendments to such laws, regulations, policies, and guidelines) required by the American Rescue Plan Act, including, but not limited to the following documents and guidelines, which are incorporated herein and made a part of this Agreement:

ARPA Exhibit 1.Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR Part 200), as applicable and as may be amended from time to time;

ARPA Exhibit 2.The U.S. Department of the Treasury's Final Rule governing ARPA, dated January 27, 2022;

ARPA Exhibit 3.U.S. Department of the Treasury Coronavirus State and Local Fiscal Recovery Funds Award Terms and Conditions (Assistance Listing Number 21.019);

ARPA Exhibit 4.The U.S. Department of the Treasury's Coronavirus State and Local Fiscal Recovery Funds Frequently Asked Questions, dated April 27, 2022;

ARPA Exhibit 5.American Rescue Plan Act Coronavirus Local Fiscal Recovery Fund Agreement between the City and the State of Florida, Division of Emergency Management;

ARPA Exhibit 6.The U.S. Department of the Treasury's ARPA Compliance and Reporting Guidance, dated June 17, 2022; and

ARPA Exhibit 7.Assurances of Compliance with Civil Rights Requirements.

A copy of the above-referenced documents are available for inspection by the Contractor at the Office of the City Clerk and at the following City link: **ARPA EXHIBITS, Exhibit 1 through Exhibit 7 Listed Above in Section 2.11:**

https://southmiamiflgov-my.sharepoint.com/:f/g/personal/skulick_southmiamiflgov/EqZe4BSydzhJlKcTTEKz1xEBXe_9fwkGvYlOaDEq6qrosW?e=5fwsTC

2.1.2. *Title VI Requirements.* Contractor acknowledges that the City has certified compliance with Title VI of the Civil Rights Act of 1964 to the U.S. Department of the Treasury on the form incorporated herein as ARPA Exhibit 7. Towards that end, Contractor shall ensure that performance of work in connection with this Agreement complies with the certifications and requirements contained in ARPA Exhibit 7 and shall also adhere to the following provisions:

(1) The Contractor and its subcontractors, successors, transferees, and assignees shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of

federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this Agreement. Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this Agreement.

(2) Pursuant to 44 C.F.R. §§ 7 and 16, and 44 C.F.R. § 206.11, and that the Contractor shall undertake an active program of nondiscrimination in its administration of the Work under this Agreement.

2.1.3. Americans with Disabilities Act Requirements. The Contractor agrees to comply with the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. §§ 12101 et seq.), which prohibits discrimination by public and private entities on the basis of disability in employment, public accommodations, transportation, State and Local government services, and telecommunications. Additionally, Contractor agrees to comply with Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. §§ 3601), which prohibits discrimination against individuals on the basis of discrimination under any program or activity under this Agreement.

2.1.4. Age Discrimination Act of 1975. Contractor shall comply with the requirements of 42 U.S.C. §§ 6101 et seq., as amended, and the Treasury's implementing regulations (31 CFR Part 23), which prohibits the discrimination on the basis of age in programs or activities under this Agreement.

2.1.5. Protections for Whistleblowers.

(1) In accordance with 41 U.S.C. § 4712, Contractor may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant.

(2) The list of persons and entities referenced in the paragraph above includes the following:

- i. A Member of Congress or a representative of a committee of Congress.
- ii. An Inspector General
- iii. The Government Accountability Office.
- iv. A Federal employee responsible for contract or grant oversight or management at the relevant agency.

v. An authorized official of the Department of Justice or other law enforcement agency.

vi. A court or grand jury.

vii. A management official or other employee of the Contractor, subcontractor, the State of Florida, or the City who has the responsibility to investigate, discover, or address misconduct.

(3) The Contractor shall inform its employees in writing of the rights and remedies provided under this section, in the predominant native language of the workforce.

2.1.6. Compliance with Immigration and Nationality Act (INA). Contractor hereby certifies that it does not knowingly employ unauthorized alien workers in violation of the employment provisions contained in 8 USC Section 1324a(e) [Section 274A(e) of the Immigration and Nationality Act ("INA")].

2.1.7. Seat Belts Required. Pursuant to Executive Order 13043, 62 FR 19217, Contractor shall adopt and enforce policies or programs that require employees to use seat belts while operating or traveling on vehicles owned, rented, or personally owned by the Contractor and its employees while performing the Work.

2.1.8. Texting While Driving Ban. Pursuant to Executive Order 13513, 74 FR 51225, Contractor shall adopt and enforce policies that ban text messaging while driving and workplace safety policies designed to decrease accidents caused by distracted drivers.

2.1.9. Publication. Contractor shall obtain approval from the City in writing prior to issuing any publications in connection with this Agreement. If approved by the City, the Contractor shall include the following language in any and all publications issued:

"This Project is [being funded/was supported] in part by federal award number (FAIN) [Insert Project FAIN] awarded to City of South Miami by the U.S. Department of the Treasury."

2.1.10. Reporting Conflict of Interests. Contractor agrees to disclose in writing to the City, U.S. Department of the Treasury, and the State of Florida, as appropriate, any potential conflicts of interest affecting the use of funds awarded under the American Rescue Plan Act in accordance with 2 CFR 200.112.

2.2. Compliance with Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR Part 200). In accordance with the Final Rule and other guidelines provided in connection with the American Rescue Plan Act, Contractor shall be subject to the federal Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards under 2 CFR Part 200, including, but not limited to:

2.2.1. Equal Employment Opportunity Compliance. During the performance of this Agreement, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national

origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- a. Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising;
- b. layoff or termination;
- c. rates of pay or other forms of compensation; and
- d. selection for training, including apprenticeship

The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.
- (4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the U.S. Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts

by the administering agency and the U.S. Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the U.S. Secretary of Labor, or as otherwise provided by law.
- (8) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the U.S. Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

2.2.2. Contract Work Hours and Safety Standards Act Compliance. During the performance of this Agreement, the Contractor shall comply with the provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 through 3708), including as follows:

- (1) *Overtime requirements.* No Contractor or subcontractor contracting for any part of the Agreement Work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States, for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) *Withholding for unpaid wages and liquidated damages.* The City shall upon its own action or upon written request of an authorized representative of the U.S. Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) *Subcontracts.* The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

2.2.3. Clean Air Act Compliance. During the performance of this Agreement, the Contractor shall comply with the provisions of Clean Air Act (42 U.S.C. § 7401 et seq., as amended) and specifically agrees as follows:

- (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- (2) The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Environmental Protection Agency Region 4 (Southeast) Office.
- (3) The Contractor agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance in connection with this Agreement.

2.2.4. Federal Water Pollution Control Act Compliance. During the performance of this Agreement, the Contractor shall comply with the provisions of Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq., as amended) and specifically agrees as follows:

- (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- (2) The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Environmental Protection Agency Region 4 (Southeast) Office.
- (3) The Contractor agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance in connection with this Agreement.

2.2.5. Debarment and Suspension Compliance. During the performance of this Agreement, the Contractor warrants that Contractor or its subcontractors are not debarred,

suspended, or otherwise ineligible for contract awards under Executive Orders 12549 and 12689. Contractor shall comply with the following provisions:

- (1) This Agreement is a covered transaction for purposes of 2 C.F.R. pt. 180, the U.S. Department of the Treasury's implementing regulations at 31 CFR Part 19, and 2 C.F.R. pt. 3000. As such the Contractor is required to verify that none of the Contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (2) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by the City. If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the City, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The Contractor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C throughout the period of this Agreement. The Contractor further agrees to include a provision requiring such compliance in its lower tier covered transactions.
- (5) Contractor certifies that they:
 - i. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by a Federal department or agency;
 - ii. Have not, within a five (5)-year period preceding this proposal, been convicted of or had a civil judgment rendered against them for fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under 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.
 - iii. Are not presently indicted or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local); and
 - iv. Have not, within a five (5)-year period preceding this Agreement, had one or more public transactions (Federal, State or Local) terminated for cause or default. If the Contractor is unable to obtain and provide such certification, then the Contractor shall attach an explanation to this Agreement as to why not.

2.2.6. Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352, as amended). During the performance of this Agreement, the Contractor and its subcontractors shall comply with the

provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352, as amended). Specifically, Contractor represents and warrants as follows:

- (1) No Funds received by the Contractor under this Agreement have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any monies, other than Funds received by Contractor under this Agreement, have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the Contractor shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- (3) The Contractor shall require that this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all such sub-recipients shall certify and disclose accordingly.
- (4) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

2.2.7. Copeland "Anti-Kickback" Act. During the performance of this Agreement, the Contractor and its subcontractors shall comply with the provisions of the Copeland "Anti-Kickback" Act as follows:

- (1) The Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. part 3 as may be applicable, which are incorporated by reference into this Agreement.
- (2) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as the federal government may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

- (3) Breach. A breach of the contract clauses above may be grounds for termination of this Agreement, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

2.2.8. Procurement of Recovered Materials. Contractor shall comply with the provisions of 2 C.F.R.323, including Section 6002 of the Solid Waste Disposal Act. Towards that end, in the performance of this Agreement, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items, unless the product cannot be acquired: (1) competitively within a timeframe providing for compliance with the contract performance schedule; (2) meeting contract performance requirements; or (3) at a reasonable price.

Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>.

2.2.9. Domestic Preferences for Procurements. To the greatest extent practicable, Contractor and its subcontractors shall provide preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States, in accordance with 2 CFR 200.322, "Domestic preferences for procurements."

2.2.10. 2 CFR Subpart F – Audit Requirements. Contractor shall assist the City in complying with the audit requirements under 2 CFR Subpart F – Audit Requirements ("Federal Audit Provisions") and the reporting requirements of the U.S. Department of the Treasury's Final Rule, as amended, and other guidelines issued in connection with the American Rescue Plan Act.

- (1) Contractor shall assist the City in complying with the Federal Audit Provisions by providing the City, the State of Florida, the U.S. Department of the Treasury, the Treasury Office of the Inspector General, the Government Accountability Office, or other federal government entities, and any of their duly authorized representatives, access to personnel, accounts, books, records, supporting documentation, and other information relating to the performance of the Agreement or the Work ("Documentation") necessary to complete federal audits. Contractor shall promptly assist the City in the event Documentation must be supplemented to address audit findings or other federal inquiries.
- (2) Contractor shall keep all Documentation up-to-date throughout the performance of this Agreement and the Work. Contractor shall provide the City with all Documentation for each fiscal year by October 1 of each year or within five days of the completion of the Work, whichever occurs first. Contractor shall assist the City in complying with additional guidance and instructions issued by the U.S. Department of the Treasury governing the reporting requirements for the use of American Rescue Plan Act Coronavirus State and Local Fiscal Recovery Funds.

3. Conflict; Addendum Prevails. In the event of any conflict or ambiguity between the terms

and provisions of this Addendum and the terms and provisions of the Agreement, the terms and provisions of this Addendum shall control.

4. **Agreement Ratified.** Except as otherwise specifically set forth or modified herein, all terms in the Agreement are hereby ratified and affirmed and shall remain unmodified and in full force and effect in accordance with its terms.
5. **Defined Terms.** All initial capitalized terms used in this Addendum but not otherwise defined herein shall have the same meaning ascribed thereto in the Agreement.
6. **Counterparts.** This Addendum may be executed in counterparts, each of which shall be deemed an original, but all of which, when taken together, shall constitute one and the same instrument. An executed facsimile or electronic copy of this Addendum shall have the same force and effect as an original hereof.

[Remainder of page intentionally left blank. Signature pages follow.]

ATTACHMENT E

FORM OF PAYMENT AND PERFORMANCE BONDS PAYMENT BOND

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. PW2024-06**, which was awarded on _____, 2024, 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 _____, 2024, 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

(Affix Corporate Seal)

FOR THE SURETY:
WITNESS:

Name of Corporation
By: _____
Print Name: _____
Title: _____

Agent and Attorney-in-Fact
Print Name: _____
Title: _____
Address: _____

Telephone: _____

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:

Signed, sealed and delivered by:

Witness #1 Print Name: _____

Print Name: _____

Witness #2 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 DOCUMENT

EXHIBIT B

**FORM 7
BID FORM/SCHEDULE OF VALUES
ITB No. PR2024-06**

Note:

Quantities are being provided for reference only. Contractors shall be responsible for verifying all quantities and take-offs, utilizing the furnished plans. Contractor's total sum shall reflect the inclusion of all improvements noted, drawn, specified and identified throughout the plans, without exception or exclusions.

NOTE: BID PRICES STATED IN THE PROPOSAL INCLUDE ALL COSTS AND EXPENSES FOR LABOR, EQUIPMENT, MATERIALS, CONTRACTOR'S OVERHEAD, AND PROFIT. PAYMENT FOR THIS PROJECT WILL BE BASED UPON COMPLETION OF THE ENTIRE PROJECT AS A UNIT PRICE CONTRACT, IN ACCORDANCE WITH THE PROJECT MANUAL.

NO. 1: TRAFFIC CIRCLE AT SW 76TH STREET & SW 61ST AVENUE

NO. 1 - ROADWAY TRAFFIC CIRCLE AT SW 76TH STREET AND SW 61 AVENUE

Item	Pay Item No.	Item Description	Quantity	Unit	Unit Cost	Extended Price
1	001	As-Built	1	LS	\$15,000.00	\$15,000.00
2	101-1	Mobilization (10% of Total)	1	LS	\$35,000.00	\$35,000.00
3	102-1	MOT	1	LS	\$8,000.00	\$8,000.00
4	102-14	Traffic Control Police Officer Allowance	100	HR	\$62.00	\$6,200.00
5	102-18	Inlet Protection System	3	EA	\$160.00	\$480.00
6	110-1-1	Clearing & Grubbing	1	LS	\$10,000.00	\$10,000.00
7	110-7-1	Mailbox, F&I Single	1	EA	\$400.00	\$400.00
8	110-21	Tree Protection Barrier	350	LF	\$30.00	\$10,500.00
9	110-4-10	Removal of existing concrete	230	SY	\$10.00	\$2,300.00
10	102-1	Regular excavation	760	CY	\$10.00	\$7,600.00
11	160-4	Type 8 Stabilization	1270	SY	\$20.00	\$25,400.00
12	285-706	Limerock Base (8") (Optional Base, Base Group 06)	1270	SY	\$40.00	\$50,800.00
13	334-1-13	Superpave Asphaltic Concrete, Traffic C, SP-9.5 (1" and 1/2")	58	TN	\$190.00	\$11,020.00
14	337-7-82	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22 (1")	58	TN	\$185.00	\$10,730.00
15	425-1-2A	SD-3.1 Swale Inlet Type D-1 (17" x27") < 10' (M-DPWD Pay Item)	2	EA	\$5,200.00	\$10,400.00
16	425-1-2B	SD-3.1 Swale Inlet Type D-1 (17" x27") > 10' (M-DPWD Pay Item)	1	EA	\$7,000.00	\$7,000.00
17	425-1-201	Inlets, Curb, Type 9, <10'	2	EA	\$3,500.00	\$7,000.00
18	425-1-332	Inlets, Curb, Type P-3, <10'	1	EA	\$3,500.00	\$3,500.00
19	425-1-605	SD-2.7 Swale Inlet (Type-P) , > 10' (M-DPWD Pay Item)	1	EA	\$4,500.00	\$4,500.00
20	425-2-41	SD-2.7 Manholes, P-7, < 10' (M-DPWD Pay Item)	2	EA	\$5,200.00	\$10,400.00
21	425-4	Inlets, Adjust	2	EA	\$500.00	\$1,000.00
22	425-5	Manhole, Adjust	3	EA	\$600.00	\$1,800.00
23	425-6	Valve Boxes, Adjust	5	EA	\$350.00	\$1,750.00
24	425-11	Modify Existing Drainage Structure	1	EA	\$1,700.00	\$1,700.00
25	425-79	Core and Tie to Existing Drain Structure (18" Pipe, Incl. Mortar Seal) (M-DPWD Pay Item)	1	EA	\$2,000.00	\$2,000.00
26	430-175-118	Pipe Culvert, Optional Material, Round, 18" SD (HDPE)	110	LF	\$120.00	\$13,200.00
27	443-70-3	Exfiltration Drain (18")	120	LF	\$200.00	\$24,000.00
28	520-1-10	Concrete Curb and Gutter (Type "F")/Drop Curb	465	LF	\$26.00	\$12,090.00
29	520-2-4	Concrete Curb and Gutter (Type "D")	75	LF	\$15.00	\$1,125.00
30	520-2-8	Concrete Curb, Type RA	105	LF	\$22.00	\$2,310.00
31	520-70	Concrete Traffic Separator, Special-Variable Width	35	SY	\$100.00	\$3,500.00
32	522-1	Concrete Sidewalk, 4" Thick	160	SY	\$54.00	\$8,640.00
33	522-2	Concrete Sidewalk, 6" Thick, (Sidewalk, Apron, Driveway & Slab)	120	SY	\$63.00	\$7,560.00
34		8" Reinforced Stamped Concrete	55	SY	\$90.00	\$4,950.00
35	527-2	Detectable Warning	45	SF	\$22.00	\$990.00
36	526-1-1	Pavers, Architectural, Roadway	55	SY	\$81.00	\$4,455.00
37	570-1-2	Performance Turf, Sod	300	SY	\$6.00	\$1,800.00
38	580-7-253	Landscape -Ground Cover (Green Island Ficus)	70	EA	\$35.00	\$2,450.00

39		Remove Utility Wood Pole with Foundation and Guide Wire	1	EA	\$3,000.00	\$3,000.00
A		SUB TOTAL ROADWAY				\$334,550.00

PAVEMENT MARKINGS AND SIGNAGE

Item	Pay Item No.	Item Description	Quantity	Unit	Unit Cost	Extended Price
40	710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	0.18	GM	\$3,432.00	\$617.76
41	710-11-102	Painted Pavement Markings, Standard, White, Solid for Interchange and Urban Island, 8"	0.01	GM	\$3,432.00	\$34.32
42	710-11-123	Painted Pavement Markings, Standard, White, Solid for Crosswalk and Roundabout, 12"	90	LF	\$1.30	\$117.00
43	710-11-124	Painted Pavement Markings, Standard, White, Solid for Diagonal or Chevron, 18"	60	LF	\$2.00	\$120.00
44	710-11-125	Painted Pavement Markings, Standard, White, Solid for Stop Line or Crosswalk, 24"	70	LF	\$2.60	\$182.00
45	710-11-141	Painted Pavement Markings, Standard, White, 2-4 Dotted Guideline/6-10 Dotted Ext, 6"	0.02	GM	\$3,432.00	\$68.64
46	710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	0.14	GM	\$3,432.00	\$480.48
47	710-11-290	Painted Pavement Markings, Standard, Yellow, Island Nose	315	SF	\$3.00	\$945.00
48		City of South Miami Street Name Sign and Pole. Per City Standards	1	AS	\$3,500.00	\$3,500.00
49	700-11-11	Single Post Sign, F&I Ground Mount, up to 12 SF	21	AS	\$550.00	\$11,550.00
50	700-1-50	Single Post Sign, Relocate	2	AS	\$500.00	\$1,000.00
51	700-3-501	Sign Panel, Relocate, up to 12 SF	1	EA	\$800.00	\$800.00
52	700-3-601	Sign Panel, Remove, up to 12 SF	1	EA	\$100.00	\$100.00
53	706-1-1	Raised Pavement Marker, Type B Without Final Surface Markings (Y/Y, W/R & Blue)	280	EA	\$10.00	\$2,800.00
54	711-11-123	Thermoplastic, Standard, White, Solid, 12" for Crosswalk and Roundabout	90	LF	\$2.40	\$216.00
55	711-11-124	Thermoplastic, Standard, White, Solid 18" for Diagonal and Chevron	60	LF	\$3.60	\$216.00
56	711-11-141	Thermoplastic, Standard, White, 2-4 Dotted Guideline/6-10 GAP Extension, 6"	0.02	GM	\$6,336.00	\$126.72
57	711-14-125	Thermoplastic, Preformed, White, Solid, 24" for Crosswalk	70	LF	\$60.00	\$4,200.00
58	711-16-101	Thermoplastic, Standard-Other Surfaces, White, Solid, 6"	0.18	GM	\$6,336.00	\$1,140.48
59	711-16-102	Thermoplastic, Standard-Other Surfaces, White, Solid, 8"	0.01	GM	\$6,336.00	\$63.36
60	711-16-201	Thermoplastic, Standard-Other Surfaces, Yellow, Solid, 6"	0.14	GM	\$6,336.00	\$887.04
B		SUBTOTAL PAVEMENT MARKING AND SIGNAGE				\$29,164.80

SUBTOTAL GENERAL A+B

						\$363,714.80
		PROJECT SIGN	2	GM	\$800.00	\$1,600.00
		CONTINGENCY FUND (15% OF SUBTOTAL GENERAL)	1	GM	\$54,557.22	\$54,557.22
		BOND & INSURANCE (2% OF SUBTOTAL GENERAL)	1	LF	\$7,274.30	\$7,274.30
		TOTAL CONSTRUCTION				\$427,146.32

NO. 2 TRAFFIC CIRCLE AT SW 77TH TERRACE AND SW 58 AVENUE

Item	Pay Item No.	Item Description	Quantity	Unit	Unit Cost	Extended Price

1	001	As-Built	1	LS	\$15,000.00	\$15,000.00
2	101-1	Mobilization (10% of Total)	1	LS	\$30,000.00	\$30,000.00
3	102-1	MOT	1	LS	\$8,000.00	\$8,000.00
4	102-14	Traffic Control Police Officer Allowance	100	HR	\$62.00	\$6,200.00
5	102-18	Inlet Protection System	2	EA	\$160.00	\$320.00
6	110-1-1	Clearing & Grubbing	1	LS	\$10,000.00	\$10,000.00
7	110-7-1	Mailbox, F&I Single	3	EA	\$400.00	\$1,200.00
8	110-21	Tree Protection Barrier	210	LF	\$30.00	\$6,300.00
9	110-4-10	Removal of existing concrete	110	SY	\$10.00	\$1,100.00
10	102-1	Regular excavation	700	CY	\$10.00	\$7,000.00
11	160-4	Type B Stabilization	1250	SY	\$20.00	\$25,000.00
12	285-706	Limerock Base (8") (Optional Base, Base Group 06)	1250	SY	\$40.00	\$50,000.00
13	334-1-13	Superpave Asphaltic Concrete, Traffic C, SP-9.5 (1" and 1/2")	71	TN	\$190.00	\$13,490.00
14	337-7-82	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22 (1")	65	TN	\$185.00	\$12,025.00
15	425-1-2A	SD-3.1 Swale Inlet Type D-1 (17" x27") < 10' (M-DPWD Pay Item)	1	EA	\$5,200.00	\$5,200.00
16	425-1-201	Inlets, Curb, Type 9, <10'	2	EA	\$3,500.00	\$7,000.00
17	425-4	Inlets, Adjust	1	EA	\$500.00	\$500.00
18	425-5	Manhole, Adjust	1	EA	\$600.00	\$600.00
19	425-6	Valve Boxes, Adjust	3	EA	\$350.00	\$1,050.00
20	425-11	Modify Existing Drainage Structure	1	EA	\$1,700.00	\$1,700.00
21	425-79	Core and Tie to Existing Drain Structure (18" Pipe, Incl Mortar Seal) (M-DPWD Pay Item)	1	EA	\$2,000.00	\$2,000.00
22	430-175-118	Pipe Culvert, Optional Material, Round, 18" SD (HDPE)	40	LF	\$120.00	\$4,800.00
23	443-70-3	Exfiltration Drain (18")	50	LF	\$200.00	\$10,000.00
24	520-1-10	Concrete Curb and Gutter (Type "E")/Drop Curb	450	LF	\$26.00	\$11,700.00
25	520-2-4	Concrete Curb and Gutter (Type "D")	95	LF	\$15.00	\$1,425.00
26	520-2-8	Concrete Curb, Type RA	105	LF	\$22.00	\$2,310.00
27	520-70	Concrete Traffic Separator, Special-Variable Width	25	SY	\$100.00	\$2,500.00
28	522-1	Concrete Sidewalk, 4" Thick	130	SY	\$54.00	\$7,020.00
29	522-2	Concrete Sidewalk, 6" Thick, (Sidewalk, Apron, Driveway & Slab)	60	SY	\$63.00	\$3,780.00
30		8" Reinforced Stamped Concrete	45	SY	\$90.00	\$4,050.00
31	527-2	Detectable Warning	20	SF	\$22.00	\$440.00
32	526-1-1	Pavers, Architectural, Roadway	60	SY	\$81.00	\$4,860.00
33	570-1-2	Performance Turf, Sod	950	SY	\$6.00	\$5,700.00
34	580-7-253	Landscape -Ground Cover (Green Island Ficus)	68	EA	\$35.00	\$2,380.00
35		Light Pole Complete, F&I, Standard Pole Standard Foundation, 35' Mounting High, 10' Arm Length	1	EA	\$50,000.00	\$50,000.00
36		Light Pole Complete, Remove Pole & Foundation	1	EA	\$3,000.00	\$3,000.00
A		SUB TOTAL ROADWAY				\$317,650.00

PAVEMENT MARKINGS AND SIGNAGE

Item	Pay Item No.	Item Description	Quantity	Unit	Unit Cost	Extended Price

37	710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	0.16	GM	\$3,432.00	\$549.12
38	710-11-102	Painted Pavement Markings, Standard, White, Solid for Interchange and Urban Island, 8"	0.01	GM	\$3,432.00	\$34.32
39	710-11-123	Painted Pavement Markings, Standard, White, Solid for Crosswalk and Roundabout, 12"	50	LF	\$1.30	\$65.00
40	710-11-125	Painted Pavement Markings, Standard, White, Solid for Stop Line or Crosswalk, 24"	30	LF	\$1.30	\$39.00
41	710-11-141	Painted Pavement Markings, Standard, White, 2-4 Dotted Guideline/6-10 Dotted Ext, 6"	0.02	GM	\$3,432.00	\$68.64
42	710-11-160	Painted Pavement Markings, Standard, White, Message or Symbol	2	EA	\$150.00	\$300.00
43	710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	0.16	GM	\$3,462.00	\$553.92
44	710-11-290	Painted Pavement Markings, Standard, Yellow, Island Nose	205	SF	\$2.00	\$410.00
45		City of South Miami Street Name Sign and Pole, Per City Standards	1	AS	\$3,000.00	\$3,000.00
46	700-11-11	Single Post Sign, F&I Ground Mount, up to 12 SF	18	AS	\$550.00	\$9,900.00
47	700-1-50	Single Post Sign, Relocate	1	AS	\$500.00	\$500.00
48	706-1-1	Raised Pavement Marker, Type B Without Final Surface Markings (Y/Y, W/R & Blue)	280	EA	\$10.00	\$2,800.00
49	711-11-123	Thermoplastic, Standard, White, Solid, 12" for Crosswalk and Roundabout	50	LF	\$2.40	\$120.00
50	711-11-141	Thermoplastic, Standard, White, 2-4 Dotted Guideline/6-10 GAP Extension, 6"	0.02	GM	\$6,336.00	\$126.72
51	711-11-260	Thermoplastic, Standard, White, Message or Symbol	2	EA	\$150.00	\$300.00
52	711-14-125	Thermoplastic, Preformed, White, Solid, 24" for Crosswalk	30	LF	\$100.00	\$3,000.00
53	711-16-101	Thermoplastic, Standard-Other Surfaces, White, Solid, 6"	0.16	GM	\$6,336.00	\$1,013.76
54	711-16-102	Thermoplastic, Standard-Other Surfaces, White, Solid, 8"	0.01	GM	\$7,920.00	\$79.20
55	711-16-201	Thermoplastic, Standard-Other Surfaces, Yellow, Solid, 6"	0.16	GM	\$6,336.00	\$1,013.76
B		SUBTOTAL PAVEMENT MARKING AND SIGNAGE				\$23,873.44
		SUBTOTAL GENERAL A+B				\$341,523.44
		PROJECT SIGN	2	GM	\$800.00	\$1,600.00
		CONTINGENCY FUND (15% OF SUBTOTAL GENERAL)	1	GM	\$51,228.52	\$51,228.52
		BOND & INSURANCE (2% OF SUBTOTAL GENERAL)	1	LF	\$6,830.47	\$6,830.47
		TOTAL CONSTRUCTION				\$401,182.42

COMBINED TOTAL CONSTRUCTION COST FOR TRAFFIC CIRCLES 1 AND 2

\$828,328.74

COMBINED TOTAL CONSTRUCTION FOR TRAFFIC CIRCLES No. 1 AND No. 2:

\$ 828,328.71

SUBMITTED THIS 14 DAY OF June 2024.

BID SUBMITTED BY:

V Engineering Corp.
Company

305-342-5568
Telephone Number

Felix Voldes
Name of Person Authorized to Submit Bid

Fax Number

Felix Voldes
Signature

felix@veccorp.net
Email Address

Secretary
Title

EXHIBIT C



COMMISSION-CITY MANAGER

JAVIER E. FERNANDEZ, ESQ.	MAYOR
USA BROWN	VICE MAYOR
STEVE CALLE	COMMISSIONERS, GROUP 1
JOSH LUDMAN	COMMISSIONERS, GROUP 2
BRIAN COREY	COMMISSIONERS, GROUP 3

CITY OF SOUTH MIAMI

TRAFFIC CIRCLES

SW 76th STREET AND SW 61st AVE &
SW 77th TERRACE AND SW 58th AVE



SECTION 36 - TOWNSHIP 54 SOUTH - RANGE 40 EAST

LOCATION MAP
SCALE: N.T.S.



Project Location

Project Location



THIS ITEM HAS BEEN DIGITALLY SIGNED
AND SEALED BY IGNACIO SERRALLA, P.E.
ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

ENGINEER'S CERTIFICATION

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND
BELIEF, COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN,
CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF
FLORIDA LEGISLATURE, CHAPTER 72-320 F.S.

IGNACIO SERRALLA, P.E. No. 45609

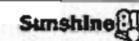
NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY,
AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALLED WITHIN SAID LIMITS.
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).

GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING
STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARDS PLANS FY 2022-23, AND STANDARD
SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED JULY 05-04-2022 (LAST UPDATED),
MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH
REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS.

PREPARED BY:



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!

REVISIONS-SUBMITTALS

REV.	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/29/2024 SHEET: C-0



COMMISSION-CITY MANAGER

JAVIER E. FERNANDEZ, ESQ. MAYOR
 LISA BONICH VICE MAYOR
 STEVE CALLE COMMISSIONERS, GROUP 1
 JOSH UEBMAN COMMISSIONERS, GROUP 11
 BRIAN COREY COMMISSIONERS, GROUP 11

INDEX OF SHEETS

SHEET No.	SHEET DESCRIPTION
C-1	COVER SHEET
C-2.0 TO C-2.1	GENERAL NOTES
C-2.2	LEGEND AND ABBREVIATIONS
C-3.0	NOTES
C-3.1	SUMMARY OF QUANTITIES
C-4.0 TO C-4.1	TYPICAL SECTION
C-5	ROADWAY PLAN
C-6	TRAFFIC CIRCLE MEDIAN DETAILS
C-7.0	SW 75th ST. - GRADING AND DRAINAGE PLAN AND PROFILE
C-7.1	SW 81st AVE. - GRADING AND DRAINAGE PLAN AND PROFILE
C-8	DRAINAGE PROFILE
C-9 TO C-10	DRAINAGE CROSS SECTION
C-11.0 TO C-11.2	MISCELLANEOUS DETAILS
C-12.0	STORMWATER POLLUTION PREVENTION NOTES & DETAILS
C-12.1	STORMWATER POLLUTION PREVENTION PLAN
C-13	PAVEMENT MARKING AND SIGNAGE PLANS
1	SURVEY

CITY OF SOUTH MIAMI TRAFFIC CIRCLE AT SW 76th STREET AND SW 61st AVE



LOCATION MAP
 SCALE: N.T.S.



ENGINEER'S CERTIFICATION

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE, CHAPTER 72-326 F.S.

IGNACIO SERRALLA, P.E. No. 45809

NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALL WITHIN SAID LIMITS
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29)

GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARDS PLANS FY 2021-25, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LAST UPDATED), MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS.

PREPARED BY:



100% SUBMITTAL



REVISIONS-SUBMITTALS

REV.	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/30/2024 SHEET: C-1

GENERAL NOTES:

- EXISTING TOPOGRAPHIC AND TREE LOCATION INFORMATION HAS BEEN OBTAINED FROM THE SURVEY PREPARED BY MADONE LAND SURVEYORS AND MAPPERS ON 09/13/2022.
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).
- FLOOD CRITERIA ELEVATION IS 10.56 FEET BASED ON MIAMI DADE COUNTY FLOOD CRITERIA MAPS, OCTOBER WATER LEVEL 2.86
- IN ACCORDANCE WITH THE MIAMI DADE COUNTY "PRELIMINARY FLOOD ZONES", THIS PROJECT IS LOCATED IN FLOOD ZONE "X"
<https://mdc.maps.arcgis.com/apps/webappviewer/index.html?id=5352310887c184d99e09c06c68413195c>
- ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONTACT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED OR COVERED HAVE TO BE PROPERLY REIDENTIFIED BY A PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THAT SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR OF REFERENCE AND RESTORE UPON COMPLETION OF THE WORK. ALL SUCH CORNERS AND MONUMENTS SHALL FURNISH TO THE ENGINEER A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.
- ALL BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED AND REIDENTIFIED BY THE CONTRACTOR IN THE SAME WAY AS PUBLIC LAND CORNERS EXCEPT THAT THE LAND SURVEYOR SHALL NOT BE REQUIRED TO RESTORE THE BENCH MARK UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL IMMEDIATELY TRANSMIT ALL DISPLACED OR DAMAGED N.G.V.D. DISCS TO THE ENGINEER, WHO WILL NOTIFY THE GEODETIC INFORMATION CENTER.
- ALL CONSTRUCTION ASSOCIATED WITH THIS PROJECT SHALL BE IN ACCORDANCE WITH APPLICABLE ORDINANCES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT, MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STANDARDS, THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), MIAMI-DADE COUNTY'S REGULATORY AND ECONOMIC RESOURCES (RED), ANY DISCREPANCY MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF SOUTH MIAMI AND ENGINEER OF RECORD (EOR).
- CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES FOR THE WORK NECESSARY TO COMPLETE THIS PROJECT. CONTRACTOR SHALL COORDINATE EFFORTS WITHIN THE CITY'S PUBLIC WORKS DEPARTMENT.
- CONTRACTOR SHALL USE A STREET SWEeper (USING WATER OR OTHER EQUIPMENT) FOR CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK. CLEANING AND SWEEPING IS TO BE INCLUDED IN CONTRACTOR'S M.O.T. OR TRAFFIC PAY ITEM AND SHALL BE DONE ON A DAILY BASIS (MIN).
- PERMANENT TURNOUTS AND ORNAMENTAL CONNECTIONS TO PRIVATE PROPERTY THAT LIE OUTSIDE THE LIMITS OF RIGHT-OF-WAY AND WHERE ACCESS RIGHTS HAVE NOT BEEN ACQUIRED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TURNOUT DETAILS AND STANDARD SPECIFICATIONS FOR THESE PLANS. THE CONTRACTOR SHALL NOT ISOLATE ADJACENT AND/OR THE REMAINDER OF THE PROPERTY UNLESS ACCESS RIGHTS ARE ACQUIRED. ACCESS SHALL BE PROVIDED TO SUCH PROPERTY WHENEVER CONSTRUCTION INTERFERES WITH THE EXISTING MEANS OF ACCESS.
- 48 HOURS PRIOR TO DIGGING CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND UTILITY SERVICE COMPANIES TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO ASSURE THAT ALL UTILITIES HAVE BEEN IDENTIFIED.
- CONTRACTOR SHALL VERIFY, PHOTOGRAPH AND INVENTORY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES, PAVEMENT OR OTHER FEATURES, ANY EXISTING STRUCTURE, PAVEMENT, TREE OR OTHER EXISTING FEATURE THAT IS IN CONTACT OR DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION ACTIVITIES UNDER THE CONTRACT AND PROVIDE COPIES TO THE CITY OF SOUTH MIAMI AND THE ENGINEER. THEY SHALL BE RESTORED PROMPTLY TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE PROJECT.
- THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES. PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION, ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ARCHITECT/ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS TAKEN FROM "AS-BUILT" DATA PROVIDED BY THE VARIOUS UTILITY COMPANIES AND SUPPLEMENTED BY FIELD MEASUREMENTS WHEN OBTAINABLE.

- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A PROPER SCHEME AREA APPROVED BY THE CITY OF SOUTH MIAMI. STOCKPILING OF MATERIAL IN ROADWAY IS NOT ALLOWED.
- UTILITIES NEEDED TO BE ADJUSTED WILL BE ADJUSTED BY OTHERS. CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING THESE ADJUSTMENTS WITH THE UTILITY COMPANY.
- THE CONTRACTOR SHALL REQUEST THE LOCATION OF ANY WATER, SEWER OR GAS LATERALS NOT SHOWN IN THE PLANS SERVING PROPERTIES ADJACENT TO THE PROJECT BEFORE EXCAVATING. THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVING SAID PROPERTIES SHALL BE INCLUDED IN HIS BID.
- THE CONTRACTOR IS TO USE CAUTION WHEN WORKING, SPECIALLY IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
- ANY WATER AND SEWER LINES TO BE ADJUSTED SHALL BE APPROVED BY THE MIAMI-DADE DEPARTMENT OF WATER AND SEWER. THE CONTRACTOR SHALL NOTIFY THE CITY OF SOUTH MIAMI FOR ANY CONFLICTS DURING CONSTRUCTION FOR ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
- ALL EXISTING ROCK BASE MATERIAL WHICH IS REMOVED IS TO BE INCORPORATED IN THE STABILIZED PORTION OF THE SUBGRADE, AS DIRECTED BY THE ENGINEER.
- NONE OF THE EXISTING ROCK BASE THAT IS REMOVED IS TO BE INCORPORATED INTO THE PROPOSED UNDERDOOR BASE.
- ALL DISPOSAL OF EXCESS AND UNSALEABLE EXCAVATED MATERIAL, DEMOLITION, VEGETATION, RUBBISH AND DEBRIS SHALL BE MADE OUTSIDE THE LIMITS OF CONSTRUCTION AT A LEGAL DISPOSAL SITE PROVIDED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE. WITH THE PRIOR APPROVAL OF THE ENGINEER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT AND/OR NEARBY PROPERTY.
- ALL EXCESS MATERIALS AS DESIGNATED BY THE ENGINEER ARE TO BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY HIM AND AT THE CONTRACTOR'S EXPENSE.
- ALL DRAINAGE CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF CITY OF SOUTH MIAMI AND MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RED).
- CONTRACTOR TO PROTECT EXISTING INLETS AND DRAINAGE COMPONENTS, ADJACENT TO CONSTRUCTION, THAT MAY BE SLOTTED OR EXPOSED TO DEBRIS DURING CONSTRUCTION. INLETS AND OTHER DRAINAGE COMPONENTS THAT ARE SLOTTED OR FULL OF DEBRIS AFTER CONSTRUCTION TO BE DESLOTTED/CLEANED BY CONTRACTOR PRIOR TO FINAL INSPECTION AND ACCEPTANCE.
- ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RESOEDDED.
- ALL UNSUITABLE MATERIAL UNDER THE PAVEMENT SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL MUCK AND ORGANIC MATERIALS FOUND WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL IN 6 INCH LIFTS COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH AASHTO T-181.
- THE CONTRACTOR SHOULD TAKE SPECIAL NOTE OF THE SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, EITHER PUBLIC OR PRIVATE, DURING EXCAVATION OF SURF, MATERIAL AND EXCAVATION FRENCH OR DURING THE FILING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ONLY EXCEPTION WILL BE THE PROTECTION OF UTILITIES. ALL UTILITIES SHALL BE MAINTAINED BY THE OWNER OF THE UTILITY.
- ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY CONTRACTOR AT ANY TIME DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION, AT NO EXPENSE TO THE OWNER OR THE CITY OF SOUTH MIAMI.
- EXISTING CHAIN LINK FENCE, CONCRETE WALL AND METAL FENCE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL ADJUST ALL EXISTING VALVES, BODIES, CATCH BASINS, GRATES, MANHOLES, COVERS, ETC. TO MEET NEW GRADES WHERE APPLICABLE.
- ALL VALVES, A.R.V.'S, AND MANHOLES TO BE RAISED AND ADJUSTED TO PROPOSED ROADWAY ELEVATION.
- SOODING TO BE USED AT LOCATIONS WHERE EXISTING LARNS ARE DISTURBED OR AS DIRECTED BY THE ENGINEER.
- ALL TREES ARE TO REMAIN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. CONTRACTOR MUST TAKE CARE NOT TO DAMAGE ANY TREE OR PALM WITHIN CONSTRUCTION AREA. SMALL TREES OR PALMS MAY BE RELOCATED AS DIRECTED BY THE CITY OF SOUTH MIAMI. TREE PERMIT MUST BE OBTAINED PRIOR TO CONSTRUCTION. THERE ARE LARGE TREES WITH EXTENSIVE ROOT NETWORKS ON THE ORDINGS THAT ARE IMPACTING ADJACENT SIDEWALKS, CURBS AND PAVEMENT. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE WITH AN ARBORIST TO ENSURE THAT ROOT AND TREE PRUNING ACTIVITIES ARE CONDUCTED IN A MANNER THAT IT DOES NOT HARM OR DESTROY THE TREE.
- RASH ON CURB RETURNS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

- PROVIDE A SMOOTH TRANSITION WHERE NEW PAVEMENT, SIDEWALK, OR CURB MEETS EXISTING GRASS AREAS.
- PRIOR TO REMOVAL AND/OR RELOCATION OF EXISTING TREES, IF REQUIRED, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE CITY OF SOUTH MIAMI AS WELL AS D.E.R.M. OTHERWISE CONTRACTOR SHALL REMOVE EXISTING TREES WHERE APPLICABLE WITHIN THE LIMITS OF CONSTRUCTION.
- WHERE NEW PAVEMENT MEETS EXISTING CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLESH WITH EXISTING PAVEMENT. SAW CUT AT EXISTING PAVEMENT JOINT MATCHING TO NEW PAVEMENT.
- ANY DISCREPANCY FOUND BETWEEN THE PLANS AND THE QUANTITIES SHEET MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE MUNICIPALITY/COUNTY AND ENGINEER OF RECORD (EOR). AN R.F.I. MUST BE PROVIDED AND SHOULD OUTLINE THE SPECIFIC ISSUE OR DISCREPANCY, PROVIDE SUPPORTING DOCUMENTATION OR EVIDENCE, AND SEEK CLARIFICATION OR APPROVAL BEFORE PROCEEDING WITH THE PROJECT/TASK.

DRAINAGE

- CONTRACTOR SHALL KEEP NEW AND EXISTING INLETS CLEAN OF PAVING MATERIALS AND DEBRIS. INLETS LOCATED NEAR CONSTRUCTION ACTIVITIES SHOULD BE PROTECTED BY APPROPRIATE EROSION CONTROL DEVICES.
- THERE SHALL BE NO MORE THAN 3 LATERAL DRAINAGE INSTALLATION WITHOUT BACKFILLING. LATERAL DRAINAGE SHALL NOT LAG MORE THAN 72 HOURS BEHIND THE START OF EXCAVATION.
- GRADES SHOWN ARE "FINISHED" GRADES.
- DRAINAGE SYSTEM SHALL BE CLEANED AND DESLUDGED PRIOR TO PM FINAL INSPECTION APPROVAL.
- EXISTING STRUCTURES AND PIPES TO REMAIN WITHIN LIMITS OF CONSTRUCTION SHALL BE VACUUM CLEANED.
- ANY EXISTING DRAINAGE COMPONENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE CONSTRUCTION ARE TO BE RESTORED TO EXISTING EQUIVALENT OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE.

PRE-CONSTRUCTION RESPONSIBILITIES

- PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION AND THE RECEIPT OF THE "NOTICE TO PROCEED" THE CONTRACTOR SHALL CONTACT CITY OF SOUTH MIAMI AND ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE THE ENGINEER OF RECORD. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE AND BE PREPARED TO DISCUSS ANY CONCERNS OR COORDINATION EFFORTS AND REQUIREMENTS WITH THE PARTIES INVOLVED.
- THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA, INC. CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION. CONTACT 811, WWW.SUNSHINE811.COM

PROJECT RECORD DOCUMENTS

- DURING THE DAILY PROGRESS OF THE JOB THE CONTRACTOR SHALL RECORD THE EXACT LOCATION, LENGTH, AND ELEVATION OF ALL PROPOSED IMPROVEMENTS ON HIS SET OF CONSTRUCTION DRAWINGS.
- UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER TWO COMPLETE SETS OF ALL "AS-BUILT" CONSTRUCTION DRAWINGS. THE DRAWINGS SHALL INCLUDE CHANGES AND DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE IN ACCORDANCE WITH THE "SURVEY WORK" SECTION OF THE "SPECIFICATIONS AND CONTRACT DOCUMENTS" FOR THIS PROJECT.
- ALL "AS-BUILT" INFORMATION AND ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND ALL FINAL MEASUREMENTS ARE TO BE IN THE FORM OF FIELD NOTES, PLANS AND CD (PDF FORMAT).

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UTILITIES

- TWO FULL BUSINESS DAYS (48 HOURS) PRIOR TO BEGINNING THE CONTRACTOR SHALL CONTACT 311, WWW.SOUTHMIAMI.COM TO REQUEST UTILITY LOCATIONS BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES.
- EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO (VERTICALLY AND HORIZONTALLY) PROTECT ALL EXISTING UTILITIES ON THIS PROJECT. ANY DAMAGE TO UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE UTILITY OWNER. THE OWNER RESERVES THE RIGHT TO REMEDY SUCH DAMAGE BY ORDERING OUTSIDE PARTIES TO MAKE SUCH REPAIRS AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERAL SERVICES MUST BE INCLUDED IN THE BID RELATED ITEM FOR THE WORK BEING DONE.
- UTILITY OWNERS:
 - ATLANTIC BROADBAND 786-251-5889 - FLORIDA POWER & LIGHT 386-586-0403
 - COMCAST CABLE 854-447-8405 - LEVEL 3 COMMUNICATIONS 786-256-1554
 - FLORIDA CITY GAS 786-575-8547 - M-D WATER & SEWER 786-268-5320
 - PUBLIC WORKS & TRAFFIC 786-345-0988 - AT&T 561-997-0240

ENVIRONMENTAL NOTES

- DUE TO THE LIMITED SCOPE OF WORK, NO IMPACTS TO EXISTING HISTORICAL AND CULTURAL RESOURCES ARE EXPECTED AS A RESULT OF THE PROPOSED ACTION.
- NO STAKING OR OTHER ACTIVITIES FOR THIS PROJECT SHOULD OCCUR WITHIN THE DRIFTE OF EXISTING TREES.
- PREVENT DAMAGING TREES AND PLANTERS WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT'S RIGHT-OF-WAY.
- AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE SHALL BE PRESENT ON SITE TO MONITOR CONSTRUCTION ACTIVITIES NEAR EXISTING TREES AND DIRECT ALL ROOT PRUNING AND/OR CANOPY TRIMMING ACTIVITIES.
- TREE PROTECTION SHOULD BE INSTALLED AROUND TREES TO REMAIN LOCATED ADJACENT TO CONSTRUCTION ACTIVITIES PER FOOT STANDARDS PLANS FY 2024-25, INDEX 110-100.
- 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/RELOCATION.
- CONTRACTOR SHALL REMOVE/CONTROL DUST USING WATER OR OTHER EQUIPMENT CAPABLE OF CONTROLLING DUST.

TRAFFIC CONTROL PLANS

- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FOOT STANDARDS PLANS FY 2024-25 (102 SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND MUTCD AS MINIMUM CRITERIA.
- NOTIFICATION OF LANE CLOSURES OR TEMPORARY DETOURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE. DETOUR OR HOT PHASE CHANGE SHALL BE SUBMITTED WITH THE REQUIRED LANE CLOSURE FORM, SKETCHES, CALCULATIONS, AND OTHER DATA TO PUBLIC WORKS DEPT.
- AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
- THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
- LANE CLOSURE SHALL OCCUR ONLY DURING NON-PEAK HOURS ON NON-EVENT DATES/TIME/WEEDENESS. NON PEAK HOURS 9:00 AM TO 3:30 PM WEEKDAYS AND SATURDAYS. EXCEPTIONS MAY BE GRANTED UPON WRITTEN REQUEST TO THE CITY.
- TRAFFIC CONTROL PLANS FOR ALL PHASES ARE DESIGNED FOR NON-PEAK HOURS ONLY. THE CONTRACTOR SHALL KEEP ALL EXISTING LANES OPEN DURING PEAK HOURS IN THESE PHASES.

- AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AND UNCOVERING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSEOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSEOVER. IN ADDITION, SOLID LANE AND EDGE LINES SHALL EXTEND 100 FT ON TANGENT BEYOND EACH END OF THE TRANSITION, SHIFT, OR CROSSEOVER. EXCEPTION SHALL BE THROUGH INTERSECTIONS WHERE 2 FT TO 4 FT S&P LINES WILL BE PLACED.
- ALL TEMPORARY STRIPES AND MARKINGS SHALL BE PAINT ONLY, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER. COST OF TEMPORARY STRIPPING SHALL BE INCLUDED IN MOT PAY ITEM.
- EACH EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- FOR SHOP DRYS, THE CONTRACTOR'S SHALL FOLLOW THE FOOT STANDARDS PLANS FY 2024-25 INDEX NO. 102-600 SHEET 8 OF 11. THE CONTRACTOR SHALL USE SHOULDER TREATMENT DETAIL WHEN NO BARRIERS ARE REQUIRED IN THE PLANS.
- CONTRACTOR SHALL PREPARE AND SUBMIT AN ACCEPTABLE MOT PLAN FOR THE PROJECT. THE MOT PLAN SHALL BE SUBMITTED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
- LANE CLOSURES SHALL NOT BE PERMITTED DURING SCHOOL SPEED ZONE HOURS WHERE SUCH CLOSURES WILL AFFECT TRAFFIC FLOW IN THE VICINITY OF THE SCHOOL SPEED ZONES.

WORK ZONE LIMITS

- THE LENGTH OF AN OPEN TRENCH SHALL NOT EXCEED 500 FT. PROPERTY ACCESS SHALL BE MAINTAINED IN ACCORDANCE TO ARTICLE 102-5.5 OF THE FOOT STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
- NO MORE THAN TWO BLOCKS OF STREET SHALL BE UNDER CONSTRUCTION AT A TIME AND ALL WORK AND RESTORATION SHALL BE COMPLETED ON ONE OF SUCH BLOCKS BEFORE WORK MAY BEGIN IN A NEW BLOCK. FINAL RESURFACING SHALL BE PLACED WITHIN 48 HOURS OF THE MILLING OPERATION.

INTERSECTIONS

- ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER.
- INTERSECTIONS SHALL BE RECONSTRUCTED WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL THE STRUCTURAL COURSE IS PLACED.
- WOT, TRANSITIONS AND TEMPORARY INTERSECTION CROSSEOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 1:20 TYPE SP ASPHALT CONCRETE SLOPE TO ACCOMMODATE VEHICULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL AND WORK, INCLUDING ITS REMOVAL, SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

PEDESTRIANS, BICYCLES, AND WHEELCHAIRS

- AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY OBSTACLE GREATER THAN 6 IN. ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE S&P PATHS OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL OR APPROVED HANDRAIL. COST SHALL BE INCLUDED IN THE PAY ITEM 102-1, MAINTENANCE OF TRAFFIC.
- CONSTRUCTION ACTIVITIES THAT INVOLVES SIDEWALKS ON BOTH SIDES OF THE STREET ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.

SIGNING AND PAVEMENT MARKINGS

- ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM WITH THE CURRENT EDITION OF THE FOOT STANDARDS PLANS FY 2024-25, THE 2022 FOOT DESIGN MANUAL, AND MUTCD.
- ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE SPECIFIED. BEFORE STARTING THE PROJECT, THE CONTRACTOR WILL REVIEW EXISTING SIGNS ON THE PLANS TO BE RELOCATED OR TO REMAIN. THE CONTRACTOR WILL NOTIFY IN WRITING TO THE PROJECT ENGINEER OF ANY MISSING SIGNS BEFORE CONSTRUCTION STARTS. SIGNS DAMAGED BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT NO COST TO THE DEPARTMENT. IF EXISTING SIGNS TO BE RELOCATED HAVE A DAMAGED POLE OR A POLE NOT MEETING HEIGHT SPECIFICATION REQUIREMENTS, THE COST OF A NEW POLE WILL BE INCLUDED IN THE RELOCATION BID ITEM.

- ALL PAVEMENT MARKINGS, MESSAGES, AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
- REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED AS INDICATED.
- MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOBS OR OFFSETS.
- THE CONTRACTOR SHALL REMOVE EXISTING MARKINGS BY FOOT APPROVED METHOD WITHOUT DAMAGE TO THE FRICTION COURSE.
- SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, WHEELCHAIR RAMPS, ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY MIAMI-DADE SIGNALS AND SIGNS DIVISION.
- THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST-MOUNTED STREET NAME AND STOP SIGNS TO A VISIBLE AREA UNDISTURBED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS. NEW STREET NAME SIGNS WILL BE ATTACHED AT THE TOP OF THE NEW STOP SIGNS ON MINOR SIDE STREETS AT THE END OF CONSTRUCTION.
- EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE FOOT STANDARDS PLANS FY 2024-25, INDEX 700-610 AS IF THEY WERE NEW SIGNS. IF EXISTING CLAMPS, BRACKETS, POLES, ETC. NEED TO BE REPLACED THE COST SHALL BE INCLUDED IN THE RELOCATION PAY ITEM.
- REFLECTIVE PAVEMENT MARKERS AS PER FOOT STANDARD INDEX NO. 706-001.
- NEW STREET NAME SIGNS SHALL BE PER MIAMI-DADE COUNTY STANDARDS AND MUTCD.

		TRAFFIC CIRCLE AT SW 76th ST AND SW 61st AVE.		GENERAL NOTES	
DATE: 4/20/2024		SCALE:		SHEET: 1C-21	

ABBREVIATIONS:

B.L.C.	= BUILDING
C.B.	= CATCH BASIN
BL	= BASE LINE
CL	= CENTER LINE
C.O.	= CLEANSUIT
CONC.	= CONCRETE
CONN.	= CONNECTION
CONT.	= CONTINUATION
CONST.	= CONSTRUCT
DET.	= DETAIL
D.I.P.	= DUCTILE IRON PIPE
EXIST.	= EXISTING
F.F.E.	= FINISHED FLOOR ELEVATION
F.H. / FH	= FIRE HYDRANT
F.M. / FM	= FORCE MAIN
H.D.P.E.	= HIGH DENSITY POLYETHYLENE
HORIZ.	= HORIZONTAL
INV.	= INVERT
L.F.	= LINEAR FEET
M-DWSD	= MIAMI-DADE WATER AND SEWER DEPT
M-DPW	= MIAMI-DADE PUBLIC WORKS
M.E.G.	= MATCH EXISTING GRADE
MIN.	= MINIMUM
P.I.V.	= POST INDICATOR VALVE
P.G.P.	= PROPOSED GRADING POINT
P.G.L.	= PROPOSED GRADING LINE
P/L	= PROPERTY LINE
PROP.	= PROPOSED
SAN	= SANITARY SEWER
R/W, ROW	= RIGHT OF WAY
SEC.	= SECTION
SERV.	= SERVICE
S/L	= SECTION LINE
STA.	= STATION
STD.	= STANDARD
SWK.	= SIDEWALK
T.O.P.	= TOP OF PIPE
U.S.F.	= U.S. FOUNDRY
VERT.	= VERTICAL
W.M. / WM	= WATER MAIN
W.S.	= WATER SERVICE
T.B.F.V.	= TO BE FIELD VERIFIED

UTILITIES LEGEND:

— WM —	— FM —	EXISTING WATER MAIN (UNDERGROUND)
— SAN —	— FM —	EXISTING SANITARY SEWER MAIN (UNDERGROUND)
— C.O. —	— FM —	EXISTING COMMUNICATION CONDUIT (UNDERGROUND)
— E —	— C —	EXISTING F.P.L. CONDUIT (UNDERGROUND)
— EX —	— C —	EXISTING EXFILTRATION DRAIN (UNDERGROUND)
— EX —	— C —	EXISTING F.P.L. CONDUIT (OVERHEAD)
— EX —	— C —	PROPOSED EXFILTRATION DRAIN (UNDERGROUND)
— EX —	— C —	PROPOSED SOLID DRAINAGE PIPE (UNDERGROUND)
— EX —	— C —	PROPOSED DRAINAGE STRUCTURE (INLET/WH) ID
— EX —	— C —	EXISTING DRAINAGE STRUCTURE (INLET) ID
— FM —	— FM —	EXISTING FORCE MAIN (UNDERGROUND)
		EXISTING CATCH BASIN
		PROP. CATCH BASIN
		PROP. DRAINAGE MANHOLE
		EXISTING DRAINAGE MANHOLE
		EXISTING SAN SEWER MANHOLE
		EXISTING WATER MAIN VALVE BOX
		EXISTING FORCE MAIN VALVE BOX
		EXISTING WATER METER
		EXISTING ELECTRICAL PANEL/PULL BOX
		EXISTING COMMUNICATION PANEL/PULL BOX
		EXISTING FIRE HYDRANT
		EXISTING GAS MAIN (UNDERGROUND)

ROADWAY PLANS LEGEND:

⊙	EXISTING SANITARY SEWER / DRAINAGE MANHOLE TO BE ADJUSTED BY A LICENSED CONTRACTOR
⊙	EXISTING WATER/FORCE MAIN VALVE BOX & LID TO BE ADJUSTED BY A LICENSED CONTRACTOR
⊙	EXISTING TREES/PALMS TO BE PROTECTED DURING CONSTRUCTION PROCESS PER FDOT INDEX 110-100
⊙	CONSTRUCT 4" CONC. SIDEWALK, HANDICAP RAMPS AND 6" CONC. DRIVEWAYS & INLET PROTECTOR
⊙	PROP. CONCRETE PAVEMENT (SEE TYPICAL SECTION) TRAFFIC CIRCLE MEDIAN
⊙	AREA TO BE RESURFACED
<u>NEW PAVEMENT / DRAINAGE TRENCH RESURFICATION</u>	
- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.	
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER MASHTO T-180	
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. LBR=40, PER MASHTO T-180	



TRAFFIC CIRCLE
AT
SW 76th ST. AND SW 61st AVE

LEGEND AND
ABBREVIATIONS

DATE	4/30/2024
PROJECT NO.	2329
DATE	4/30/24
BY	C-2

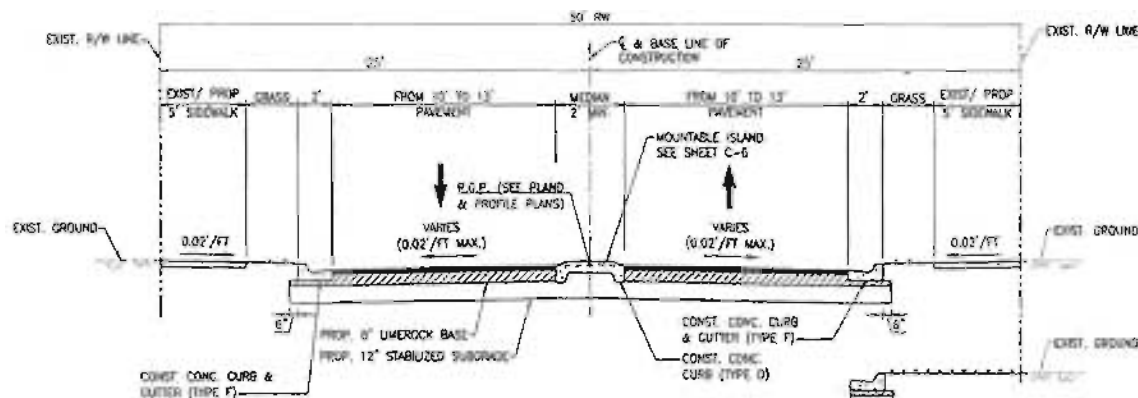
1	CONTRACTOR SHALL FURNISH AS-BUILT PLANS SIGNED AND SEALED BY AND PROFESSIONAL LAND SURVEYOR TO THE TOWN OF CUTLER BAY
102-1	TO BE ACCOMPLISHED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, PUBLIC WORKS MANUAL OF MIAMI DADE COUNTY, THE LATEST REVISIONS OF THE FOREMENTIONED MANUALS AT TIME OF CONSTRUCTION WITH ENGINEER APPROVAL, AND IN ACCORDANCE WITH THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS INDEX 102 SERIES. INCLUDES THE COST OF CONSTRUCTION OF TEMPORARY PAVEMENT & ITS SUBSEQUENT REMOVAL.
104-1B	THIS ITEM IS TO BE USED IN ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF EXISTING INLETS. PAYMENT PER EACH INLET INCLUDES ALL WORK AND MATERIALS FOR A COMPLETE SYSTEM. PROPOSED INLETS. THE PAYMENT FOR PROTECTING NEW INLETS IS INCIDENTAL TO THE COST OF THE NEW INLET. CURB INLET FILTERS, CURB INSERT PROTECTION SYSTEMS, PIPE END CAP FILTERS, DITCH BOTTOM INLET PROTECTION SYSTEMS ("GAPS", BARRIERS, AND OTHER MATERIALS) ARE INCLUDED IN THIS PAY ITEM.
110-1-1	CONSISTS OF COMPLETE REMOVAL AND DISPOSAL OF ALL VEGETATION, DEBRIS, DRAINAGE STRUCTURES, DRAINAGE PIPES, FLEXIBLE PAVEMENT, OR ANY OTHER OBSTRUCTIONS IN ALL AREAS WHERE EXCAVATION IS TO BE DONE, OR WHERE EMBANKMENTS OR STRUCTURES WILL BE CONSTRUCTED. THIS INCLUDES ROADWAY AREA, DITCH AREA, BORROW AND MATERIAL PITS, AND AREAS WHERE CULVERTS OR PIPELINES WILL BE CONSTRUCTED. ALSO INCLUDES SHRUB AND TREE TRIMMING. ALL DEBRIS SHOULD BE DISPOSED OF IN LEGAL AREAS PROVIDED BY THE CONTRACTOR.
110-4-10	CONSISTS OF REMOVING AND DISPOSING OF EXISTING CONCRETE PAVEMENT, CONCRETE SIDEWALKS, CONCRETE APRONS, DITCH PAVEMENT, CONCRETE PAVERS, AND CURB AND GUTTER.
160-4	INCLUDES ALL WORK AND MATERIALS SPECIFIED IN SECTION 160 (FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION), INCLUDING FURNISHING, SPREADING, AND MIXING OF ALL STABILIZING MATERIAL REQUIRED AND ANY REPROCESSING OF STABILIZATION AREAS NECESSARY TO ATTAIN THE SPECIFIED BEARING VALUE.
327-70-16	CONSISTS OF REMOVING EXISTING AC PAVEMENT TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENT, TO LOWER THE FINISHED GRADE ADJACENT TO EXISTING CURB PRIOR TO RESURFACING, OR TO COMPLETELY REMOVE EXISTING PAVEMENT. INCLUDES TRANSPORTING THE MILLED MATERIAL TO THE ASPHALT PLANT SITE AND STOCKPILING THE MATERIAL. ALSO INCLUDES REMOVAL OF EXISTING REFLECTIVE PAVEMENT MARKER.
425-1-SERIES 425-2-SERIES	INCLUDES POLLUTION RETARDANT Baffle & Inlet Protection (ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF PROPOSED INLETS). LABOR AND CONSTRUCTION SHALL BE INCLUDED IN COST OF STRUCTURES. FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND COMPLETING ALL WORK DESCRIBED ON FOOT SECTION 425 OR SHOWN IN THE PLANS, INCLUDING ALL CLEARING AND GRUBBING OUTSIDE THE LIMITS OF CLEARING AND GRUBBING AS SHOWN IN THE PLANS. ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE MEASUREMENT DESIGNATED TO BE PAID FOR UNDER THE ITEMS FOR THE GRADING WORK ON THE PROJECT, ALL BACKFILLING AROUND THE STRUCTURES, THE DISPOSAL OF SURPLUS MATERIAL, AND THE FURNISHING AND PLACING OF ALL GRATINGS, FRAMES, COVERS, AND ANY OTHER NECESSARY FITTINGS.
425-4, 425-5 & 425-6	WITHIN PAVEMENT AREA, INLETS, MANHOLES AND VALVE BOXES TO BE ADJUSTED AS NECESSARY.
430-175-SERIES	INCLUDES: FURNISHING AND PLACING PIPE PLUGS, PIPE FITTING, CAPS, CONCRETE JACKET, AND SOLID PIPES. FULL COMPENSATION FOR ALL WORK SPECIFIED ON FOOT SECTION 430, INCLUDING ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE ITEMS FOR THE GRADING WORK ON THE PROJECT, ALL BACKFILLING MATERIAL AND COMPACTION, AND DISPOSAL OF SURPLUS MATERIAL.
443-70-SERIES	INCLUDES EXCAVATION TO PLAN ELEVATION (15 FEET DEEP - SEE DETAILS SHEETS), FURNISHING AND PLACING (PIPE PLUGS, PIPE FITTINGS, PERFORATED PIPES, BALLAST ROCK AND BACKFILLING WITH SELECT FILL, FILTER FABRIC AND ALL APPLICABLE ITEMS REQUIRED TO CONSTRUCT DRAIN). ALSO, IT IS INCLUDED THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVICING SAID PROPERTIES.
522-SERIES	ESTIMATED QUANTITY FOR DRIVEWAYS, SIDEWALKS, RAMPS AND APRON TO BE CONSTRUCTED AT LOCATIONS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
526-1-1	INCLUDES ALL LABOR AND MATERIALS (PAVER, SAND, AND ANY PROCESSING OR MATERIAL NECESSARY TO COMPLETE PAVEMENT INSTALLATION).
570-1-2	INCLUDES TOPSOIL LAYER AND SOD TO BE USED IN THE RESTORATION OF LAWNS AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE TOWN OF CUTLER BAY, BASED SOD OR TO MATCH EXISTING SOD.
700-1111	THIS ITEM INCLUDES ALL SIGN PANEL(S), COLUMN(POST), FOUNDATION, HARDWARE AND MATERIALS NECESSARY FOR A COMPLETE ASSEMBLY.

1. EXCESS AND/OR UNDESIRABLE MATERIAL TO BE DISPOSED OF BY CONTRACTOR IN LEGAL AREAS PROVIDED BY HIM. NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM.
2. THE CONTINGENCY ITEM MUST BE APPROVED BY THE ENGINEER ON RECORD AND THE TOWN.
3. THE S L F OF SOLID PIPE ON BOTH SIDES OF THE FRENCH DRAIN ARE INCLUDED IN THE QUANTITIES LISTED UNDER PAY ITEMS 430-175-SERIES
4. REFER TO FOOT'S "DESIGN QUANTITIES AND ESTIMATES" (DQE) FOR MORE INFORMATION ON THE PAYMENT ITEM DESCRIPTIONS.
5. ANY EXCAVATED MATERIAL, IF UNSUITABLE, SHALL NOT BE USED IN THE CONSTRUCTION OF THE EMBANKMENT.

THE UNIVERSITY OF CHICAGO

ROADWAY				
Item	Pay Item No.	Description	Quantity	Unit Measure
1	100-1	AS BUILT	1	LS
2	101-1	MOBILIZATION	1	LS
3	102-1	MAINTENANCE OF TRAFFIC	1	LS
4	102-14	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR
5	104-18	INLET PROTECTION SYSTEM	3	EA
6	110-1-1	CLEARING AND GRUBBING	1	LS
7	110-7-1	MAILBOX, FM SINGLE	1	EA
8	110-21	TREE PROTECTION BARRIER	350	LF
9	110-4-10	REMOVAL OF EXISTING CONCRETE	230	SF
10	102-1	REGULAR EXCAVATION	760	CY
11	160-4	TYPE B STABILIZATION	1,270	SY
12	285-706	UMEROCK BASE (8") (OPTIONAL BASE BASE GROUP 06)	1,270	SY
13	304-1-13	SUPERPAVE ASPHALTIC CONC. TRAFFIC C. SP 9.5 (1" AND 1/2")	56	TN
14	307-7-42	ASPHALT CONCRETE FRICTION COURSE TRAFFIC C. PC 9.5 PG 75-102 (1")	56	TN
15	425-1-2A	SD-3 1 SHALE INLET TYPE D-1 (17" x 27") x 10" (M-DPWD PAY ITEM)	2	EA
16	425-1-2B	SD-3 1 SHALE INLET TYPE D-1 (17" x 27") x 10" (M-DPWD PAY ITEM)	1	EA
17	425-1-201	INLETS, CURB, TYPE B, x 10"	2	EA
18	425-1-302	INLETS, CURB, TYPE A, x 10"	1	EA
19	425-1-405	SD-2 1 SHALE INLETS (TYPE P), x 10" (M-DPWD PAY ITEM)	1	EA
20	425-2-41	SD-2 1 MANHOLES, P-7, x 10" (M-DPWD PAY ITEM)	2	EA
21	425-4	INLETS, ADJUST	2	EA
22	425-5	MANHOLE, ADJUST	3	EA
23	425-6	VALVE BOXES, ADJUST	5	EA
24	425-11	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA
25	425-79	CORE AND TIE IN TO EXISTING DRAIN STRUCTURE (18" RIFE INCL. MORTAR SEAL) (M-DPWD PAY ITEM)	1	EA
26	430-175-118	RIFE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD, HOPE	110	LF
27	443-70-3	EXFILTRATION DRAIN (18")	130	LF
28	520-1-10	CONCRETE CURB AND GUTTER (TYPE "P") (CRIP CURB)	485	LF
29	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	75	LF
30	520-2-8	CONCRETE CURB, TYPE RA	105	LF
31	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL, VARIABLE WIDTH	35	SF
32	522-1	CONCRETE SIDEWALK, 4" THICK	160	SY
33	522-2	CONCRETE SIDEWALK (6" THICK) (SIDEWALK APRON, DRIVEWAY & SALB)	130	SY
34		8" REINFORCED STAMPED CONCRETE	55	SY
35	527-2	DETECTABLE MARKINGS	45	SF
36	526-1-1	PAVERS, ARCHITECTURAL, ROADWAY	55	SY
37	570-5-2	PERFORMANCE TURF, 500	300	SY
38	580-7-253	LANDSCAPE GROUND COVER (GREEN ISLAND) (CUBS)	70	EA
39		REMOVE UTILITY WOOD POLE WITH FOUNDATION AND GROUND WIRE	1	EA

PAVEMENT MARKING AND SIGNAGE				
Item	Pay Item No.	Description	Quantity	Unit Measure
40	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	0.18	GM
41	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 18"	0.01	GM
42	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR CROSSWALK AND ROUNDABOUT, 12"	90	LF
43	710-11-124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	60	LF
44	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR STOP LINE OR CROSSWALK, 24"	70	LF
45	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE, 6-10 DOTTED EXTENSION, 6"	0.02	GM
46	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.14	GM
47	710-11-250	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	315	SF
48		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS
49	700-1111	SINGLE POST SIGN, FB & GROUND MOUNT, UP TO 12 1/2'	21	AS
50	700-1-50	SINGLE POST SIGN, RELOCATE	2	AS
51	700-3-501	SIGN PANEL, RELOCATE UP TO 12 8'	1	EA
52	700-3-501	SIGN PANEL, REMOVE, UP TO 12 8'	1	EA
53	706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS (V, W, R & BLUE)	280	EA
54	711-11-121	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	90	LF
55	711-11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	60	LF
56	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE, 6-10 GAP EXTENSION, 6"	0.02	GM
57	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	70	LF
58	711-16-101	THERMOPLASTIC, STANDARD, OTHER SURFACES, WHITE, SOLID, 6"	0.18	GM
59	711-16-102	THERMOPLASTIC, STANDARD, OTHER SURFACES, WHITE, SOLID, 8"	0.01	GM
60	711-16-201	THERMOPLASTIC, STANDARD, OTHER SURFACES, YELLOW, SOLID, 6"	0.14	GM



NEW PAVEMENT

- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. LBR=40, PER AASHTO T-180

DESIGN SPEED 15 MPH
POSTED SPEED 15 MPH

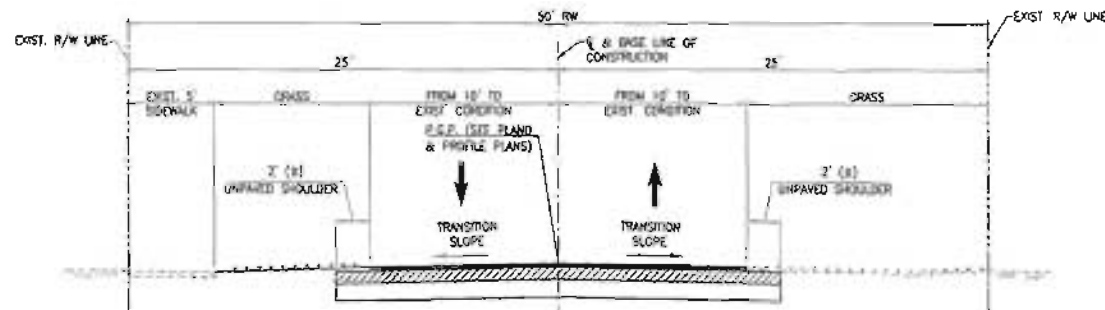
TYPICAL SECTION SW 61st AVE. N.T.S.

STA. 19+34 TO STA. 20+70

TYPICAL SECTION SW 76th ST. N.T.S.

STA. 9+19 TO STA. 10+67

STA. 19+34 TO STA. 20+00 (SW 61st AVE)
STA. 10+00 TO STA. 10+61 (SW 76th ST.)



NEW PAVEMENT

- 2 LIFTS: (1") SP-9.5 & (1") FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. LBR=40, PER AASHTO T-180

DESIGN SPEED 30 MPH
POSTED SPEED 30 MPH

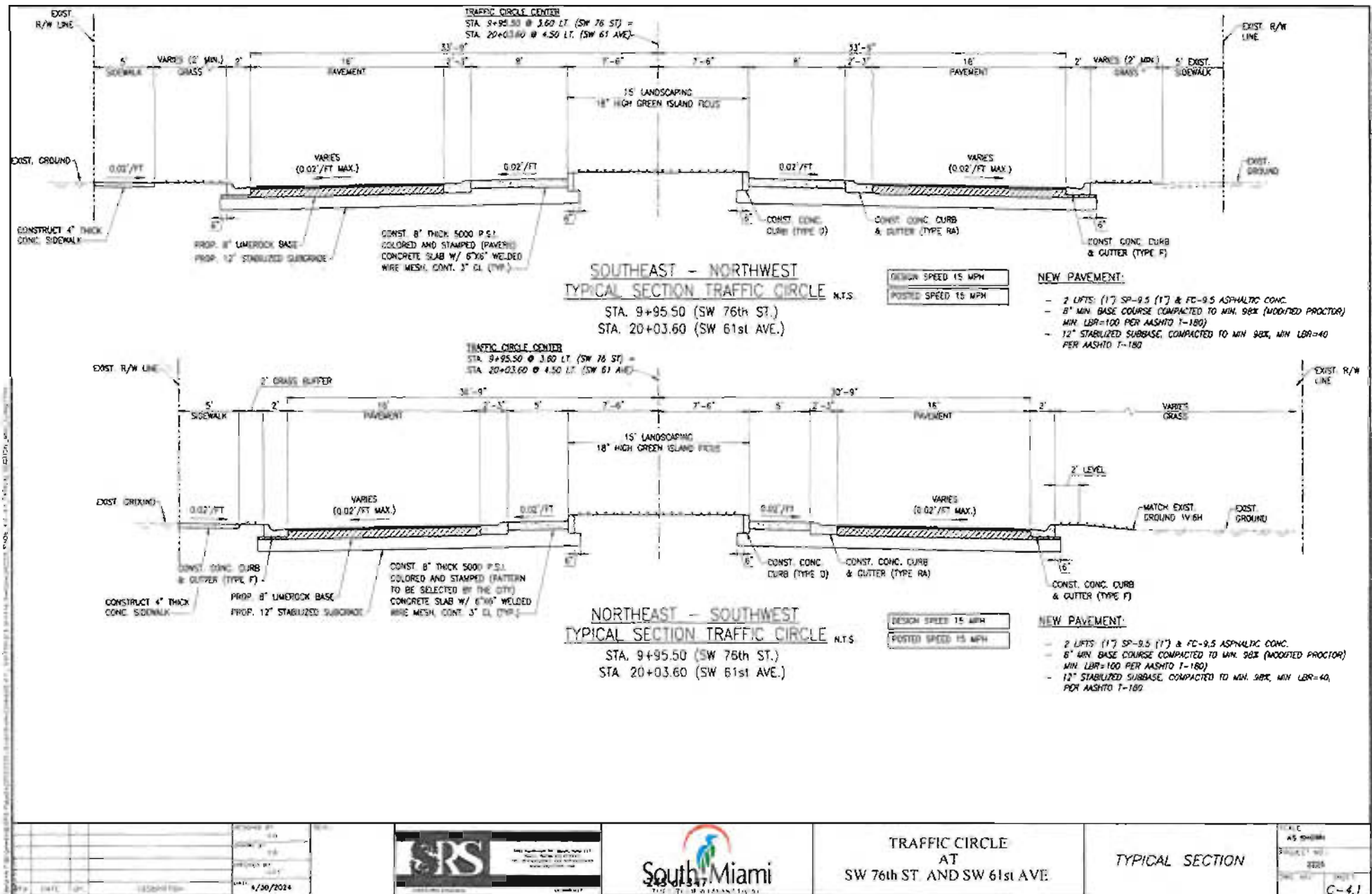
TYPICAL SECTION SW 61st AVE. N.T.S.

STA. 18+85 TO STA. 18+34

TYPICAL SECTION SW 76th ST. N.T.S.

STA. 10+67 TO STA. 11+15

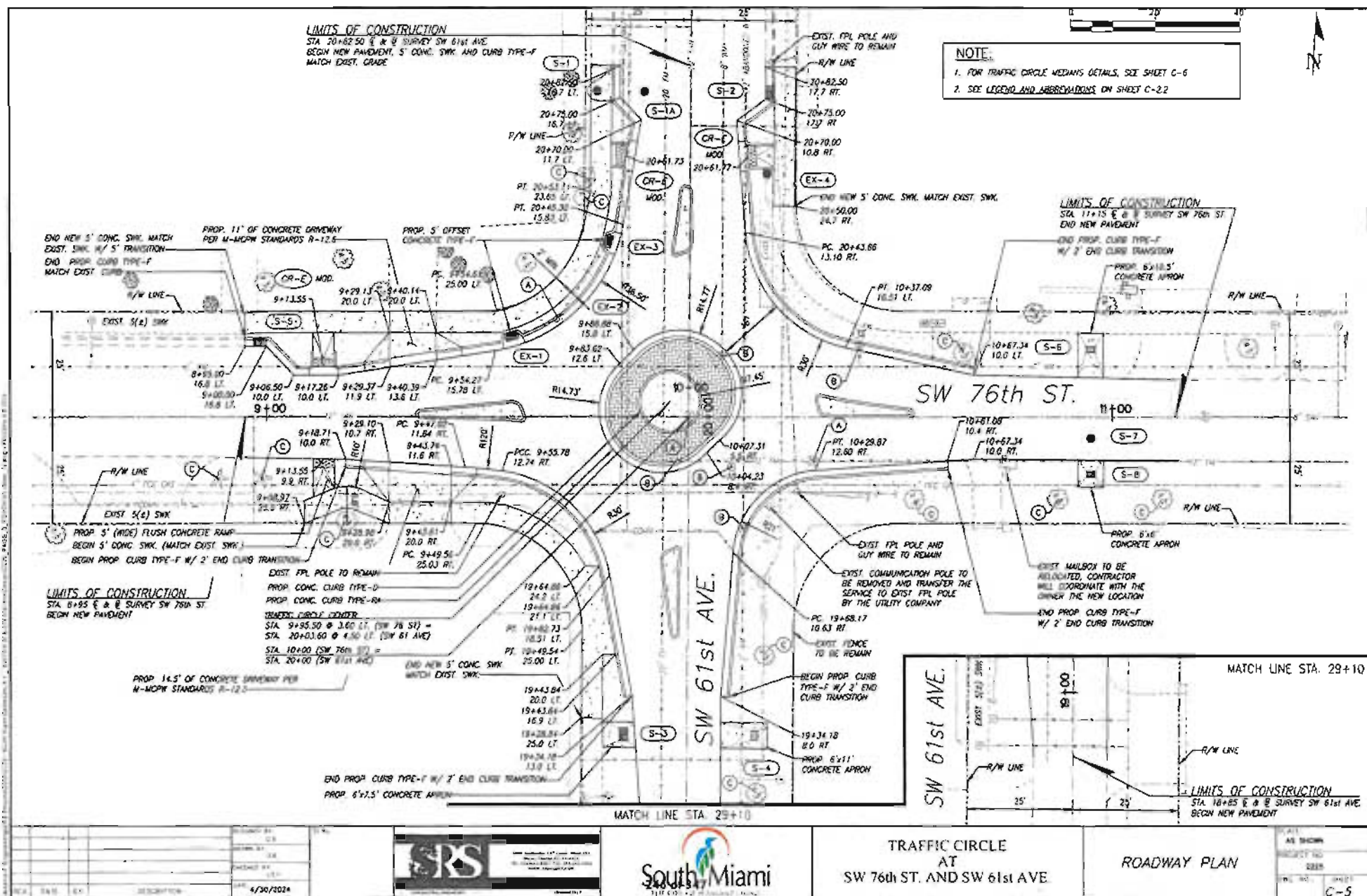
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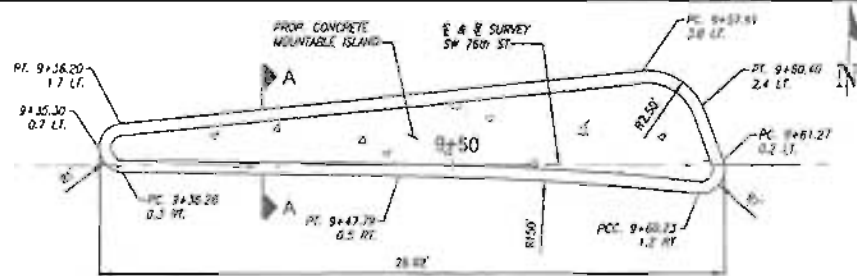


TRAFFIC CIRCLE
AT
SW 76th ST. AND SW 61st AVE.

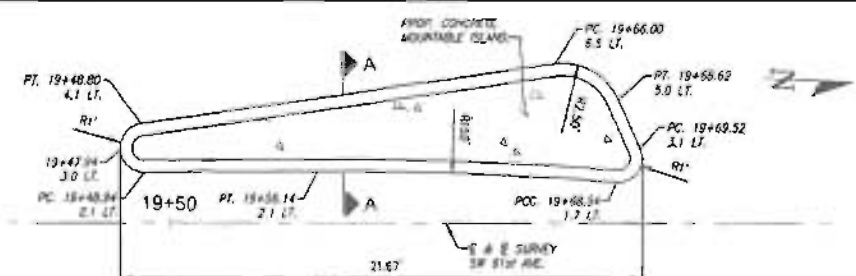
TYPICAL SECTION

DATE	4/30/2024
PROJECT NO.	2024
SHEET NO.	C-4.1

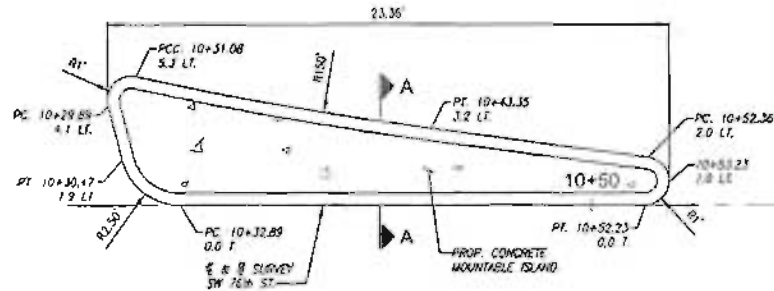




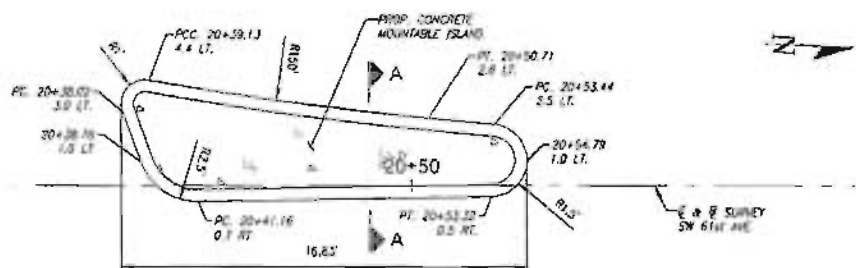
WEST MEDIAN DETAIL (SW 76th ST.)



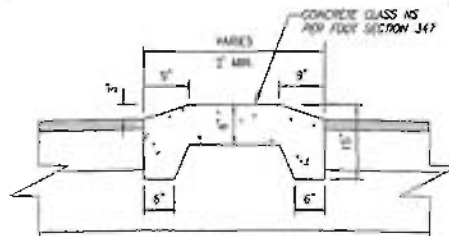
SOUTH MEDIAN DETAIL (SW 61st AVE.)



EAST MEDIAN DETAIL (SW 76th ST.)



NORTH MEDIAN DETAIL (SW 61st AVE.)

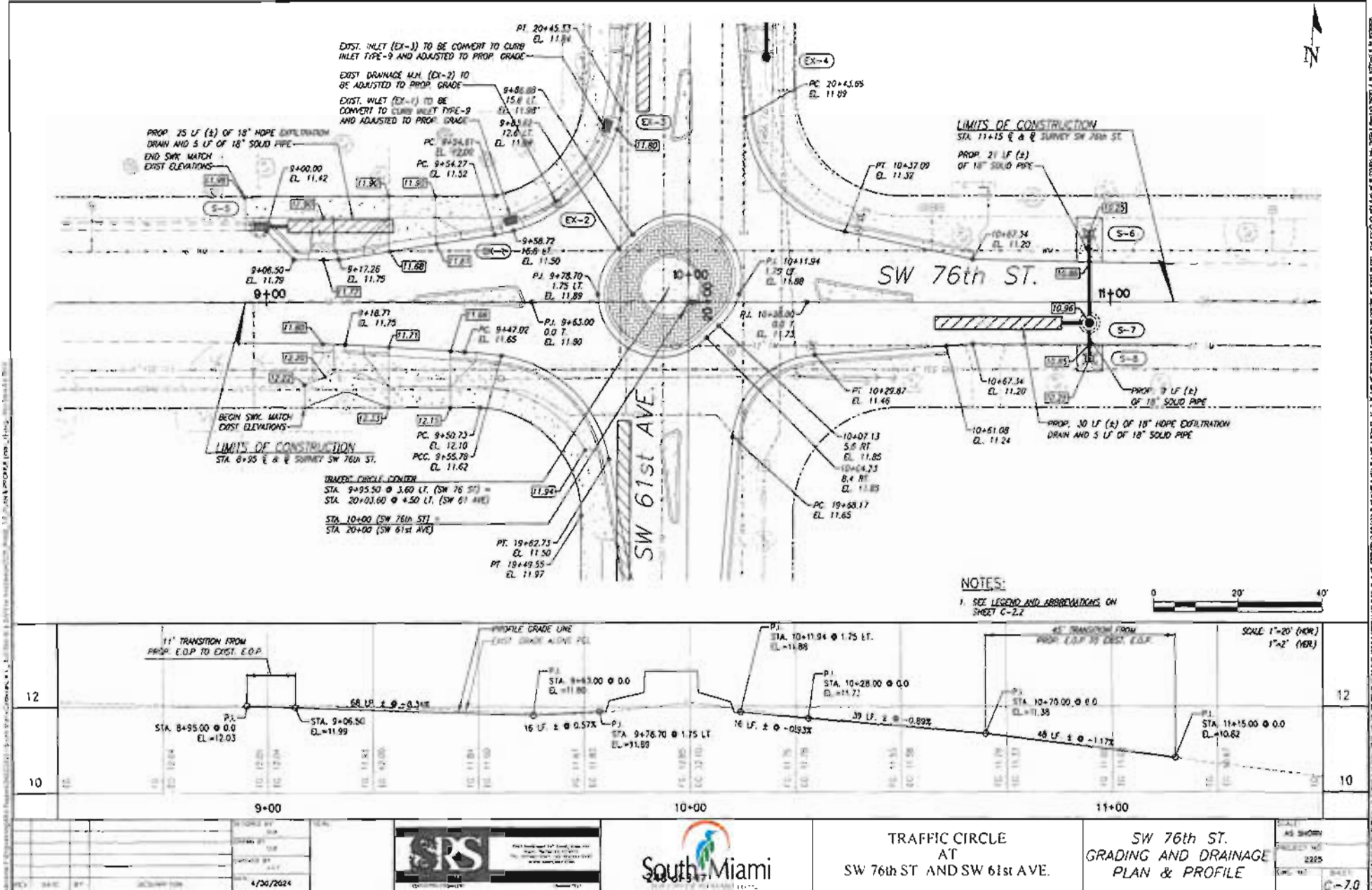


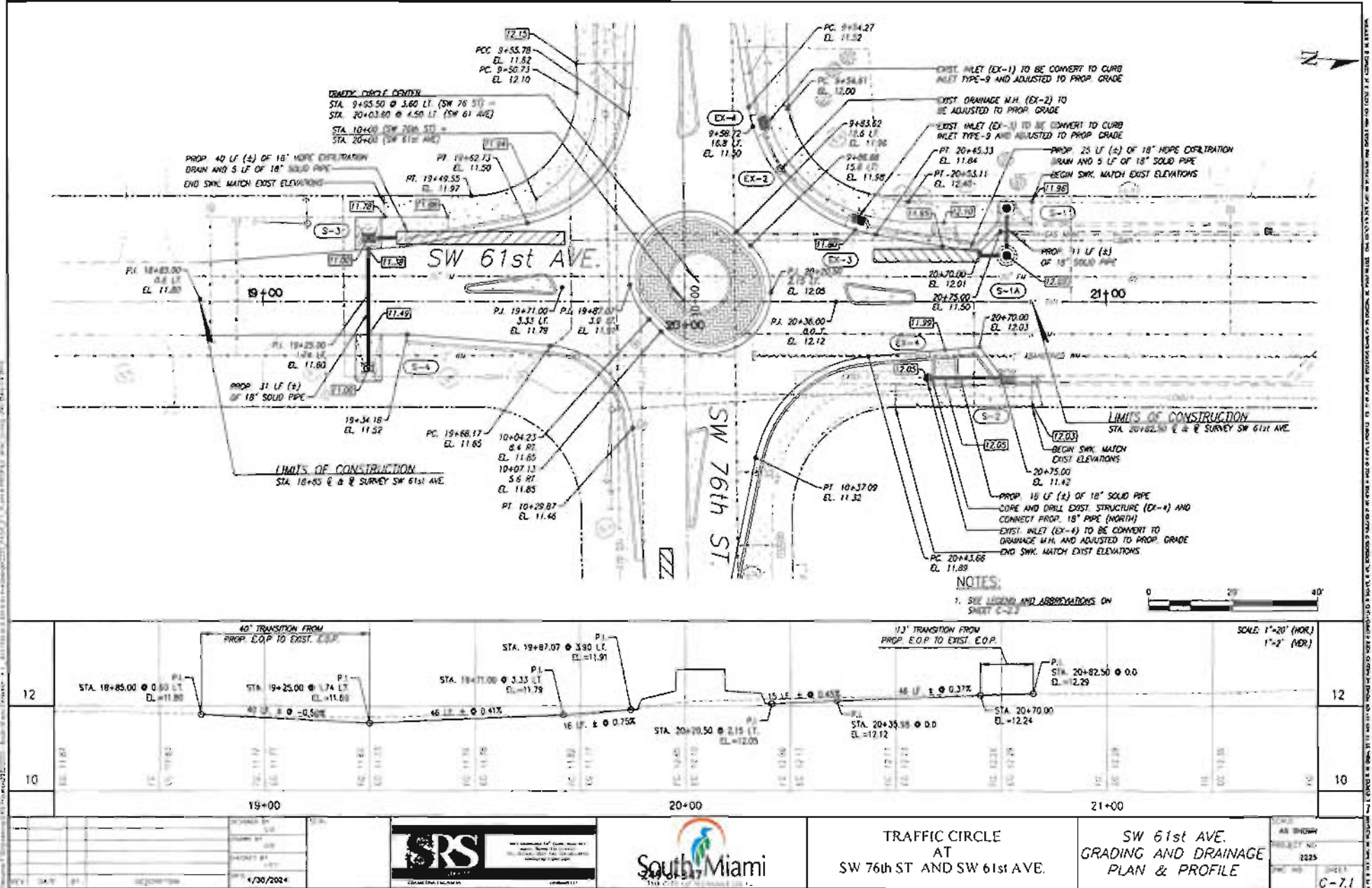
SECTION A-A

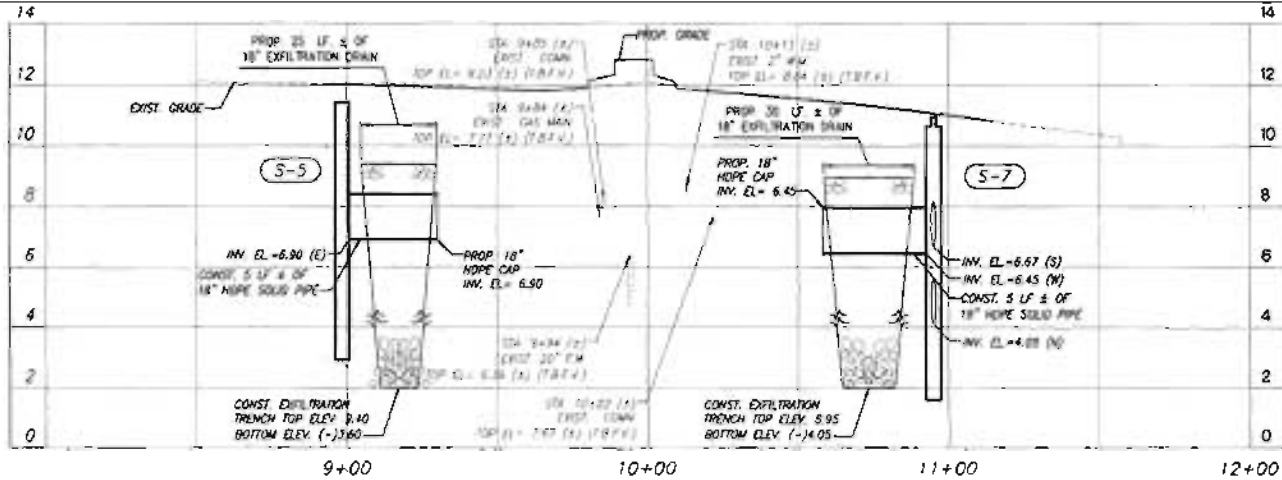
TYPICAL MOUNTABLE ISLAND SECTION
(APPROACH ROADWAY) N.T.S.



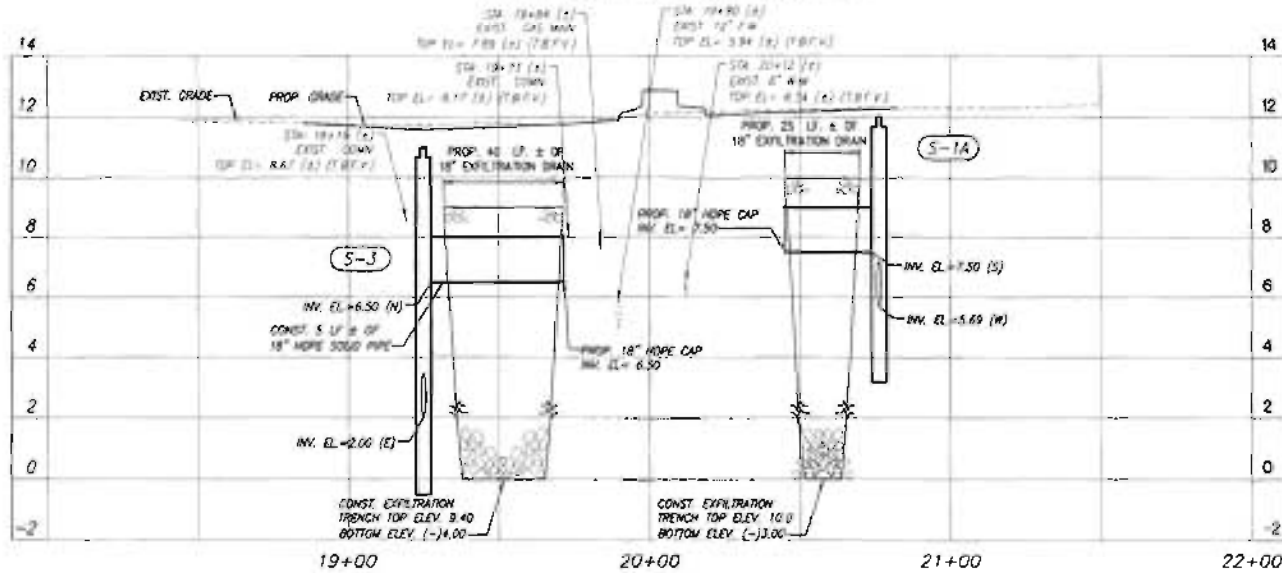
DATE: 4/30/2024	DESIGNED BY: SRS CHECKED BY: SRS DATE: 4/30/2024	SRS	South Miami	TRAFFIC CIRCLE AT SW 76th ST. AND SW 61st AVE	TRAFFIC CIRCLE MEDIANS DETAILS	AS SHOWN 2220 C-6







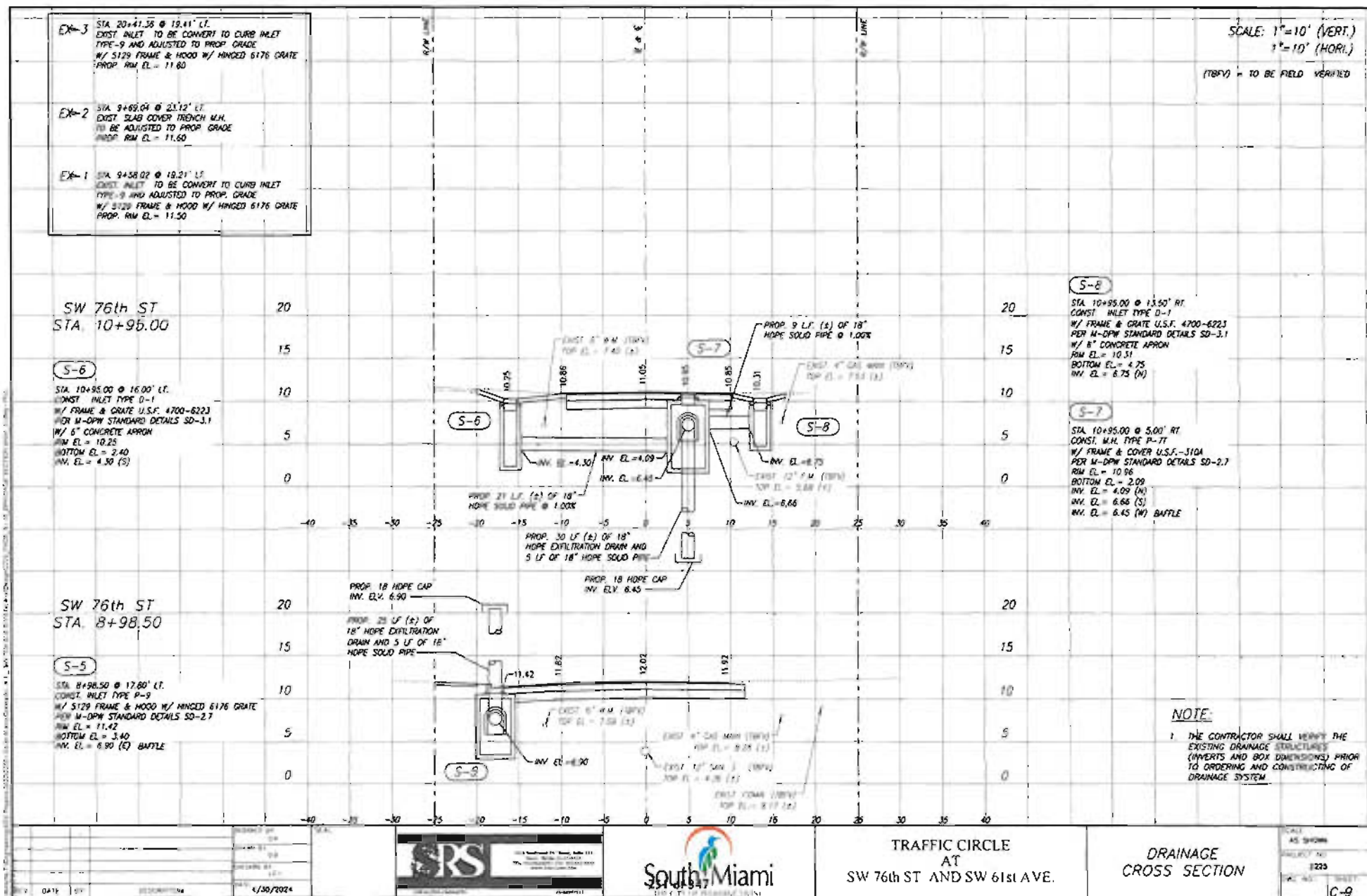
DRAINAGE PROFILE "SW 76th ST"

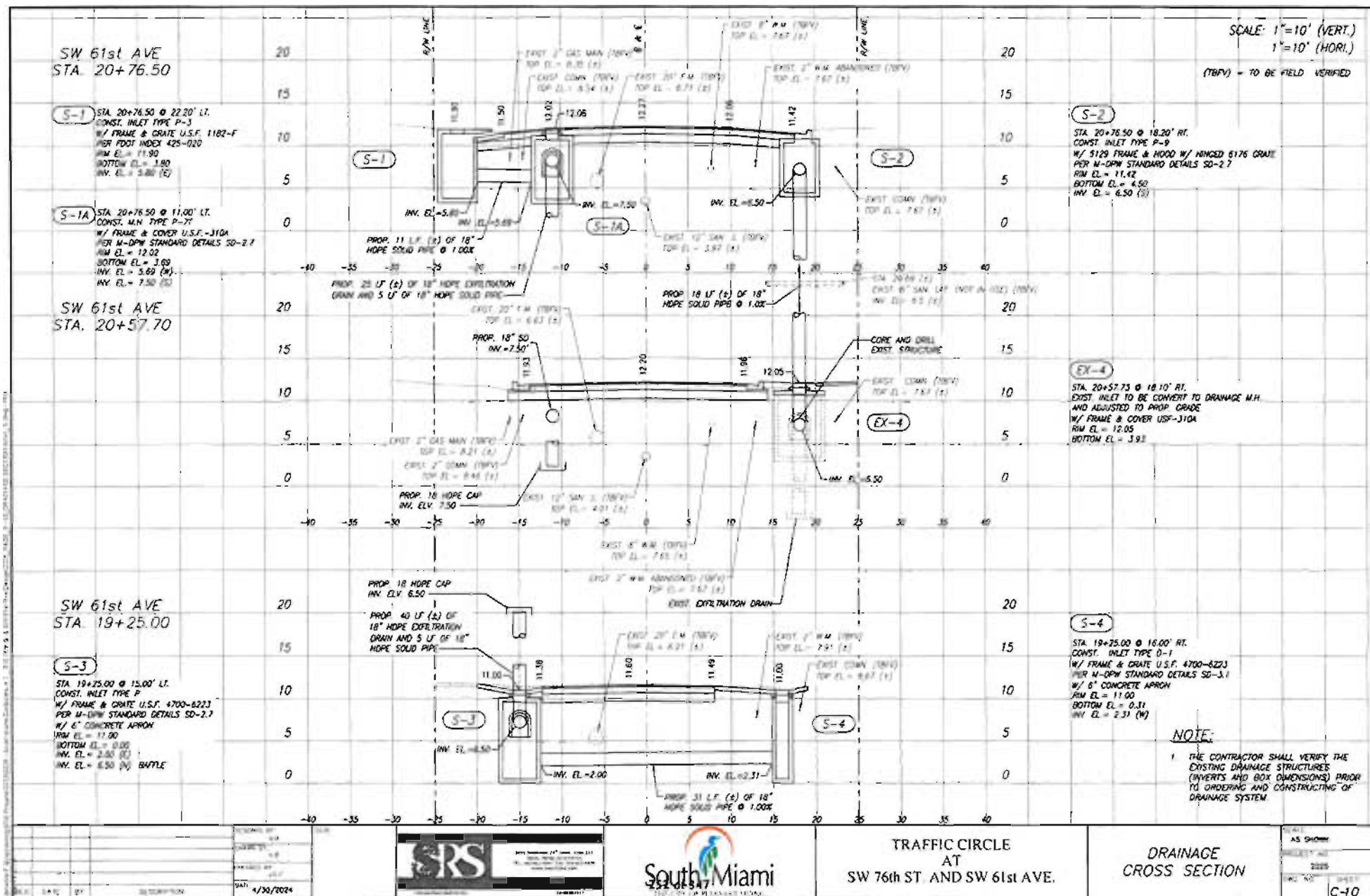


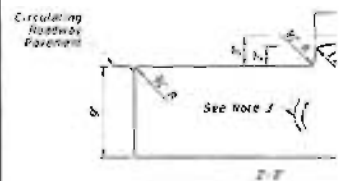
DRAINAGE PROFILE "SW 61st AVE"

SCALE: 1"=40' (HORIZ)
1"=4' (VERT)

DATE: 4/30/2024	PROJECT: TRAFFIC CIRCLE AT SW 76th ST. AND SW 61st AVE	DESIGNER: SRS	DATE: 4/30/2024	South Miami	TRAFFIC CIRCLE AT SW 76th ST. AND SW 61st AVE	DRAINAGE PROFILE	AS SHOWN 2025 C-8

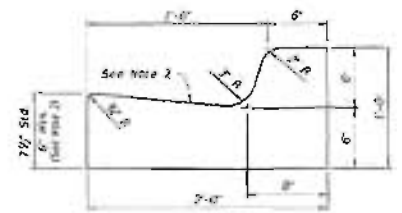




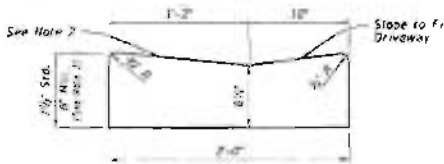


NOTE: Traffic Bearing Sections for Roundabout (Circular Island Cor)

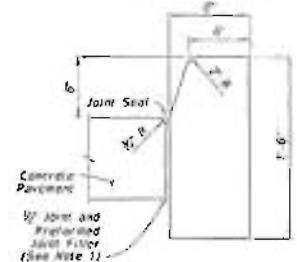
TYPE RA



TYPE F



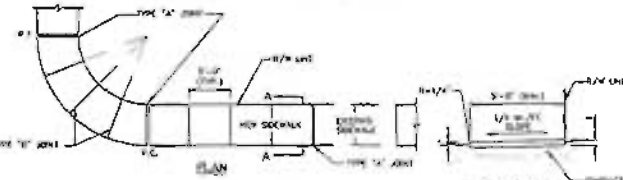
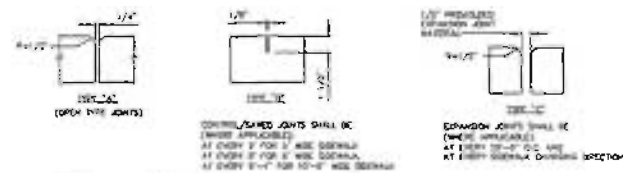
DROP CURB



NOTE: for use adjacent to concrete or flexible pavement, concrete shown

TYPE D

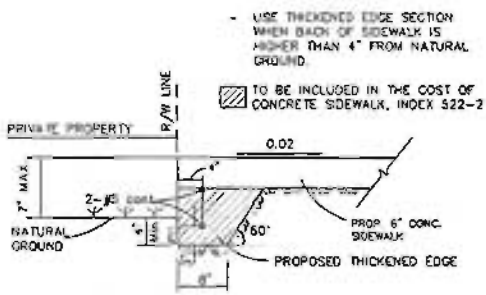
CURB AND GUTTER
FDOT INDEX 520-001 N.T.S.



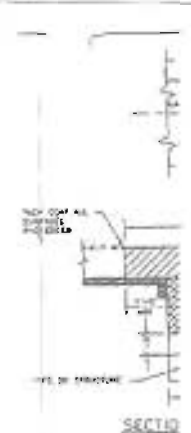
TYPE	LOCATION
1"	P.C. AND P.S. AT CURVED JUNCTION OF EXISTING AND NEW SIDEWALKS
2"	1'-0" SPACING TO CENTER OF SIDEWALK
3"	1'-0" SPACING TO CENTER OF SIDEWALK
4"	1'-0" SPACING TO CENTER OF SIDEWALK
5"	1'-0" SPACING TO CENTER OF SIDEWALK
6"	1'-0" SPACING TO CENTER OF SIDEWALK
7"	1'-0" SPACING TO CENTER OF SIDEWALK
8"	1'-0" SPACING TO CENTER OF SIDEWALK
9"	1'-0" SPACING TO CENTER OF SIDEWALK
10"	1'-0" SPACING TO CENTER OF SIDEWALK
11"	1'-0" SPACING TO CENTER OF SIDEWALK
12"	1'-0" SPACING TO CENTER OF SIDEWALK
13"	1'-0" SPACING TO CENTER OF SIDEWALK
14"	1'-0" SPACING TO CENTER OF SIDEWALK
15"	1'-0" SPACING TO CENTER OF SIDEWALK
16"	1'-0" SPACING TO CENTER OF SIDEWALK
17"	1'-0" SPACING TO CENTER OF SIDEWALK
18"	1'-0" SPACING TO CENTER OF SIDEWALK
19"	1'-0" SPACING TO CENTER OF SIDEWALK
20"	1'-0" SPACING TO CENTER OF SIDEWALK

TYPE	LOCATION
1"	P.C. AND P.S. AT CURVED JUNCTION OF EXISTING AND NEW SIDEWALKS
2"	1'-0" SPACING TO CENTER OF SIDEWALK
3"	1'-0" SPACING TO CENTER OF SIDEWALK
4"	1'-0" SPACING TO CENTER OF SIDEWALK
5"	1'-0" SPACING TO CENTER OF SIDEWALK
6"	1'-0" SPACING TO CENTER OF SIDEWALK
7"	1'-0" SPACING TO CENTER OF SIDEWALK
8"	1'-0" SPACING TO CENTER OF SIDEWALK
9"	1'-0" SPACING TO CENTER OF SIDEWALK
10"	1'-0" SPACING TO CENTER OF SIDEWALK
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16"	1'-0" SPACING TO CENTER OF SIDEWALK
17"	1'-0" SPACING TO CENTER OF SIDEWALK
18"	1'-0" SPACING TO CENTER OF SIDEWALK
19"	1'-0" SPACING TO CENTER OF SIDEWALK
20"	1'-0" SPACING TO CENTER OF SIDEWALK

CONCRETE SIDEWALK

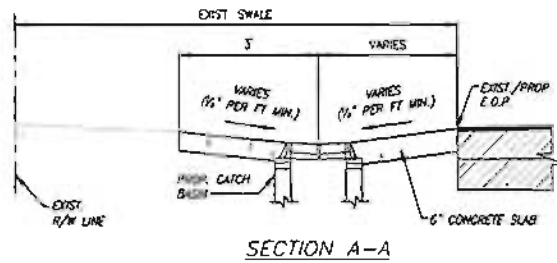
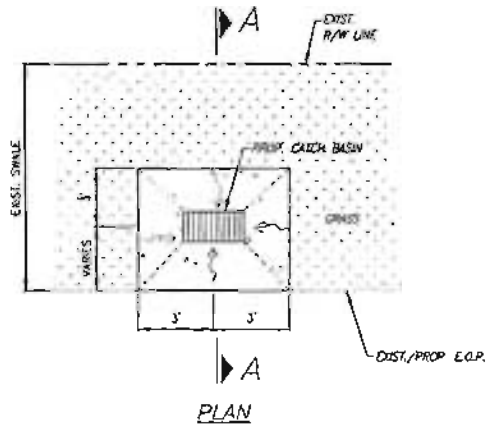


ALTERNATIVE BACK OF
SIDEWALK DETAIL N.T.S.



SECTION

NO.	DESCRIPTION	DATE
1	REVISION	1/1/2024
2	REVISION	2/1/2024
3	REVISION	3/1/2024
4	REVISION	4/1/2024
5	REVISION	5/1/2024
6	REVISION	6/1/2024
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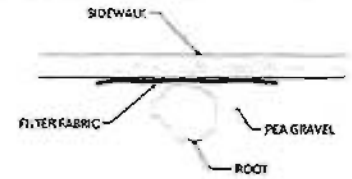
6" CONCRETE APRON DETAIL
N.T.S.

SKIMMER (BAFFLE) PER FDOT INDEX 443-002 N.T.S.

TABLE 1
INLET
DIMENSIONS

INLET	W	D	T
1	12'-0"	12'-0"	1'-0"
2	12'-0"	12'-0"	1'-0"
3	12'-0"	12'-0"	1'-0"
4	12'-0"	12'-0"	1'-0"

INLET TYPE-3 FDOT INDEX 425-020 N.T.S.



Sidewalk to maintain a standard thickness of 4 inches (8 inches of driveway). Reinforce with #3 welded wire fabric and avoid construction expansion joints within 2 feet of shallow roots. Cover shallow roots with a 2 foot wide section of filter fabric prior to concrete pour. Sidewalk cross slope is not to exceed 2% cross slope and 5% in the direction of travel. Where fill material is necessary adjacent to shallow or exposed roots place 30 inch pea gravel (rounded edge).

No cutting or pruning of the root system of street trees without the review and consent of the Public Works Department.

ROOT BARRIER N.T.S.

PROJECT NO.	2225
DATE	4/25/2024
DESIGNED BY	
CHECKED BY	
APPROVED BY	



TRAFFIC CIRCLE
AT
SW 76th ST AND SW 61st AVE

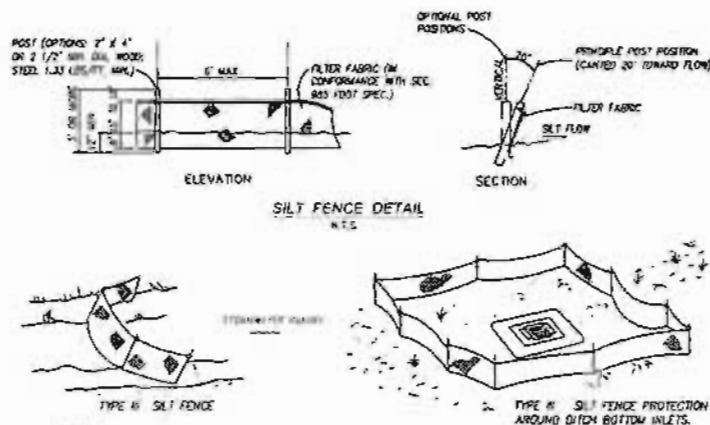
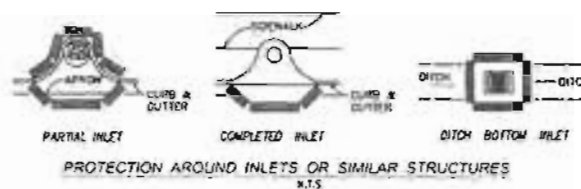
MISCELLANEOUS DETAILS

SCALE	AS SHOWN
PROJECT NO.	2225
CITY	SW
DATE	4/25/24

C-11.1

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

1. TYPE I AND II SYNTHETIC BARRIER SHOULD BE SPACED IN ACCORDANCE WITH CHART 1, SHEET 1 PER INDEX 102.
2. BALES SHALL BE ANCHORED WITH 2-1" x 2" (OR 1" DIA.) x 4' WOOD STAKES. STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. RAILS AND POSTS SHALL BE 2" x 4' WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER.
5. WHERE USED IN CONJUNCTION WITH SILT FENCE, BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.

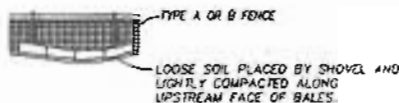


NOTES

1. SPACING FOR TYPE II FENCE TO BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF J AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF J PER FOOT STANDARD INDEX 102.
2. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

N.T.S.



BALES BACKED BY FENCE

N.T.S.

STORM WATER POLLUTION PREVENTION PRACTICES:

1. TREE PROTECTION AND PRUNING SHALL BE ACCOMPLISHED AS DETAILED IN SPECIAL PROVISIONS, THE CONSTRUCTION PLANS, AND OR PER TREE ORDINANCE 12636.
2. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMITTED TO PUBLIC WORKS, SHALL DESCRIBE IN DETAIL HOW THE CONSTRUCTION EFFORTS WILL BE PHASED WITH REGARD TO MINIMIZING EROSION PROBLEMS BY THE USE OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE VARIOUS SEQUENCES OF CONSTRUCTION OPERATIONS. ANY MODIFICATIONS MUST BE APPROVED BY THE TOWN OF CUTLER BAY - WORKS SECTION, DEPARTMENT OF PUBLIC WORKS.
3. ENVIRONMENTAL CONTROL FEATURES AS PROVIDED IN THE SWPPP ARE TO BE INSTALLED AT ALL AREAS OF EXCAVATION OR FILL FOR DRAINAGE SYSTEM OR STRUCTURE CONSTRUCTION PRIOR TO SUCH EXCAVATION OR FILL. INLET ENTRANCES ARE ALSO TO BE PROTECTED FROM SILTATION.
4. ALL ENVIRONMENTAL CONTROL FEATURES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN ACCORDANCE WITH H.P.D.E.S. REQUIREMENTS. THE CONTRACTOR MUST INSURE THAT ALL EROSION CONTROL FEATURES FUNCTION PROPERLY AT ALL TIMES.
5. ALL EROSION AND MATERIAL DEPOSITS MUST BE CONTAINED WITHIN THE PROJECT LIMITS.
6. ANY DAMAGED OR INEFFECTIVE ROCK BAGS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION OF ROCK BAGS INSTALLATION IS AS MENTIONED IN THE SWPPP PLANS. THE PROJECT ENGINEER MAY SPECIFY OTHER AREAS AS NECESSARY.
7. DITCH BOTTOM INLETS SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF GROUND OUTSIDE INLET TOP SHALL NOT BE HIGHER THAN INLET TOP. ROCK BAGS SHALL BE INSTALLED AROUND INLET TOP. COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH ROCK BAGS TO PREVENT SEDIMENT INTAKE.
8. CURB INLETS ALSO SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL THE PROJECT IS COMPLETE. ALL EXPOSED SLOPED MATERIAL ADJACENT TO INLET, SHALL BE COVERED WITH EROSION CONTROL MATTING WITH OUTER LIMITS PROTECTED BY ROCK BAGS.
9. STOCKPILED MATERIAL SHALL NOT BE LEFT IN EROSION PRONE AREAS UNLESS PROTECTED BY COVER OR ROCK BAGS.
10. INSPECTION OF EROSION CONTROL MEASURES AND CONDITION OF ADJACENT PROPERTIES, SHALL BE PERFORMED DAILY BY THE CONTRACTOR'S REPRESENTATIVE AND THE PROJECT ENGINEER. DEFICIENCIES SHALL BE NOTED AND CORRECTED.
11. ANY OFFSITE SEDIMENT DISCHARGE TO A MUNICIPAL SEPARATE STORM WATER SYSTEM ARISING FROM THE CONTRACTOR'S ACTIVITIES IS NOT ALLOWED.
12. THE USE OF SANITARY SEWERS, FRENCH DRAINS, COVER DITCHES AND/OR ROCK DRAINS FOR THE DISPOSAL OF WASTEWATER IS EXPRESSLY PROHIBITED.

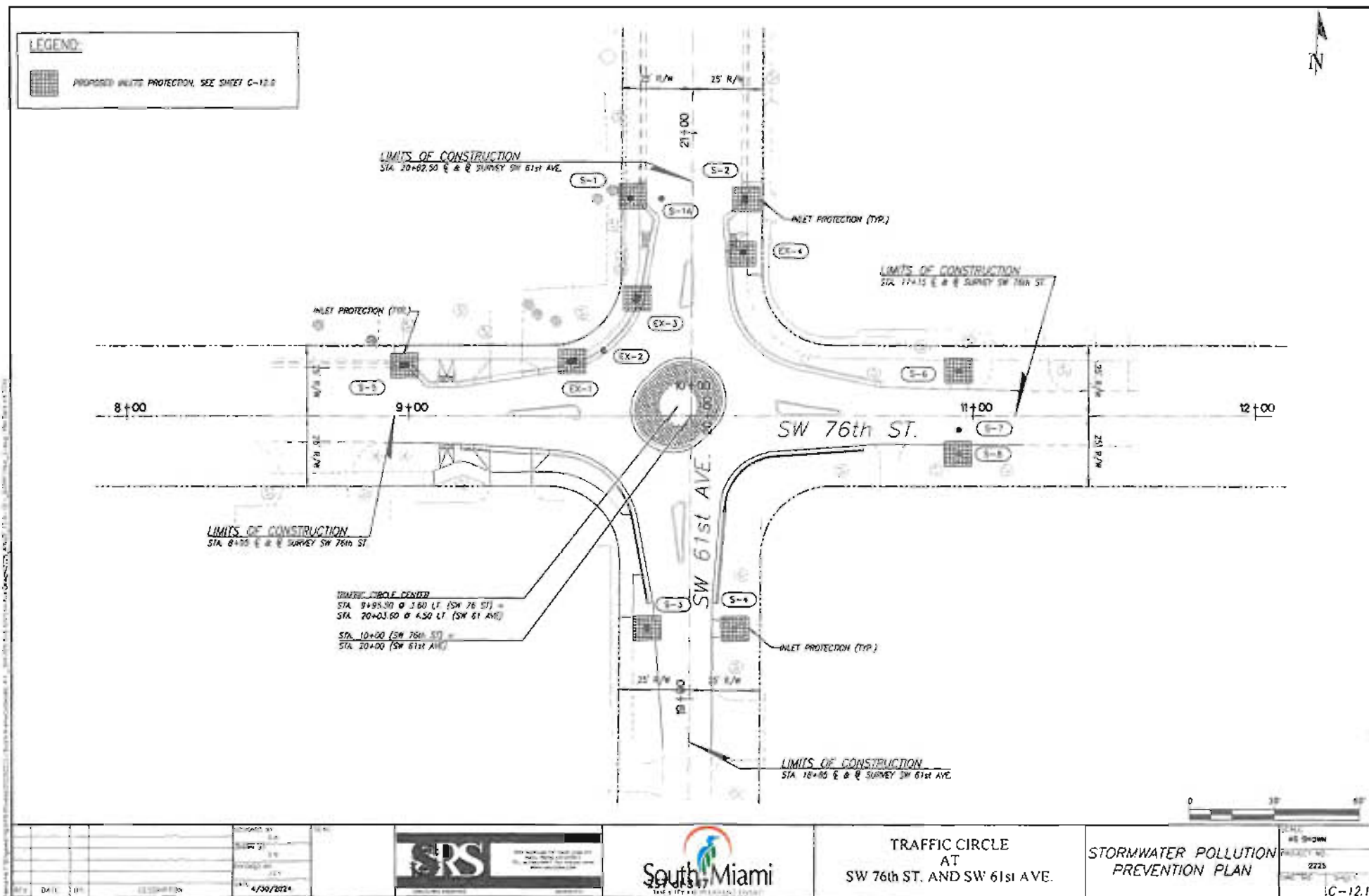
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

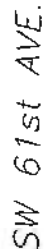
A. SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION OF CONTROLS:

1. CLEAR & GRUBBING
2. INSTALL DRAINAGE STRUCTURES
3. STABILIZATION
4. BASE PREPARATION
5. ASPHALT APPLICATION
6. PLACEMENT OF ROCK BAGS AROUND INLETS
7. PLACEMENT OF ROCK BAGS AROUND MANHOLES
8. APPLICATION OF FRICTION COURSE A.C.
9. INSTALLATION OF STREET SIGNING
10. PAVEMENT MARKING
11. REMOVE ROCK BAGS
12. CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE.

B. GENERAL

1. APPROVED STATE, LOCAL PLANS OR STORM WATER PERMITS.
2. ALL OF THE CONTROLS SHALL BE MAINTAINED AT ALL TIMES.
3. ALL CONTROLS SHALL BE INSPECTED DAILY.
4. APPLY FERTILIZERS AND PESTICIDES ACCORDING TO STANDARD SPECIFICATIONS, DESIGN AND SPECIAL PREVISIONS.
5. REPORT NON-STORM WATER DISCHARGE (INCLUDING SPILL) 303) 415-1200
6. VISIT WWW.LEP.STATE.FL.US/WATER/STORMWATER/NURSEL/







COMMISSION-CITY MANAGER

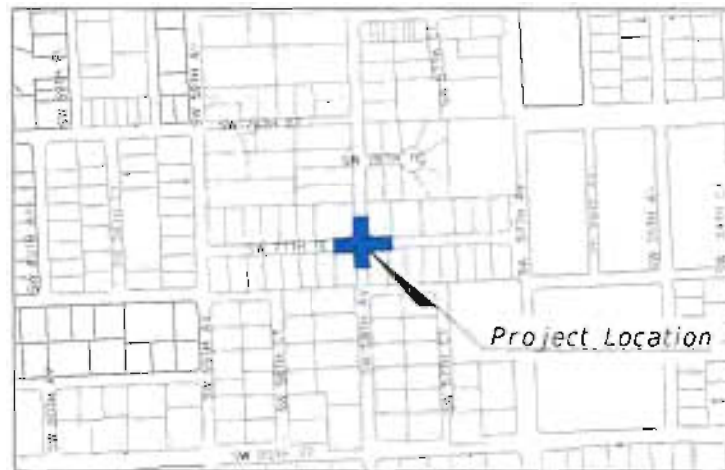
JAVIER E. FERNANDEZ, ESQ. MAYOR
 LISA BORICH VICE MAYOR
 STEVE CALLE COMMISSIONERS, GROUP I
 JOSH LIEBMAN COMMISSIONERS, GROUP II
 BRIAN COREY COMMISSIONERS, GROUP III

INDEX OF SHEETS

SHEET No.	SHEET DESCRIPTION
C-1	COVER SHEET
C-2.0 TO C-2.1	GENERAL NOTES
C-2.2	LEGEND AND ABBREVIATIONS
C-3.0	PAY ITEM NOTES
C-3.1	SUMMARY OF QUANTITIES
C-4.0 TO C-4.1	TYPICAL SECTION
C-5	ROADWAY PLAN
C-6	TRAFFIC CIRCLE MIDWIDE DETAILS
C-7	SW 77th TER. - GRADING AND DRAINAGE PLAN AND PROFILE
C-7.1	SW 58th AVE. - GRADING AND DRAINAGE PLAN AND PROFILE
C-8	DRAINAGE PROFILE
C-10	DRAINAGE CROSS SECTION
C-11.0 TO C-11.2	MISCELLANEOUS DETAILS
C-12.0	STORMWATER POLLUTION PREVENTION NOTES & DETAILS
C-12.1	STORMWATER POLLUTION PREVENTION PLAN
C-13	PAVEMENT MARKING AND SIGNAGE PLANS
1	SURVEY

CITY OF SOUTH MIAMI

TRAFFIC CIRCLE AT SW 77th TERRACE AND SW 58th AVE



SECTION 36 - TOWNSHIP 54 SOUTH - RANGE 40 EAST

LOCATION MAP
SCALE: N.T.S.



THIS SEAL HAS BEEN DIGITALLY SIGNED AND SEALED BY IGNACIO SERRALLA, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

ENGINEER'S CERTIFICATION:

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE, CHAPTER 72-328 F.S.

IGNACIO SERRALLA, P.E. No. 45609

NOTES:

- THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALL WITHIN SAID LIMITS.
- ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (MGVD-29).

GOVERNING STANDARDS AND SPECIFICATIONS:

- MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD PLANS FY 2024-25, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LAST UPDATED), MANUAL OF UNIFORM CONTROL DEVICE FOR STREETS AND HIGHWAYS, (MUTCD) EDITION WITH REVISIONS 1 & 2 INCORPORATED (MAY 2012), AS AMENDED BY CONTRACT DOCUMENTS.

PREPARED BY:



REVISIONS-SUBMITTALS

REV.	DATE	BY	DESCRIPTION

COVER SHEET

DATE: 4/30/2024 SHEET C-1

GENERAL NOTES:

1. EXISTING TOPOGRAPHIC AND TREE LOCATION INFORMATION HAS BEEN OBTAINED FROM THE SURVEY PREPARED BY: HADWINE LAND SURVEYORS AND MAPPERS ON 09/13/2022.
2. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).
3. FLOOD CRITERIA: ELEVATION IS 9.56 FEET BASED (IN MIAMI DADE COUNTY FLOOD CRITERIA MAPS, OCTOBER WATER LEVEL 2.80).
4. IN ACCORDANCE WITH THE MIAMI DADE COUNTY "PRELIMINARY FLOOD ZONES", THIS PROJECT IS LOCATED IN FLOOD ZONE "A" ELEV +10.56 (NGVD-29)
<https://mdc.maps.arcgis.com/apps/webappviewer/index.html?id=53536887d0b4b0900666413195c>
5. ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONTACT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED OR COVERED HAVE TO BE PROPERLY RETICULATED BY A PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE MIAMI TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THAT SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR'S REFERENCE AND RESTORE UPON COMPLETION OF THE WORK. ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO THE ENGINEER A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.
6. ALL BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED AND RETICULATED BY THE CONTRACTOR IN THE SAME WAY AS PUBLIC LAND CORNERS EXCEPT THAT THE LAND SURVEYOR SHALL NOT BE REQUIRED TO RESTORE THE BENCH MARK UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL PROMPTLY TRANSMIT ALL DEPLETED OR DAMAGED N.G.V.D. DISCS TO THE ENGINEER WHO WILL NOTIFY THE GEODETIC INFORMATION CENTER.
7. ALL CONSTRUCTION ASSOCIATED WITH THIS PROJECT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES & AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT, MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS DEPARTMENT STANDARDS, THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), MIAMI-DADE COUNTY'S REGULATORY AND ECONOMIC RESOURCES (RER) ANY DISCREPANCY MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF SOUTH MIAMI AND ENGINEER OF RECORD (EOR).
8. CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES FOR THE WORK NECESSARY TO COMPLETE THIS PROJECT. CONTRACTOR SHALL COORDINATE EFFORTS WITHIN THE CITY'S PUBLIC WORKS DEPARTMENT.
9. CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER OR OTHER EQUIPMENT) FOR CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK. CLEANING AND SWEEPING IS TO BE INCLUDED IN CONTRACTOR'S M.O.T. OR TRAFFIC PAY ITEM AND SHALL BE DONE ON A DAILY BASIS (M.W.).
10. PERMANENT TURNOUTS AND DRIVEWAYS CONNECTING TO PRIVATE PROPERTY THAT LIE OUTSIDE THE LIMITS OF RIGHT-OF-WAY AND WHERE ACCESS RIGHTS HAVE NOT BEEN ACQUIRED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TURNOUT DETAILS AND STANDARD SPECIFICATIONS FOR THESE PAVES. THE CONTRACTOR SHALL NOT INFLUENCE ADJACENT AND/OR THE REMAINDER OF THE PROPERTY UNLESS ACCESS RIGHTS ARE ACQUIRED. ACCESS SHALL BE PROVIDED TO SUCH PROPERTY WHENEVER CONSTRUCTION INTERFERES WITH THE EXISTING MEANS OF ACCESS.
11. 48 HOURS PRIOR TO BEGINNING CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND UTILITY SERVICE COMPANIES TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO ASSURE THAT ALL UTILITIES HAVE BEEN IDENTIFIED.
12. CONTRACTOR SHALL VERIFY, PHOTOGRAPH AND INVENTORY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES, PAVEMENT OR OTHER FEATURES. ANY EXISTING STRUCTURE, PAVEMENT, TREE OR OTHER EXISTING FEATURE THAT IS IN CONTACT OR DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THE CONTRACT AND PROVIDE COPIES TO THE CITY OF SOUTH MIAMI AND THE ENGINEER. THEY SHALL BE RESTORED PROMPTLY TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE PROJECT.
13. THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRICITY METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ARCHITECT/ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
14. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
15. UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS TAKEN FROM "AS-BUILT" DATA PROVIDED BY THE VARIOUS UTILITY COMPANIES AND SUPPLEMENTED BY FIELD MEASUREMENTS WHEN OBTAINABLE.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A PROPER STAGING AREA APPROVED BY THE CITY OF SOUTH MIAMI. STOCKPILING OF MATERIAL IN ROADWAY IS NOT ALLOWED.
17. UTILITIES NEED TO BE ADJUSTED WILL BE ADJUSTED BY OTHERS. CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING THESE ADJUSTMENTS WITH THE UTILITY COMPANY.
18. THE CONTRACTOR SHALL REQUEST THE LOCATION OF ANY WATER, SEWER OR GAS LATERALS NOT SHOWN IN THE PLANS SERVING PROPERTIES ADJACENT TO THE PROJECT BEFORE EXCAVATING. THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVING AND PROPERTIES SHALL BE INCLUDED IN HIS BID.
19. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING, SPECIALLY IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
20. ANY WATER AND SEWER LINES TO BE ADJUSTED SHALL BE APPROVED BY THE MIAMI-DADE DEPARTMENT OF WATER AND SEWER. THE CONTRACTOR SHALL NOTIFY THE CITY OF SOUTH MIAMI FOR ANY CONFLICTS DURING CONSTRUCTION FOR ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
21. ALL EXISTING ROCK BASE MATERIAL WHICH IS REMOVED IS TO BE INCORPORATED IN THE STABILIZED PORTION OF THE SUBGRADE, AS DIRECTED BY THE ENGINEER.
22. NONE OF THE EXISTING ROCK BASE THAT IS REMOVED IS TO BE INCORPORATED INTO THE PROPOSED LIMESTONE BASE.
23. ALL DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATED MATERIAL, COBBLER, VEGETATION, RUBBISH AND DEBRIS SHALL BE MADE OUTSIDE THE LIMITS OF CONSTRUCTION AT A LEGAL DISPOSAL SITE PROVIDED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE. WITH THE PRIOR APPROVAL OF THE ENGINEER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT AND/OR NEARBY PROPERTY.
24. ALL EXCESS MATERIALS AS DESIGNATED BY THE ENGINEER ARE TO BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY HIM AND AT THE CONTRACTOR'S EXPENSE.
25. ALL DRAINAGE CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF CITY OF SOUTH MIAMI AND MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER).
26. CONTRACTOR TO PROTECT EXISTING INLETS AND DRAINAGE COMPONENTS, ADJACENT TO CONSTRUCTION, THAT MAY BE SLOTTED OR EXPOSED TO DEBRIS, DURING CONSTRUCTION. INLETS AND OTHER DRAINAGE COMPONENTS THAT ARE SLOTTED OR FULL OF DEBRIS AFTER CONSTRUCTION TO BE DEBRIS/CLEANED BY CONTRACTOR PRIOR TO FINAL INSPECTION AND ACCEPTANCE.
27. ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RESEEDING.
28. ALL UNSUITABLE MATERIAL UNDER THE PAVEMENT SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS BEFORE PROCEEDING WITH CONSTRUCTION.
29. ALL ROCK AND ORGANIC MATERIALS FOUND WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL IN 6 INCH LIFTS COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH MASTO T-100.
30. THE CONTRACTOR SHOULD TAKE SPECIAL NOTE OF THE SOIL CONDITIONS THROUGHOUT THE PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, EITHER PUBLIC OR PRIVATE, DURING EXCAVATION OF SUBGRADE MATERIAL AND EXCAVATION TRENCH OR DURING THE FILING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ONLY EXCEPTION WILL BE THE PROTECTION OF UTILITIES. ALL UTILITIES SHALL BE MAINTAINED BY THE OWNER OF THE UTILITY.
31. ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY CONTRACTOR AT ANY TIME DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION, AT NO EXPENSE TO THE OWNER OR THE CITY OF SOUTH MIAMI.
32. EXISTING CHAIN LINK FENCE, CONCRETE WALL AND METAL FENCE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED UNLESS OTHERWISE INDICATED.
33. CONTRACTOR SHALL ADJUST ALL EXISTING VALVES, BOXES, CATCH BASINS GRATES, MANHOLES COVERS, ETC. TO MEET NEW GRADES WHERE APPLICABLE.
34. ALL VALVES, A.R.V.'S, AND MANHOLES TO BE RAISED AND ADJUSTED TO PROPOSED ROADWAY ELEVATION.
35. SOODING TO BE USED AT LOCATIONS WHERE EXISTING LAWNS ARE DISTURBED OR AS DIRECTED BY THE ENGINEER.
36. ALL TREES ARE TO REMAIN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. CONTRACTOR MUST TAKE CARE NOT TO DAMAGE ANY TREE OR PALM WITHIN CONSTRUCTION AREA. SMALL TREES OR PALMS MAY BE RELOCATED AS DIRECTED BY THE CITY OF SOUTH MIAMI. TREE PERMIT MUST BE OBTAINED PRIOR TO CONSTRUCTION. THERE ARE LANCE TREES WITH EXTENSIVE ROOT NETWORKS ON THE GROUND THAT ARE IMPACTING ADJACENT SIDEWALKS, CURBS AND PAVEMENT. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE WITH AN ARBORIST TO ENSURE THAT ROOT AND TREE PRUNING ACTIVITIES ARE CONDUCTED IN A MANNER THAT IT DOES NOT HARM OR DESTROY THE TREE.
37. RADI ON CURB RETURNS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

38. PROVIDE A SMOOTH TRANSITION WHERE NEW PAVEMENT, SIDEWALK, OR CURB MEETS EXISTING GRASS AREAS.
39. PRIOR TO REMOVAL AND/OR RELOCATION OF EXISTING TREES, IF REQUIRED, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE CITY OF SOUTH MIAMI AS WELL AS D.E.R.M. OTHERWISE CONTRACTOR SHALL PROTECT EXISTING TREES WHERE APPLICABLE WITHIN THE LIMITS OF CONSTRUCTION.
40. WHERE NEW PAVEMENT MEETS EXISTING CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH EXISTING PAVEMENT. SAW CUT AT EXISTING PAVEMENT JOINT MATCHING TO NEW PAVEMENT.
41. ANY DISCREPANCY FOUND BETWEEN THE PLANS AND THE QUANTITIES SHEET MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE MUNICIPALITY/CITY AND ENGINEER OF RECORD (EOR). AN R.F.I. MUST BE PROVIDED AND SHOULD OUTLINE THE SPECIFIC ISSUE OF DISCREPANCY. PROVIDE SUPPORTING DOCUMENTATION OR EVIDENCE, AND SEEK CLARIFICATION OR APPROVAL BEFORE PROCEEDING WITH THE PROJECT/TASK.

DRAINAGE

1. CONTRACTOR SHALL KEEP NEW AND EXISTING INLETS CLEAN OF PAVING MATERIALS AND DEBRIS. INLETS LOCATED NEAR CONSTRUCTION ACTIVITIES SHOULD BE PROTECTED BY APPROPRIATE EXCAVATION CONTROL DEVICES.
2. THERE SHALL BE NO MORE THAN 3 LATERAL DRAINAGE INSTALLATION WITHOUT BACKFILLING. LATERAL DRAINAGE SHALL NOT LAG MORE THAN 72 HOURS BEHIND THE START OF EXCAVATION.
3. GRADES SHOWN ARE "FINISHED" GRADES.
4. DRAINAGE SYSTEM SHALL BE CLEARED AND DESILTED PRIOR TO PM FINAL INSPECTION APPROVAL.
5. EXISTING STRUCTURES AND PIPES TO REMAIN WITHIN LIMITS OF CONSTRUCTION SHALL BE VACUUM CLEANED.
6. ANY EXISTING DRAINAGE COMPONENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE CONSTRUCTION ARE TO BE RESTORED TO EXISTING EQUIVALENT OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE.

PRE-CONSTRUCTION RESPONSIBILITIES

1. PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION AND THE RECEIPT OF THE "NOTICE TO PROCEED" THE CONTRACTOR SHALL CONTACT CITY OF SOUTH MIAMI AND ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE THE ENGINEER OF RECORD. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE AND BE PREPARED TO DISCUSS ANY CONCERNS OR COORDINATION EFFORTS AND REQUIREMENTS WITH THE PARTIES INVOLVED.
2. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA, INC. CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION. CONTACT 811, WWW.SUNSHINE811.COM

PROJECT RECORD DOCUMENTS

1. DURING THE DAILY PROGRESS OF THE JOB THE CONTRACTOR SHALL RECORD THE EXACT LOCATION, LENGTH, AND ELEVATION OF ALL PROPOSED IMPROVEMENTS ON HIS SET OF CONSTRUCTION DRAWINGS.
2. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER TWO COMPLETE SETS OF ALL "AS-BUILT" CONSTRUCTION DRAWINGS. THE DRAWINGS SHALL INCLUDE CHANGES AND DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE IN ACCORDANCE WITH THE "SURVEY WORK" SECTION OF THE "SPECIFICATIONS AND CONTRACT DOCUMENTS" FOR THIS PROJECT.
3. ALL "AS-BUILT" INFORMATION AND ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND ALL FINAL MEASUREMENTS ARE TO BE IN THE FORM OF FIELD NOTES, PLANS AND GO (PDF FORMAT).

PROJECT NO. 2022-0001 DATE 4/26/2024			TRAFFIC CIRCLE AT SW 77th TER AND SW 58th AVE	SCALE AS SHOWN SHEET NO. 2022 DATE 4/26/2024

GENERAL NOTES

UTILITIES

- 1 TWO FULL BUSINESS DAYS (48 HOURS) PRIOR TO DIGGING, THE CONTRACTOR SHALL CONTACT 811, WWW.SUNSHINE111.COM TO REQUEST UTILITY LOCATIONS BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES.
- 2 EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- 3 IF SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO (VERTICALLY AND HORIZONTALLY) PROTECT ALL EXISTING UTILITIES ON THIS PROJECT. ANY DAMAGE TO UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE UTILITY OWNER. THE OWNER RESERVES THE RIGHT TO REMEDY SUCH DAMAGE BY ORDERING OUTSIDE PARTIES TO MAKE SUCH REPAIRS AT THE EXPENSE OF THE CONTRACTOR.
- 4 THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERAL SERVICES MUST BE INCLUDED IN THE BID RELATED ITEM FOR THE WORK BEING DONE.
- 5 UTILITY OWNERS:

ATLANTIC BROADBAND	786-251-5989	FLORIDA POWER & LIGHT	386-586-6403
COMCAST CABLE	954-447-8465	LEVEL 3 COMMUNICATIONS	786-256-1554
FLORIDA CITY GAS	786-575-8547	M-G WATER & SEWER	786-268-5320
PUBLIC WORKS & TRAFFIC	786-345-8996	AT&T	561-997-0240

ENVIRONMENTAL NOTES

- 1 DUE TO THE LIMITED SCOPE OF WORK, NO IMPACTS TO EXISTING HISTORICAL AND CULTURAL RESOURCES ARE EXPECTED AS A RESULT OF THE PROPOSED ACTION.
- 2 NO STORMING OR OTHER ACTIVITIES FOR THIS PROJECT SHOULD OCCUR WITHIN THE BIRLIONE OF EXISTING TREES.
- 3 PREVENT DAMAGING TREES AND PLANTERS WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT'S RIGHT-OF-WAY.
- 4 AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE SHALL BE PRESENT ON SITE TO MONITOR CONSTRUCTION ACTIVITIES NEAR EXISTING TREES AND DIRECT ALL ROOT PRUNING AND/OR CANOPY TRIMMING ACTIVITIES.
- 5 TREE PROTECTION SHOULD BE INSTALLED AROUND TREES TO REMAIN LOCATED ADJACENT TO CONSTRUCTION ACTIVITIES PER FOOT STANDARDS PLANS FY 2024-25, INDEX 110-110.
- 6 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/RELOCATION.
- 7 CONTRACTOR SHALL REMOVE/CONTROL DUST USING WATER OR OTHER EQUIPMENT CAPABLE OF CONTROLLING DUST.

TRAFFIC CONTROL PLANS

- 1 TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FOOT, STANDARDS PLANS FY 2024-25 (102) SERIES, THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND THE MUTCD AS MINIMUM CRITERIA.
- 2 NOTIFICATION OF LANE CLOSURES OR TEMPORARY OCCURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE. DETOUR OR NOT PHASE CHANGE SHALL BE SUBMITTED WITH THE REQUIRED LANE CLOSURE FORM, SKETCHES, CALCULATIONS, AND OTHER DATA TO PUBLIC WORKS DEPT.
- 3 AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
- 4 THE TRAFFIC AND TRAVELWAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
- 5 LANE CLOSURE SHALL OCCUR ONLY DURING NON-PEAK HOURS ON NON-EVENT DAYS/NIGHTS/WEEKENDS. NON PEAK HOURS 9:00 AM TO 3:30 PM WEEKDAYS AND SATURDAYS. EXCEPTIONS MAY BE GRANTED UPON WRITTEN REQUEST TO THE CITY.
- 6 TRAFFIC CONTROL PLANS FOR ALL PHASES ARE DESIGNED FOR NON-PEAK HOURS ONLY. THE CONTRACTOR SHALL KEEP ALL EXISTING LANES OPEN DURING PEAK HOURS IN THESE PHASES.

- 7 AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AND UNCOVERING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- 8 CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATERS FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- 9 TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSOVER. IN ADDITION, SOLID LANE AND EDGE LINES SHALL EXTEND 100 FT ON TANGENT BEYOND EACH END OF THE TRANSITION, SHIFT, OR CROSSOVER. EXCEPTION SHALL BE THROUGH INTERSECTIONS WHERE 2 FT TO 4 FT STOP LINES WILL BE PLACED.
- 10 ALL TEMPORARY STRIPES AND MARKINGS SHALL BE PAINT ONLY, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER. COST OF TEMPORARY STRIPING SHALL BE INCLUDED IN MOT PAY ITEM.
- 11 EACH EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
- 12 FOR CHOP CUTS, THE CONTRACTOR SHALL FOLLOW TO THE FOOT, STANDARDS PLANS FY 2024-25, INDEX NO. 100-600 SHEET 8 OF 11. THE CONTRACTOR SHALL USE SHOULDER TREATMENT DETAIL WHEN NO BARRIERS ARE REQUIRED IN THE PLANS.
- 13 CONTRACTOR SHALL PREPARE AND SUBMIT AN ACCEPTABLE MOT PLAN FOR THE PROJECT. THE MOT PLAN SHALL BE SUBMITTED TO THE CITY OF SOUTH MIAMI PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
- 14 LANE CLOSURES SHALL NOT BE PERMITTED DURING SCHOOL SPEED ZONE HOURS WHERE SUCH CLOSURES WILL AFFECT TRAFFIC FLOW IN THE VICINITY OF THE SCHOOL SPEED ZONES.

WORK ZONE LIMITS

- 1 THE LENGTH OF AN OPEN TRENCH SHALL NOT EXCEED 500 FT. PROPERTY ACCESS SHALL BE MAINTAINED IN ACCORDANCE TO ARTICLE 102-5.3 OF THE FOOT STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
- 2 NO MORE THAN TWO BLOCKS OF STREET SHALL BE UNDER CONSTRUCTION AT A TIME AND ALL WORK AND RESTORATION SHALL BE COMPLETED ON ONE OF SUCH BLOCKS BEFORE WORK MAY BEGIN IN A NEW BLOCK. FINAL RESURFACING SHALL BE PLACED WITHIN 48 HOURS OF THE MILLING OPERATION.

INTERSECTIONS

- 1 ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER.
- 2 INTERSECTIONS SHALL BE RECONSTRUCTED WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL THE STRUCTURAL DAMAGE IS PLACED.
- 3 M.O.T. TRANSITIONS AND TEMPORARY INTERSECTION CROSSOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 1:5% TYPE II ASPHALT CONCRETE SLOPE TO ACCOMMODATE VEHICULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL AND WORK, INCLUDING ITS REMOVAL, SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

PEDESTRIANS, BICYCLES, AND WHEELCHAIRS

- 1 AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP OFF GREATER THAN 8 IN. ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE S&D PATHS OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL OR APPROVED HANDRAIL. COST SHALL BE INCLUDED IN THE PAY ITEM 100-1, MAINTENANCE OF TRAFFIC.
- 2 CONSTRUCTION ACTIVITIES THAT INVOLVES SIDEWALKS ON BOTH SIDES OF THE STREET ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.

SIGNING AND PAVEMENT MARKINGS

- 1 ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM WITH THE CURRENT EDITION OF THE FOOT, STANDARDS PLANS FY 2024-25, THE 2022 FOOT DESIGN MANUAL, AND MUTCD.
- 2 ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE SPECIFIED. BEFORE STARTING THE PROJECT, THE CONTRACTOR WILL REVIEW EXISTING SIGNS SHOWN ON THE PLANS TO BE RELOCATED OR TO REMAIN. THE CONTRACTOR WILL NOTIFY IN WRITING TO THE PROJECT ENGINEER OF ANY MISSING SIGNS BEFORE CONSTRUCTION STARTS. SIGNS DAMAGED BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT NO COST TO THE DEPARTMENT. IF EXISTING SIGNS TO BE RELOCATED HAVE A SHAMER POLE OR A POLE NOT MEETING HEIGHT SPECIFICATION REQUIREMENTS, THE COST OF A NEW POLE WILL BE INCLUDED IN THE RELOCATION BID ITEM.

- 3 ALL PAVEMENT MARKINGS, MESSAGES, AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
- 4 REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED AS INDICATED.
- 5 MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOCS OR OFFSETS.
- 6 THE CONTRACTOR SHALL REMOVE EXISTING MARKINGS BY FOOT APPROVED METHOD WITHOUT DAMAGE TO THE PAVEMENT COURSE.
- 7 SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, SIDEWALKS, WHEELCHAIR RAMPS, ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY MIAMI-DADE SIGNALS AND SIGNS DIVISION.
- 8 THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST-MOUNTED STREET NAME AND STOP SIGNS TO A VISIBLE AREA UNOBTAINED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS. NEW STREET NAME SIGNS WILL BE ATTACHED AT THE TOP OF THE NEW STOP SIGNS ON MAJOR SIDE STREETS AT THE END OF CONSTRUCTION.
- 9 EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE FOOT, STANDARDS PLANS FY 2024-25, INDEX 700-010 AS IF THEY WERE NEW SIGNS. IF EXISTING CLAMPS, BRACKETS, POLES, ETC. NEED TO BE REPLACED THE COST SHALL BE INCLUDED IN THE RELOCATION PAY ITEM.
- 10 REFLECTIVE PAVEMENT MARKERS AS PER FOOT STANDARD INDEX NO 708-001.
- 11 NEW STREET NAME SIGNS SHALL BE PER MIAMI DADE COUNTY STANDARDS AND MUTCD.

PROJECT NO. 2024-001 DATE: 8/29/2024			TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE	GENERAL NOTES	AS SHOWN REVISION 2025 C-2.1

ABBREVIATIONS:

B.D.C.	= BUILDING
C.B.	= CATCH BASIN
E	= EDGE LINE
C	= CENTER LINE
C.O.	= CLEANOUT
CONC.	= CONCRETE
CONN.	= CONNECTION
CONT.	= CONTINUATION
CONST.	= CONSTRUCT
DET	= DETAIL
D.I.P.	= DUCTILE IRON PIPE
EXIST.	= EXISTING
F.F.E.	= FINISHED FLOOR ELEVATION
F.H. / FM	= FIRE HYDRANT
F.M. / FM	= FORCE MAIN
H.D.P.E.	= HIGH DENSITY POLYETHYLENE
HORIZ.	= HORIZONTAL
INV.	= INVERT
L.F.	= LINEAR FEET
M-DWSD	= MIAMI-DADE WATER AND SEWER DEPT
M-DPW	= MIAMI-DADE PUBLIC WORKS
M.E.G.	= MATCH EXISTING GRADE
MIN.	= MINIMUM
P.I.V.	= POST INDICATOR VALVE
P.G.P.	= PROPOSED GRADING POINT
P.G.L.	= PROPOSED GRADING LINE
P/L	= PROPERTY LINE
PROP.	= PROPOSED
SAN.	= SANITARY SEWER
R/W, ROW	= RIGHT OF WAY
SEC.	= SECTION
SERV.	= SERVICE
S/L	= SECTION LINE
STA.	= STATION
STD.	= STANDARD
SWK.	= SIDEWALK
T.O.P.	= TOP OF PIPE
U.S.F.	= US FOUNDRY
VERT.	= VERTICAL
W.M. / WM	= WATER MAIN
W.S.	= WATER SERVICE
T.B.E.V.	= TO BE FIELD VERIFIED

UTILITIES LEGEND:

WM	WM	EXISTING WATER MAIN (UNDERGROUND)
SAN	SAN	EXISTING SANITARY SEWER MAIN (UNDERGROUND)
CO	CO	EXISTING COMMUNICATION CONDUIT (UNDERGROUND)
E	E	EXISTING F.P.L. CONDUIT (UNDERGROUND)
EXL	EXL	EXISTING EXFILTRATION DRAIN (UNDERGROUND)
EXL	EXL	EXISTING F.P.L. CONDUIT (OVERHEAD)
EXL	EXL	PROPOSED EXFILTRATION DRAIN (UNDERGROUND)
EXL	EXL	PROPOSED SOLID DRAINAGE PIPE (UNDERGROUND)
EXL	EXL	PROPOSED DRAINAGE STRUCTURE (INLET/M.H.) ID
EXL	EXL	EXISTING DRAINAGE STRUCTURE (INLET) ID
EXL	EXL	EXISTING FORCE MAIN (UNDERGROUND)
EXL	EXL	EXISTING CATCH BASIN
EXL	EXL	PROP. CATCH BASIN
EXL	EXL	PROP. DRAINAGE MANHOLE
EXL	EXL	EXISTING DRAINAGE MANHOLE
EXL	EXL	EXISTING SAN. SEWER MANHOLE
EXL	EXL	EXISTING WATER MAIN VALVE BOX
EXL	EXL	EXISTING FORCE MAIN VALVE BOX
EXL	EXL	EXISTING WATER METER
EXL	EXL	EXISTING ELECTRICAL PANEL/PULL BOX
EXL	EXL	EXISTING COMMUNICATION PANEL/PULL BOX
EXL	EXL	EXISTING FIRE HYDRANT

ROADWAY PLANS LEGEND:

EXL	EXISTING SANITARY SEWER / DRAINAGE MANHOLE TO BE ADJUSTED BY A LICENSED CONTRACTOR
EXL	EXISTING WATER/FORCE MAIN VALVE BOX & LID TO BE ADJUSTED BY A LICENSED CONTRACTOR
EXL	EXISTING TREES/PALMS TO BE PROTECTED DURING CONSTRUCTION PROCESS PER FOOT INDEX 110-100
EXL	CONSTRUCT 4" CONC. SIDEWALK, HANDICAP RAMPS AND 6" CONC. DRIVEWAYS & INLET APRONS
EXL	PROP. CONCRETE PAVEMENT (SEE TYPICAL SECTION) TRAFFIC CIRCLE MEDIAN
EXL	AREA TO BE RESURFACED.
EXL	EXIST. PAVEMENT DRIVEWAY TO BE RESURFACED. SEE PAVEMENT RESTORATION DETAIL (SHEET C-11.0)
EXL	NEW PAVEMENT / DRAINAGE TRENCH RESTORATION
EXL	- 2 LIFTS: (1") SP-9.5 (1") & FC-9.5 ASPHALTIC CONC.
EXL	- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR-100 PER MS-102 (1-120)
EXL	- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98% MIN. LBR-40, PER MS-102 (1-120)
EXL	EXIST. ASPHALT DRIVEWAY TO BE RESURFACED W/ 1" SP-9.5 CONCRETE ASPHALT

PAY ITEM DESCRIPTION

1	CONTRACTOR SHALL FURNISH AS-BUILT PLANS SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR TO THE TOWN OF CUTLER BAY
102-1	TO BE ACCOMPLISHED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, PUBLIC WORKS MANUAL OF MIAMI DADE COUNTY, THE LATEST REVISIONS OF THE AFOREMENTIONED MANUALS AT TIME OF CONSTRUCTION WITH ENGINEER APPROVAL, AND IN ACCORDANCE WITH THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS INDEX 102 SERIES. INCLUDES THE COST OF CONSTRUCTION OF TEMPORARY PAVEMENT & ITS SUBSEQUENT REMOVAL.
104-10	THIS ITEM IS TO BE USED IN ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF EXISTING INLETS. PAYMENT PER EACH INLET INCLUDES ALL WORK AND MATERIALS FOR A COMPLETE SYSTEM. PROPOSED INLETS: THE PAYMENT FOR PROTECTING NEW INLETS IS INCIDENTAL TO THE COST OF THE NEW INLET. CURB INLET FILTERS, CURB INSERT PROTECTION SYSTEMS, PIPE END CAP FILTERS, DITCH BOTTOM INLET PROTECTION SYSTEMS ("CAPS" BARRIERS, AND OTHER MATERIALS), ARE INCLUDED IN THIS PAY ITEM.
110-1-1	CONSISTS OF COMPLETE REMOVAL AND DISPOSAL OF ALL VEGETATION, DEBRIS, DRAINAGE STRUCTURES, DRAINAGE PIPES, FLEXIBLE PAVEMENT OR ANY OTHER OBSTRUCTIONS IN ALL AREAS WHERE EXCAVATION IS TO BE DONE, OR WHERE EMBANKMENTS OR STRUCTURES WILL BE CONSTRUCTED. THIS INCLUDES ROADWAY AREA, DITCH AREA, BORROW AND MATERIAL PITS, AND AREAS WHERE CULVERTS OR PIPELINES WILL BE CONSTRUCTED. ALSO INCLUDES SHRUB AND TREE TRIMMING. ALL DEBRIS SHOULD BE DISPOSED OF IN LEGAL AREAS PROVIDED BY THE CONTRACTOR.
110-4-10	CONSISTS OF REMOVING AND DISPOSING OF EXISTING CONCRETE PAVEMENT, CONCRETE SIDEWALKS, CONCRETE APRONS, DITCH PAVEMENT, CONCRETE PAVERS, AND CURB AND GUTTER.
160-4	INCLUDES ALL WORK AND MATERIALS SPECIFIED IN SECTION 160, FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, INCLUDING FURNISHING, SPREADING, AND MIXING OF ALL STABILIZING MATERIAL REQUIRED AND ANY REPROCESSING OF STABILIZATION AREAS NECESSARY TO ATTAIN THE SPECIFIED BEARING VALUE.
327-70-10	CONSISTS OF REMOVING EXISTING AC PAVEMENT TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENT, TO LOWER THE FINISHED GRADE ADJACENT TO EXISTING CURB PRIOR TO RESURFACING, OR TO COMPLETELY REMOVE EXISTING PAVEMENT. INCLUDES TRANSPORTING THE MILLED MATERIAL TO THE ASPHALT PLANT SITE AND STOCKPILING THE MATERIAL. ALSO INCLUDES REMOVAL OF EXISTING REFLECTIVE PAVEMENT MARKER.
425-1-SERIES 425-2-SERIES	INCLUDES POLLUTION RETARDANT BAFFLE & INLET PROTECTION (ACCORDANCE WITH THE PLANS, STANDARDS, AND/OR EROSION AND SEDIMENT CONTROL MANUAL FOR THE PROTECTION OF PROPOSED INLETS). LABOR AND CONSTRUCTION SHALL BE INCLUDED IN COST OF STRUCTURES. FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND COMPLETING ALL WORK DESCRIBED ON FDOT SECTION 425 OR SHOWN IN THE PLANS INCLUDING ALL CLEARING AND GRUBBING OUTSIDE THE LIMITS OF CLEARING AND GRUBBING AS SHOWN IN THE PLANS. ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE MEASUREMENT DESIGNATED TO BE PAID FOR UNDER THE ITEMS FOR THE GRADING WORK ON THE PROJECT. ALL BACKFILLING AROUND THE STRUCTURES, THE DISPOSAL OF SURPLUS MATERIAL, AND THE FURNISHING AND PLACING OF ALL GRATINGS, FRAMES, COVERS, AND ANY OTHER NECESSARY FITTINGS.
425-4 425-5 & 425-6	WITHIN PAVEMENT AREA, INLETS, MANHOLES AND VALVE BOXES TO BE ADJUSTED AS NECESSARY.
430-175-SERIES	INCLUDES FURNISHING AND PLACING PIPE PLUGS, PIPE FITTING, CAPS, CONCRETE JACKET, AND SOLID PIPES. FULL COMPENSATION FOR ALL WORK SPECIFIED ON FDOT SECTION 430, INCLUDING ALL EXCAVATION EXCEPT THE VOLUME INCLUDED IN THE ITEMS FOR THE GRADING WORK ON THE PROJECT. ALL BACKFILLING MATERIAL AND COMPACTION, AND DISPOSAL OF SURPLUS MATERIAL.
443-70-SERIES	INCLUDES EXCAVATION TO PLAN ELEVATION (15 FEET DEEP, SEE DETAILS SHEETS), FURNISHING AND PLACING PIPE PLUGS, PIPE FITTINGS, PERFORATED PIPES, BALLAST ROCK AND BACKFILLING WITH SELECT FILL, FILTER FABRIC AND ALL APPLICABLE ITEMS REQUIRED TO CONSTRUCT DRAIN. ALSO, IT IS INCLUDED THE ADDITIONAL COST OF EXCAVATING AROUND THE LATERALS SERVICING SAID PROPERTIES.
522-SERIES	ESTIMATED QUANTITY FOR DRIVEWAYS, SIDEWALKS, RAMPS AND APRON TO BE CONSTRUCTED AT LOCATIONS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
525-1-1	INCLUDES ALL LABOR AND MATERIALS (PAVER, SAND, AND ANY PROCESSING OR MATERIAL NECESSARY TO COMPLETE PAVER INSTALLATION.)
570-1-2	INCLUDES TOPSOIL LAYER AND SOO TO BE USED IN THE RESTORATION OF LAWNS AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE TOWN OF CUTLER BAY. BAHIA SOO OR TO MATCH EXISTING SOO.
700-1111	THIS ITEM INCLUDES ALL SIGN PANEL(S), COLUMN(POST), FOUNDATION, HARDWARE AND MATERIALS NECESSARY FOR A COMPLETE ASSEMBLY.

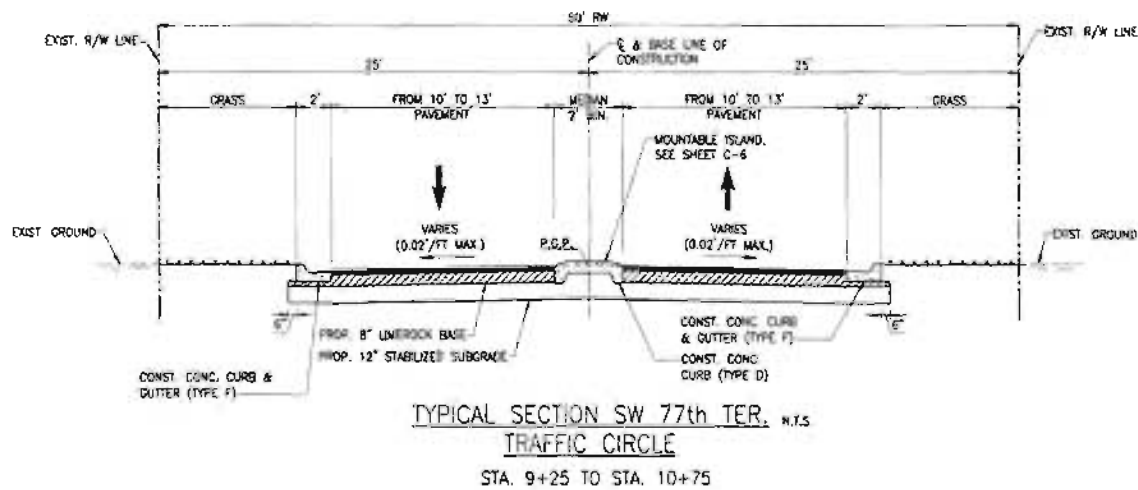
QUANTITIES AND PAY ITEM NOTES:

1. EXCESS AND/OR UNDESIRABLE MATERIAL TO BE DISPOSED OF BY CONTRACTOR IN LEGAL AREAS PROVIDED BY HIM. NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM.
2. THE CONTINGENCY ITEM MUST BE APPROVED BY THE ENGINEER ON RECORD AND THE TOWN.
3. THE S.L.P. OF SOLID PIPE ON BOTH SIDES OF THE FRENCH DRAIN ARE INCLUDED IN THE QUANTITIES LISTED UNDER PAY ITEMS 430-175-SERIES.
4. ITEM # 35 INCLUDES THE COST OF TRANSFER OF EXISTING UTILITIES TO THE NEW POLE.
5. REFER TO FOOT'S "DESIGN QUANTITIES AND ESTIMATES" (DQE) FOR MORE INFORMATION ON THE PAYMENT ITEM DESCRIPTIONS.
6. ANY EXCAVATED MATERIAL, IF UNSUITABLE, SHALL NOT BE USED IN THE CONSTRUCTION OF THE EMBANKMENT.

 		TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE.	PAY ITEM NOTES	43 30000 2225 C-30

ROADWAY				
Item	Payment No.	Description	Quantity	Unit Measure
1	101-1	AS BUILT	1	LS
2	101-1	UTILIZATION	1	LS
3	102-1	MAINTENANCE OF TRAFFIC	1	LS
4	102-14	TRAFFIC CONTROL OFFICER ALLOWANCE	100	HR
5	104-18	INLET PROTECTION SYSTEM	2	EA
6	110-1-1	CLEARING AND GRUBBING	1	LS
7	110-7-1	MAILBOX, RM SINGLE	3	EA
8	110-2-1	TREE PROTECTION BARRIER	210	LF
9	110-4-10	REMOVAL OF EXISTING CONCRETE	110	SY
10	103-1	REGULAR EXCAVATION	700	CY
11	160-4	TYPE B STABILIZATION	1,250	SY
12	265-718	UMBRIDGE BASE (1") (OPTIONAL BASE BASE GRY. P.08)	1,250	SY
13	304-1-10	SUPERPAVE ASPHALT CONC. TRAFFIC C. PG 95 (1" AND 1/2")	71	TN
14	307-7-10	ASPHALT CONCRETE (TRAFFIC COURSE) TRAFFIC C. PG 95, PG 76-22 (1")	65	TN
15	425-1-2A	SD-3.1 SNAPE INLET TYPE D-1 (12" x 24") x 10" (M-DPWD PAY ITEM)	1	EA
16	425-1-301	INLETS, CURB TYPE B, x 10"	2	EA
17	425-4	INLETS, ADJUST	1	EA
18	425-5	MANHOLE, ADJUST	1	EA
19	425-6	VALVE BOXES, ADJUST	3	EA
20	425-11	MODIFY EXISTING DRAINAGE STRUCTURE	1	EA
21	425-79	CORE AND TIE IN TO EXISTING DRAIN STRUCTURE (18" R/P, INCL. MORTAR SEAL) (M-DPWD PAY ITEM)	1	EA
22	430-175-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD (H-DPE)	40	LF
23	443-70-3	SPLINTATION DRAIN (18")	50	LF
24	520-1-10	CONCRETE CURB AND GUTTER (TYPE "F") DROP CURB	450	LF
25	520-2-4	CONCRETE CURB AND GUTTER (TYPE "D")	35	LF
26	520-2-8	CONCRETE CURB, TYPE RA	105	LF
27	520-70	CONCRETE TRAFFIC SEPARATOR, SPECIAL, VARIABLE WIDTH	25	SY
28	522-1	CONCRETE SIDEWALK AND DRIVEWAYS 4" THICK	130	SY
29	522-2	CONCRETE SIDEWALK (6" THICK) (SIDEWALK, RAMP, APRON, DRIVEWAY & SALS)	60	SY
30		8" REINFORCED STAMPED CONCRETE SLAB	45	SY
31	527-2	DETECTABLE WARNINGS	20	SF
32	528-1-1	PAVERS, ARCHITECTURAL, ROADWAY	60	SY
33	573-1-2	PERFORMANCE TURF, SOD	950	SY
34	580-7-251	LANDSCAPE GROUND COVER (GREEN ISLAND POLES)	68	EA
35		LIGHT POLE COMPLETE, RM STANDARD POLE STANDARD FOUNDATION 35' MOUNTING HOOK 10' ARM LENGTH	1	EA
36		LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	1	EA

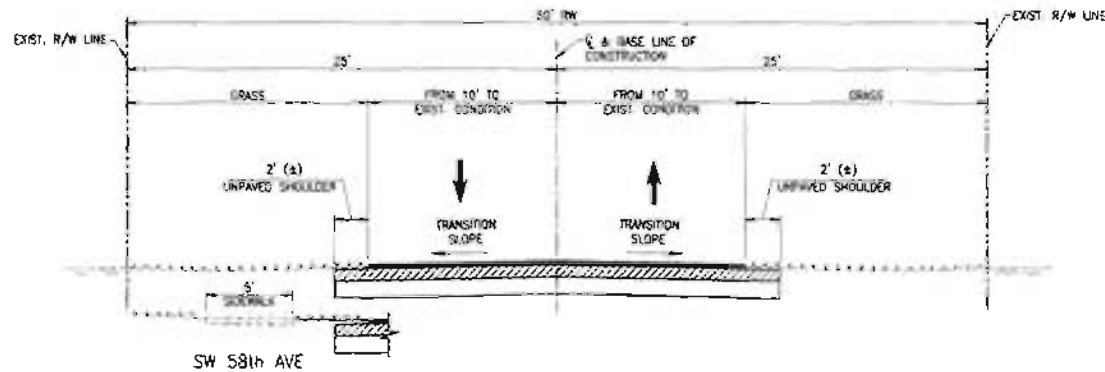
PAVEMENT MARKING AND SIGNAGE				
Item	Payment No.	Description	Quantity	Unit Measure
37	710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	0.16	GM
38	710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR INTERCHANGE AND URBAN ISLAND, 6"	0.01	GM
39	710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	50	LF
40	710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	30	LF
41	710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE 6-10 DOTTED EXTENSION, 6"	0.02	GM
42	710-11-160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA
43	710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	0.16	GM
44	710-11-230	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	255	SF
45		CITY OF SOUTH MIAMI STREET NAME SIGN AND POLE, PER CITY STANDARDS	1	AS
46	700-1111	SINGLE POST SIGN, RM GROUND MOUNT, UP TO 12 SF	18	AS
47	700-1-80	SINGLE POST SIGN, RELOCATE	1	AS
48	708-1-1	PAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS (WY, WR & BLUE)	280	EA
49	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	50	LF
50	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE 6-10 GAP EXTENSION, 6"	0.02	GM
51	711-11-260	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	2	EA
52	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	30	LF
53	711-16-101	THERMOPLASTIC, STANDARD OTHER SURFACES, WHITE, SOLID, 6"	0.16	GM
54	711-16-102	THERMOPLASTIC, STANDARD OTHER SURFACES, WHITE, SOLID, 8"	0.01	GM
55	711-16-201	THERMOPLASTIC, STANDARD OTHER SURFACES, YELLOW, SOLID, 6"	0.16	GM



NEW PAVEMENT:

- 2 LIFTS: (1) SP-9.5 & (1) FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180)
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98%, MIN. LBR=40, PER AASHTO T-180

DESIGN SPEED 15 MPH
 POSTED SPEED 15 MPH



NEW PAVEMENT:

- 2 LIFTS: (1) SP-9.5 & (1) FC-9.5 ASPHALTIC CONC.
- 8" MIN. BASE COURSE COMPACTED TO MIN. 98% (MODIFIED PROCTOR) MIN. LBR=100 PER AASHTO T-180)
- 12" STABILIZED SUBBASE, COMPACTED TO MIN. 98%, MIN. LBR=40, PER AASHTO T-180

DESIGN SPEED 15 MPH
 POSTED SPEED 15 MPH

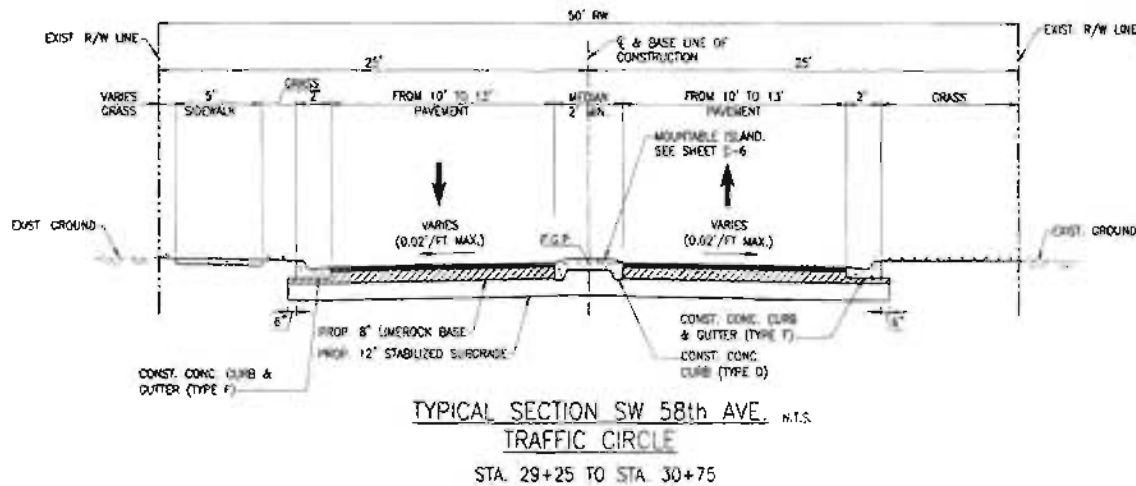
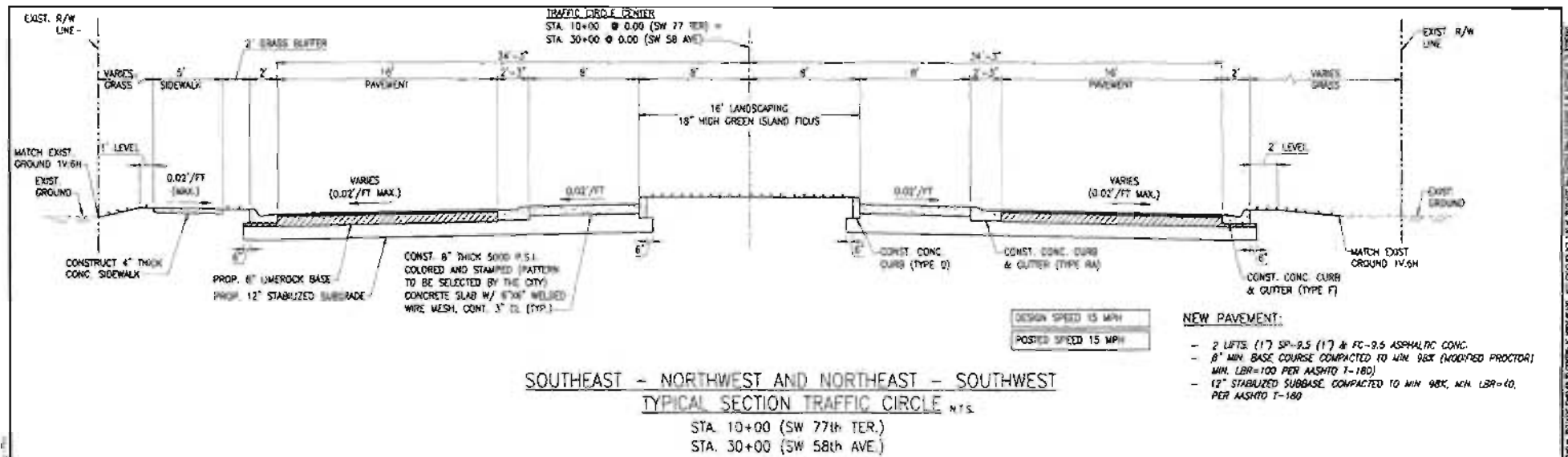
TYPICAL SECTION SW 58th AVE. N.T.S.

STA. 8+77 TO STA. 9+25
 STA. 10+75 TO STA. 11+23

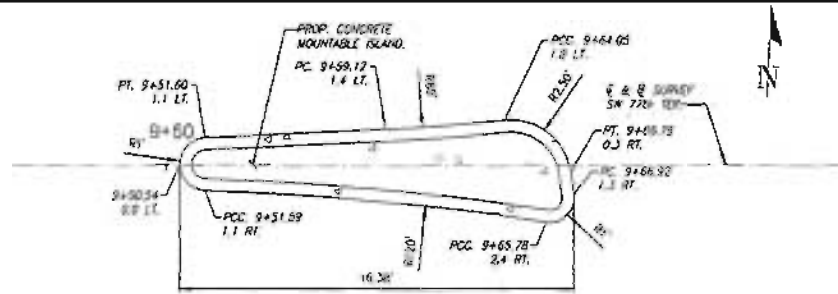
TYPICAL SECTION SW 58th AVE.

STA. 28+77 TO STA. 29+25
 STA. 30+75 TO STA. 31+23

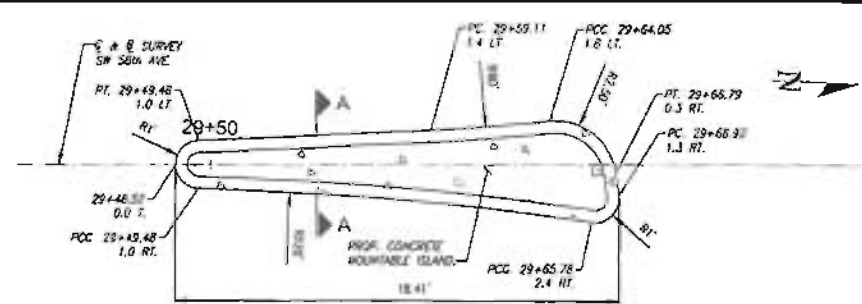
REVISIONS DATE: 4/20/2024	PROJECT NO. DATE: 4/20/2024	SRS South Miami	South Miami	TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE	TYPICAL SECTION	DATE: 4/20/2024 BY: C-4.0



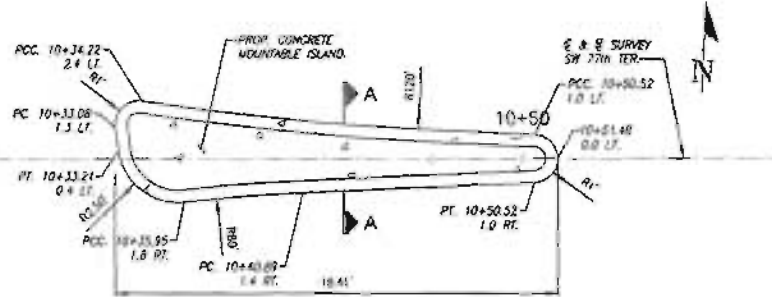




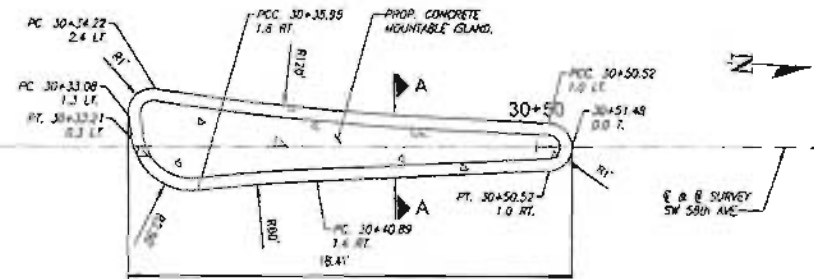
WEST MEDIAN DETAIL (SW 77th TER.)



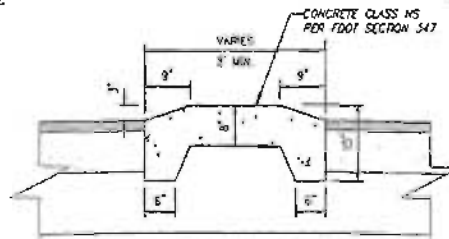
SOUTH MEDIAN DETAIL (SW 58th AVE)



EAST MEDIAN DETAIL (SW 77th TER.)



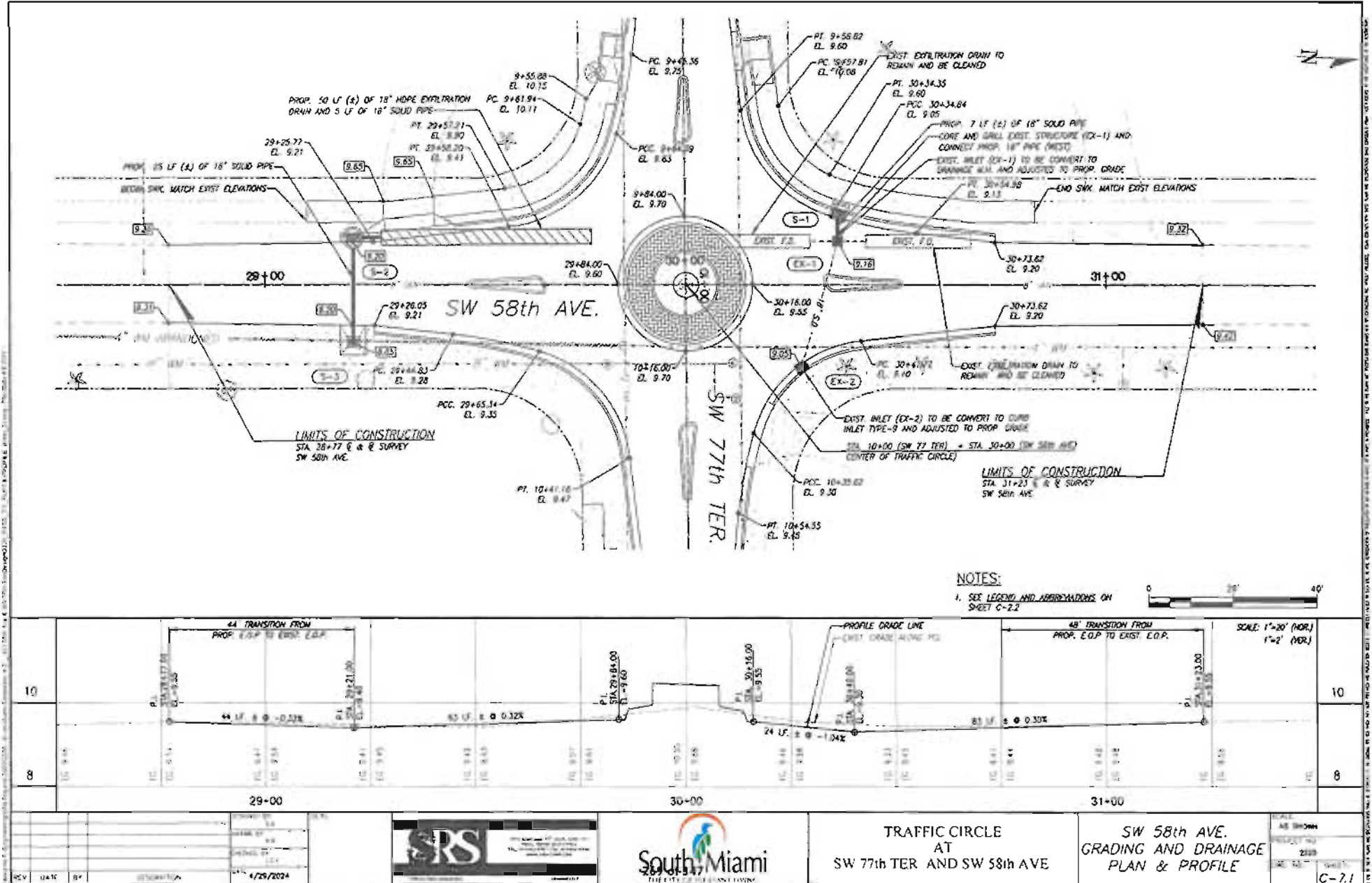
NORTH MEDIAN DETAIL (SW 58th AVE)

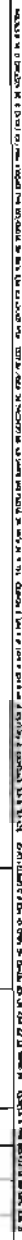


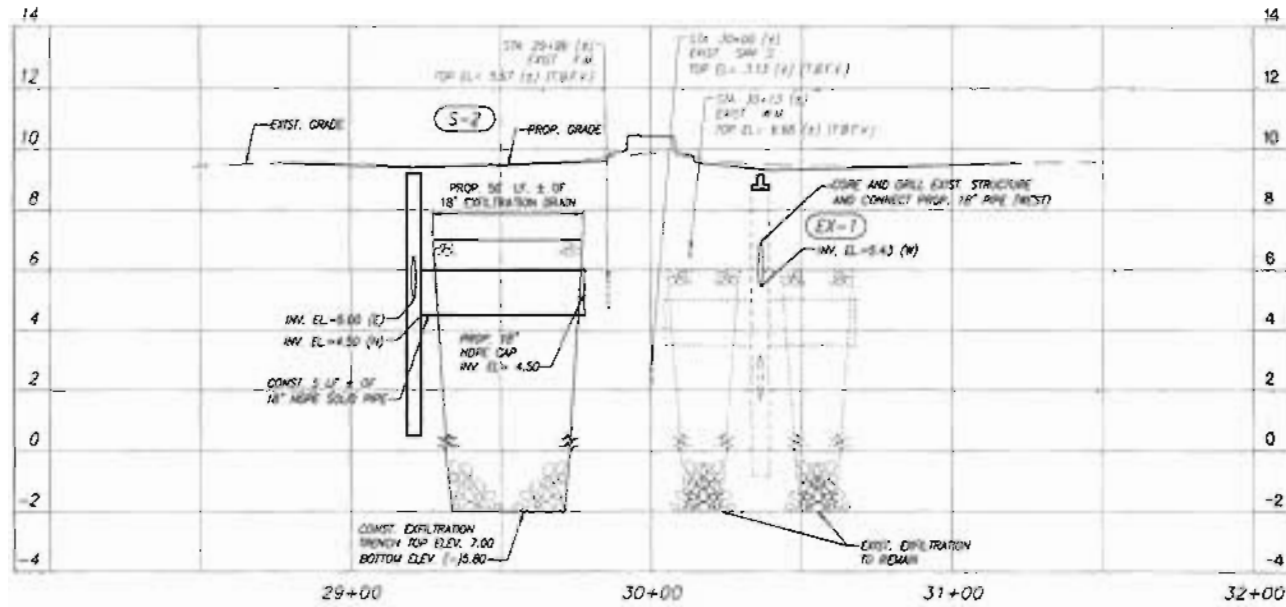
SECTION A-A

TYPICAL MOUNTABLE ISLAND SECTION
(APPROACH ROADWAY) N.T.S.





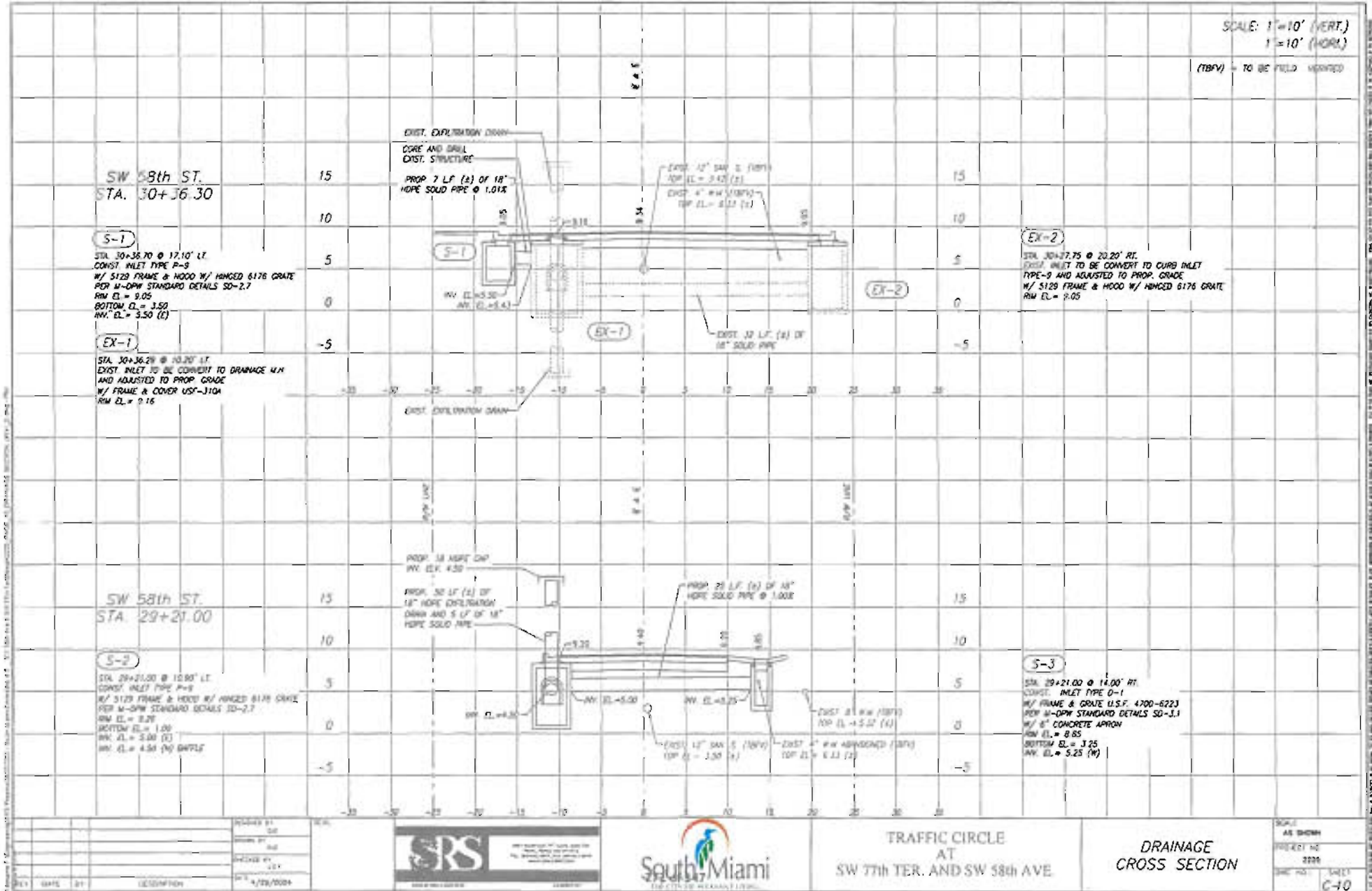


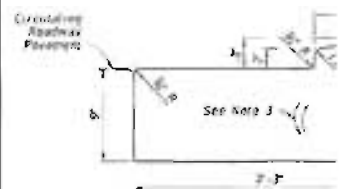


DRAINAGE PROFILE "SW 58th ST."

SCALE 1"=40' (HOR)
1"=4' (VER)

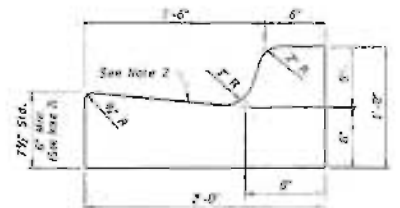
PROJECT NO. 2208 DATE 4/29/2024	DESIGNED BY CHECKED BY	APPROVED BY	RS 1001 Southwest 1st Avenue, Suite 211 Miami, Florida 33135 TEL: 305.444.4444 FAX: 305.444.4444 WWW.RS-ENGINEERS.COM	South Miami THE CITY OF SOUTH MIAMI	TRAFFIC CIRCLE AT SW 77th TER AND SW 58th AVE	DRAINAGE PROFILE	SCALE 1"=40' (HOR) 1"=4' (VER) AS SHOWN PROJECT NO. 2208 DATE 4/29/2024 C-9



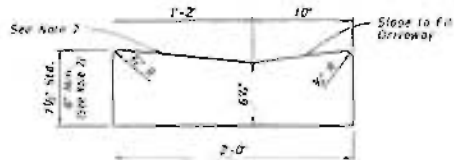


NOTE: Traffic Resting Position for Roundabout Central Island

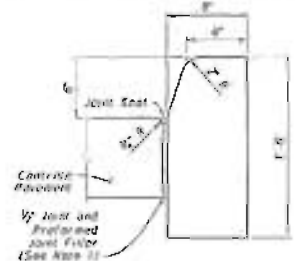
TYPE RA



TYPE F



DROP CURB

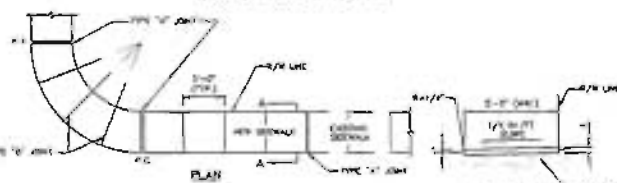


NOTE: For use adjacent to concrete or flexible pavement, (concrete shown)

TYPE D

CURB AND GUTTER
FDOT INDEX 520-001

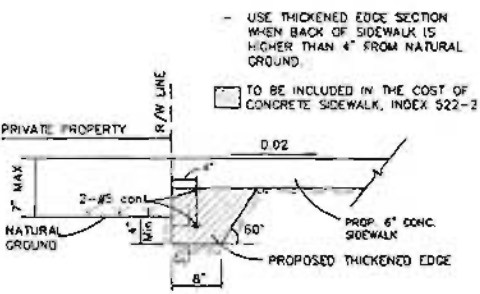
N.T.S.



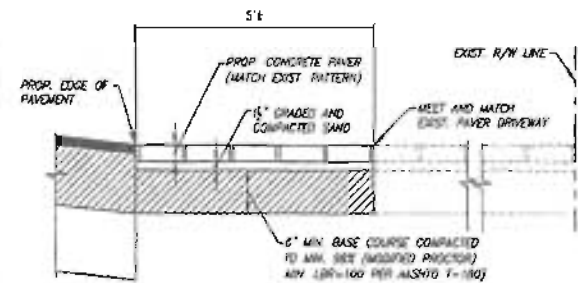
TYPE	LOCATION
A	AT EVERY 8' FOR 8" WIDE SIDEWALK
B	AT EVERY 8' FOR 12" WIDE SIDEWALK
C	AT EVERY 16' FOR 8" WIDE SIDEWALK
D	AT EVERY 16' FOR 12" WIDE SIDEWALK

LOCATION	THICKNESS
RESIDENTIAL AREAS	4"
AT DRIVEWAYS AND OTHER AREAS	6"

CONCRETE SIDEWALK
N.T.S.

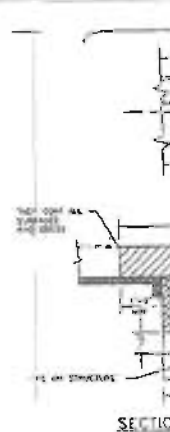


ALTERNATIVE BACK OF
SIDEWALK DETAIL
N.T.S.



PAVER DRIVEWAY RESTORATION DETAIL

N.T.S.



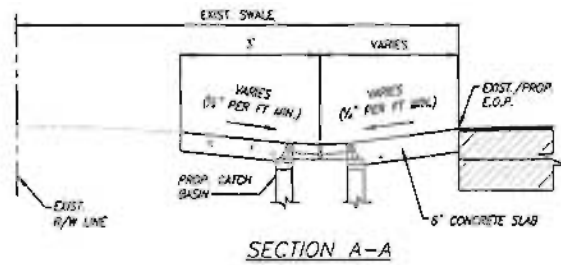
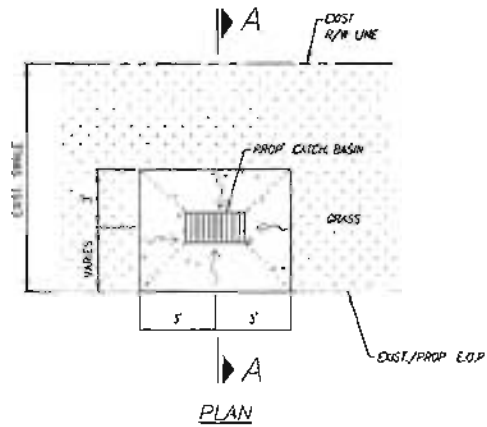
ITEM	QUANTITY	UNIT	PRICE
CONCRETE SIDEWALK	1.00	LS	1.00
PAVER DRIVEWAY RESTORATION	1.00	LS	1.00
ALTERNATIVE BACK OF SIDEWALK DETAIL	1.00	LS	1.00
CURB AND GUTTER	1.00	LS	1.00
DROP CURB	1.00	LS	1.00
TYPE RA	1.00	LS	1.00
TYPE F	1.00	LS	1.00
TYPE D	1.00	LS	1.00

TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE.

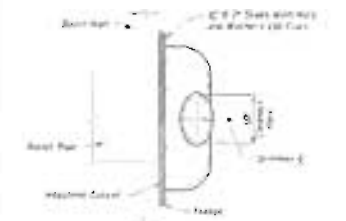
MISCELLANEOUS DETAILS

SCALE:
AS SHOWN
PROJECT NO.
2020
DATE
C-11.0



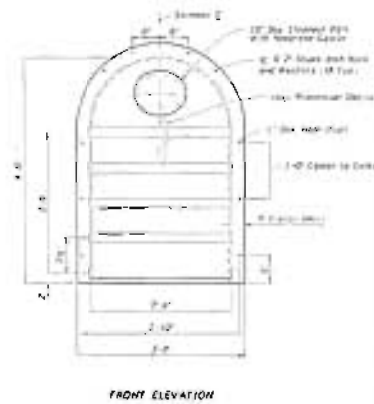
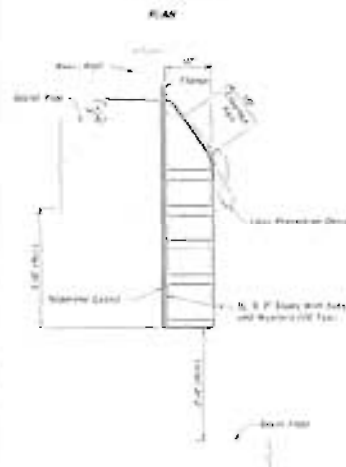


6" CONCRETE APRON DETAIL
N.T.S.



NOTE:

1. PROVIDE DRAIN FOR THE APRON WITH SLOPE TO EXISTING CURB OR TO THE STREET OR TO THE EXISTING DRAIN WITH SLOPE TO EXISTING DRAIN.



SIDE ELEVATION

TYPE II DETAILS

NO.	DATE	DESCRIPTION
1	4/26/2024	ISSUED FOR PERMIT

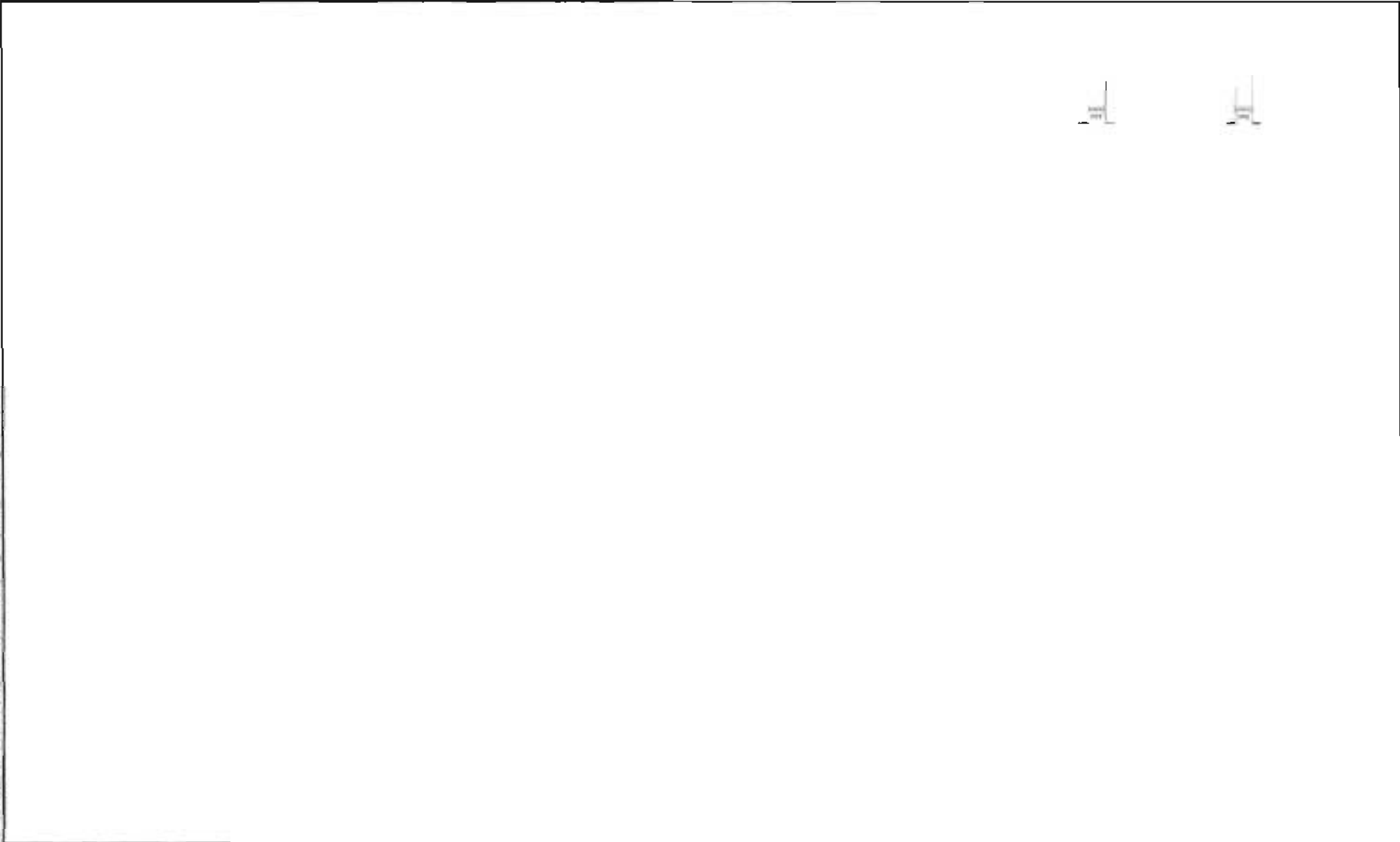
DESIGNED BY	DR
CHECKED BY	DR
DATE	4/26/2024



TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE

MISCELLANEOUS DETAILS

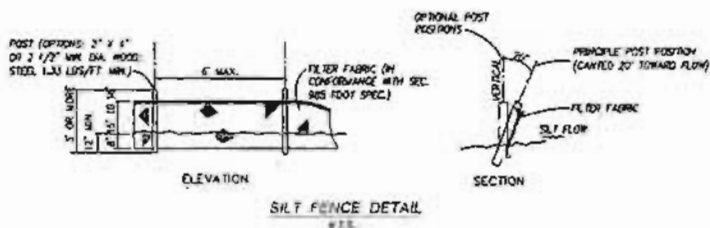
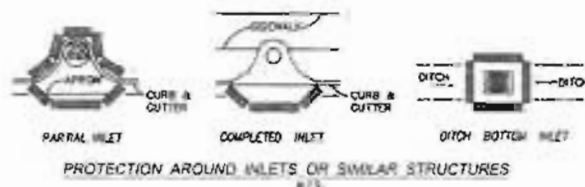
DATE	AS SHOWN
PROJECT NO.	2315
SHEET NO.	C-11.1



REVISIONS			DESIGNED BY J.A.	DATE 4/28/2024	 South Roadway Systems, Inc. 1100 S.W. 10th Ave., Suite 100 Miami, Florida 33135 Tel: 305-375-1100 Fax: 305-375-1101 www.srsinc.com	 South Miami City of South Miami, Florida	TRAFFIC CIRCLE AT SW 77th TER. AND SW 58th AVE	MISCELLANEOUS DETAILS	SCALE AS SHOWN
CHECKED BY J.A.			PROJECT NO. 2023						
APPROVED BY J.A.			CW NO.						
DATE 4/28/2024			SHEET C-11.2						

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

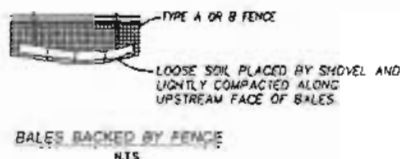
1. TYPE I AND II SYNTHETIC BARRIER SHOULD BE SPACED IN ACCORDANCE WITH CHART 1, SHEET 1 PER INDEX 102.
2. BALES SHALL BE ANCHORED WITH 2-1" X 2" (OR 1" DIA.) X 4' WOOD STAKES. STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. RAILS AND POSTS SHALL BE 2" X 4" WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED TIGHTLY TOGETHER.
5. WHERE USED IN CONJUNCTION WITH SILT FENCE, BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.



NOTES:

1. SPACING FOR TYPE II FENCE TO BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3 PER FOOT STANDARD INDEX 102.
2. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS



STORM WATER POLLUTION PREVENTION PRACTICES:

1. EROSION PROTECTION AND PREVENTION SHALL BE ACCOMPLISHED AS DETAILED IN SPECIAL PROVISIONS THE CONSTRUCTION PLAN, AND OR PER TREE ORDINANCE 12636.
2. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMITTED TO PUBLIC WORKS, SHALL DESCRIBE IN DETAIL HOW THE CONSTRUCTION EROSION WILL BE PHASED WITH REGARDS TO IMPROVING EROSION PROBLEMS BY THE USE OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES, FOR THE VARIOUS SEQUENCES OF CONSTRUCTION OPERATIONS. ANY MODIFICATIONS MUST BE APPROVED BY THE TOWN OF CUTLER BAY - INFILTS SECTION, DEPARTMENT OF PUBLIC WORKS.
3. ENVIRONMENTAL CONTROL FEATURES AS PROVIDED IN THE SWPPP, ARE TO BE INSTALLED AT ALL AREAS OF EXCAVATION OR FILL FOR DRAINAGE SYSTEM, OR STRUCTURE CONSTRUCTION PRIOR TO SUCH EXCAVATION OR FILL. INLET ENTRANCES ARE ALSO TO BE PROTECTED FROM SILTATION.
4. ALL ENVIRONMENTAL CONTROL FEATURES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN ACCORDANCE WITH N.P.D.E.S. REQUIREMENTS. THE CONTRACTOR MUST INSURE THAT ALL EROSION CONTROL FEATURES FUNCTION PROPERLY AT ALL TIMES.
5. ALL EROSION AND MATERIAL DEPOSITS MUST BE CONTAINED WITHIN THE PROJECT LIMITS.
6. ANY DAMAGED OR INEFFECTIVE ROCK BAGS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION OF ROCK BAGS INSTALLATION IS AS MENTIONED IN THE SWPPP PLANS. THE PROJECT ENGINEER MAY SPECIFY OTHER AREAS AS NECESSARY.
7. DITCH BOTTOM INLETS SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF DRAINAGE OUTLET INLET TOP SHALL NOT BE HIGHER THAN INLET TOP. ROCK BAGS SHALL BE INSTALLED AROUND INLET TOP. COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH ROCK BAGS TO PREVENT SEDIMENT INTAKE.
8. CURB INLETS ALSO SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL THE PROJECT IS COMPLETE. ALL EXPOSED SLOPED MATERIAL ADJACENT TO INLET, SHALL BE COVERED WITH EROSION CONTROL MATING WITH OUTER LIMITS PROTECTED BY ROCK BAGS.
9. STOCKPILED MATERIAL SHALL NOT BE LEFT IN EROSION PRONE AREAS UNLESS PROTECTED BY COVER OR ROCK BAGS.
10. INSPECTION OF EROSION CONTROL MEASURES AND CONDITION OF ADJACENT PROPERTIES, SHALL BE PERFORMED ONLY BY THE CONTRACTOR'S REPRESENTATIVE AND THE PROJECT ENGINEER. DEFICIENCIES SHALL BE NOTED AND CORRECTED.
11. ANY OFFSITE SEDIMENT DISCHARGE TO A MUNICIPAL SEPARATE STORM WATER SYSTEM ARISING FROM THE CONTRACTOR'S ACTIVITIES IS NOT ALLOWED.
12. THE USE OF SANITARY SEWERS, FRENCH DRAINS, COVER DITCHES AND/OR ROCK DRAINS FOR THE DISPOSAL OF WASTEWATER IS EXPRESSLY PROHIBITED.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

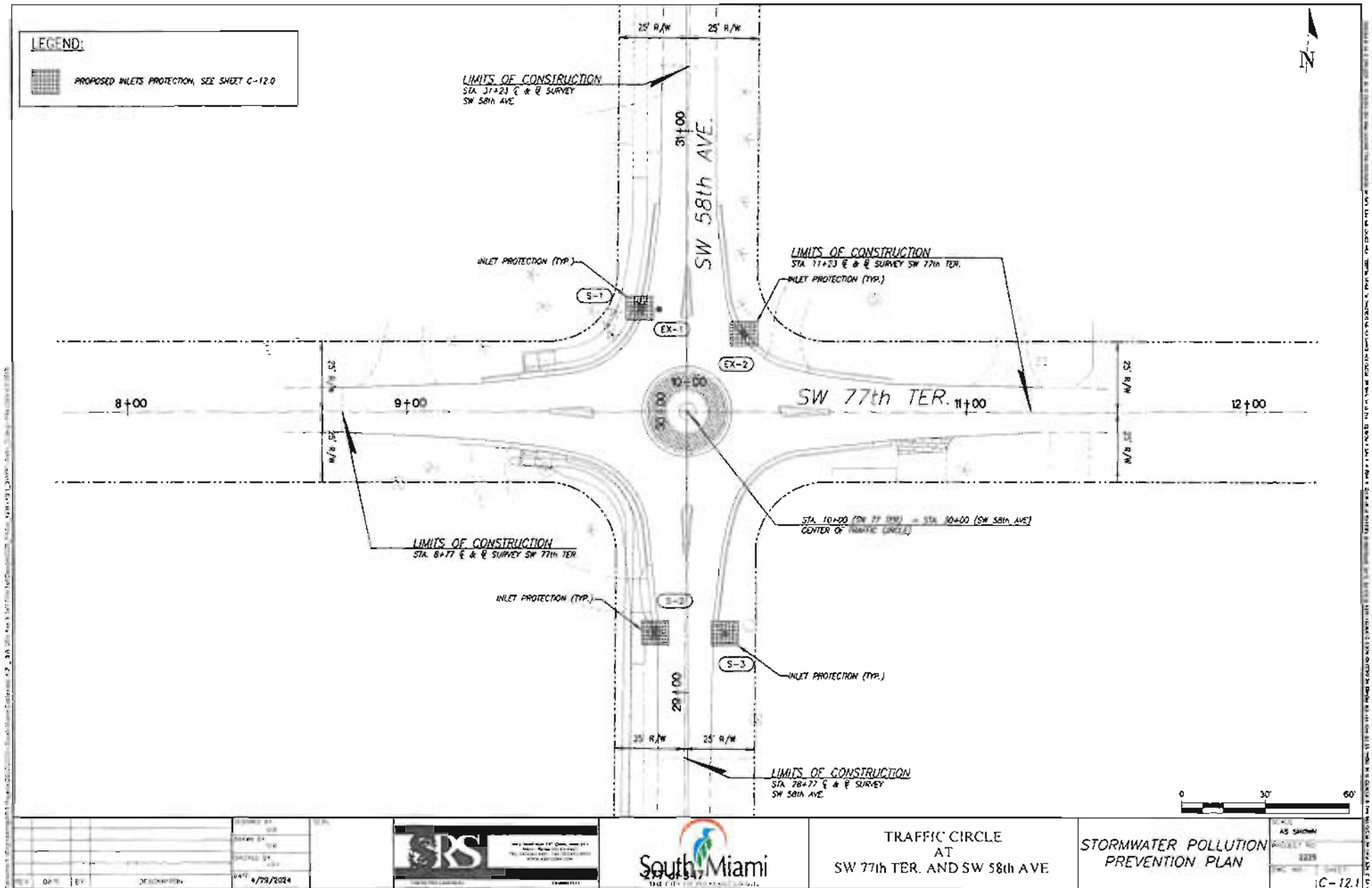
1. CLEAR & GRUBBING
 2. INSTALL DRAINAGE STRUCTURES
 3. STABILIZATION
 4. BASE PREPARATION
 5. ASPHALT APPLICATION
 6. PLACEMENT OF ROCK BAGS AROUND INLETS
 7. PLACEMENT OF ROCK BAGS AROUND MANHOLES
 8. APPLICATION OF FRICTION COURSE A.C.
 9. INSTALLATION OF STREET SIKING
 10. PAVEMENT MARKING
 11. REMOVE ROCK BAGS
 12. CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE
1. APPROVED STATE, LOCAL, PLANS OR STORM WATER PERMITS.
 2. ALL OF THE CONTROLS SHALL BE MAINTAINED AT ALL TIMES.
 3. ALL CONTROLS SHALL BE INSPECTED DAILY.
 4. APPLY FERTILIZERS AND PESTICIDES ACCORDING TO STANDARD SPECIFICATIONS, DESIGN AND SPECIAL PROVISIONS.
 5. REPORT NON-STORM WATER DISCHARGE (INCLUDING SPILL) 305 616-1200.
 6. VISIT WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES/



TRAFFIC CIRCLE
AT
SW 77th TER. AND SW 58th AVE

STORMWATER POLLUTION
PREVENTION
NOTES & DETAILS

AS SHOWN
2225
C-120





TRAFFIC CIRCLES

SW 76TH STREET & SW 61ST AVENUE

AND

SW 77TH TERRACE & SW 58TH AVENUE

SPECIFICATIONS

SPECIFICATIONS

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DIVISION 100 GENERAL CONSTRUCTION OPERATIONS

101 MOBILIZATION (REV. 03-12-2013)

A. Description.

1. 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.
2. 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.

B. Basis of Payment.

1. When No Separate Item for Mobilization is Included in the Contract.
 - a. All work and incidental costs specified as being covered under this Article will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.
2. When a Separate Pay Item for Mobilization is Included in the Contract:
 - a. 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, after an executed Notice to Proceed has been issued, by partial payments made in accordance with the following:
 - 1) For contracts of 120 contract days duration or less, partial payment will be made at 50% of the bid price per month for the first two months. For contracts in excess of 120 contract days duration, partial payment will be made at 25% of the bid price per month for the first four months. In no event shall more than 50% of the bid price be paid prior to commencing construction on the project site.
 - 2) Total partial payments for Mobilization on any project, including when more than one project or job is included in the Contract, will be limited to 10% of the original Contract amount for that project. Any remaining amount will be paid upon completion of all work on the Contract.
 - 3) Retainage, as specified in the Contract Documents, will be applied to all partial payments.
 - 4) Partial payments made on this Subarticle will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

3. Basis of Payment:

- a. <<No separate item for Mobilization will be provided under this contract.>>
- b. Payment will be made under:

Item #	Description	Unit
101-1	Mobilization	Lump sum

102 MAINTENANCE OF TRAFFIC (REV. 12-15-2015)

A. Description.

1 General:

- a. Maintain, for the duration of the construction period including any temporary suspensions of the Work, all traffic including pedestrian traffic within the limits of the Project starting the day work begins on the Project or the first day Contract time is charged, or on the day work begins on the work order, whichever is earlier.
- b. Construct and maintain detours.
- c. Provide facilities for access to residences, businesses, etc., along the Project.
- d. Furnish, install and maintain traffic control and safety devices during construction in accordance with FDOT Index 600 Series of the FDOT Design Standards, or as directed by Engineer. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone. Provide pickup, removal and disposal of litter and mow turf or vegetation within the MOT limits as required by Article 107.
- e. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas.
- f. Provide any other special requirements for safe and expeditious movement of traffic specified in the Plans or directed by Engineer.
2. Unless otherwise directed by Engineer or required by the Contract Documents, do not maintain traffic over those portions of the Project where no work is to be accomplished or where construction operations will not affect existing roads including sidewalks.
3. Do not obstruct or create a hazard to any traffic during the performance of the Work, and repair any damage to existing pavement open to traffic.
4. Traffic may be detoured only upon approval by the County Engineer. Contractor must submit for review and approval an updated MOT plan prior to closure of any roads.
5. The Department may temporarily suspend all activities, except traffic, erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions.
6. Due to traffic congestion, work hours other than normal established hours may be required by the Engineer. In the case of extreme traffic or weather conditions, Contractor may be required to remove their operation from the roadway and/or right of way, at the discretion of

the Engineer or the Traffic Control Officer at no additional compensation.

B. Materials,

1. Meet the following requirements:

Bituminous Adhesive	FDOT Section 970
Temporary Retroreflective Pavement Markers	FDOT Section 990
Paint	FDOT Section 971
Removable Tape	FDOT Section 990
Glass Spheres	FDOT Section 971
Temporary Traffic Control Device Materials	FDOT Section 990
Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices	FDOT Section 994

2. Temporary Traffic Control Devices: Use only the materials meeting the requirements of FDOT Section 990, FDOT Section 994, FDOT Design Standards and the Manual on Uniform Traffic Control Devices (MUTCD).
3. Detour: Provide all materials for the construction and maintenance of all detours
4. Commercial Materials for Driveway Maintenance: Provide materials of the type typically used by FDOT for roadway base construction, including reclaimed asphalt pavement material, and having stability and drainage properties that will provide a firm surface under wet conditions.

C. Worksite Traffic Supervisor.

1. Provide a worksite traffic supervisor meeting the requirements of Article 105. Provide the worksite traffic supervisor with all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations.
2. Ensure that the worksite traffic supervisor performs the following duties:
 - a. On site direction of all traffic control on the Project.
 - b. Is on site during all MOT set up and take down, and performs a drive through inspection immediately after set up.
 - c. Is on site during all nighttime operations to ensure proper MOT.
 - d. Immediately corrects all safety deficiencies and does not permit minor deficiencies that are not immediate safety hazards to remain uncorrected for more than 24 hours.
 - e. Is available on a 24 hour per day basis and present within 45 minutes after notification of an emergency situation and is prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.
 - f. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime

work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations. Advise Engineer and the Project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as is deemed necessary.

3. The Department may disqualify and remove from the Project a worksite traffic supervisor who fails to comply with the provisions of this Article.

D. Submittals

1. Traffic Control Plan

- a. Submit at Contractor's own expense a Traffic Control Plan (TCP) for approval by the County. Sequence the Work in a manner that will minimize disruption of vehicular and pedestrian access through and around the Project's construction area(s).
- b. The TCP must detail procedures and protective measures proposed by Contractor to provide for protection and control of traffic affected by the Work consistent with the following applicable standards:
 - 1) The Contract Documents;
 - 2) "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and subsequent revisions and addendums, as published by the U.S. Department of Transportation, Federal Highway Administration;
 - 3) The 600 Series indices of the FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System; and
 - 4) The Miami-Dade County Public Works Manual.
- c. All references to the respective agencies in the above referenced standards shall be construed to also include more stringent requirements of the jurisdictional municipality as applicable for this Work.
- d. The TCP must be signed and sealed by a Professional Engineer registered in the state of Florida and shall include proposed locations and time durations of the following, as applicable:
 - 1) Pedestrian and public vehicular traffic routing.
 - 2) Lane and sidewalk closures, other traffic blockage and lane restrictions and reductions anticipated to be caused by construction operations. Show and describe the proposed location, dates, hours and duration of closure, vehicular and pedestrian traffic routing and management, traffic control devices for implementing pedestrian and vehicular movement around the closures, and details of barricades.
 - 3) Location, type and method of shoring to provide lateral support to the side of an excavation or embankment parallel to an open travel-way.
 - 4) Allowable on-street parking within the immediate vicinity of worksite

- 5) Access to buildings immediately adjacent to worksite.
 - 6) Driveways blocked by construction operations.
 - 7) Temporary traffic control devices, temporary pavement striping and marking of streets and sidewalks affected by construction
 - 8) Temporary commercial and industrial loading and unloading zones.
 - 9) Construction vehicle reroutes, travel times, staging locations, and number and size of vehicles involved.
- e. Obtain and submit prior to erection, or otherwise impacting traffic, all required permits from all authorities having jurisdiction, including the Department, if applicable.
2. Alternative Traffic Control Plan.
 - a. Where a TCP is provided by the County with the Contract Documents, Contractor may still propose an alternative TCP to the plan presented in the Contract Documents. Prepare the TCP in conformance with the requirements stipulated in this Specification and in the form outlined in the current version of FDOT's Plans Preparation Manual. Indicate in the plan a TCP for each phase of activities. Have Contractor's Engineer of Record sign and seal the alternative plan. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by Contractor, and notify the Department in writing of any such potential impacts to utilities.
 - b. Engineer's approval of the alternate TCP does not relieve Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, Design Plans (including TCPs) or other Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.
 - c. The Department reserves the right to reject any alternative TCP. Obtain Engineer's written approval before beginning work using an alternate TCP. Engineer's written approval is required for all modifications to the TCP. Engineer will only allow changes to the TCP in an emergency without the proper documentation.
 3. Comprehensive Weekly Report.
 - a. Submit to Engineer a comprehensive weekly report of the daily inspections performed and detailing the condition of all traffic control devices (including pavement markings) being used.
 - b. Include assurances in the report that pedestrians are accommodated with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities, that existing or detoured bicyclist paths are being maintained satisfactorily throughout the Project limits, and that existing businesses in work areas are being provided with adequate entrances for vehicular and pedestrian traffic during business hours.
 - c. When deficiencies are found, the worksite traffic supervisor is to note such deficiencies and include the proposed or implemented corrective actions, including the date corrected.
 - d. Have the worksite traffic supervisor sign the report and certify that all of the above issues are being handled in accordance with the Contract Documents.
- E. Traffic Control.
 1. Standards: FDOT Design Standards are the minimum standards for the use in the development of all TCPs. The MUTCD, Part VI is the minimum national standard for traffic control for highway construction, maintenance, and utility operations. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers which are necessary to protect the public and workers from hazards within the Project limits.
 2. Maintenance of Roadway Surfaces:
 - a. Maintain all lanes that are being used for the MOT, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.
 3. Number of Traffic Lanes:
 - a. Maintain one lane of traffic in each direction.
 - b. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion.
 - c. Construct each lane used for MOT at least as wide as the traffic lanes existing in the area before commencement of construction.
 - d. Do not allow traffic control and warning devices to encroach on lanes used for MOT.
 - e. Engineer may allow Contractor to restrict traffic to one-way operation for short periods of time provided that Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicles, or use traffic signals.
 4. Crossings and Intersections:
 - a. Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any road or street crossing the Project unless approved by Engineer. Before beginning any construction, provide Engineer the names and phone numbers of persons that can be contacted when signal operation malfunctions.

5. Access for Residences and Businesses: Provide continuous access to all residences and all places of business.
6. Protection of the Work from Injury by Traffic: Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.
7. Flagger: Provide trained flaggers in accordance with Article 105.
8. Conflicting Pavement Markings:
 - a. Where the lane use or where normal vehicle or pedestrian paths are altered during construction, remove all pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that will conflict with the adjusted vehicle or pedestrian paths. Use of paint to cover conflicting pavement markings is prohibited. Remove conflicting pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions.
 - b. Remove all pavement markings that will be in conflict with "next phase of operation" vehicle pedestrian paths as described above, before opening to vehicle traffic or use by pedestrians.
 - c. Cost for removing conflicting pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) to be included in the Project costs for Maintenance of Traffic (General).
9. Vehicle and Equipment Visibility:
 - a. Equip all pickups and automobiles used on the Project with a minimum of one Class 2 amber or white warning light that meets the Society of Automotive Engineers Recommended Practice SAE J595, dated November 1, 2008, or SAE J845, dated December 1, 2007, and incorporated herein by reference. Existing lights that meet SAE J845, dated March, 1992, or SAE J1318, dated April, 1986, may be used to its end of service life. Warning lights shall be a high intensity amber or white rotating, flashing, oscillating or strobe light. Lights should be unobstructed by ancillary vehicle equipment such as ladders, racks or booms. If the light is obstructed, additional lights will be required. The lights shall be operating when a vehicle is in a work area where a potential hazard exists, when operating the vehicle at less than the average speed for the facility while performing work activities, making frequent stops or called for in the Plans or FDOT Design Standards.
 - b. Equip all other vehicles and equipment with a minimum of 4 square feet of retroreflective sheeting or flashing lights.
 - c. To avoid distraction to motorists, do not operate the lights on the vehicles or equipment when the vehicles are outside the clear zone or behind a barrier.
10. No Waiver of Liability: Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies

described herein in no way acts as a waiver of any terms of the liability of Contractor or his surety.

F. Detours.

1. General: Construct and maintain detour facilities wherever it becomes necessary to divert traffic from any existing roadway or bridge, or wherever construction operations block the flow of traffic.
2. Construction: Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement. Where pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities.
3. Construction Methods: Select and use construction methods and materials that provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.
4. Removal of Detours: Remove detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for the materials on loan from the Department with the stipulation that they are returned.
5. Detours Over Existing Roads and Streets: When the Department specifies that traffic be detoured over roads or streets outside the Project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.
6. Operation of Existing Movable Bridges:
 - a. At the pre-construction meeting, the Engineer and the Contractor will select a date for the County to turn over the bridge maintenance and operations responsibilities. In the event that this date is not discussed, the Contractor will take full responsibility at the NTP date.
 - b. In addition to bridge maintenance responsibilities during the duration of the project, Contractor is responsible for having qualified and sufficient number of bridge operators to be able to operate the bridge in accordance USCG regulations – specifically, Title 33- Navigation and Navigable Waters, Chapter 1 - U.S. Coast Guard, Department of Homeland Security, Subchapter J-Bridges, Part 117--Drawbridge Operation Regulations, Subpart B--Specific Requirements § 117.5.
 - c. County's bridge operators are scheduled as follows:

1st Shift:	12am to 8am
2nd Shift:	8am to 4pm
3rd Shift:	4pm to 12am
 - d. This allows the bridge to be operational on a 7 days/week, 365 days per year basis.

- e. When removing bridges: Once the bridge is removed Contractor is relieved of this responsibility; however, upon completion of the construction of the new bridge and until the new bridge is officially returned to the County, the contractor is obligated to operate the bridge in accordance with the established USCG regulation.
- f. Make immediate repairs of any damage to such structures caused by use or operations related to the work at no expense to the County, but do not provide routine repairs or maintenance. In the event that use or operations result in damage to a bridge requiring repairs, give such repairs top priority to any equipment, material, or labor available.

G. Traffic Control Officer.

- 1. Provide uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone as required by Engineer and when the following types of work is necessary on projects:
 - a. Directing traffic/overriding the signal in a signalized intersection
 - b. When FDOT Design Standards, Index No. 655 Traffic Pacing for overhead work is called for in the Plans or approved by Engineer.
 - c. When pulling conductor/cable above an open traffic lane on limited access facilities, when called for in the Plans or approved by Engineer.
 - d. When FDOT Design Standards, Index No. 625 Temporary Road Closure 5 Minutes or Less is used.

H. 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.

I. Temporary Traffic Control Devices.

- 1. Installation and Maintenance:
 - a. Install and maintain temporary traffic control devices as detailed in the Plans, Index 600 of the FDOT Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on FDOT's Approved Products List (APL) and the TSSQPL. Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the FDOT APL and the TSSQPL. Immediately remove or

cover any devices that do not apply to existing conditions

- b. All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) or the Manual for Assessing Safety Hardware 2009 (MASH) and current FHWA directives.
- c. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida.
- d. Ensure that the FDOT APL number is permanently marked on the device at a readily visible location. Sheeting used on devices is exempt from this marking requirement.
- e. Notify Engineer of any scheduled operation which will affect traffic patterns or safety sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of temporary traffic control devices.
- f. Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep Engineer advised at all times of the identification and means of contacting this employee on a 24 hour basis.
- g. Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA) "Quality Guidelines for Temporary Traffic Control Devices and Features". Immediately repair, replace or clean damaged, defaced or dirty devices. Traffic control devices shall not be cleaned while installed/used. Use of warning lights on any temporary traffic control device is prohibited.

2 Work Zone Signs:

- a. Furnish, install, maintain, remove and relocate signs in accordance with the Plans and FDOT Design Standards, Index No. 600. Use signs that meet the material and process requirements of FDOT Section 994. Use Type IV sheeting for fluorescent orange work zone signs. Roll-up signs must meet the requirements of Type VI sheeting. Use Type IV or Type XI sheeting for all other work zone signs. Attach the sign to the sign support using hardware meeting the manufacturer's recommendations on the FDOT APL vendor drawings or as specified in the FDOT Design Standards.

1) Post Mounted Signs:

- a) Meet the requirements of FDOT Section 990-8.

2) Portable Signs:

- a) Use only approved systems, which includes sign stands and attachment hardware (nuts, bolts, clamps, brackets, braces, etc.), meeting the vendor requirements specified on the FDOT APL drawings.

- b) Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the NCHRP Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."
- 3) Barrier Mounted Signs:
 - a) When post mounting criteria cannot be achieved in accordance with FDOT Design Standards, Index No. 600 and a barrier or traffic railing exists, use temporary sign criteria provided in FDOT Design Standards, Index No 11871.
- 3. Business Signs:
 - a. Provide and place signs in accordance with the Plans and FDOT Design Standards, Index No. 600 series. Furnish signs having retroreflective sheeting meeting the requirements of FDOT Section 990.
- 4. High Intensity Flashing Lights:
 - a. Furnish Type B lights in accordance with the Plans and FDOT Design Standards.
- 5. Warning/Channelizing Devices:
 - a. Furnish warning/channelizing devices in accordance with the Plans and FDOT Design Standards.
 - b. Retroreflective Collars for Traffic Cones:
 - 1) Use collars for traffic cones listed on the FDOT APL that meets the requirements of FDOT Section 990. Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inch collar a uniform 3-1/2 inches distance from the top of the cone and the lower 4 inch collar a uniform 2 inches distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
 - c. Barrier Wall (Temporary):
 - 1) Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the Plans. Ensure that temporary concrete barrier wall for use on roadway sections, complies with FDOT Design Standards, Index Nos. 412, 415 or 414 as specified in the Plans. Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with FDOT Design Standards, Index No 414 as specified in the Plans.
 - 2) Ensure that temporary water filled barrier wall used on roadway sections meets the NCHRP Report 350 criteria or the MASH and is listed on the FDOT APL. Barriers meeting the requirements of FDOT Design Standards, Index Nos. 412, 415 or temporary water filled barriers on the FDOT APL will not be accepted as an alternate to barriers meeting the requirements of FDOT Design Standards, Index No. 414.
- 3) Trailer mounted barriers listed on the FDOT APL may be used at the option of the Contractor. Trailer mounted barriers listed on the FDOT APL must have an FHWA eligibility letter and be successfully crash tested in accordance with MASH TL-3 criteria. All trailer mounted barriers must be equipped with an FDOT APL listed truck mounted attenuator, an FDOT APL listed vehicle mounted arrow board and vehicle warning lights in accordance with this Article
- 4) Temporary Barrier Wall Meeting the Requirements of Design Standards, Index Nos. 412 and 414:
 - a) Ensure the marking requirements of the respective Index are met.
- 5) Proprietary Precast Temporary Barrier Wall Fabricated prior to 2005:
 - a) Contractor must submit a certification stating that all unmarked barrier wall units meet the requirements of the Specifications and the FDOT Design Standards. Certifications will be project specific and non-transferable
- 6) Proprietary Precast Temporary Barrier Wall Fabricated in 2005 or later:
 - a) Ensure each wall unit has permanent clear markings, showing the manufacture date, serial number, manufacturer's name or symbol, and the FDOT APL number. Label the markings on a plate, plaque, or cast in the unit. Proprietary barrier wall fabricated prior to 2016 and marked with the "INDX 521" in lieu of the FDOT APL number will be permitted.
- 7) Glare Screen (Temporary):
 - a) Use temporary glare screens listed on the FDOT APL that meet the requirements of FDOT Section 990. Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the Plans.
 - b) Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 pounds per foot of glare screen, with a requirement to use a minimum of three fasteners per barrier section.
 - c) When glare screen is utilized on temporary barrier wall, warning lights will not be required.
- 8) Longitudinal Channelizing Devices (LCDs):
 - a) Furnish LCDs in accordance with the Plans and FDOT Design Standards. LCDs are categorized as vehicular or pedestrian and shall be interlocked. For LCDs requiring internal ballasting, an indicator that clearly identifies the proper ballast level will be required.
 - b) Use alternating orange and white pattern for solid color vehicular LCDs. Vehicular LCDs may be substituted for drums, vertical panels, or barricades.

6. Temporary Crash Cushion (Redirective/Gating):

- a. Furnish, install, maintain and subsequently remove temporary crash cushions in accordance with the details and notes shown in the Plans, the FDOT Design Standards, and requirements of the pre-approved alternatives listed on the FDOT APL.
- b. Maintain the crash cushions until their authorized removal. Repair all attachment scars to permanent structures and pavements after crash cushion removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department.
- c. Restore crash cushions damaged by the traveling public within 24 hours after notification as authorized by Engineer.

7. Guardrail (Temporary):

- a. Furnish guardrail (temporary) in accordance with the Plans and Design Standards. Meet the requirements of Article 536.

8. Arrow Board:

- a. Furnish arrow boards that meet the requirements of FDOT Section 990 as required by the Plans and Design Standards to advise approaching traffic of lane closures or shoulder work.
- b. Type B arrow boards may be used on low to intermediate speed (0 mph to 50 mph) facilities or for maintenance or moving operations on any speed facility.
- c. Type C arrow boards shall be used for all other operations on high-speed (50 mph and greater) facilities and may be substituted for Type B arrow boards on any speed facility.

9. Portable Changeable Message Sign (PCMS):

- a. Furnish PCMSs or truck mounted changeable message signs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to supplement other temporary traffic control devices used in work zones.

10. Portable Regulatory Signs (PRS):

- a. Furnish PRSs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards.
- b. Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.

11. Radar Speed Display Unit (RSDU):

- a. Furnish RSDUs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to inform motorists of the posted speed and their actual speed.
- b. Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.

12. Temporary Signalization and Maintenance:

- a. Provide temporary signalization and maintenance at existing, temporary, and new intersections including but not limited to the following:

- 1) Installation of temporary poles and span wire assemblies as shown in the Plans,
- 2) Temporary portable traffic signals as shown in the Plans,
- 3) Adding or shifting signal heads,
- 4) Trouble calls,
- 5) Maintaining intersection and coordination timing and preemption devices.

- b. Restore any loss of operation within 12 hours after notification.

- c. Provide traffic signal equipment that meets the requirements of Article 603 of FDOT Design Standards. Engineer may approve used signal equipment if it is in acceptable condition. Replacement components for traffic signal cabinet assemblies will be provided by the maintaining agency.

13. Temporary Traffic Detection and Maintenance:

- a. Provide temporary traffic detection and maintenance at existing, temporary, and new signalized intersections. Provide temporary traffic detection equipment listed on the FDOT APL. Restore any loss of detection within 12 hours. Ensure 90% accuracy per signal phase, measured at the initial installation and after any lane shifts, by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect the sample and ground truth data for a minimum of five minutes during a peak and five minutes during an off-peak period with a minimum three detections for each signal phase. Perform the test in the presence of Engineer.

14. Truck Mounted Attenuators and Trailer Mounted Attenuators:

- a. Furnish, install and maintain only those attenuators that meet the requirements of NCHRP 350 or the MASH.
- b. Use truck mounted attenuators or trailer mounted attenuators, when called for in the FDOT Design Standards. Use attenuators listed on the FDOT APL.
- c. When attenuators are called for, use either a truck mounted attenuator or a trailer mounted attenuator system designed and installed in accordance with the manufacturers recommendations.
- d. Equip the attenuator cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.
- e. Install either alternating black with yellow or white with orange sheeting on the rear of trailer mounted attenuators and on truck mounted attenuators, in both the operating and raised position. Use Type III (work zone) or Type IV sheeting consisting of 4 or 6 inch wide stripes installed to form chevrons that point

upward. All sheeting except black shall be retroreflective.

- f. Attenuators will not be paid for separately. Include the cost of the truck with either a truck mounted attenuator or a trailer mounted attenuator under Maintenance of Traffic (General). Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

15. Temporary Raised Rumble Strip Sets:

- a. When called for in the Plans, furnish, install, maintain, remove, and reinstall temporary raised rumble strip sets.
- b. Install the temporary raised rumble strip sets per the manufacturer's recommendations and in accordance with FDOT Design Standards, Index No. 603.
- c. The temporary raised rumble strip may be either a removable polymer striping tape or a molded engineered polymer material.

16. Automated Flagger Assistance Devices (AFAD):

- a. Furnish, install, maintain, remove and relocate AFADs in accordance with the Plans and FDOT Design Standards. Position AFADs where they are clearly visible to oncoming traffic and out of the lane of traffic. The devices may be operated either by a single flagger at one end of the traffic control zone, from a central location, or by a separate flagger near each device's location.
- b. AFADs may be either a remotely controlled Stop/Slow AFAD mounted on either a trailer or a movable cart system, or a remotely controlled Red/Yellow Lens AFAD.
- c. AFADs will not be paid for separately. AFADs may be used as a supplement or an alternate to flaggers in accordance with FDOT Index 603. Include the cost for AFADs in Maintenance of Traffic (General).

17. Temporary Lane Separator:

- a. Furnish, install, maintain, remove and relocate temporary lane separator in accordance with the Plans and FDOT Design Standards, Index No 600.
- b. Anchor the portable temporary lane separator with a removable anchor bolt. Use epoxy on bridge decks where anchoring is not allowed. Remove the epoxy from the bridge deck by hydroblasting or other method approved by Engineer.

J. Work Zone Pavement Marking.

1. Description:

- a. Furnish and install work zone pavement markings for MOT in construction areas and in close conformity with the lines and details shown in the Plans and FDOT Design Standards.
- b. Centerlines, lane lines, edge lines, stop bars and turn arrows will be required in work zones prior to opening the road to traffic.
- c. The most common types of work zone pavement markings are painted pavement markings and

removable tape. Other types of work zone pavement markings may be identified in the Plans.

2. Painted Pavement Markings:

- a. General: Use painted pavement markings meeting the requirements of Article 710. Use standard waterborne paint unless otherwise identified in the Plans or approved by Engineer.

3. Removable Tape:

- a. General: Use removable tape listed on the FDOT APL and meeting the requirements of FDOT 990-4.
 - b. Application: Apply removable tape with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and cumulatively measure the length of each line placed within an accuracy tolerance of plus or minus 2%. Ensure removable tape adheres to the road surface. Removable tape may be placed by hand on short sections, 500 feet or less, if it is done in a neat accurate manner.
 - c. Retroreflectivity: Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 300 mcd/lx-m2 for white and contrast markings and not less than 250 mcd/lx-m2 for yellow markings. Black portions of contrast tapes and black masking tapes must be non-reflective and have a reflectance of less than 5 mcd/lx m2. At the end of the six month service life, the retroreflectance of white and yellow removable tape shall not be less than 150 mcd/lx-m2.
 - d. Removability: Provide removable tape capable of being removed from bituminous concrete and portland cement concrete pavement intact or in substantially large strips, either manually or by a mechanical roll-up device, at temperatures above 40°F, without the use of heat, solvents, grinding or blasting.
- #### 4. Temporary Retroreflective Pavement Markers (RPM's)
- Use markers listed on the FDOT APL and meeting the requirements of FDOT 990-5. Apply all markers in accordance with the FDOT Design Standards, Index Nos. 600 and 17352, prior to opening the road to traffic. Replace markers any time after installation when more than three consecutive markers fail or are missing, at no expense to the Department, in a timely manner, as directed by Engineer.

K. Method of Measurement.

1. General:

- a. 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 unit price for the applicable pay item, except those paid for as Maintenance of Traffic (General).
- b. One or more of the following items may appear in a contract in addition to a direct payment item for Maintenance of Traffic (Lump Sum). Unless otherwise stipulated in the Contract Documents, only those items with an Awarded Unit Price will be considered for direct payment.

2. Traffic Control Officers:

- a. The County will reimburse Contractor for the services of uniformed law enforcement officers authorized to serve as traffic control officers for the purpose of controlling or directing traffic in the work zone as part of the County approved Traffic Control Plan and Maintenance of Traffic provided by Contractor pursuant to the Contract Documents.
- b. The quantity to be paid for will be the invoice unit price per hour for the actual number of officers certified to be on the project site, including any law enforcement vehicles and all other direct and indirect costs.
- c. Payment will be made at invoice cost from an appropriate dedicated allowance established by the County.
- d. Payment will be made only for those Traffic Control Officers specified in the Plans and authorized by the Engineer. The necessary invoices and documentation must be submitted to the Engineer along with the payment request.

3. Special Detours:

- a. When a detour facility is specifically detailed in the Plans, or is otherwise described or detailed as a special item, and an item for separate payment is included in the proposal, the work of constructing, maintaining, and subsequently removing such detour facilities will be paid for separately. Traffic control devices, warning devices, barriers, signing, and pavement markings for special detours will also be paid for separately.
- b. When the Plans show more than one detour, each detour will be paid for separately, at the Contract lump sum price for each.
- c. Where a separate item for a specific detour facility is included in the proposal, payment will be made under special detour.

4. Commercial Material for Driveway Maintenance:

- a. The quantity to be paid for will be the certified volume, in cubic yards, of all materials authorized by the Engineer, acceptably placed, compacted and maintained for driveway maintenance. The volume, which is authorized to be reused, and which is acceptably salvaged, placed, compacted and maintained in other designated driveways will be included again for payment.
- b. Arrow Board: The quantity to be paid at the contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the contract time.

5. Work Zone Signs:

- a. The number of temporary post-mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for work zone signs. When multiple signs are located on single or multiple posts, each sign panel will be paid individually. Signs greater than 20 square feet and detailed in the Plans will be paid for under Maintenance of Traffic (General).

- b. Temporary portable signs (excluding mesh signs) and vehicular mounted signs will be included for payment under work zone signs, only if used in accordance with the FDOT Design Standards.
- c. The number of temporary barrier mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for barrier mounted work zone signs.

6. Business Signs:

- a. The number of business signs certified as installed/used on the project will be paid for at the Contract unit price for business signs.

7. High Intensity Flashing Lights:

- a. The number of high intensity flashing lights (Type B) certified as installed/used on the project will be paid for at the Contract unit price for high intensity flashing lights (temporary - Type B).

8. Channelizing Devices:

- a. The number of drums, vertical panels, pedestrian LCDs, and Type I, Type II, Type III, or direction indicator barricades, certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit prices for channelizing device.
- b. Payment for vehicular LCDs will be paid as the length in feet installed divided by the device spacing for barricades, vertical panels, and drums and certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit price for channelizing device.
- c. Payment will not be made for channelizing devices unsatisfactorily maintained, as determined by the Engineer.
- d. Payment will be made for each channelizing device that is used to delineate trailer mounted devices.
- e. Payment will be made for channelizing devices delineating portable changeable message signs during the period beginning 14 working days before Contract Time begins as authorized by the Engineer.

9. Barrier Wall (Temporary):

- a. The Contract unit price for barrier wall (temporary) will be full compensation for furnishing, installing, maintaining, and removing the barrier wall. When called for, the Contract unit price for barrier wall (temporary/relocate) will be full compensation for relocating the barrier. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.

10. Barrier Delineators:

- a. The number of barrier delineators, installed on top of barrier wall, used on the project, meeting the requirements of FDOT Design Standards and Article 705.

11. Lights, Temporary, Barrier Wall Mount:

- a. The number of Type C steady burn lights, mounted on barrier wall, certified as installed/used on the project, meeting the requirements of the Design Standards and have been properly maintained will be paid for at the Contract unit price for lights temporary, barrier wall mount.

12. Glare Screen (Temporary):

- a. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.

13. Temporary Crash Cushions:

- a. Redirective:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (redirective) certified as installed/used and maintained on the project, including object marker.
- b. Gating:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (gating) certified as installed/used and maintained on the project, including object marker.

14. Temporary Guardrail:

- a. The quantity to be paid for will be the length, in feet, of temporary guardrail constructed and certified as installed/used on the project. The length of a run of guardrail will be determined as a multiple of the nominal panel lengths.

15. Arrow Board:

- a. The quantity to be paid at the Contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the Contract time.

16. Portable Changeable Message Sign:

- a. The quantity to be paid at the Contract unit price will be for the number of portable changeable message signs or truck mounted changeable message signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time.
- b. Payment will be made for each portable changeable message sign that is used during the period beginning fourteen working days before Contract Time begins as authorized by Engineer.

17. Portable Regulatory Signs:

- a. The quantity to be paid for will be the number of portable regulatory signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time, will be paid for the Contract unit price for portable regulatory sign.

18. Radar Speed Display Unit:

- a. The quantity to be paid for will be the number of radar speed display units certified as installed/used on the project on any calendar day or portion thereof within the Contract Time, will be paid for the Contract unit price for radar speed display unit.

19. Temporary Signalization and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day for the full duration of the Contract. For temporary intersections, the quantity to be paid for will be the number of signalized intersections per day for the duration of the temporary intersection. No separate payment will be made for temporary signalization and maintenance at new intersections.

20. Temporary Traffic Detection and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day Contract Time begins and ending the day the permanent detection is operational and the final lane configuration is in place. For temporary and new intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day the temporary detection is functional and ending the day the permanent detection is operational and the final lane configuration is in place for a new intersection; or, when the detection is removed for a temporary intersection.

21. Work Zone Pavement Markings:

- a. The quantities, furnished and installed, to be paid for will be the length of skip and solid pavement markings, and the area of pavement markings placed as follows:
 - 1) The total transverse distance, in feet, of skip pavement marking authorized and acceptably applied. The length of actual applied line will depend on the skip ratio of the material used. Measurement will be the distance from the beginning of the first stripe to the end of the last stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of the Contract Documents.
 - 2) The net length, in feet, of solid pavement marking authorized and acceptably applied.
 - 3) The number of directional arrows or pavement messages authorized and acceptably applied.
 - 4) The number of temporary RPM's authorized and acceptably applied.

22. Temporary Raised Rumble Strips:

- a. The quantity to be paid for will be the number of temporary raised rumble strip sets certified as installed/used on the project on any calendar day or portion thereof within the Contract Time.
- b. The number of strips used must meet the requirements of FDOT Design Standards, Index No. 603. No adjustment will be made to the per day measurement for the number of strips or sets used, or for the number of times the sets are relocated.

23. Temporary Lane Separator:

- a. The quantity of temporary lane separator to be paid for will be plan quantity, in feet, including drainage gaps, completed and accepted.

L. Submittals.

1 Submittal Instructions:

- a. Prepare a certification of quantities for certified MOT payment items for each project in the Contract. Submit the certification of quantities to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.

2. Contractor's Certification of Quantities:

- a. Request payment by submitting a certification of quantities as directed by Engineer, based on the amount of work done or completed. Ensure the certification consists of the following:
- b. Contract Number, Certification Date and the period that the certification represents.
- c. The basis for arriving at the amount of the progress certification, less payments previously made and less an amount previously retained or withheld. The basis will include a detail breakdown provided on the certification of items of payment in accordance with 102-M. After the initial setup of the MOT items and counts, the interval for recording the counts will be made weekly on the certification sheet unless there is a change. This change will be documented on the day of occurrence. Some items may necessitate a daily interval of recording the counts.

M. Basis of Payment.

1 Maintenance of Traffic (General):

- a. No Direct Payment Provided: When no item for direct payment of Maintenance of Traffic (Lump Sum) is provided by the Contract, the costs for performing all work and requirements specified under this Article, except as may be specifically covered for payment under other items, will be included among the various scheduled items of the Contract.
- b. Direct Payment Provided: When direct payment for Maintenance of Traffic (Lump Sum) is provided in the Contract, the quantity to be paid all work and costs specified under this Article, except as may be specifically covered for payment under other items, will be the lump sum Contract Price.

2. Additional items of Direct Payment. Only those items with an Awarded Unit Price will be considered for direct payment.

a. Traffic Control Officers:

- 1) Price and payment will be full compensation for the services of the traffic control officers at invoice cost as specified under subarticle 102.K.2 above.

b. Special Detours:

- 1) Price and payment will be full compensation for providing all detour facilities shown in the Plans and all costs incurred in carrying out all requirements of this Article for general MOT within the limits of the detour, as shown in the Plans

c. Commercial Materials for Driveway Maintenance:

- 1) Price and payment will be full compensation for all work and materials specified for this item, including

specifically all required shaping and maintaining of driveways.

d. Work Zone Signs:

- 1) Price and payment will be full compensation for all work and materials for furnishing signs, supports and necessary hardware, installation, relocating, maintaining and removing signs.

e. Business Signs:

- 1) Price and payment will be full compensation for all materials and labor required for furnishing, installing, relocating, maintaining, and removing the signs as well as the cost of installing any logos provided by business owners.

f. High Intensity Warning Lights:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing high intensity flashing lights (Type B).

g. Channelizing Devices:

- 1) Prices and payment will be full compensation for furnishing, installing, relocating, maintaining and removing the channelizing devices, including the costs associated with attached warning lights as required.

h. Barrier Wall (Temporary):

- 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the barrier. When called for, barrier wall (temporary) (relocate) will be full compensation for relocating the barrier

i. Lights, Temporary, Barrier Wall Mount:

- 1) Price and payment will be full compensation for all work and materials for furnishing, installing and maintaining the warning lights mounted on barrier wall. Payment will not be made for lights that are improperly placed or are not working.

j. Barrier Delineators:

- 1) No separate payment will be made for barrier delineators installed on top of temporary barrier wall. The cost of furnishing, installing and maintaining the barrier delineators will be included in the cost of the temporary barrier wall.

k. Glare Screen (Temporary):

- 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the glare screen certified as installed/used on the project. When called for, glare screen (relocate) will be full compensation for relocating the glare screen.

l. Temporary Crash Cushion (Redirective/Gating):

- 1) Price and payment will be full compensation for furnishing, installing, maintaining and subsequently removing such crash cushions. Payment for restoring damaged crash cushions will be the manufacturer's/distributor's invoice price for the

new materials/parts plus 20% markup. The 20% markup is compensation for all necessary work including; but not limited to, labor, equipment, supplies and profit, as authorized by Engineer. Additional MOT required for the repair of the crash cushion will be paid for under the appropriate MOT pay item.

m. Temporary Guardrail:

- 1) Price and payment will be full compensation for furnishing all materials required for a complete installation, including end anchorage assemblies and any end connections to other structures and for installing, maintaining and removing guardrail.

n. Arrow Board:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing arrow boards.

o. Portable Changeable Message Sign:

- 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable changeable message signs.

p. Portable Regulatory Signs:

- 1) Price and payment will be full compensation for furnishing, installing, relocating, maintaining and removing a completely functioning system as described in these Specifications portable regulatory signs. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable regulatory signs.
- 2) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations.

q. Radar Speed Display Unit:

- 1) Price and payment will be made only for a completely functioning system as described in these specifications. Payment will include all labor, hardware, accessories, signs, and incidental items necessary for a complete system
- 2) Payment will include any measurements needed to insure that the unit conforms to all specification requirements.
- 3) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing radar speed display unit.

r. Temporary Signalization and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic control

signals including all equipment and components necessary to provide an operable traffic signal. Payment will be withheld for each day at each intersection where the temporary signalization is not operational within 12 hours after notification.

s. Temporary Traffic Detection and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic detection including all equipment and components necessary to provide an acceptable signalized intersection. Take ownership of all equipment and components. Payment will be withheld for each day at each intersection where the temporary detection is not operational within 12 hours after notification.

t. Temporary Raised Rumble Strips:

- 1) Price and payment will be full compensation for all work and materials described in this Article, including all cleaning and preparing of surfaces, disposal of all debris, furnishing of all materials, application, curing, removal, reinstalling and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work,

u. Work Zone Pavement Markings:

- 1) Price and payment will be full compensation for all work specified including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
- 2) Removable tape may be substituted for work zone paint at no additional cost to the Department.
- 3) Payment for temporary RPMs used to supplement line markings will be paid for under temporary retroreflective pavement markers. Install these markers as detailed in the Design Standards.

v. Temporary Lane Separator:

- 1) Price and payment will be full compensation for all work specified in this Article.

3. Payment Items: Payment will be made under:

- 1) <<No separate item(s) for Maintenance of Traffic will be provided under this contract.>>

Item No.	Description	Unit
102- 1	Maintenance of Traffic	LS
102- 2-	Special Detour	LS
102- 3A	Commercial Material for Driveway Maintenance	CY
102- 60A	Work Zone Sign	EA/DAY
102- 61-	Business Sign	EA
102-62	Barrier Mounted Work Zone	EA/DAY

	Sign FDOT Index 11871			(Solid)	
102- 71-11A	Temporary Barrier Wall (Concrete) (Furnish & Install)	LF	102-91	Pavement Marking Temporary (Skip) (Any width) (Yellow or White) (Tape or Paint)	LF
102-71-12	Temporary Barrier Wall (Furnish & Install) (Water filled)	LF			
102-71-14	Barrier Wall (Temporary) (F&I) (Type K)	LF	102-91-1	Pavement Marking Temporary (Solid) (Any width) (Yellow or White) (Tape or Paint)	LF
102-71-21	Barrier Wall (Temporary) (Relocate) (Concrete)	LF			
102-71-22	Temporary Barrier Wall (Relocate) (Water filled)	LF			
102-71-24	Barrier Wall (Temporary) (Relocate) (Type K)	LF			
102-73	Temporary Guardrail	LF			
102-74-1	Barricades (Temporary- Type I, II, VP & DRUM) (Channelization Devices)	EA/DAY	110 CLEARING AND GRUBBING (REV. 05-16-11)		
102-74-2	Barricades (Temporary, Type III, 6')	EA/DAY	A. General.		
102-74-6	Channelizing Device- Pedestrian LCD (Longitudinal Channelizing Device)	EA/DAY	1. Perform all Clearing and Grubbing required by the Contract Documents or necessary to prepare the Project site for the proposed construction.		
102- 75B	Temporary Lane Separator	LF	2. Remove and dispose of all structures, material, product and debris not required to be salvaged or not required to complete the construction.		
102- 76	Flashing Arrow Board (Temporary Multimode)	EA/DAY	3. Trim trees and shrubs within the Project right-of-way that are required by the Contract Documents or necessary for the construction of the Project.		
102- 77	High Intensity Flashing Lights (Temporary - Type B)	EA/DAY	4. Perform the work and meet all the requirements for the miscellaneous operations described in Subarticle B.6 herein.		
102- 78A	Temporary Retroreflective Pavement Markers	EA	5. Protect and do not displace structures which are to remain in place.		
102- 79-	Lights, Temporary, Barrier Wall Mount	EA/DAY	B. Clearing and Grubbing:		
102- 81-3	Crash Cushion (Gating) (Temporary)	per location	1. Standard Clearing and Grubbing.		
102- 89-	Temporary Impact Attenuator	per location	a. Perform Standard Clearing and Grubbing within:		
102-89-1	Crash Cushion (Redirective) (Temporary)	Per location	1) Right-of-way of the roadway to be constructed,		
102- 94-1	Glare Screen, Temporary, F&I, Wall Material-Concrete	LF	2) All Project areas, whether or not shown in the Plans, that require Clearing and Grubbing including:		
102- 99A	Portable Changeable Message Sign (Temporary)	EA/DAY	a) Areas where excavation is to be done.		
102-104	Temporary Signalization and Maintenance, Intersection	EA/DAY	b) Areas where roadway embankments will be constructed.		
102-107-1	Temporary Traffic Detection and Maintenance, Intersection	EA/DAY	c) Areas where structures will be constructed or installed.		
102-150-1	Portable Regulatory Sign	EA/DAY	b. Work includes complete removal and disposal of:		
102-150-2	Radar Speed Display Unit	EA/DAY	1) All buildings, structures, appurtenances, existing pavement, trees, plants, vegetation, timber, brush, stumps, roots, rubbish, debris, and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas.		
102-909-	Temporary Raised Rumble Strips- Per Day, Includes all Sets and Relocations	EA/DAY	2) All other structures and obstructions necessary to be removed and for which other items of the Contract do not specify the removal thereof.		
102-911-1A	Pavement Marking Removable Tape, White-Black, Skip	LF			
102-911-2A	Pavement Marking Removable Tape, White-Black, Solid	LF			
102-912-1	Removable Tape (Yellow) (Skip)	LF			
102-912-2	Removable Tape (Yellow)	LF			

- 3) Any boulders encountered in the roadway excavation or found on the surface of the ground unless otherwise permitted by the Contract Documents
- c. Depths of Removal of Roots, Stumps, and Other Debris:
 - 1) Completely remove and dispose of all stumps found within the roadway right-of-way.
 - 2) Remove roots and other debris from all excavated material to be used in the construction of roadway embankment.
 - 3) In all areas where excavation is to be performed or roadway embankments are to be constructed, plow the surface to a depth of at least 6 inches, and remove roots and other debris to a depth of 12 inches below the ground surface.
 - 4) Remove all roots and other debris protruding through or appearing on the surface of the completed excavation within the roadway area and for structures, to a depth of at least 12 inches below the finished excavation surface.
 - 5) In borrow pits, material pits, and lateral ditches, remove or cut off all stumps, roots, etc. below the surface of the completed excavation. Do not perform any clearing or grubbing within 3 feet inside the right-of-way line in borrow and material pits.
 - 6) Within all other areas where Standard Clearing and Grubbing is to be performed, remove roots and other debris projecting through or appearing on the surface of the original ground to a depth of 12 inches below the surface, but do not plow or harrow these areas.
- d. Trees to Remain:
 - 1) As an exception to the above provisions, where so directed by the Engineer, trim, protect, and leave standing desirable trees within the Project area.
 - 2) Trim branches of trees extending over the area occupied by the roadway as directed, to give a clear height of 16 feet above the roadway.

2. Selective Clearing and Grubbing.

- a. Perform Selective Clearing and Grubbing only in areas so designated in the Plans or where directed by the Engineer.
- b. Completely remove and dispose of stumps and remove and dispose of all vegetation, obstructions, etc., as required for Standard Clearing and Grubbing except that, where so elected, the Contractor may cut roots flush with the ground surface.
- c. Entirely remove undergrowth except in specific areas designated by the Engineer to remain for aesthetic purposes.
- d. Trim, protect, and leave standing desirable trees, with the exception of such trees as the Engineer may designate to be removed in order to facilitate right-of-way maintenance. Remove undesirable or damaged trees as so designated by the Engineer.

3. Removal of Buildings.

- a. Completely remove all parts of the buildings, including utilities, plumbing, foundations, floors, basements, steps, connecting concrete sidewalks or other pavement, septic tanks, and any other appurtenances, by any practical manner which is not detrimental to other property and improvements. Remove utilities to the point of connection to the utility authority's cut-in.
- b. After removing the sewer connections to the point of cut-in, construct a concrete plug at the cut-in point, as directed by the Engineer, except where the utility owners may elect to perform their own plugging. Contact the appropriate utility companies prior to removal of any part of the building to ensure disconnection of services.
- c. Removal by Others: Where buildings within the area to be cleared and grubbed are so specified to be removed by others, remove and dispose of any foundations, curtain walls, concrete floors, basements or other foundation parts which might be left in place after such removal of buildings by others.

4. Removal of Existing Structures.

- a. Structures to be removed include:
 - 1) Structures, or portions of structures, shown in the Plans to be removed;
 - 2) Structures, or portions of structures, found within the areas requiring Clearing and Grubbing, and directed by the Engineer to be removed;
 - 3) Structures, or portion of structures, which are necessary to be removed in order to construct new structures; and
 - 4) All other appurtenances or obstructions which may be designated in the Contract Documents as to be included for removal under this Article.
- b. Removal Requirements:
 - 1) General:
 - a) Remove and dispose of all materials from existing structures required to be removed.
 - b) Remove the structures in a neat manner so as to leave no obstructions to any proposed new structures, construction, or to any waterways.
 - c) Pull, cut off, or break off pilings to the requirements of the permit or other Contract Documents, whichever requires the deepest removal, but not less than 2 feet below the finish ground line.
 - d) If Plans indicate channel excavation to be done by others, consider the finish ground line as the limits of such excavation.
 - e) For materials which are to remain the property of the Department or are to be salvaged for use in temporary structures, avoid damage to such materials, and entirely remove all bolts, nails, etc. from timbers to be so salvaged.
 - f) Mark structural steel members for identification as directed.

- 2) Removal of Steel Members With Hazardous Coatings:
 - a) Provide to the Engineer for approval, a copy of the "Contractor's Lead in Construction Compliance Program" from the firm actually removing and disposing of these steel members before any members are disturbed.
 - b) Vacuum power tool clean any coated steel member to bare metal as defined by SSPC-SP11 a minimum of 4 inches either side of any area to be heated (torch cutting, sawing, grinding, etc.) in accordance with 29 CFR 1926.354. Abrasive blasting is prohibited.
 - c) Provide air supplied respirators in accordance with 29 CFR 1926.62 and 29 CFR 1910.134.
- c. Partial Removal of Bridges:
 - 1) For all demolition methods, submit for review and approval of the Engineer, a demolition plan that describes the method of removal, equipment to be used, types of rebar splices or couplers, and method of straightening or cutting rebars. In addition, for hydro-demolition, describe the method for control of water or slurry runoff and measures for safe containment of concrete fragments that are thrown out by the hydro-demolition machine.
 - 2) Where concrete is to be removed to neat lines, use concrete saws or hydro-demolition methods capable of providing a reasonably uniform cleavage face. If the equipment used will not provide a uniform cut without surface spalling, first score the outlines of the work with small trenches or grooves.
 - 3) On concrete bridges to be partially removed and widened, remove concrete by manually or mechanically operated pavement breakers, by concrete saws, by chipping hammers, or by hydro-demolition methods. Do not use explosives.
- d. Authority of U.S. Coast Guard: For structures in navigable waters, when constructing the project under authority of a U.S. Coast Guard permit, the U.S. Coast Guard may inspect and approve the work to remove any existing structures involved therein, prior to acceptance by the Department.
- e. Asbestos Containing Materials (ACM) Not Identified Prior to the Work:
 - 1) When encountering or exposing any condition indicating the presence of asbestos, cease operations immediately in the vicinity and notify the Engineer
 - 2) Make every effort to minimize the disturbance of the ACM. Immediately provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Provisions shall meet all applicable laws, rules or regulations covering hazardous conditions and will be in a manner commensurate with the gravity of the conditions.
 - 3) The Engineer will direct the Prime Contractor when operations may resume in the affected area
5. Removal of Existing Concrete Pavement.
 - a. Remove and dispose of existing rigid portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter etc., where shown in the plans or ordered by the Engineer to be removed or where required because of the construction operations.
 - b. The work under Removal of Existing Concrete Pavement does not include the removal of retaining walls, drainage structures and flexible asphalt pavement.
6. Miscellaneous Operations.
 - a. Water Wells Required to be Plugged:
 - 1) Fill or plug all water wells within the right-of-way, including areas of borrow pits and lateral ditches that are not to remain in service, in accordance with applicable Water Management District rules or the Department of Environmental Protection regulations.
 - 2) Cut off the casing of cased wells at least 12 inches below the ground line or 12 inches below the elevation of the finished excavation surface, whichever is lower. Water wells, as referred to herein, are defined either as artesian or non-artesian, as follows:
 - a) An artesian well is an artificial hole in the ground from which water supplies may be obtained and which penetrates any water-bearing rock, the water in which is raised to the surface by natural flow or which rises to an elevation above the top of the water-bearing bed. Artesian wells are further defined to include all holes drilled as a source of water that penetrate any water-bearing beds that are a part of the artesian water system of Florida, as determined by representatives of the applicable Water Management District.
 - b) A non-artesian (water-table) well is a well in which the source of water is an unconfined aquifer. The water in a non-artesian well does not rise above the source bed.
 - b. Landscape Areas: When certain areas of the right-of-way, outside of the limits of construction, are shown in the plans or designated by the Engineer to be landscaped, either under the construction Contract or at a later time, remove undesirable trees, stumps, undergrowth, and vegetation, as directed, and preserve and trim natural growth and trees as directed by the Engineer.
 - c. Leveling Terrain: Within the areas between the limits of construction and the outer limits of clearing and grubbing, fill all holes and other depressions, and cut down all mounds and ridges. Make the area of a sufficient uniform contour so that the Department's subsequent mowing and cutting operations are not hindered by irregularity of terrain. Perform this work regardless of whether the irregularities were the result of construction operations or existed originally.
 - d. Mailboxes: When the Contract Documents require furnishing and installing mailboxes, permit each owner to remove the existing mailbox. Work with the Local

Postmaster to develop a method of temporary mail service for the period between removal and installation of the new mailboxes. Install the mailboxes in accordance with the Design Standards.

C. Ownership of Materials.

1. Except as may be otherwise specified in the Contract Documents, the Contractor shall take ownership of all buildings, structures, appurtenances, and other materials removed by him and shall dispose of them in accordance with subarticle D below.

D. Disposal of Materials.

1. General:

- a. Dispose of all debris, timber, stumps, brush, roots, rubbish, and other waste material resulting from clearing and grubbing in areas and by methods meeting the applicable requirements of all Local, State and Federal regulations.

2. Disposal of Treated Wood:

- a. Treated wood, including that which comes from bridge channel fender systems, must be handled and disposed of properly during removal.
- b. Treated wood should not be cut or otherwise mechanically altered in a manner that would generate dust or particles without proper respiratory and dermal protection.
- c. Treated wood must be disposed of in at least a lined solid waste facility or through recycling/reuse.
- d. Treated wood shall not be disposed by burning or placement in a construction and demolition (C&D) debris landfill.
- e. All compensation for the cost of removal and disposal of treated wood will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

3. Hazardous Materials/Waste:

a. General:

- 1) Handle, transport and dispose of hazardous materials in accordance with all Local, State and Federal requirements including the following:
 - a) SSPC Guide 7
 - b) Federal Water Pollution Control Act, and
 - c) Resource Conservation and Recovery Act (RCRA).
- 2) Accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer and required

agencies for all hazardous materials/waste stabilization methods before implementation.

- 3) Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste.

- 4) List the Department as the generator of all hazardous materials/waste.

- 5) Submit the following for the Engineers' approval before transporting, treatment or disposal of any hazardous materials/waste:

- a) Name, address and qualifications of the transporter,
- b) Name, address and qualifications of the treatment facility,
- c) Proposed treatment and/or disposal of all Hazardous Materials/Waste.

- 6) Transport all hazardous materials/waste in accordance with applicable 40 CFR 263 Standards. Provide a copy of all completed Hazardous Materials/Waste manifest/bills of lading to the Engineer within 21 days of each shipment.

b. Steel Members With Hazardous Coating:

- 1) Unless otherwise required by the Contract Documents, dispose of steel members with hazardous coating in one of the following manners:

- a) Deliver the steel members and other hazardous waste to a licensed recycling or treatment facility capable of processing steel members with hazardous coating.
- b) Deliver any other hazardous materials/waste to a licensed hazardous materials/waste recycling treatment facility.

- 2) Dismantle and/or cut steel members to meet the required dimensions of the recycling facility, treatment facility or other regulatory agency.

- 3) All compensation for the cost of removal and disposal of hazardous materials/waste will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

c. Certification of Compliance:

- 1) Furnish two copies of Certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification.
- 2) The Certification of Compliance shall be attested to by a person having legal authority to bind the company.

- d. Maintain all records required by this Specification and ensure they are available to the Department upon request.

E. Method of Measurement.

1. Clearing and Grubbing:

- a. No Direct Payment Provided: When no item for direct payment of Clearing and Grubbing is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.
- b. Direct Payment Provided: When direct payment for Clearing and Grubbing is provided in the Contract, the quantity to be paid for will be the lump sum quantity.

2. One or more of the following items may appear in a contract where no direct payment item for Clearing and Grubbing is provided. Only those items with an Awarded Unit Price will be considered for direct payment. All other work of Clearing and Grubbing is included among the various scheduled items of the Contract.

- a. Removal of Existing Structures: When a separate item for the Removal of Existing Structures is provided for direct payment in the Contract, the quantity to be paid for will be the lump sum quantity or actual quantities for the specific structures removed, as stipulated in the Contract Documents.
- b. Removal of Existing Concrete Pavement: When a separate item for Removal of Existing Concrete Pavement is provided for direct payment in the Contract, the quantity to be paid for will be the number of square yards of existing pavement of the types listed in subarticle B.5 herein, acceptably removed and disposed of, as specified. The quantity will be determined by actual measurement along the surface of the pavement before its removal. Measurements for appurtenances which have irregular surface configurations, such as curb and gutter, steps, and ditch pavement, will be the area as projected to an approximate horizontal plane. Where the removal of pavement areas is necessary only for the construction of box culverts, pipe culverts, storm sewers, french drains, inlets, manholes, etc., these areas will not be included in the measurements.
- c. Removal of Trees: When separate items for the Removal of Trees are provided for direct payment in the Contract, trees that are greater than 6 inches in diameter, will be paid on a per each basis by actual count by the Engineer of such trees under the appropriate item provided in the Contract. The diameter of a tree shall be obtained by measuring its circumference at 4.5 feet above the ground using a flexible tape measure and dividing the circumference by 3.14. If the tree is growing on a slope, the circumference is measured at 4.5 feet from the center of the slope. If the tree begins to branch below 4.5 feet, measure at the smallest circumference below the first branch.
- d. Plugging Water Wells: When a separate item for Plugging of Water Wells is provided for direct payment

in the Contract, the quantity to be paid for will be the number of water wells plugged, for each type of well (artesian or non-artesian).

- e. Mailboxes: When a separate item is provided in the Contract for furnishing and installing mailboxes, the quantity to be paid for will be the number of mailboxes acceptably furnished and installed.
- f. Delivery of Salvageable Material to the Department: When a separate item is provided in the Contract for the delivery of salvageable material to the Department, the quantity to be paid for will be the Lump Sum quantity for delivery of salvageable materials to the Department as indicated in the Plans or as directed by the Engineer.

F. Basis of Payment.

1. Clearing and Grubbing:

- a. No Direct Payment Provided: When direct payment for Clearing and Grubbing is not provided in the Contract, the cost of any work of clearing and grubbing necessary for the proper construction of the Project and meeting all requirements of this Article, is included in the Contract price for the structure or other item of work for which such clearing and grubbing is required.
- b. Direct Payment Provided:
 - 1) Price and payment will be full compensation for all clearing and grubbing indicated or required for the construction of the entire Project, including all necessary hauling, furnishing equipment, equipment operation, furnishing any areas required for disposal of debris, leveling of terrain and the landscaping work of trimming, etc., as specified herein, except for any areas designated to be paid for separately or to be specifically included in the costs of other work under the Contract.
 - 2) Unless otherwise provided by the Contract, price and payment will be full compensation for all work required by this Article including Removal of Existing Structures, Removal of Existing Concrete Pavement, Removal of Trees, Plugging of Water Wells, Mailboxes, and Delivery of Salvageable Material to the Department.
 - 3) Where construction easements are specified in the Plans and the limits of clearing and grubbing for such easements are dependent upon the final construction requirements, no adjustment will be made in the lump sum price and payment, either over or under, for variations from the limits of the easement defined on the Plans.
- c. The Contractor shall include the cost of all clearing and grubbing which might be necessary in pits or areas from which base material is obtained in the Contract price for the base in which such material is used.
- d. The clearing and grubbing of areas for obtaining stabilizing materials, where required only for the purpose of obtaining materials for stabilizing, will not be paid for separately.

2. Removal of Existing Structures.

- a. Price and payment will be full compensation for all work of removal and disposal of the designated structures.
- b. When direct payment for the removal of existing structures is not provided in the Contract, the cost of removing all structures is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included, in the compensation for the other items covering the new structure being constructed.

3. Removal of Existing Concrete Pavement:

- a. Price and payment will be full compensation for performing and completing all the work of removal and satisfactory disposal including any saw cutting required.
- b. When direct payment for the removal of existing concrete pavement is not provided in the Contract and no applicable item of excavation or embankment covering such work is included in the Contract, the Contractor shall include the costs of this work in the Contract price for the item of Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in any work, pipe or other structure for which the concrete pavement removal is required.

4. Removal of Trees:

- a. Price and payment will be full compensation for complete removal and disposal of each tree counted by the Engineer pursuant to these specifications.
- b. When direct payment for the removal of trees is not provided in the Contract, the cost of removing all trees is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

5. Plugging Water Wells:

- a. Price and payment will be full compensation for each type of well acceptably plugged.
- b. When direct payment for plugging water wells is not provided in the Contract, the cost plugging water wells is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

6. Mailboxes:

- a. Price and payment will be full compensation for all work and materials required, including supports and numbers.
- b. When direct payment for mailboxes is not provided in the Contract, the cost for all work and materials required, including supports and numbers, is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

7. Delivery of Salvageable Material to the Department:

- a. Price and payment will be full compensation for all work required for delivery of the materials to the Department.

- b. When the Contract does not provide direct payment for the Delivery of Salvageable Material that is to be delivered to the County, the cost of Delivery of Salvageable Material is included in the Contract price for Clearing and Grubbing or, where no item for Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

8. Payment Items: Payment will be made under:

- a. <<No separate Item(s) for Clearing and Grubbing will be provided under this contract.>>

Item No.	Description	Unit
110- 1-1B	Clearing and Grubbing	LS
110- 3	Removal of Existing Structures	LS
110- 4-	Removal of Existing Pavement	SY
110- 5A	Plugging Water Wells (Artesian)	EA
110- 6A	Plugging Water Wells (Non-Artesian)	EA
110- 7A	Mailbox (Furnish and Install)	EA
110-7-1	Relocation of Existing Mail Box	EA
110-7-1A	Install New Mail Box	EA

120 EARTHWORK AND RELATED OPERATIONS

A. Description.

1 General:

- a. Earthwork and Related Operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.
- b. Perform Earthwork and Related Operations based on the type of work specified in the Contract Documents.
- c. Meet the applicable requirements for materials, equipment and construction as specified in the Contract Documents.

B. Classes of Excavation.

1. Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.
2. Lateral Ditch Excavation: Lateral Ditch Excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way.

3. Channel Excavation: Channel Excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the Plans.
4. Excavation for Structures and Pipe: Excavation for Structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

C. Excavation Requirements.

1. Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the Plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of ± 0.2 foot in depth and ± 6 inches (each side) in width.
2. Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the Plans.
3. Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the Plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.
4. Excavation for Structures and Pipe.
 - a. General: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the Plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.
 - b. Earth Excavation:
 - 1) Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require

excavation to a greater depth and to backfill to grade with approved material.

- 2) Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

- 3) Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

- c. Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

d. Pipe Trench Excavation:

- 1) Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified herein for suitable backfill material for backfilling around pipe to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.
- 2) For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

D. Disposal of Surplus and Unsuitable Material.

1. Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the Plans or, if the Plans do not indicate the method of disposal, take ownership of the materials and dispose of them in an authorized and lawful manner.
2. Disposal of Muck on Side Slopes: As an exception to the provisions herein for Ownership of Excavated Materials, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The

Engineer will determine the limits adjacent to channels within which such materials may be disposed.

3. Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

4. Disposal Areas:

- a. Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

E Materials for Embankment.

1. General Requirements for Embankment Materials:

- a. Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.
 - b. Construct the embankment using maximum particle sizes (in any dimension) as follows:
 - 1) In top 12 inches: 3 1/2 inches (in any dimension).
 - 2) 12 to 24 inches: 6 inches (in any dimension).
 - 3) In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.
 - c. Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with the requirements herein for Compaction of Embankments.
 - d. When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.
2. Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.
 3. Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly

construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until authorized by the Engineer, and then only use material from approved borrow pits.

a. Haul Routes for Borrow Pits:

- 1) Provide and maintain, at no expense to the County, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.
- 2) Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

- b. Borrow Material for Shoulder Build-up: When so indicated in the Plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

4. Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

F. Embankment Construction.

1. General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.
2. Dry Fill Method:
 - a. General:
 - 1) Construct embankments to meet the requirements of subarticle G (Compaction Requirements) and in accordance with the Acceptance Program requirements herein. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.
 - 2) As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.
 - 3) Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.
 - a) For A-3 and A-2-4 Materials with up to 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.
 - b) For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct

the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

- c) Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.
- 4) When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with the requirements herein for Compaction Where Plastic Material Has Been Removed.
- b) Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions herein for Compaction Where Plastic Material Has Been Removed and for Compaction of Grassed Shoulder Areas.
- c) Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.
- d) Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.
- 3. Hydraulic Method:
 - a) Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is rehandled, or moved and placed in its final position by any other method, as specified herein for Compaction of Embankments. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the Plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged

land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation

- b) Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.
- c) Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

G. Compaction Requirements.

- 1) Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate
- 2) Compaction of Embankments:
 - a) Density requirements for earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities; and for earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement:
 - 1) Reduce the minimum required density from 100% to 95% of AASHTO T99 Method C for all earthwork items requiring densities.
 - b) Density Requirements for earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement:
 - 1) Except for embankments constructed by the hydraulic method as specified herein, and for the material placed outside the standard minimum slope as specified herein for Placing Outside Standard Minimum Slope, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to a density of at least 100% of the maximum density as required by AASHTO T 99, Method C.
 - 2) Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.
 - c) Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided herein under the requirements for Placing in Unstable Areas), compact the top 6 inches

(compacted thickness) of such layer to the density as specified in the Acceptance Criteria herein.

- d. **Compaction Where Plastic Material Has Been Removed:** Where unsuitable material is removed and the remaining surface is of the A 4, A 5, A 6, or A 7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.
 - e. **Compaction of Material to Be Used In Base, Pavement, or Stabilized Areas:** Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.
 - f. **Compaction of Grassed Shoulder Areas:** For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.
 - g. **Compaction of Grassed Embankment Areas:** For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.
3. **Compaction of Subgrade:**
- a. If the Plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in the Acceptance Criteria herein. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.
 - b. Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.
 - c. Maintain the required density until the base or pavement is placed on the subgrade.
- H. **Backfilling Around Structures and Pipe.**
1. **Backfill Materials:**
 - a. Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.
 - b. Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.
 - c. **Use of A-7 Material:** In the backfilling of trenches, A 7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A 7 material.
 - d. **Time of Placing Backfill:** Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28 day compressive strength occurs.
 - e. **Placement and Compaction:**
 - 1) Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. When the backfill material is deposited in water, compact per the requirements herein for Compaction Under Wet Conditions and Backfill Under Wet Conditions.
 - 2) The Contractor may elect to place material in thicker lifts of no more than 12 inches compacted thickness outside the soil envelope if he can demonstrate with a successful test section that density can be achieved. Notify the Engineer prior to beginning construction of a test section. Construct a test section of 500 feet in length. Perform five tests at random locations within the test section. All five tests must meet the density required by the Compaction of Embankments specified herein. Identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. When a test fails the Compaction Requirements specified herein, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time.
2. **Additional Requirements for Structures Other than Pipe:**
- a. **Density:** Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before verifying the layer and density requirements. Meet the requirements of the density Acceptance Criteria.
 - b. **Box Culverts:** For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.
 - c. **Other Limited Areas:** Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

- d. Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.
 - e. Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A 3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.
3. Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:
- a. General: Trenches for pipe may have up to four zones that must be backfilled.
 - 1) Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.
 - 2) Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.
 - 3) Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.
 - 4) Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.
 - b. Material:
 - 1) Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.
 - 2) Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A 1, A 2, or A 3. Material classified as A-4 may be used if the pipe is concrete pipe
 - 3) Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.
 - c. Compaction:
 - 1) Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.
 - 2) Bedding Zone:
 - a) If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.
 - b) If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).
 - 3) Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.
 - 4) Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.
 - 5) Backfill Under Wet Conditions:
 - a) Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.
 - b) Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A 3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that its moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.
4. Acceptance Program.
1. Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, test an additional sample for acceptance in accordance with AASHTO T 99, Method C.
 2. Maximum Density Determination: Determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed below for Density Testing Requirements.
 3. Density Testing Requirements: Ensure compliance, with the requirements of the Acceptance Criteria herein, by Nuclear Density testing in accordance with FDOT Florida Method FM 1 T 238. Determine the in-place moisture content for each density test. Use Florida

Method FM 1 T 238, FM 5 507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.

4. Soil Classification: Perform soil classification tests in accordance with AASHTO T 88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements.
5. Acceptance Criteria: Obtain a minimum density in accordance with the requirements herein for Compaction of Embankments with the following exceptions:
 - a. Embankment constructed by the Hydraulic Method as specified herein;
 - b. Material placed outside the standard minimum slope as specified in the requirements herein for Placing Outside Standard Minimum Slope;
 - c. Other areas specifically excluded herein.
6. Frequency: Conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

J. Maintenance and Protection of Work.

1. While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.
2. Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the Plans, until final acceptance of the Project.

K. Construction.

1. Construction Tolerances:

- a. Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the Plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:
 - 1) Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
 - 2) Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.

3) Shape the bottom of ditches so that the ditch impounds no water.

4) When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

- b. Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the Plans.

2. Operations Adjacent to Pavement:

- a. Carefully dress areas adjacent to pavement areas to avoid damage to such pavement.
- b. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.
- c. When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

L. Method of Measurement

1. Excavation: Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation and disposal of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the Plans or authorized by the Engineer. Shrinkage or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

2. Embankment:

- a. Will be paid for in cubic yards, as accepted by Engineer, calculated by the method of average end areas, unless Engineer determines that another method of calculation will provide a more accurate result. Embankment will be measured in its final position by field survey or by photogrammetric means as designated by Engineer.
- b. The measurement will include only material actually placed and compacted above the original ground line, within the lines and grades indicated in the Plans or directed by the Engineer. The length used in the computations will be the station-to-station length actually constructed. The original ground line used in the computations will be as determined prior to placing of embankment and no allowance will be made for subsidence of material below the surface of the original ground.
- c. Deduct any quantity beyond the limits shown in the Plans or authorized by Engineer. No payment will be made for additional material required to obtain compaction, material placed by Contractor outside the limits of the typical cross section, or material placed to correct for settlement of the embankment. Shrinkage

or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

120-5	Channel Excavation	CY
120-6	Embankment	CY

M. Basis of Payment.

1. When No Direct Payment is Provided:

- a. When no item for Excavation or Embankment is included in the list of Contract Unit Prices, the cost of any excavation or embankment necessary for the proper construction of the Project is included in the Contract Prices for the work requiring excavation or embankment.
- b. Where the Work includes structures including pipe culvert and french drain, all earthwork costs for the installation of these items are included in their associated Contract Price.

2. When Direct Payment for Excavation or Embankment is Provided in the Contract:

- a. Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

b. Excavation:

- 1) The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation.
- 2) No payment will be made for the excavation of any materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

c. Embankment:

- 1) The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment.
- 2) No payment will be made for materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials placed outside the lines and grades given by the Engineer.

3. Payment will be made under:

- a. <<No separate item(s) for Earthwork and Related Operations will be provided under this contract.>>

Item No.	Description	Unit
120-1	Regular Excavation	CY
120-2A	Borrow Excavation	CY
120-3	Lateral Ditch Excavation	CY
120-4	Subsoil Excavation	CY

160 TYPE "B" STABILIZATION (SECTION 160)

A. Page 188, Section 160 - Stabilizing:

1. Delete the words "bearing value" or "Limerock Bearing Ratio Method" where they occur throughout this section and substitute the words "California Bearing Ratio."
2. Delete all contrary references to density requirements and substitute with the following:
 - a. Compaction - The density requirements for all embankment and subgrade involved in this Section shall be a minimum ninety five (95) percent for non-roadway areas and ninety eight (98) percent for roadway areas, of maximum density as determined by AASHTO T-180.
3. Delete all mention of Bearing Value requirements entirely and substitute with the following:
 - a. California Bearing Ratio Requirements: Suitability of the soil to be compacted shall be determined by the California Bearing Ratio Test as outlined in ASTM D 1883-87. Tests shall be made on each separate course, generally before the materials have been compacted. Any areas where the materials have a C.B.R. value of less than thirty (30) at ninety five (95) percent of the maximum density as determined by AASHTO T-180 shall be stabilized (or further stabilized) as specified herein.

B. Page 189, Subarticle 160-4.1- Commercial and Local Materials - Add the following:

1. Except that the limerock used for stabilization shall have a minimum of at least fifty (50) percent carbonates of calcium and magnesium.

C. Page 192, Subarticle 160-7 2.1.2- Undertolerances In ; is deleted in its entirety and replaced with the following:

1. There shall be no undertolerances in the C.B.R. permitted.

D. Page 195, Article 160-9- Basis of Payment; Is deleted in its entirety and replaced with the following:

1. Payment for stabilizing including all labor and materials shall be made at the Contract Unit Price Bid as indicated in the Bid Form of the Proposal.
2. Such price and payments shall constitute full compensation for all work specified in this Section for Type "B" Stabilization, including furnishing, spreading

and mixing of all stabilizing material required and any reprocessing of stabilization areas necessary to attain the specified bearing value.

DIVISION 200 BASE COURSE

285 LIMEROCK BASE (REV. 08-23-12)

A. Description.

1. Construct a base composed of limerock material. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications.

B. Materials.

1. Limerock base:
 - a. Meet the requirements of FDOT Section 911.
 - b. Produced and obtained from an FDOT approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
2. More than one source of base rock on a single Contract may be used provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base.
3. Intermittent placement or "Blending" of sources is not permitted.
4. Do not use any of the existing base that is removed to construct the new base.
5. Limerock is referred to hereinafter as "rock".

C. 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.

D. 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.

E. 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.

3. Approval requirements for thicker lifts.

- a. If, through field tests, Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness. Engineer will base approval on results of a test section constructed using Contractor's specified compaction effort as follows:

- 1) Notify Engineer prior to beginning construction of a test section.
- 2) Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by the Acceptance Criteria in this Article.
- 3) Identify the test section with the compaction effort and thickness in the Logbook. Remove the materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section.
- 4) Maintain the exposed surface as close to "undisturbed" as possible; no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. Contractor may elect to place material in 6 inches compacted thickness at any time.
- 5) Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.
- 6) Engineer may terminate the use of thick lift construction and instruct Contractor to revert to the 6 inches maximum lift thickness if Contractor fails to achieve satisfactory results or meet applicable specifications.

4. Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent

pavement. Immediately sweep off any rock material that is deposited on the surface course.

F. Compacting and Finishing Base.

1. General:

- a. Perform 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. Perform 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 rescarifying, reshaping, adding base material where necessary, and recompacting.

7. Compaction of Widening Strips:

- a. Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.
- b. When multiple course base construction is required, compact each course prior to spreading material for the overlaying course.

G. Acceptance Criteria:

1. Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D. For shoulder only areas and bike/shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T 180, Method D.
2. Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. Engineer will perform Verification sampling and tests at a minimum frequency listed in the tables below.

Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Shoulder-Only, Bike/Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 600 consecutive feet	Witness

3. Initial Equipment Comparison:

- a. Before initial production, perform a comparison test using the Quality Control, Verifications and Independent Assurance gauges. Unless Engineer instructs, do not perform the initial equipment comparison more than once per project. When comparing the computed dry density of one nuclear gauge to a second gauge, ensure that the difference

- between the two computed dry densities does not exceed 2 lb/ft³ between gauges from the same manufacturer, and 3 lb/ft³ between gauges from different manufacturers. Repair or replace any Quality Control gauge that does not compare favorably with the Independent Assurance gauge.
- b. Perform a comparison analysis between the Quality Control nuclear gauge and the Verification nuclear gauge any time a nuclear gauge or repaired nuclear gauge is first brought to the project. Repair and replace any Quality Control gauge that does not compare favorably with the Verification gauge at any time during the remainder of the project. Calibrate all Quality Control gauges annually.
4. Initial Production Lot:
 - a. Before construction of any other LOT, prepare a 500-foot initial control section consisting of one full LOT in accordance with the approved Quality Control Plan for the Project.
 - b. Notify Engineer at least 24 hours prior to production of the initial control section. Perform all QC tests required herein below. When the initial Quality Control test results pass specifications, Engineer will perform a Verification test to verify compliance with the specifications.
 - c. Do not begin constructing another LOT until successfully completing the initial production LOT. Engineer will notify Contractor of the initial production lot approval within three working days after receiving Contractor's Quality Control data when test results meet the following conditions:
 - 1) Quality Control tests must meet the specifications.
 - 2) Verification test must meet the specifications.
 - 3) Difference between Quality Control and Verification computed Dry Density results shall meet the requirements provided above for Initial Equipment Comparison.
 - 4) If Verification test result fails the density requirements of the Acceptance Criteria, correct the areas of non-compliance. The Quality Control and Verification tests will then be repeated. Engineer will reject Contractor's Quality Control Plan after three unsuccessful Verification attempts. Submit a revised Quality Control Plan to Engineer for approval.
 5. Density over 105%:
 - a. When a QC computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, Engineer will perform an Independent Verification density test within 5 feet.
 - b. If the Independent Verification density results in a value greater than 105%, Engineer will investigate the compaction methods, examine the applicable Standard Proctor Maximum Density and material description.
 - c. Engineer may collect and test an Independent Verification Standard Proctor Maximum Density sample for acceptance in accordance with the Acceptance Criteria.
 6. Quality Control Tests:
 - a. Standard Proctor Maximum Density Determination: Determine the Quality Control standard Proctor maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in the Acceptance Criteria.
 - b. Density Testing Requirements: Ensure compliance to the requirements of the Acceptance Criteria by Nuclear Density testing in accordance with FM 1-T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1-T 238, FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D-4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.
 - c. Soil Classification: Perform soil classification tests on the sample collected for the Standard Proctor Maximum Density Determination above, in accordance with AASHTO T-88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements. Unless required by Engineer, do not test or classify materials for stabilized subgrade or base.
 7. Department Verification:
 - a. Engineer will conduct a Verification test(s) in order to accept all materials and work associated with the Quality Control Tests. Engineer will verify the Quality Control results if they meet the Verification Comparison Criteria, otherwise Engineer will implement Resolution procedures.
 - b. Engineer will select test locations, including Station, Offset, and Lift, using a Random Number generator based on the Lots under consideration. Each Verification test evaluates all work represented by the Quality Control testing completed in those LOTs.
 - c. In addition to the Verification testing, Engineer may perform additional Independent Verification (IV) testing. Engineer will evaluate and act upon the IV test results in the same manner as Verification test results.
 - d. When the project requires less than four Quality Control tests per material type, Engineer reserves the right to accept the materials and work through visual inspection.
 8. Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC density testing to one test every two LOTs by identifying the substantiating tests in the Density Log Book and notifying Engineer in writing prior to starting reduced frequency of testing. Generate random numbers based on the two LOTs under consideration. When Quality Control test frequency is reduced to one every two LOTs, obtain Engineer's approval to place more than one LOT over an untested LOT. Assure similar compaction efforts for the untested LOTs. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing, the Quality Control testing will revert to the original frequency of one Quality Control test per LOT. Do not apply reduced testing

frequency in construction of shoulder-only areas, bike/shared use paths and sidewalks.

9. Quality Control Testing:

a. Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for Engineer's Verification and Resolution testing until Engineer accepts the 16 LOTs represented by the samples.

b. Depth and Surface Testing Requirements:

1) Notify Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until Engineer is present to witness. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.

2) The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.

3) Check the finished surface of the base course with a template cut to the required crown and with a 15 foot straightedge laid parallel to the centerline of the road. Correct all irregularities greater than 1/4 inch to the satisfaction of the Engineer by scarifying and removing or adding rock as required, and recompact the entire area as specified hereinbefore.

c. Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC surface and/or thickness checks to one half the minimum requirements as stated in the frequency requirements above (e.g. Reduce frequency from ten per LOT to ten per two LOTs) by identifying the substantiating tests and notifying Engineer in writing prior to starting reduced frequency of testing. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing the Quality Control testing will revert to the original frequency required by the Acceptance Criteria above. The results of the Independent Verification testing will not affect the frequency of the Quality Control testing.

10. Department Verification Tests:

a. Maximum Density: Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T 180, Method D.

b. Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with the Depth and Surface Testing Requirements above. If the QC test results are not deficient as defined therein, the LOT or 500-foot section will be accepted. If the QC test results are deficient, resolve deficiencies in accordance with the Depth and Surface Testing Requirements. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

c. Verification Comparison Criteria and Resolution Procedures:

1) Modified Proctor Maximum Density: Engineer will compare the Verification test results for Maximum Density to the corresponding Quality Control test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTs will be verified. Otherwise, Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

2) Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding Quality Control test result, Engineer will use the Quality Control test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding Quality Control test, Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.

3) Density: When a Verification or Independent Verification density test does not meet the requirements of the Acceptance Criteria, retest at a site within a 5 feet radius of the Verification test location and observe the following:

a) If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, Engineer will accept the LOTs in question.

b) If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. Engineer will re-verify the LOTs in question.

c) If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new Equipment-Comparison Analysis. Once acceptable comparison is achieved, retest the LOTs. Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until Contractor has a gauge that meets the comparison requirements.

- 4) Thickness and Surface Testing Requirements: Resolve deficiencies in accordance with the Depth and Surface Testing Requirements above.

H. 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.

I. 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.

J. Method of Measurement.

1. The quantity to be paid for will be the pay area in square yards of limerock base constructed pursuant to these specifications that is measured, adjusted as specified below, and accepted by Engineer.
 - a. Normal Thickness Base: The surface area of specified normal thickness base to be adjusted will be the measured quantity as specified above, omitting any areas not accepted for payment under Subarticle 200-J.2 below, and omitting areas which are to be included for payment under the Method of Measurement for Variable Thickness Base Authorized by Engineer. The pay area is determined by adjusting the aforementioned surface area using the formula below limited to a maximum for the final pay area of 105 percent of the surface area.
 - 1) Pay Area = Surface Area × ((Calculated Average Thickness per these Specifications)/(Plan or Specified Thickness))
 - b. Variable Thickness Base Authorized by Engineer: Where the base is constructed to an authorized compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified on the Plans, the thickness specified in the description of the Contract pay item, or ordered as by Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting

pavements; the volume of such authorized variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by Engineer, and converted to equivalent square yards of normal thickness base for payment.

2. Additional areas that will not be included in the above measurements for payment include:

- a. Areas of existing base left in place;
- b. Areas where under-thickness is in excess of the allowable tolerance as specified in Subarticle 200-G.9; and
- c. Areas where the work under other Contract pay item(s) includes the construction or restoration of a limerock base.

K. Basis of Payment.

1. Price and payment will be full compensation for all the work specified in this Article, including correcting all defective surface and deficient thickness, removing cracks and checks as provided above in Crack and Checks, prime coat application meeting the requirements of FDOT Section 300, and the additional rock required for crack elimination.
2. Payment will be made under the item(s) below that are provided in the Contract having awarded Contract unit price(s):
 - a. <<No separate item for Limerock base will be provided under this contract.>>

Item No.	Description	Unit
285-704	Limerock Base (6 inch thickness)	SY
285-706	Limerock Base (8 inch thickness)	SY
285-709	Limerock Base (10 inch thickness)	SY

DIVISION 300 BITUMINOUS TREATMENTS SURFACE COURSES AND CONCRETE PAVEMENT

334 HOT MIX ASPHALT (REV. 01-29-15)

A. Description.

1. General.

- a. Construct plant mixed Hot Mix Asphalt (HMA) pavements based on the type of mixture specified in the Contract Documents and for the Asphalt Work Categories defined below.
- b. Meet all applicable requirements for plants, material, equipment, and construction specified herein.

2. Asphalt Work Categories.

- a. Asphalt Work Category 1: Includes the construction of shared use paths and miscellaneous asphalt.
- b. Asphalt Work Category 2: Includes the construction of new asphalt turn lanes, paved shoulders and other non-mainline pavement locations.
- c. Asphalt Work Category 3: Includes the construction of new mainline asphalt pavement I, milling and resurfacing.

3. Mix Types.

- a. Use a HMA mix that meets the requirements of this specification.
- b. In the event a mix type is not identified in the Contract Documents use, subject to Engineer's approval, the appropriate HMA mix from Table 1 below.
- c. Mixtures are based on the design traffic level of the project, expressed in 18,000 pounds Equivalent Single Axle Loads (ESAL's).
- d. A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost

Table 1 HMA Fine Mix Types		
Asphalt Work Category	Mix Types	Traffic Level ⁽²⁾
1	Type SP-9.5 ⁽¹⁾	A
2	Structural Mixes: Types SP-9.5 or SP-12.5 ⁽¹⁾ Friction Mixes: Types FC-9.5 or FC-12.5 ⁽¹⁾	B or C
3	Structural Mixes: Types SP-9.5 or SP-12.5	C

	Friction Mixes: Types FC-9.5 or FC-12.5	
⁽¹⁾ Equivalent mixes may be approved as determined by the Engineer		
⁽²⁾ Traffic Level (1x106 ESAL's): A is <0.3; B is 0.3 to <3; and C is 3 to <10		

4. Gradation Classification.

- a. Use only fine HMA mixes meeting the requirements of subarticle C.2.b below. The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

- 1) Type SP-9.5, FC-9.5 9.5 mm (3/8")
- 2) Type SP-12.5, FC-12.5 12.5 mm (1/2")

5. 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:

$$1) \text{ Spread rate (lbs/yd}^2\text{)} = t \times G_{mm} \times 43.3 \quad \text{where:}$$

- a) t = Thickness (in.) (Plan thickness or individual layer thickness)
- b) G_{mm} = 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 G_{mm} 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.

6. 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:

- a) Type SP-9.5 1 - 1 1/2 inches
- b) Type SP-12.5 1 1/2 - 2 1/2 inches

- 2) Fine Type SP-9.5 mixes are limited to the top two structural layers, two layers maximum.

b. Friction Course Layer (FC-12.5 and FC-9.5):

- 1) The thickness of the friction course layer will be the plan thickness as shown in the Contract Document or as directed in writing by the Engineer. For construction purposes, the plan

thickness will be converted to spread rate as defined in Subarticle A.5 above.

7. Additional Requirements.

a. Type SP HMA fine mixtures:

- 1) When construction includes the paving of adjacent shoulders (≤ 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
- 2) For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

8. Weight of Mixture.

- a. The weight of the mixture shall be determined as provided in FDOT 320-2.2 (Electronic Weigh Systems).

B. 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.

b. For Type FC Mixtures:

- 1) Use an ARB-5 asphalt rubber binder meeting the requirements of FDOT Section 336 and any additional requirements or modifications specified herein for the various mixtures.
- 2) If called for in the Contract Documents, use a PG 76-22 asphalt binder meeting the requirements of FDOT 916-1.
- 3) For projects with a total quantity of FC-9.5 or FC-12.5 less than 500 tons, the Contractor may elect to substitute for the ARB-5, a PG 76-22 Asphalt Binder that meets the requirements of FDOT 916-1.

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.
- c. For Type FC mixes:

- 1) Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:
 - a) Up to 40% fine aggregate from other sources, or
 - b) A combination of up to 15% Reclaimed Asphalt Pavement (RAP) Material and the remaining fine aggregate from other sources.
 - c) A list of aggregates approved for use in friction courses may be available on the FDOT's website. The URL for obtaining this information, if available, is: <https://mac.fdot.gov/smreports>

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 (G_{sb}) 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

C. 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 T 283. 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 (N_{design}).
 - 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 (G_{ab}) 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.

D. 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.

E. 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 40°F for layers greater than 1 inch (100 lb/yd²) in thickness and at least 45°F 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 50°F.
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 ±30°F 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.
 - f. Thickness of Layers: Construct each course of Type SP mixtures in layers of thickness pursuant to subarticle A.6.a above.

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.

1) Asphalt Work Category 3:

- a) Acceptance Testing: Using a rolling straightedge, test the final Type SP structural layer and the Type FC layer, where a friction course is called for in the Contract Documents. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.
- b) Rolling Straightedge Exceptions: Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with the requirement below for Correcting Unacceptable Pavement. The Engineer may waive or modify straightedging requirements if no milling, leveling, overbuild or underlying structural layer was placed on the project and the underlying layer was determined to be exceptionally irregular.
- c) Final Type SP Structural Layer: Straightedge the final Type SP structural layer with a rolling straightedge behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). If the Type SP layer is to be the final surface, corrections may be waived by the Engineer. Retest the corrected areas.
- d) Friction Course Layer: Where a friction course is called for in the Contract, at the completion of all paving operations, straightedge the friction course either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (friction

course), unless waived by the Engineer. Retest all corrected areas.

- 2) 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.

d. 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:
 - a) 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.
 - b) 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.

F. Acceptance of the Mixture.

1. General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:
 - a. Asphalt Work Category 1 – Certification by the Contractor as defined below
 - b. Asphalt Work Category 2 – Certification and quality control testing by the Contractor as defined below.
 - c. Asphalt Work Category 3 – Quality control testing by the Contractor and acceptance testing by the Engineer as defined below.
2. Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications. The Engineer may run independent tests to determine the acceptability of the material.
3. Certification and Quality Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed

on the project was in substantial compliance with the Specifications, along with supporting test data documenting all quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a. below). If so required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the quality control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material.

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 (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} 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 $\pm$ 0.55
Passing No. 8 Sieve (percent)	Target $\pm$ 6.00
Passing No. 200 Sieve (percent)	Target $\pm$ 2.00
Roadway Density (average of three cores)	91.5% G _{mm}
Roadway Density (any single core)	90.0 % G _{mm}

4. Quality Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a above). In addition, the Engineer will accept the mixture at the plant with respect to gradation (P-8 and P-200) and asphalt binder content (Pb). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in subarticle F.3.a above. The

Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 3 above. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer.

a. Acceptance Testing Exceptions:

- 1) When the total quantity of any mix type in the Project is less than 500 tons, or on Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.
- 2) Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, first lift of asphalt base course placed on subgrade, miscellaneous asphalt pavement, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lbs/sy. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet in length: crossovers, intersections, turning lanes, acceleration lanes, deceleration lanes, or ramps. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-2-23-2	Hot Mix Asphalt, Traffic C, SP-12.5, PG 76-22	Ton
337-7-82	Hot Mix Asphalt Friction Course, Traffic C, FC-9.5, Rubber	Ton
337-8-33	Hot Mix Asphalt Friction Course, Traffic C, FC-12.5, Rubber	Ton
337-8-42	Hot Mix Asphalt Friction Course, Traffic C, FC-9.5, PG 76-22	Ton
337-8-43	Hot Mix Asphalt Friction Course, Traffic C, FC-12.5, PG 76-22	Ton

G. Method of Measurement.

1. For the work specified under this Article, the quantity to be paid for will be the weight of the mixture, in tons.
2. The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified herein.

H. Basis of Payment.

1. <<No separate pay item(s) for Hot Mix Asphalt will be provided under this contract.>>
2. General: Price and payment will be full compensation for all the work specified under this Article.

Item No.	Description	Unit
334-2-11	Hot Mix Asphalt, Traffic A	Ton
334-2-12	Hot Mix Asphalt, Traffic B	Ton
334-1-13	Hot Mix Asphalt, Traffic C, SP-9.5	Ton
334-2-13-2	Hot Mix Asphalt, Traffic C, SP-12.5	Ton
334-2-21	Hot Mix Asphalt, Traffic A, PG 76-22	Ton
334-2-22	Hot Mix Asphalt, Traffic B, PG 76-22	Ton
334-2-23-1	Hot Mix Asphalt, Traffic C, SP-9.5, PG 76-22	Ton

DIVISION 400 STRUCTURES

**425 INLETS, MANHOLES AND JUNCTION BOXES
(SECTION 425)**

A. Page 417, Subarticle 425-6.6 - Placing Pipe; The third sentence of this sub-article is modified to read:

1. When catch basins are called for, the inlet and outlet pipe may extend into the structure not to exceed 4 inches beyond the interior face of the wall.

B. Page 417, Subarticle 425-6.7 Backfilling; is modified to include the following:

1. Select material shall be used for backfill adjacent to catch basins and riser inlets, as detailed in the Plans. It shall consist of well-graded limerock or limerock and sand fill. Sand or fill having a high proportion of sand will not be accepted as select fill. All select fill shall be approved by the Engineer prior to placing. No separate payment will be made for select fill, but shall be included in the unit bid price for each particular item as indicated in the Bid Form of the Proposal.

C. Page 417, Subarticle 425-8.2 - Adjusted Structures; is expanded to include the following:

1. Upon completion of the work, and prior to acceptance and final payment, all such structures will be inspected by the Engineer to ensure that they are free of all debris and thoroughly cleaned. All drainage structures within the project limits shall be cleaned thoroughly and made free of all debris prior to final acceptance by the County. The Contractor shall include within the scheduled items listed on the Contract's Bid Form, the cost of all work necessary for cleaning and debris removal

D. Page 418, Subarticle 425-8.3 - Payment Items; is expanded to include the following:

1. When a separate item is listed on the Bid Form for cleaning of structures, said item shall only be used when indicated on the Engineering Plans or as directed by the Engineer, and only for the cleaning of drainage structures that were not impacted by construction activities.
2. <<No separate pay item(s) for Inlets, Manholes and Junction Boxes will be provided under this contract.>>
3. Payment will be made under:

Item No.	Description	Unit
425- 1- 321	Inlets (Curb)(Type P-2) <10'	EA
425- 1- 351	Inlets (Curb)(Type P-5) <10'	EA
425- 1- 361	Inlets (Curb)(Type P-6) <10'	EA
425- 1- 461	Inlet Curb (Type J-6)	EA
425- 1- 541	Inlets Type D	EA
425-1-907A	Pollution Retardant Baffle (Any Type) (Any Dimension)	EA

425-2-41	Manhole (Type P-71, Any Dimension, Maximum 15' Deep)	EA
425-33	Convert Drainage Inlet To Manhole Top, Adjusting Elevation If Necessary	EA
425-1-312A	Inlet Curb (Type P-11)	EA

425A ADJUSTMENT OR RELOCATION OF VALVE, METER AND JUNCTION BOXES

1. The work under these pay items includes any adjustments (raising or lowering) of existing boxes or fire hydrants. When relocation of the box is required, the Contractor shall make all necessary arrangements with the utility companies, as the utility companies are responsible to relocate the valves and meters and valve and meter boxes.
2. <<No separate pay item(s) for Adjustment or Relocation of Valve, Meter and Junction Boxes will be provided under this contract>>
3. Payment shall be made under the following:

Item Number	Description	Unit
425-5	Adjust Manhole	EA
425-5-1	Adjust Manhole (Utilities) (Miami-Dade Water & Sewer Only)	EA
425-6	Adjust Existing Valve Boxes (Miami-Dade County Only)	EA
425-74	Adjust And / Or Relocate Existing Fire Hydrants Valve And Valve Boxes (Miami-Dade County Only)	EA
425-82B	Grate, Solid Cover, Replace (Includes the removal of existing grate and the replacement with a solid cover or vice versa)	EA

430 PIPE CULVERTS (REV. 01-12-16)

A. Description.

1. Furnish and install drainage pipe and end sections at the locations called for in the Plans or as directed by Engineer. Furnish and construct joints and connections to existing pipes, catch basins, inlets, manholes, walls, etc., as may be required to complete the work.
2. Construct structural plate pipe culverts or underdrains in accordance with FDOT Sections 435 and 440.
3. Obtain pipe culverts from a Producer currently on the FDOT's list of Producers with Accepted Quality Control Programs. Producers seeking inclusion on the list shall meet the requirements of FDOT 105-3.
4. When the producer's FDOT Quality Control Program is suspended, accept responsibility of either obtaining drainage products from another producer with an

accepted FDOT Quality Control Program or await re-approval of the producer's FDOT Quality Control Program. Engineer will not allow changes in Contract Time or completion dates as a result of the producer's FDOT Quality Control Program suspension. Accept responsibility for all delay costs or other costs associated with the producer's FDOT Quality Control Program suspension.

B. Materials.

1. Pipe: Meet the following requirements:

Concrete Pipe	FDOT Section 449
Round Rubber Gaskets	FDOT Section 942
Corrugated Steel Pipe and Pipe Arch	FDOT Section 943
Corrugated Aluminum Pipe and Pipe Arch	FDOT Section 945
Corrugated Polyethylene Pipe	FDOT Section 948
Polyvinyl Chloride (PVC) Pipe	FDOT Section 948

2. Joint Materials: Use joint materials specified in this Article according to type of pipe and conditions of usage.

3. Mortar: Use mortar composed of one part portland cement and two parts of clean, sharp sand, to which mixture Contractor may add hydrated lime in an amount not to exceed 15% of the cement content. Use mortar within 30 minutes after its preparation.

C. Type of Pipe to Be Used.

1. When the Plans designate a type (or types) of pipe, use only the type (or choose from the types) designated.

2. If the Plans do not designate a type (or types) of pipe, Contractor, subject to Engineer's approval, may use either a minimum Class I concrete pipe, corrugated steel pipe, corrugated aluminum pipe, corrugated polyethylene pipe or PVC pipe. If one of the metal types is chosen, use the minimum gage specified in FDOT Section 943 for steel pipe or FDOT Section 945 for aluminum pipe.

3. Class I corrugated Polyethylene Pipe may be used on local (non-arterial or non-collector) roads only.

D. Laying Pipe.

1. General:

- a. Lay all pipe, true to the lines and grades given, with hubs up grade and tongue end fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, install the pipe in a position such that the manufacturer's marks designating "top" and "bottom" of the pipe are not more than five degrees from the vertical plane through the longitudinal axis of the pipe. Do not allow departure from and return to plan alignment and grade to exceed 1/16 inch per foot of

nominal pipe length, with a total of not more than 1 inch departure from theoretical line and grade. Take up and relay any pipe that is not in true alignment or which shows any settlement after laying at no additional expense to the Department.

- b. Do not use concrete pipe with lift holes except round pipe which has an inside diameter in excess of 54 inches or any elliptical pipe.

- c. Repair lift holes, if present, by use of a hand-placed, stiff, non-shrink, 1-to-1 mortar of cement and fine sand, after first washing out the hole with water. Completely fill the void created by the lift hole with mortar. Cover the repaired area with a 24 by 24 inches piece of filter fabric secured to the pipe. Use a Type D-3 filter fabric meeting the requirements shown on FDOT Design Standards, Index 199 and the Contract Documents.

- d. Secure the filter fabric to the pipe using a method that holds the fabric in place until the backfill is placed and compacted. Use a grout mixtures, mastics, or strapping devices to secure the fabric to the pipe.

- e. When installing pipes in structures, construct inlet and outlet pipes of the same size and kind as the connecting pipe shown in the Plans. Extend the pipes through the walls for a distance beyond the outside surface sufficient for the intended connections, and construct the concrete around them neatly to prevent leakage along their outer surface as shown on the FDOT Design Standards, Index 201. Keep the inlet and outlet pipes flush with the inside of the wall. Resilient connectors as specified in FDOT 942-3 may be used in lieu of a masonry seal.

- f. Furnish and install a filter fabric jacket around all pipe joints and the joint between the pipe and the structure in accordance with FDOT Design Standards, Index Nos. 201 and 280. Use fabric meeting the physical requirements of Type D-3 specified on the FDOT Design Standards, Index 199 and the Contract Documents. The fabric shall extend a minimum of 12 inches beyond each side of the joint or both edges of the coupling band, if a coupling band is used. The fabric shall have a minimum width of 24 inches, and a length sufficient to provide a minimum overlap of 24 inches. Secure the filter fabric jacket against the outside of the pipe by metal or plastic strapping or by other methods approved by Engineer.

- g. Meet the following minimum joint standards:

Pipe Application	Minimum Standard
Storm and Cross Drains	Water-tight
Gutter Drain	Water-tight
Side Drains	Soil-tight

- h. When rubber gaskets are to be installed in the pipe joint, the gasket shall be the sole element relied on to maintain a tight joint. Soil tight joints must be watertight to 2 psi. Water-tight joints must be watertight to 5 psi unless a higher pressure rating is required in the Plans.

2. Trench Excavation: Excavate the trench for storm and cross drains, and side drains as specified in the Contract Documents.

3. Foundation: Provide a suitable foundation, where the foundation material is of inadequate supporting value, as determined by Engineer. Remove the unsuitable material and replace it with suitable material, as specified in Article 120 (Earthwork and Related Operations) of these Specifications. Where in Engineer's opinion, the removal and replacement of unsuitable material is not practicable, he may direct alternates in the design of the pipe line, as required to provide adequate support. Minor changes in the grade or alignment will not be considered as an adequate basis for extra compensation. Do not lay pipe on blocks or timbers, or on other unyielding material, except where the use of such devices is called for in the Plans.
 4. Backfilling: Backfill around the pipe as specified in Article 120 (Earthwork and Related Operations) of these Specifications unless specific backfilling procedures are described in the Contract Documents.
 5. Plugging Pipe:
 - a. When existing pipe culverts are to be permanently placed out of service, fill them with flowable fill that is non-excavatable, contains a minimum 350 lbs/cy of cementitious material and meets the requirements Article 121 (Flowable Fill) and/or plug them with masonry plugs as required by the Contract Documents. Install masonry plugs that are a minimum of 8 inches in thickness, in accordance with FDOT Design Standards Index 280.
 - b. When proposed or existing pipe culverts are to be temporarily placed out of service, plug them with prefabricated plugs as shown in the Plans. Install prefabricated plugs in accordance with the manufacturer's recommendations. Do not fill, or construct masonry plugs in, any pipe culverts intended for current or future service.
 6. End Treatment:
 - a. Place an end treatment at each storm and cross drain, and side drain as shown in the Plans. Refer to the FDOT Design Standards for types of end treatment details.
 - b. As an exception to the above, when concrete mitered end sections are permitted, Contractor may use reinforced concrete U-endwalls, if shop drawings are submitted to Engineer for approval prior to use.
 - c. Provide end treatments for corrugated polyethylene pipe and PVC pipe as specified in FDOT Section 948, or as detailed in the Plans.
 7. Metal Pipe Protection:
 - a. Apply a bituminous coating to the surface area of the pipe within and 12 inches beyond the concrete or mortar seal prior to sealing, to protect corrugated steel or aluminum pipe embedded in a concrete structure, such as an inlet, manhole, junction box, endwall, or concrete jacket.
 - b. Ensure that the surface preparation, application methods (dry film thickness and conditions during application), and equipment used are in accordance with the coating manufacturers' published specifications.
 - c. Obtain Engineer's approval of the coating products used.
 8. Final Pipe Inspection:
 - a. Pipe must be lay under direct supervision of Engineer at all times. In the event that a specific job site requires a video inspection, and it is approved by Engineer, pipe must be inspected as per FDOT Article 430-4.8. County will pay for the cost of inspection and report.
- E. Removing Existing Pipe.
1. If the Plans indicate that existing pipe is to remain the property of the Department, collect and stack along the right-of-way all existing pipe or pipe arch so indicated in the Plans to be removed, or that does not conform to the lines and grades of the proposed work and that is not to be re-laid, as directed by Engineer. Take care to prevent damage to salvageable pipe during removal and stacking operations.
- F. Placing Pipe Under Railroad.
1. General: Construct pipe culverts under railroad tracks in accordance with the requirements of the railroad company. Perform all the shoring under the tracks, and sheeting and bracing of the trench, required by the railroad company or deemed necessary by Engineer in order to ensure safe and uninterrupted movement of the railroad equipment, at no expense to the Department.
 2. Requirements of the Railroad Company:
 - a. Install pipe using methods required by the railroad company and shown in the Contract Documents.
 - b. When the general method of installation required by the railroad company is indicated in the Plans, do not alter such method, or any other specific details of the installation which might be indicated in the Plans, without receiving approval or direction from the railroad, followed by written approval from Engineer.
 3. Notification to Railroad Company: Notify the railroad company and Engineer at least ten days prior to the date on which pipe is to be placed under the railroad tracks.
 4. Placing Pipe by Jacking: Obtain Engineer's and the railroad company's approval of the details of the jacking method to be used, when placing pipe through the railroad embankment, before the work is started.
 5. Use of Tunnel Liner: When the railroad company requires that a tunnel liner be used for placing the pipe in lieu of the jacking method, the Department will pay for the tunnel liner material separately in cases where the Contract Documents do not require the use of a tunnel liner. For these cases the Department will reimburse Contractor for the actual cost of the liner, delivered at the site. The Department will base such cost on a liner having the minimum gage acceptable to the railroad.
- G. Specific Requirements for Concrete Pipe.

1. **Sealing Joints:** Seal the pipe joints with round rubber or profile gaskets meeting the requirements of FDOT Section 449. Ensure that the gasket and the surface of the pipe joint, including the gasket recess, are clean and free from grit, dirt and other foreign matter, at the time the joints are made. In order to facilitate closure of the joint, application of a vegetable soap lubricant immediately before closing of the joint will be permitted. Prelubricated gaskets may be used in lieu of a vegetable soap lubricant when the lubricating material is certified to be inert with respect to the rubber material.
 2. **Laying Requirements for Concrete Pipe with Rubber Gasket Joints:** Do not allow the gap between sections of pipe to exceed 5/8 inch for pipe diameters of 12 inches through 18 inches, 7/8 inch for pipe diameters of 24 inches through 66 inches, and 1 inch for pipe diameters 72 inches and larger. Where minor imperfections in the manufacture of the pipe create an apparent gap in excess of the tabulated gap, Engineer will accept the joint provided that the imperfection does not exceed 1/3 the circumference of the pipe, and the rubber gasket is 1/4 inch or more past the pipe joint entrance taper. Where concrete pipes are outside of these tolerances, replace them at no expense to the Department. Do not apply mortar, joint compound, or other filler to the gap which would restrict the flexibility of the joint.
 3. **Field Joints for Elliptical Concrete Pipe:** Use either a preformed plastic gasket material or an approved rubber gasket to make a field joint.
 - a. **Plastic Gasket.** For field joints that are made from preformed plastic gasket material; install field joints in accordance with the manufacturer's instructions and the following:
 - 1) **Material:** Meet the requirements of FDOT 942-2
 - 2) **Joint Design:** Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and the amount of gasket material required to affect a satisfactory seal. Do not brush or wipe joint surfaces which are to be in contact with the gasket material with a cement slurry. Fill minor voids with cement slurry.
 - 3) **Primer:** Apply a primer of the type recommended by the manufacturer of the gasket material to all joint surfaces which are to be in contact with the gasket material, prior to application of the gasket material. Thoroughly clean and dry the surface to be primed.
 - 4) **Application of Gasket:** Apply gasket material to form a continuous gasket around the entire circumference of the leading edge of the tongue and the groove joint, in accordance with the detail shown on the Design Standards, Index No. 280. Do not remove the paper wrapper on the exterior surface of the gasket material until immediately prior to joining of sections. Apply plastic gasket material only to surfaces which are dry. When the atmospheric temperature is below 60°F, either store plastic joint seal gaskets in an area above 70°F, or artificially warm the gaskets to 70°F in a manner satisfactory to Engineer.
 - 5) **Installation of Pipe:** Remove and reposition or replace any displaced or contaminated gasket as directed by Engineer. Install the pipe in a dry trench. Carefully shape the bottom of the trench to minimize the need for realignment of sections of pipe after they are placed in the trench. Hold to a minimum any realignment of a joint after the gaskets come into contact. Prior to joining the pipes, fill the entire joint with gasket material and ensure that when the pipes are joined there is evidence of squeeze-out of gasket material for the entire internal and external circumference of the joint. Trim excess material on the interior of the pipe to provide a smooth interior surface. If a joint is defective, remove the leading section of pipe and reseal the joint.
 - b. **Rubber Gasket.** For field joints that are made with profile rubber gaskets; install field joints in accordance with the manufacturer's instructions and the following:
 - 1) **Material:** Meet the requirements of FDOT 942-4.
 - 2) **Joint Design:** Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and gasket required to effect a satisfactory seal. Do not apply mortar, joint compound, or other filler which would restrict the flexibility of the gasket joint.
 4. **Requirements for Concrete Radius Pipe:**
 - a. **Design:** Construct concrete radius pipe in segments not longer than 4 feet (along the pipe centerline), except where another length is called for in the Contract Documents. Join each segment using round rubber gaskets. Ensure that the pipe manufacturer submits details of the proposed joint, segment length and shape for approval by Engineer, prior to manufacture.
 - b. **Pre-Assembly:** Ensure that the manufacturer pre-assembles the entire radius section in his yard, in the presence of Engineer, to ensure a proper fit for all parts. At the option of the manufacturer, Contractor may assemble the pipe without gaskets. Consecutively number the joints on both the interior and exterior surfaces of each joint, and make match marks showing proper position of joints. Install the pipe at the project site in the same order as pre-assembly.
- H. **Specific Requirements for Corrugated Metal Pipe.**
1. **Field Joints:**
 - a. **General:**
 - 1) Make a field joint with locking bands, as specified in Article 9 of AASHTO M 36 and AASHTO M 196M for aluminum pipe. For aluminum pipe, fabricate bands from the same alloy as the culvert sheeting.
 - 2) When existing pipe to be extended is helically fabricated, make a field joint between the existing pipe and the new pipe using one of the following methods:

- a) Cut the new pipe to remove one of the re-rolled annular end sections required in FDOT Sections 943 or 945, or fabricate the pipe so that the re-rolled annular section is fabricated only on one end. Use either a spiral (helical) band with a gasket or a flat band with gaskets as required by Subarticle 430-H.1.b.1) b) to join the pipe sections.
- b) Contractor may construct a concrete jacket as shown on the FDOT Design Standards, Index No. 280, provided that the minimum cover required by the FDOT Design Standards, Index No. 205 can be obtained.
- b. Side Drain, Storm and Cross Drain, and Gutter Drains: Where corrugated metal pipe is used as side drain, storm and cross drain, or gutter drain, use a rubber or neoprene gasket of a design shown to provide a joint as specified in Subarticle 430-D.
 - 1) Use a gasket of one of the following dimensions:
 - a) For annular joints with 1/2 inch depth corrugation: either a single gasket a minimum of 7 inches by 3/8 inch or two gaskets a minimum of 3 1/2 inches by 3/8 inch; and for annular joints with 1 inch depth corrugations: either a single gasket a minimum of 7 inches by 7/8 inch or two gaskets a minimum of 3 1/2 inches by 7/8 inch.
 - b) For helical joints with 1/2 inch depth corrugation: either a single gasket a minimum of 5 inches by 1 inch or two gaskets a minimum of 3 1/2 inches by 1 inch; and for helical joints with 1 inch depth corrugations: either a single gasket a minimum of 5 inches by 1 1/2 inches or two gaskets a minimum of 3 1/2 inches by 1 1/2 inches.
 - c) Such other gasket designs as may be approved by Engineer.
- 2) If, in lieu of a single gasket spanning the joint, two gaskets are used, place these individual gaskets approximately 2 inches from each pipe end at the joint. When two gaskets are used, seal the overlapping area on the coupling band between the gaskets consistent with the joint performance specified. Contractor may tuck a strip of preformed gasket material over the bottom lip of the band for this purpose. Use coupling bands that provide a minimum circumferential overlap of 3 inches. As the end connections on the coupling band are tightened, ensure that there is no local bending of the band or the connection. Use precurved coupling bands on pipe diameters of 24 inches or less.
- 3) Use flat gaskets meeting the requirements of ASTM D-1056, designation 2C2 or 2B3. In placing flat gaskets on pipe prior to placing the coupling band, do not stretch the gasket more than 15% of its original circumference. Use circular gaskets meeting the requirements of ASTM C-361. Do not stretch the circular gasket more than 20% of its original circumference in placing the gasket on pipe. Use preformed plastic gasket material

meeting the composition requirements of FDOT 942-2.2.

- 4) Apply an approved vegetable soap lubricant, as specified for concrete pipe in Subarticle 430-G.1.
- c. Alternate Joint: In lieu of the above-specified combination of locking bands and flat gaskets, Contractor may make field joints for these pipe installations by the following combinations:
 - 1) Use the metal bands as specified in Article 9 of AASHTO M 36M that are at least 10 1/2 inches wide and consist of a flat central section with a corrugated section near each end, designed to match the annular corrugation in the pipe with which they are to be used. Connect the bands in a manner approved by Engineer, with a suitable fastening device such as the use of two galvanized 1/2 inch diameter bolts through a galvanized bar and galvanized strap, suitably welded to the band. Use a strap that is the same gage as the band.
 - 2) Where helically corrugated pipe is to be jointed by this alternate combination, ensure that at least the last two corrugations of each pipe section are annular, and designed such that the band will engage each pipe end with the next-to-outside annular corrugation.
 - 3) For these bands, use a rubber gasket with a circular cross-section of the "O-ring" type conforming to ASTM C-361. Use gaskets having the following cross-sectional diameter for the given size of pipe:

<u>Pipe Size</u>	<u>Gasket Diameter</u>
12 inches through 36 inches (with 1/2 inch depth corrugations)	13/16 inch
42 inches through 96 inches (with 1/2 inch depth corrugations)	7/8 inch
36 inches through 120 inches (with 1 inch depth corrugations)	1 3/8 inches

- 4) Use preformed gasket material to seal the overlapping area on the coupling band between gaskets.
- 5) Use channel band couplers in helical pipe with ends which have been reformed and flanged specifically to receive these bands. Use channel band couplers that are of a two piece design, are fabricated from galvanized steel stock conforming to AASHTO M 36, have 2 by 2 by 3/16 inch angles fastened to the band ends to allow for proper tightening, and meet the following:

<u>Band Thickness</u>	<u>Pipe Wall Thickness</u>
0.079 inch	0.109 inch or lighter
0.109 inch	0.138 inch or heavier
3/4 inch wide	0.109 inch or lighter
1 inch wide	0.138 inch or heavier

- 6) Furnish two 1/2 inch diameter connection bolts with each band, that conform to ASTM A-307, Grade A and are electroplated in accordance with ASTM B-633.
- 7) Use a gasket with the joint that is a hydrocarbon blend of butyl rubber meeting the chemical composition and physical properties of FDOT 942-2.2. Use a 3/8 by 3/4 inch gasket for pipe fabricated from 0.109 inch or lighter material and a 3/8 by 1 inch gasket for pipe fabricated from 0.138 inch and heavier material.
- 8) Contractor may use a flange band coupler without the gasket for all applications other than side drain, storm and cross drain, and gutter drain.
- 9) Do not use the flange band coupler to join dissimilar types of pipe.
- 10) Contractor may join reformed flanged helical pipe to existing annular or reformed pipe having annular ends. On non-gasketed installations, use either an annular band or an alternate joint described in Subarticle 430-H.1.c. On gasketed installations, use an annular band, minimum of five corrugations in width, in conjunction with two O-ring gaskets as specified in Subarticle 430-H.1.c. Use mastic material to seal the area of band overlap.
- 11) The minimum joint performance standards specified in Subarticle 430-D.1 applies.

2. Laying and Shape Requirements for Corrugated Metal Pipe: Install pipe using either a trench or open ditch procedure.

- a. Check pipe shape regularly during backfilling to verify acceptability of the construction method used. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department. Deflection measurements are taken at the point of smallest diameter on the corrugations.
- i. Specific Requirements for Corrugated Polyethylene Pipe and Polyvinyl Chloride (PVC) Pipe.
1. Field Joints: Use gasketed joints to seal side drain, and storm and cross drain. Use gaskets meeting the requirements of FDOT Section 449. Ensure that the pipe manufacturer provides a joint design approved by Engineer before use.
 2. Installation Requirements Including Trenching, Foundation and Backfilling Operations: Check structure shape regularly during backfilling to verify acceptability of the construction method used.
 3. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department.
- J. Desilting Pipe Culverts, Box Culverts, and Inlet Structures.
1. Description. Completely remove and dispose of silt, debris, vegetation, soil, rock, and any type of blockage inside existing pipe culvert(s), box culvert(s) or inlet

structure(s) specified in the Contract Documents or directed by Engineer.

2. General.

- a. Access to the pipe or box culvert may require temporary removal of fence, signs, guardrail, grates or manhole covers.
- b. Clean the existing pipe or box culvert by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage to restore the hydraulic conveyance design capacity of the pipe or box culvert.
- c. Clean the existing inlet structure by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage.
- d. Perform desilting operations in a manner not to damage the pipe culverts, box culverts, and inlet structures or surrounding area.
- e. Meet the requirements of Federal, State and local environmental standards and laws when performing all activities.
- f. Meet the requirements of Article 104 of these Specifications (Prevention, Control, and Abatement of Erosion and Water Pollution).
- g. Identify and report to Engineer necessary repairs to the pipes or box culverts and structures exposed during the desilting operation.
- h. Pipe or Box Culverts:

- 1) Replace according to Department standards at the completion of the desilting operation or each day, as appropriate for safety.
- 2) Align infall and outfall ditches 50 feet from the pipe or box culvert to meet the existing line and grade. If the Right-of-Way line is less than 50 feet from the pipe or box culvert, align infall and outfall ditches to the Right-of-Way line. Grade and sod any disturbed areas caused by the desilting operation.
- 3) Dispose of all silt and debris removed in the desilting operations in areas meeting Federal, State and local rules and regulations.
- 4) Repair or replace damage to turf, pavement, signs or structures, etc. due to negligence to the satisfaction of Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished.

3. Inspection.

- a. When directed by Engineer, de-water the pipe or box culvert to facilitate inspection.
- b. Re-clean culverts and structures determined to be unacceptable by Engineer within the time directed at no additional cost to the Department.

K. Method of Measurement.

1. General:

- a. The quantity to be paid for will be the number completed pursuant to these specifications that is measured and accepted by Engineer.

- b. Only items of work required by this Article that have a Contract Unit Price will be measured by Engineer for payment. All other work described in this Article that is required by the Contract Documents but does not have a Contract Unit Price is considered incidental to the Work and its costs are included among the various scheduled items of the Contract.
 2. New Pipe: The quantities of storm and cross drain pipe, storm drain trench, side drain pipe and gutter drain pipe to be paid for will be quantity, measured in place and accepted by Engineer. The quantity of pipe will be measured from the inside wall of the structure, along the centerline of the pipe.
 3. Mitered End Section: The quantity to be paid for will be the number completed and accepted.
 4. Desilting Pipe Culverts, Box Culverts, and Inlet Structures:
 - a. General:
 - 1) The cost of temporary removal and subsequent replacement of fence, signs, guardrail, grates or manhole covers will be included in the contract unit price for the related item.
 - 2) Infall and outfall ditch alignment, grading and sodding will be included in the contract unit price of the related item.
 - 3) Pipes or structures that are impacted by the Work must be cleaned at no cost to the County and will not be measured for payment.
 - b. Desilting Pipe Culverts: The quantities for payment will be the length in feet of existing pipe desilted and accepted by Engineer.
 - c. Desilting Box Culverts: The quantities for payment will be the volume in cubic yard of material removed from the existing box culvert as measured and accepted by Engineer.
 - d. Desilting Structures: The quantities for payment will be the number of existing Inlet Structures desilted and cleaned as counted and accepted by Engineer.
- L. Basis of Payment.
1. General:
 - a. Prices and payments will be full compensation for all work specified in this Article including:
 - 1) All excavation except the volume included in the items for the grading work on the Project, and except for other items specified for separate payment in Article 120 (Earthwork And Related Operations) of these Specifications;
 - 2) All backfilling material and compaction; disposal of surplus material; and
 - 3) All clearing and grubbing outside of the required limits of clearing and grubbing as shown in the Plans.
 2. Removing Existing Pipe: When existing pipe is removed and replaced with new pipe approximately at the same location, the cost of excavating and removing the old pipe and of its disposal will be included in the Contract unit price for clearing and grubbing.
 3. Site Restoration: The cost of completely restoring the areas of the Project Site that is disturbed for the purpose of constructing pipe culvert is included in the Contract unit price for the pipe culvert, unless designated specifically to be paid for under other items.
 4. Plugging Pipes:
 - a. The cost of temporarily plugging a pipe culvert, either proposed or existing, will be incidental to the contract unit price for new pipe culvert.
 - b. The cost of filling and/or plugging an existing pipe culvert that is to be permanently placed out of service will be paid for at the contract unit price for filling and plugging pipe, per cubic yard. Price and payment will be full compensation for flowable fill, masonry, concrete, mortar, and all labor and materials necessary to complete the work.
 5. Desilting Pipe Culverts, Box Culverts, and Drainage Structures: Price and payment will be full compensation for furnishing all equipment, tools, labor, removal and disposal of silt, debris, vegetation, soil, rock, and any type of blockage, de-watering, erosion and water pollution control, clean up and all incidentals necessary for the satisfactory performance of the work.
 6. Flared End Sections: Price and payment will be full compensation for all work and materials required.
 7. Mitered End Sections: Price and payment will be full compensation for all pipe, grates when required, fasteners, reinforcing, connectors, anchors, concrete, sealants, jackets and coupling bands, and all work required.
 8. Railroad Requirements:
 - a. Where pipe culvert is constructed under railroad tracks, the Contract unit price for the pipe culvert will include the costs of any jacking operations and the operation of placing the pipe by use of a tunnel liner, (except as specified for unanticipated tunnel liner, in Subarticle 430-F.5, where reimbursement is to be made for such unanticipated liner), and all other work necessary to meet the requirements of the railroad company, excluding the costs of watchman or flagman services provided by the railroad company, except as provided below.
 - b. The Department will reimburse Contractor for the actual costs of any trestle bridge work which is performed by the railroad's forces, as billed to him by the railroad, less the value of any salvage materials derived there from, whether such salvage materials are retained by the railroad company or by Contractor. When the work of shoring and bracing is to be performed by the railroad, such fact will be stipulated in the Contract Documents and Contractor will be required to pay to the railroad the amount of such costs, which amount will be reimbursed to him by the Department. The Contract unit price for the pipe culvert shall include the costs of all other work of shoring and bracing.
 9. Payment Items:

- a. << No separate pay item(s) for Pipes Culverts will be provided under this contract>>
- b. Payment will be made under the items below having an awarded Contract Unit Price.

Item No.	Description	Unit
430-174-115	Pipe Culvert 15" Diameter (Round)	LF
430-174-118	Pipe Culvert 18" Diameter (Round)	LF
430-174-124	Pipe Culvert 24" Diameter (Round)	LF
430-171-130	Pipe Culvert 30" Diameter (Round)	LF
430-171-136	Pipe Culvert 36" Diameter (Round)	LF
430-171-142	Pipe Culvert 42" Diameter (Round)	LF
430-171-215	Pipe Culvert 15" Diameter (Elliptical/Arch)	LF
430-171-218	Pipe Culvert 18" Diameter (Elliptical/Arch)	LF
430-171-224	Pipe Culvert 24" Diameter (Elliptical/Arch)	LF
430-171-230	Pipe Culvert 30" Diameter (Elliptical/Arch)	LF
430-171-236	Pipe Culvert 36" Diameter (Elliptical/Arch)	LF
430-94-1-1	Desilting Pipe, 0 - 48"	LF
430-94-1-2	Desilting Pipe, 49" or greater"	LF
430-95-0	Desilting Concrete Box Culvert	CY
430-95-2	Desilting Drainage Structure	EA

plastic filter fabric (geotextile). Construct in accordance with FDOT Design Standards, Index No. 285 as modified by or otherwise specified in the Contract Documents

B. Materials.

1. Pipe: Unless a particular type is specified in the Contract Documents, pipe furnished may be any of the following types:
 - a. Concrete Pipe (Bell & Spigot): Slotted or perforated concrete pipe may be used.
 - 1) Meet the requirements of FDOT 449 for concrete pipe. Use the class of pipe specified on the FDOT Design Standards, Index No. 205. Do not use gaskets. Fully insert the spigot in the bell, and bring home. Conform to FDOT Design Standards, Index No. 285 for slotted pipe. Use perforated pipe having perforations equally located 360 degrees around the pipe.
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of inside pipe surface. Extend perforations to within 6 inches of the bell or spigot area. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - b. Corrugated Aluminum Alloy Culvert Perforated Pipe:
 - 1) Meet the requirements of FDOT 945. Use perforated pipe having perforations equally located 360 degrees around the pipe. Locate perforations either on the inside crests or on the neutral axis of all corrugations except that perforations are not required within 4 inches of each end of each length of pipe or in a corrugation where seams are located.
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of pipe surface. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - c. Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above.
 - d. Bituminous Coated Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above. Place the perforations prior to the bituminous coating. The Engineer will accept the minimum opening of not less than 3.31 in²/ft² of pipe if 50% of the opening area is maintained after coating.
 - e. Corrugated Polyethylene Pipe:
 - 1) Meet the requirements of FDOT 948-2.3 except that Class I corrugated Polyethylene Pipe may only be used on local roads (non-arterial or non-collector).

443 FRENCH DRAINS

A. Description.

1. Construct french drains, utilizing one of the authorized types of pipes listed below, with coarse aggregate, and

- 2) Space the perforations and meet the requirements as specified in b. 2) above.
- f. Polyvinyl Chloride (PVC) Pipe: Meet the requirements of FDOT 948-1.7. Space the perforations and meet the requirements as specified in b. 2) above.
2. Coarse Aggregate: No. 4 limestone aggregate meeting the requirements of FDOT 901. Aggregates must be an approved product from an approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
3. Select Fill: Use select fill meeting the requirements of either FDOT 911, 913, 913A or 915.

C. Excavating Trench.

1. Excavate the trench in accordance with the Contract specifications for Earthwork and Related Operations (hereinafter referred to as Earthwork specifications) unless specific trench excavation procedures are described in the Plans.
2. Carefully excavate the trench to such depths as required to permit the filter fabric, coarse aggregate and the pipe to be placed in accordance with the details shown on the Plans.

D. Laying Pipe.

1. Lay all pipe conforming with the lines and grades specified in the plans and in accordance with these Specifications. Unless otherwise specified in the Plans or directed by the Engineer, set the pipe with a minimum cover of 30 inches in paved areas (24 inches for non-paved areas) and a maximum cover of 66 inches.

E. Placing Coarse Aggregate and Backfilling.

1. After placing the pipe and without disturbing the pipe, carefully place the coarse aggregate around the pipe to a depth shown in the plans. Fold the filter fabric over the coarse aggregate. Backfill and compact as described below.
 - a. French Drains Under Pavement: Fill the area above the coarse aggregate with select fill material meeting the requirements of this Section. Place and compact the select fill according to the requirements for pipe as specified in the Earthwork specifications. The Department will allow use of additional coarse aggregate over the top of the pipe instead of select fill material. In this case, the filter fabric shall be extended to wrap the additional coarse aggregate. The top of the coarse aggregate shall not be higher than the bottom of the base, unless shown in the plans. The Department will not pay additional costs associated with substituting coarse aggregate for select fill.
 - b. French Drains not Under Pavement: Fill and compact the area above the coarse aggregate according to the requirements for pipe in the Earthwork specifications, unless specific procedures are described in the Plans as specified in the Earthwork specifications.

F. Method of Measurement.

1. Quantity of french drains to be paid for under this Article shall be the length in linear feet completed in accordance with Plans and specifications; measured in place and accepted by the Engineer subject to the following conditions:

- a. French drain lengths having a depth of trench less than 10 feet below land surface (BLS) will not be accepted for payment by the Engineer.
- b. For french drains with specified depth of trench of 15 feet BLS or greater, any length not meeting the specified depth for reasons approved by the Engineer will have the payment quantity calculated as:

1) Quantity for Payment (LF) = Quantity Measured by the Engineer (LF) x Engineer Approved Depth Rounded to the Lowest Whole Foot (ft) / Specified Depth (ft)

G. Basis of Payment.

1. The quantities determined as provided above will be paid for at the Contract unit price for french drains. Such prices and payments will be full compensation for all work, labor, equipment and material necessary for construction of the french drains as specified in these Contract Documents including excavation, sheeting or shoring if required, the disposal of surplus material, providing plastic filter fabric, pipe, coarse aggregate, select backfill, tamping, and final dressing.
2. Price and payment shall also include all clearing and grubbing; and pavement, sidewalk, curb, and gutter restoration unless these items are specifically provided for under separate payment items in this Contract.
3. <<No separate pay item(s) for French Drains will be provided under this contract.>>
4. Payment will be made under:

Item No.	Description	Unit
443-70-3-2	French Drain (18" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-3-3	French Drain (18" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.
443-70-4	French Drain (24" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-4-3	French Drain (24" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.
443-70-6-2	French Drain (36" diameter perforated pipe; trench depth 10 ft. BLS)	L.F.
443-70-6-3	French Drain (36" diameter perforated pipe; trench depth 15 ft. BLS)	L.F.

DIVISION 500 MISCELLANEOUS CONSTRUCTION

514 GEOTEXTILE (REV. 11-04-11)

A. Description.

1. Install a geotextile (plastic filter) fabric.

B. Material.

1. Meet the plastic filter fabric requirements as specified in FDOT 985.
2. Geotextile used in the Drainage class (type D-3) applications listed in FDOT Design Standards Index 199 shall be woven monofilament geotextiles only. No Slit Film geotextiles are allowed.

C. Construction Methods.

1. General:

- a. Place the fabric in the manner and locations as shown on the construction drawings, in accordance with the manufacturer's directions, and as specified in these Specifications.
- b. Place the fabric on areas with a uniform slope that are reasonably smooth, free from mounds and windrows, and free of any debris or projections which might damage the fabric.
- c. Loosely lay the material. Do not stretch the material.
- d. Replace or repair any fabric damaged or displaced before or during placement of overlying layers to the satisfaction of the Engineer and at no expense to the Department.
- e. When overlapping is necessary, the Contractor may sew the seams to reduce overlaps as specified in FDOT 985-3.
- f. Schedule work so that covering the fabric with the specified material does not exceed the manufacturer's recommendations for exposure to ultraviolet light or five days, whichever is less. If the Engineer determines the exposure time was exceeded, the Contractor shall replace the fabric at no expense to the Department.

2. Subsurface Drainage: When indicated in the plans, place the fabric with the long dimension parallel to the trench. Place the fabric to provide a minimum 12 inch overlap for each joint. Do not drop the filter material from heights greater than 3 feet.

3. Stabilization and Reinforcement: Overlap adjacent strips of fabric a minimum of 2 feet.

4. Riprap Filter:

- a. Overlap adjacent strips of fabric a minimum of 24 inches, and anchor them with securing pins (as recommended by the manufacturer) inserted through both strips of fabric along a line through the midpoint

of the overlap and to the extent necessary to prevent displacement of the fabric.

- b. Place the fabric so that the upstream (upper) strip of fabric overlaps the downstream (lower) strip.
- c. Stagger vertical laps a minimum of 5 feet. Use full rolls of fabric whenever possible in order to reduce the number of vertical laps.
- d. Do not drop bedding stone or riprap from heights greater than 3 feet onto the fabric.

D. Method of Measurement.

1. No separate payment for furnishing and placing the geotextile fabric is contained in the Contract Documents.

E. Basis of Payment.

1. All costs for the work specified herein, including furnishing, placing, and sewing or overlapping the fabric is included in the Contract price for the item or items to which the geotextile fabric is incidental.

520 CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR (SECTION 520)

- A. Page 583, Article 520-1, Description: Is expanded to include the following:

1. The work specified under this section includes any type of curb and /or gutter in accordance with FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System 2008 and the Public Works Manual of Metropolitan Dade County (Standard Road Details R.14.1 and R.14.2) curb with or without gutter, driveway curbs, Type "C" median curb and Type "A" median curb, including the necessary preparation and compaction of the subgrade in both cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.

- B. Page 583, Article 520-2, Materials: Is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

- C. Page 591 Article 520-12, Basis of Payment: Is deleted in its entirety and replaced with the following:

1. The quantity of curb or curb and gutter, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer and does not include ramp and sidewalk curb. Such price and payment shall be full compensation for all work specified under this Section, including the necessary preparation, limerock or suitable material and compaction of the subgrade in

both, cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer

2. <<No separate pay item(s) for Concrete Gutter, Curb Elements, and Traffic Separator will be provided under this contract.>>
3. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
520-1-10	Concrete Curb and Gutter, Type F, Includes base	LF
520-5-4	Concrete Traffic Separator (Type IV) 4' wide, includes base	LF
520-2-4	Concrete Curb, Type D, includes base.	LF

522 CONCRETE SIDEWALK (SECTION 522)

- A. Page 589, Article 522-1, Description: Is expanded to include the following:

1. The work specified under this Section consists of the forming, furnishing, placement, and finishing of concrete for the construction of concrete sidewalks, pedestrian ramps and sidewalk curbs (back of sidewalk) utilizing Class I Concrete. The width, thickness and type shall be as shown and noted in the Plans. All work will be in accordance with this Section except as modified herein.

- B. Page 589, Article 522-2, Materials; is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

- C. Page 591 Article 522-9, Method of Measurement; is expanded to include the following:

1. The quantity to be paid for under this Article shall be the area in square yards of concrete sidewalk and pedestrian ramps, measured in place, complete and accepted. Measurement shall be the final dimensions measured along the surface of the completed work within the neat lines shown on the Plans or designated by the Engineer. No deduction will be made for the area occupied by trees left within the area of sidewalks or for any area occupied by manholes, inlets or other drainage or public utility appurtenances within the sidewalk area.

- D. Page 591 Article 522-10, Basis of Payment; is deleted in its entirety and replaced with the following:

1. The quantity, determined as provided above, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer. Such price and payment shall be full compensation for all work specified under this Section.

2. When curb and gutter is required for the construction of pedestrian ramps and no specific pay item has been included for the construction of the curb and gutter, such payment shall be included in the pay item for Sidewalk (Including pedestrian ramps and sidewalk curbs).

3. No separate payment shall be made for the removal of forms or the filling of excavated area left by removal of forms. Contractor shall be responsible for any vandalized sidewalk until it is finally accepted by the Engineer.

4. <<No separate pay item(s) for Concrete Sidewalk will be provided under this contract.>>

5. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
522-1(1)	CONCRETE SIDEWALK (4" Thick, 3000 p.s.i. Concrete at 28 Days) (Includes the cost of Pedestrian Ramps and Sidewalk Curbs)	S.Y.
522-2	CONCRETE SIDEWALK (6" Thick, 3000 p.s.i. Concrete at 28 Days) (Includes the cost of Pedestrian Ramps and Sidewalk Curbs)	S.Y.

527 DETECTABLE WARNINGS ON WALKING SURFACES (REV. 12-20-16)

- A. Description.

1. Furnish and Install Safety Yellow Colored Detectable Warning devices on newly constructed and/or existing concrete or asphalt walking surfaces (curb ramps, sidewalks, shared-use paths, etc.) constructed in accordance with the FDOT Design Standards Index No. 304 and these specifications, where indicated on the Plans or directed by the Engineer.

- B. Materials.

1. General:

- a. Provide Detectable Warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
- b. Provide only embedded Detectable Warning devices, set in wet concrete, for all construction except where retrofit applications of surface applied detectable warnings have been approved in writing by the Engineer.
- c. Use Detectable Warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic.
- d. Use Detectable Warnings with size and pattern shown in the plans comprised of truncated domes aligned in parallel rows in accordance with the FDOT Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.

- e. Concrete stamping, field-formed materials, or methods or products used to form Detectable Warnings in wet concrete are not permitted

2. Material Properties:

- a. Provide Detectable Warnings that meet the following minimum material property requirements when tested in accordance with the indicated Standard appropriate to the material.

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C 1028	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm ³
Water Absorption*	ASTM D-570	Not to exceed 5%.
Adhesion/Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C
* Applies only to plastic materials.		
** Applies only to surface-applied materials.		

3. Color/Contrast: Use Safety Yellow colored Detectable Warnings on concrete or asphalt walking surfaces. Acceptable Detectable Warnings must maintain a Light Reflectance Value (LRV) CAP Y of 25 – 45, as measured with a spectrophotometer, for a minimum duration of three years.

4. Approved Products List:

- a. Use Detectable Warnings listed on the FDOT Approved Products List (APL) and that have been further evaluated and found acceptable by the Department. At the option of the Contractor, an "or equal" product evaluation request, for an equivalent FDOT APL approved product that meets or exceeds the specification stipulated herein, may be submitted in writing to the Engineer for review and acceptance.
- b. The following products, subject to continued listing on the FDOT APL, have been evaluated by the Department for use on Department projects:

SURFACE APPLIED DETECTABLE WARNING DEVICES		
Manufacturer	Product	APL Number

Engineered Plastics, Inc.	Armor-Tile Surface Applied Inline Dome	527-000-006
TufTile	TufTile Polymer (Surface Applied)	527-000-045
TufTile	TufTile Polymer (Surface Applied) Radius	527-000-045-RW

EMBEDDED DETECTABLE WARNING DEVICES

Manufacturer	Product	APL Number
ADA Solutions, Inc.	Cast-In-Place Composite Tactile	527-000-003
ADA Solutions, Inc.	Replaceable Wet Set Composite	527-000-018
Engineered Plastics, Inc.	Armor-Tile Replaceable Cast in Place	527-000-026
Engineered Plastics, Inc.	Armor-Tile Cast-In-Place Inline Dome Tile	527-000-027
Cape Fear Systems, LLC	AlertCast (Replaceable) Cast-In-Place	527-000-029
Access Products, Inc.	Access Tile Replaceable Cast in Place	527-000-033
StrongGo Industries	TekWay Dome Tile	527-000-035
TufTile, Inc.	TufTile Cast Iron (Wet-set) Replaceable	527-000-044
TufTile	TufTile Polymer (Wet Set) Replaceable	527-000-046
TufTile	TufTile Polymer (Wet Set) Radius	527-000-046-RW

A. Installation Procedures.

1. Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners

B. Method of Measurement.

1. The quantity to be paid for will be the area, in square feet, of Detectable Warnings furnished and installed pursuant to these specifications, measured in place and accepted by the Engineer.

C. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including all labor, surface preparation, materials and incidentals necessary to

complete the work for installation of Detectable Warnings on walking surfaces.

2. <<No separate pay item(s) for Detectable Warning On Walking Surface will be provided under this contract.>>
3. Payment will be made under:

Item No.	Description	Unit
527-2	Detectable Warning On Walking Surface	SF

- 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.
- b. Mowing Schedule
 - 1) Minimum bi-weekly after established, and
 - 2) Immediately prior to final acceptance.

D. 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

570 SODDING

A. Description.

1. Establish a stand of grass within the specified areas, by furnishing and placing sod, and rolling, watering, and maintaining the sodded areas to ensure a healthy stand of grass.

B. Materials. Meet the following requirements:

1. Sod FDOT 981-2
2. Water FDOT Section 983

C. Construction Methods.

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 72 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.

area is determined to be established and satisfactory by the Engineer, whichever is greater.

E. Method of Measurement.

1. The quantities to be paid for will be the area of sodding measured and accepted by the Engineer.
2. 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).

F. Basis of Payment.

1. Prices and payments for Sodding will be full compensation for all work, water, and materials required to perform the work as specified in this Article, the satisfactory disposal of excavated material, and the furnishing and application of the water.
2. The costs for watering, mowing, and maintaining the sod in a moist condition for a period of at least two weeks, shall be included in the Contract unit price for Sodding.
3. <<No separate pay item(s) for Sodding will be provided under this contract.>>
4. Payment will be made under:

570-1-2 Sodding (Pensacola, Bahia or SY
Match existing) (includes watering)

575 RELOCATION OF TREES OR PALMS; AND PROTECTION OF EXISTING LANDSCAPE

A. Relocation of trees or palms

1. General

- a. Work consists of relocating trees and/or palms within the existing right of way, within a one (1) mile radius, in locations indicated in the drawings or as directed by the Engineer. Where drainage work is required, minor adjustments to the system may be necessary to minimize relocations.
- b. The Contractor shall be cognizant of and comply with the Miami-Dade County Ordinance regulating the removal and/or relocation of all trees. Permits required for tree removal and/or relocation shall be the responsibility of the Contractor.

2. Material

- a. Water: provide water by a method approved by the Engineer meeting the requirements of FDOT Section 983.
- b. Backfill Material: the existing material excavated from the planting pit is to be used as backfill.

3. Pruning

a. Trees

- 1) Prior to root pruning, prune tree canopy to ISA Standards and conform to ANSI A300. The extent

of pruning shall be the minimum needed to reduce shock resulting from severing of roots.

- 2) No more than 30 percent of total canopy branches greater than one inch in diameter may be removed. Interior sucker growth and dead wood shall be removed first, followed by selective pruning of branches and limbs. Limbs that run through the tree crown shall be removed before other limbs are removed. Pruning shall not destroy the form of the tree. All cuts shall be made outside of the branch collar.
- 3) Trees shall be root pruned six (6) weeks prior to relocation. No backhoes or trenchers shall be used in the process. Backfill trench within 24 hours after root pruning with coarse sand.
- 4) Where required by the Engineer or the designated County arborist, brace and guy the root pruned tree to support and maintain the tree in a stable vertical position until relocation.

4 Replanting

a. Trees

- 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Trees shall be watered in during the planting process to eliminate air pockets in the backfill.
- 2) Size of the trees will be the trunk diameter measured at breast height (54 inches above grade).
- 3) All trees are to be fertilized at the time of planting with Atlantic Florida East Coast Fertilizer Mixture (No. 5231) 12-06-08 slow-release fertilizer or approved equal. This fertilizer is to be spread evenly over the top of the planting pit after backfilling. The application rate is 2 lbs/tree.

b. Palms

- 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Burlap is to be untied and pulled away from the top of the ball, unless specified in writing by the Engineer. Plants are to be watered-in during the planting process to eliminate all air pockets in the backfill material.
- 2) Size of the palm will be determined by measuring ground level to the topmost portion of the palm.
- 3) All palms are to be fertilized at time of planting with Atlantic Florida East Coast Fertilizer Mixture 08-04-12 slow-release improved palm special fertilizer or equal. This fertilizer is to be spread evenly over the top of the planting pit after backfilling. The application rate of 3 lbs/palm.

5. Mulching:

- a. A planting saucer will be established, the same size as the diameter of the planting pit and the rim shall be no higher than 4 inches. The mulch is to be Forestry Research Products Florimulch (Melaleuca mulch) free of viable seed and burrowing nematodes and certified by the Florida Department of Agriculture, or equal, and is to be spread evenly inside the saucer to a depth of 3 inches.
- b. Remove saucer prior to Project completion or as directed by the Engineer.

6. Staking and Guying:

- a. This work shall be performed in accordance with the standard planting detail for trees and/or palms.
- b. Palms shall be staked using the Arborlock Staking System or equal (with the approval of County representative).
- c. Trees shall be guyed using Arbor Tie (a flat woven polypropylene material with 900 lbs. Break strength) manufactured by Deep Root Partners, L.P., or equal.
- d. Six (6) month after planting, the Contractor shall return to the site and remove all materials used for staking and guying. At the discretion of the Engineer, the period for staking and guying may be extended beyond six (6) months but for no longer than one (1) year.

7. Watering Schedule:

- a. After replanting trees and palms, they are to be watered as follows:
 - 1) for the first 4 weeks 3 times/week
 - 2) for the second 4 weeks 2 times/week
 - 3) for the third 4 weeks 1 time/week
- b. Application Rate:
 - 1) Trees and slender trunk palms 6 gal/watering
 - 2) Moderate and heavy trunk palms 10 gal/watering

8. Guarantee of Relocated Trees and Palms

- a. All trees and palms that are relocated shall be guaranteed for a period of one year after relocation.

B. Protection of Existing Landscaping

1. Description:

- a. Install tree protection barricades when called for in the Contract Documents or by the Engineer to protect existing trees and landscape from damage during project construction. Place barricades, as directed by the Engineer, at the drip line of the landscape foliage or as far from the base of the tree trunk as possible. Barricades shall consist of Heavy-Duty Construction (Orange) Barrier Fence (Minimum 4-feet high) attached to 2-inch by 4-inch by 6-foot long vertical wooden posts per FDOT Index No. 544 except that 2-inch by 4-inch horizontal wooden top bars with a maximum 8-foot spacing between posts shall be used. Barricades shall be able to withstand bumps by heavy

equipment and trucks. Maintain barricades in good condition.

- b. All trees, shrubbery, and landscaping (on the R/W or adjacent property) irreparably damaged or destroyed by the Contractor during construction, as determined by the Engineer, shall be replaced by and at the Contractor's expense. Trees and shrubbery shall be replaced with like-sized plants; except for trees or shrubs removed pursuant to the requirements of the Contract Documents or at the specific direction of the Engineer. Replacement plant size shall be determined by calculating the total diameter at breast height (DBH) of affected trees, palms, and/or shrubbery, or the total averaged height of affected trees, palms, and/or shrubs. All replacement material must be Florida #1 Grade or better.

C. Method of Measurement:

1. The quantity to be paid for relocation of trees or palms will be the quantities measured, completed and accepted by the Engineer, under the items shown in the Contract Document.
2. The quantity to be paid for protection of existing landscape will be the quantity in linear feet of barricade, completed and accepted, measured by the Engineer.

D. Basis of Payment:

1. Price and payment shall be full compensation for all work specified in this Section inclusive of all labor, material, and equipment necessary for the proper relocation of trees or palms and protection of existing landscape as required by the Contract Documents.
2. <<No separate pay item(s) for Relocation of Trees or Palms; and Protection of Existing Landscape will be provided under this contract.>>
3. Payment will be under:

Item No.	Description	Unit
580-327-21R	Relocation of Trees greater than 6" diameter up to 12" diameter	EA
580-327-23R	Relocation of Trees greater than 12" diameter up to 24" diameter	EA
580-327-24R	Relocation of Trees greater than 24" diameter up to 36" diameter	EA
580-327-25R	Relocation of Trees greater than 36" diameter up to 54" diameter	EA
580-327-26R	Relocation of Trees greater than 54" diameter up to 60" diameter	EA
110-21	Tree protection barricades	LF

580 LANDSCAPE INSTALLATION

A. Description.

1. Plant trees and shrubs of the species, size, and quality indicated in the plans.
2. The Engineer reserves the right to adjust the number and location of any of the designated types and species to be used at any of the locations shown, in order to provide for any unanticipated effects which might become apparent after the substantial completion of other phases of the Project, or for other causes.

B. Materials.

1. Plants:

- a. Authority for Nomenclature; Species, etc.: For the designated authority in the identification of all plant material, refer to two publications of L.H. Bailey: "Hortus III" and "Manual of Cultivated Plants," and ensure that all specimens are true to type, name, etc., as described therein. For the standard nomenclature, refer to the publication of the American Joint Committee on Horticultural Nomenclature, "Standardized Plant Names."
 - b. Grade Standards and Conformity with Type and Species: Only use nursery grown plant material except where specified as Collected Material. Use nursery grown plant material that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of the Florida Department of Agriculture's "Grades and Standards for Nursery Plants".
 - 1) Except where a lesser grade might be specifically specified in the plans, ensure that the minimum grade for all trees and shrubs is Florida No. 1. Ensure that all plants are the proper size and grade at the time of delivery to the site, throughout the project construction period and during any designated plant establishment period.
 - 2) Ensure that plant materials are true to type and species and that any plant materials not specifically covered in Florida Department of Agriculture's "Grades and Standards for Nursery Plants" conform in type and species with the standards and designations in general acceptance by Florida nurseries.
 - 3) Ensure that plant materials are shipped with tags stating the botanical and common name of the plant.
 - c. Inspection and Transporting: Move nursery stock in accordance with all Federal and State regulations and accompany each shipment with the required inspection certificates for filing with the Engineer.
2. Water: Water used in landscaping operations may be obtained from any approved source. Ensure that water is free of any substance which might be detrimental to plant growth. The use of effluent water is subject to approval and must meet all Federal, State and Local requirements.

C. Specific Requirements for the Various Plant Designations.

1. Balled-and-Burlapped Plants (B&B), and Wired Balled-and-Burlapped (WB & B):

- a. General: Properly protect the root ball of these plants until planting them. The Engineer may reject any plant which shows evidence of having been mishandled.
 - 1) Set the B&B and WB&B plants then remove the top 2/3 of all wire, rope, and binding surrounding the plant. Remove the burlap from the top 4 inches [100 mm] of the root ball. Do not disturb the root ball in any way. Bare root material is not allowed for substitution.
 - 2) At least 90 days before digging out B & B and WB & B plants, root-prune those 1 1/2 inches [38 mm] or greater in diameter and certify such fact on accompanying invoices.
 - b. Provisions for Wiring: For plants grown in soil of a loose texture, which does not readily adhere to the root system (and especially in the case of large plants or trees), the Engineer may require WB & B plants. For WB & B plants, before removing the plant from the excavated hole, place sound hog wire around the burlapped ball, and loop and tension it until the tightened wire netting substantially packages the burlapped ball such as to prevent disturbing of the loose soil around the roots during handling.
2. Container-Grown Plants (CG): The Engineer will not accept any CG plants with roots which have become pot-bound or for which the top system is too large for the size of the container. Fully cut and open all containers in a manner that will not damage the root system. Do not remove CG plants from the container until immediately before planting to prevent damage to the root system.
3. Collected Plants (Trees and Shrubs) (C): Use C plants which have a root ball according to "Florida Grades and Standards for Nursery Plants". Do not plant any C plant before the Engineer's inspection and acceptance at the planting site.
4. Collected Plants (Herbaceous) (HC): The root mass and vegetative portions of collected herbaceous plants shall be as large as the specified container-grown equivalent. Do not plant any collected plant before inspection and acceptance by the Engineer.
5. Specimen Plants (Special Grade): When Specimen (or Special Grade) plants are required, label them as such on the plant list, and tag the plant to be furnished.
6. Palms: Wrap the roots of all plants of the palm species before transporting, except if they are CG plants and ensure that they have an adequate root ball structure and mass for healthy transplantation as defined in "Florida Grades and Standards for Nursery Plants".
- a. The Engineer will not require burlapping if the palm is carefully dug from marl or heavy soil that adheres to the roots and retains its shape without crumbling. During transporting and after arrival, carefully protect root balls of palms from wind and exposure to the sun. Muck grown palms are not allowed. After delivery to the job site, if not planting the palm within 24 hours, cover the root ball with a moist material. Plant all palms within 48 hours of delivery to the site.

- b. Move sabal and coconut palms in accordance with the "Florida Grades and Standards for Nursery Plants."
 7. Substitution of Container-Grown (CG) Plants: With the Engineer's approval, the Contractor may substitute CG plants for any other root classification types, if he has met all other requirements of the Contract Documents.
- D. Planting Requirements.
1. Layout: Prior to any excavation or planting, mark all planting beds and individual locations of palms, trees, large shrubs and proposed art and architectural structures, as shown in the plans, on the ground with a common bright orange colored spray paint, or with other approved methods, within the project limits. Obtain the Engineer's approval and make necessary utility clearance requests.
 2. Excavation of Plant Holes: Excavate plant holes after an area around the plant three times the size of the root ball has been tilled to a depth of the root ball. Ensure that the plant hole is made in the center of the tilled area only to the depth of the plant root ball.
 - a. Where excess material has been excavated from the plant hole, use the excavated material to backfill to proper level.
 3. Setting of Plants: Center plants in the hole. Lower the plant into the hole so that it rests 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.
 - a. Backfill with native soil, unless otherwise specified on the plans. Firmly rod and water-in the backfill so that no air pockets remain. Apply a sufficient quantity of water immediately upon planting to thoroughly moisten all of the backfilled earth. Keep plants in a moistened condition for the duration of the planting period.
 - b. When so directed, form a water ring 6 inches [150 mm] in width to make a water collecting basin with an inside diameter equal to the diameter of the excavated hole. Maintain the water ring in an acceptable condition.
 4. Special Bed Preparation: Where multiple or mass plantings are to be made in extended bedding areas, and the plans specify Special Bed Preparation, prepare the planting beds as follows:
 - a. Remove all vegetation from within the area of the planting bed and excavate the surface soil to a depth of 6 inches [150 mm]. Backfill the excavated area with peat, sand, finish soil layer material or other material to the elevation of the original surface. Till the entire area to provide a loose, friable mixture to a depth of at least 8 inches [200 mm]. Level the bed only slightly above the adjacent ground level. Then mulch the entire bedding area, in accordance with 580 8.
- E. Staking and Guying.
1. General: When specified in the plans, or as directed by the Engineer, stake plants in accordance with the following.
 - a. Use wide plastic, rubber or other flexible strapping materials to support the tree to stakes or ground anchors that will give as the tree moves in any direction up to 30 degrees. Do not use rope or wire through a hose. Use guy chords, hose or any other thin bracing or anchorage material which has a minimum 12 inches [300 mm] length of high visibility flagging tape secured to guys, midway between the tree and stakes for safety.
 - b. Stake trees larger than 1 inch [25 mm] diameter and smaller than 2 inches [50 mm] diameter with a 2 by 2 inch [50 by 50 mm] stake, set at least 2 feet [0.6 m] in the ground and extending to the crown of the plant. Firmly fasten the plant to the stake with flexible strapping materials as noted above.
 2. Trees of 2 to 3 1/2 inches [50 to 90 mm] Caliper: Stake all trees, other than palm trees, larger than 2 inches [50 mm] caliper and smaller than 3 1/2 inches [90 mm] caliper with two 2 by 4 inch [50 by 100 mm] stakes, 8 feet [2.4 m] long, set 2 feet [0.6 m] in the ground. Place the tree midway between the stakes and hold it firmly in place by flexible strapping materials as noted above.
 3. Large Trees: Guy all trees, other than palm trees, larger than 3 1/2 inches [90 mm] caliper, from at least three points, with flexible strapping materials as noted above.
 - a. Anchor flexible strapping to 2 by 4 by 24 inch [50 by 100 by 600 mm] stakes, driven into the ground such that the top of the stake is at least 3 inches [75 mm] below the finished ground.
 4. Special Requirements for Palm Trees: Brace palms which are to be staked with three 2 by 4 inch [50 by 100 mm] wood braces, toe-nailed to cleats which are securely banded at two points to the palm, at a point one third the height of the trunk. Pad the trunk with five layers of burlap under the cleats. Place braces approximately 120 degrees apart and secure them underground by 2 by 4 by 12 inch [50 by 100 by 300 mm] stake pads.
- F. Tree Protection and Root Barriers.
1. Install tree barricades when called for in the Contract Documents or by the Engineer to protect existing trees from damage during project construction. Place barricades at the drip line of the tree foliage or as far from the base of the tree trunk as possible. Barricades shall be able to withstand bumps by heavy equipment and trucks. Maintain barricades in good condition.
 2. When called for in the Contract Documents, install root barriers or fabrics in accordance with the details shown.
- G. Pruning.
1. Prune all broken or damaged roots and limbs in accordance with established arboriculture practices. When pruning is completed ensure that all remaining wood is alive. Do not reduce the size or quality of the plant below the minimum specified.
- H. Mulching.

1. Uniformly apply mulch material, consisting of wood chips (no Cypress Mulch is allowed), pine straw, compost, or other suitable material approved by the Engineer, to a minimum loose thickness of 3 inches [75 mm] over the entire area of the backfilled hole or bed within two days after the planting. Maintain the mulch continuously in place until the time of final inspection.

I. Disposal of Surplus Materials and Debris.

1. Dispose of surplus excavated material from plant holes by scattering or otherwise as might be directed so that it is not readily visible or conspicuous to the passing motorist or pedestrian. Remove all debris and other objectionable material from the site and clean up the entire area and leave it in neat condition.

J. Contractor's Responsibility for Condition of the Plantings.

1. Ensure that the plants are kept watered, that the staking and guying is kept adjusted as necessary, that all planting areas and beds are kept free of weeds and undesirable plant growth and that the plants are maintained so that they are healthy, vigorous, and undamaged at the time of acceptance.

K. Plant Establishment Period.

1. If the Contract Documents designate a Plant Establishment Period, assume responsibility for the proper maintenance, survival and condition of all landscape items during such period at no additional cost.

L. Method of Measurement.

1. The quantities to be paid for will be the items shown in the plans, completed and accepted.

M. Basis of Payment.

1. Separate pay item(s) for Landscape Installation will be provided under this contract
2. Prices and payments will be full compensation for all work specified in this Article. (See Landscaping Plan pay items)

DIVISION 700 TRAFFIC CONTROL

710 PAINTED PAVEMENT MARKINGS (REV. 05-02-12)

A. Description.

1. Apply Painted Traffic Stripes and Raised Retro-Reflective Pavement Markers (RPMs), in accordance with the Contract Documents.

B. Materials.

1. Use only materials listed on the FDOT Qualified Products List (QPL) meeting the following requirements:

Raised Retro-reflective Pavement Markers and Bituminous Adhesive	FDOT Section 970
Standard Waterborne Fast Dry Traffic Paint	FDOT 971-1 and 971-3
Fast Dry Solvent Paint	FDOT 971-1 and 971-4
Glass Spheres	FDOT 971-1 and 971-2

C. Equipment.

1. Use equipment that will produce continuous uniform dimensions of pavement markings of varying widths and meet the following requirements.
 - a. Capable of travelling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of paint 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 stripe by an automatic sphere dispenser attached to the striping machine such that the glass spheres are dispensed closely behind the installed line. Use a glass spheres dispenser equipped with an automatic cut-off control that is synchronized with the cut-off of the traffic paint and applies the glass spheres in a manner such that the spheres appear uniform on the entire pavement markings surface with 50 to 60 percent embedment.
 - c. Capable of spraying the paint to the required thickness and width without thinning of the paint.
2. Paint tank must be equipped with nozzles having cut-off valves, which will apply broken or skip lines automatically.

D. Application:

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. Refer to Subarticle J below for Removal of Existing Painted Traffic 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 and will not be measured separately for payment. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in general costs for Maintenance of Traffic.
 - b. Before applying traffic stripes and markings, remove any material that would adversely affect the bond of the traffic stripes by a method approved by Engineer and consistent with manufacturer's specifications.
 - c. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.
 - d. Apply traffic stripes and markings only to dry surfaces, and when the ambient air and surface temperature is at least 40°F and rising. Do not apply traffic stripes and markings when winds are sufficient to cause spray dust.
 - e. Apply traffic stripes and markings, having well defined edges, over existing pavement markings such that not more than 2 inches on either end and not more than 1 inch on either side is visible.
 - f. Mix the paint thoroughly prior to pouring into the painting machine. Apply paint to the pavement by spray or other means approved by Engineer.
 - g. Conduct field testing in accordance with Florida Method (FM) 5-541. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.
 - h. Apply all pavement markings prior to opening the road to traffic.
 - i. Apply all retro-reflective pavement markers per the requirements of Article 706 (Raised Retro-Reflective Pavement Markers and Bituminous Adhesive).
2. Painted Pavement Markings (Final Surface), when included as a single lump sum item in the Contract having and awarded Contract price, will include two applications of standard painted pavement markings and one application of retro-reflective pavement markers applied to the final surface. Wait at least 14 days after the first application to apply the second application of Painted Pavement Markings (Final Surface). Second application must be applied prior to final acceptance of the project.
 3. Thickness: Apply paint to attain a minimum wet film thickness in accordance with the manufacturer's recommendations.
 4. Retroreflectivity:
 - a. Apply white and yellow standard pavement markings that will attain an initial retroreflectance of not less than 300 mcd/lx·m² and not less than 250 mcd/lx·m², respectively. Measure, record and certify on a

Department approved form and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.

- b. The Department reserves the right to test the markings within 3 days of receipt of the Contractor's certification. Failure to afford the Department opportunity to test the markings will result in non-payment. The test readings should be representative of the Contractor's striping performance. If the retroreflectivity values measure below values shown above, reapply the pavement markings at no additional cost to the Department.
 - c. For standard pavement markings, ensure that the minimum retroreflectance of white and yellow pavement markings are not less than 150 mcd/lx m². If the retroreflectivity values fall below the 150 mcd/lx m² value within six months of initial application, the striping will be reapplied at the Contractor's expense.
5. Color: Use paint material that meets the requirements of FDOT 971-1.
6. Glass Spheres: Apply glass spheres on all pavement markings immediately and uniformly following the paint application. The rate of application shall be based on the manufacturer's recommendation.
- E. Tolerances in Dimensions and in Alignment.
1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.
 2. Dimensions:
 - a. Longitudinal Lines: Apply painted 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 paint 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.
 3. Alignment:
 - a. Apply painted stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.
 - b. Apply painted stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree.
 - c. Apply painted 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.

4. Correction Rates: 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.

F. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of the materials. Furnish Engineer with the manufacturer's name and batch numbers of the materials and glass spheres to be used. Ensure that the approved batch numbers appear on the materials and glass spheres packages.

G. Protection of Newly Painted Pavement 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.

H. Corrections for Deficiencies to Applied Painted Pavement Markings.

1. Reapply a 1.0 mile section centered around any deficiency, at no additional cost to the Department.

I. Submittals.

1. Submittal Instructions: Prepare a certification of quantities, using the Department's current approved form, 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.
2. Contractor's Certification of Quantities: Request payment by providing to Engineer a monthly certification of quantities with each payment requisition or as directed by Engineer, based on the amount of work done or completed. Ensure the certification of quantities include the following:
 - a. Contract Number, Certification Number, Certification Date and the period that the certification represents.
 - b. 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.

J. Removal of Existing Painted Traffic Stripes and Markings.

1. Removal Requirements.
 - a. Remove existing pavement markings by water blasting, sandblasting, or other method approved by the Engineer. Do not use chemicals for the removal of painted traffic stripes and/or markings. Provide positive means to control dust and accumulation of

debris from the removal operations. Remove all pavement marking materials from the pavement surface. Remove accumulated piles of any debris as a result of the removal operation from the right of way and dispose of in accordance with applicable Federal, State, and Local regulations, at no additional cost to the Department.

2. Protection of Existing Pavement Surfaces.
3. Conduct removal operations in a manner that will not damage existing pavement surfaces (concrete or asphalt) or damage pavement joint materials. Repair, to the satisfaction of the Engineer, any damage as a result of the removal operations.
4. Do not paint over existing pavement markings to blackout, hide, or disguise markings.

K. Method of Measurement.

1. The quantities to be paid for under this Article will be as follows:
 - a. Length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.
 - b. Total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.
 - c. Net length, in feet, of each of all other types of lines and stripes, authorized and acceptably applied.
 - d. Number of pavement messages, symbols and directional arrows, authorized and acceptably applied. For bicycle marking, the bicycle symbol and the arrow will be paid as one unit.
 - e. Lump Sum, as specified under Final Surface above, when the item for Painted Pavement Markings (Final Surface) is provided in the Contract with an awarded Contract Unit Price.
2. The net length, in feet of dotted and skip stripes other than 10-30 and 3-9 will be measured as the distance from the beginning of the first painted stripe to the end of the last painted stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 (Determination of Pay Areas) of the General Requirements to these Specifications. Unpainted intervals will not be included in pay quantity.
3. The gross-mile measurement of 10-30 and 3-9 Skip Traffic Stripes will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and will include the unpainted intervals. It will not include any lengths of unpainted intervals which, by design or by other intent of the Department, are greater than 30 feet. Final measurement will be determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 of the General Requirements to these Specifications.
4. Removal:
 - a. The area, in square feet, for removal of existing markings acceptably removed.

- b. Payment for removal of conflicting markings will be in accordance with 102-E.8. Payment for removal of non-conflicting markings will be paid separately.
- c. The gross mile measurement will be taken as the distance from the beginning of the painted line to the end of the painted line and will include the unmarked gaps for skip and dotted lines.
- d. The gross mile measurement will not include designated unmarked lengths at intersections, turn lanes, etc.

L. Basis of Payment.

1. General:

- a. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. There will be no separate payment for removal of conflicting markings.
- b. Final payment will be withheld until all deficiencies are corrected.

2. Lump Sum Payment: When the item for Painted Pavement Markings (Final Surface) is included in the proposal, prices and payments will be full compensation for two applications of all painted pavement markings applied to the final surface, and one application of retro-reflective pavement markers applied to the final surface in accordance Article 706 of these Specifications.

3. <<No separate pay item(s) Painted Pavement will be provided under this contract.>>

4. 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).

Item	Description	Unit
710-11-1	Removal of Pavement Messages (Per word, Paint or Thermoplastic)	EA
710-11-2	Removal Of Existing Directional Arrows (Paint or Thermoplastic)	EA
710-11-3	Removal of Existing School Crossing Pavement Messages	EA
710-11-4	Removal of Existing Rail Road Crossing Messages	EA
710-72	Removal of Existing Pavement marking (Paint or Thermoplastic)	SF
710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	NM
710-11-121	Painted Pavement Markings, Standard, White, Solid, 6"	LF
710-11-102	Painted Pavement Markings, Standard, White, Solid, 8"	LF

710-11-123	Painted Pavement Markings, Standard, White, Solid, 12"	LF
710-11-124	Painted Pavement Markings, Standard, White, Solid, 18"	LF
710-11-125	Painted Pavement Markings, Standard, White, Solid, 24"	LF
710-11-131	Painted Pavement Markings, Standard, White, Skip, 6", 10-30 Or 3-9skip	GM
710-11-133	Painted Pavement Marking, Standard, White, 12" Wide, 3'-9' Skip And Approach To Toll Plaza	GM
710-11-141	Painted Pavement Markings (Standard) (White) (Skip) (6")	LF
710-11-151	Painted Pavement Markings, Standard, White, Dotted/Guideline/6-10 Gap Extension, 6"	LF
710-11-160	Painted Pavement Markings, Standard, White, Message	EA
710-11-170	Painted Pavement Markings, Standard, White, Arrows	EA
710-11-180	Painted Pavement Markings, Standard, White, Yield line	LF
710-11-190	Painted Pavement Markings, Standard, White, Island Nose	SF
710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	NM
710-11-221	Painted Pavement Markings, Standard, Yellow, Solid, 6"	LF
710-11-222	Painted Pavement Markings, Standard, Yellow, Solid, 8"	LF
710-11-223	Painted Pavement Markings, Standard, Yellow, Solid, 12"	LF
710-11-224	Painted Pavement Markings, Standard, Yellow, Solid, 18"	LF
710-11-225	Painted Pavement Markings, Standard, Yellow, Solid, 24"	LF
710-11-231	Painted Pavement Markings, Standard, Yellow, Skip, 6"	GM
710-11-241	Painted Pavement Markings, Standard, Yellow, Skip, 6"	LF
710-11-251	Painted Pavement Markings, Standard, Yellow, Dotted/Guideline/6-10 Gap Extension, 6"	LF
710-11-260	Painted Pavement Markings, Standard, Yellow, Message Nose	EA
710-11-290	Painted Pavement Markings, Standard, Yellow, Island Nose	SF
710-11-421	Painted Pavement Markings, Standard, Blue, Solid, 6"	LF
710-11-460	Painted Pavement Markings, Standard, Blue, Message	EA

710-90 Painted Pavement Markings, Final Surface LS

711 THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS (REV. 05-02-12)

A. Description.

1. Apply new thermoplastic traffic stripes and markings, or refurbish existing thermoplastic traffic stripes and markings, in accordance with the Contract Documents.

B. Materials.

1. 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:

Initial or Recapped Stripes FDOT 971-1 and 971-5 and Markings:

Refurbishing Existing Stripes FDOT 971-1 and 971-5 and Markings:

Preformed Stripes and Markings: FDOT 971-1 and 971-6

2. 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.

3. Sand: Use materials meeting the requirements of FDOT 971-5.4.

C. Equipment.

- 1 Use equipment capable of providing continuous uniform heating of striping materials to temperatures exceeding 390°F, mixing and agitation of the material reservoir to provide a homogeneous mixture without segregation. Use equipment that will maintain the striping 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 width traffic stripes and which meets the following requirements:

- a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of striping 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 stripe by a double drop application for initial traffic striping and marking and a single drop application for recapping and refurbishing. The bead dispenser for the first bead drop shall be attached to the striping machine in such a manner that the beads are dispensed closely behind with the thermoplastic material. The second bead dispenser bead shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first bead drop application. Glass spheres dispensers shall be equipped with an automatic cut-off control that

is synchronized with the cut-off of the thermoplastic material and applies the glass spheres in a manner such that the spheres appear uniform on the entire traffic stripes and markings surface with, 50 to 60 percent embedment.

- c. Equipped with a special kettle for uniformly heating and melting the striping 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.
- d. Meet the requirements of the National Fire Protection Association, state, and local authorities.

D. Application.

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 50°F 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.

E. Tolerances in Dimensions and in Alignment.

1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.

2. 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.

3. 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.

4. 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.

F. 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.

G. 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.

H. Observation Period.

1. 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.
2. 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.
3. Replace, at no additional expense to the Department, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

I. Corrections for Deficiencies.

1. 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.
2. If recapping will result in a thickness exceeding the maximum allowed, the traffic stripes or markings must be removed and reapplied.

J. Submittals.

1. **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.
2. **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:

a. Contract Number, Certification Number, Certification Date and the period that the certification represents.	711-11-224	Thermoplastic (Yellow) Solid 18"	LF
	711-11-231	Thermoplastic (Std)(Yellow)(Skip)6"	GM
	711-16-241	Thermoplastic (Yellow)(Skip) 6"	LF
	711-11-251	Thermoplastic (Yellow) Dotted/Guideline 6"	LF
b. 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.	711-3-2	Pavement Messages [Rr] (Thermoplastic)]	EA
	711-3-3	Pavement Messages (Thermoplastic) School	EA
	711-31-41	Skip Traffic Stripe (4" White)(Thermoplastic)	GM
	711-32-41	Skip Traffic Stripe (4" Yellow, Thermoplastic)	GM
K. Method of Measurement.	711-33-541	Skip Traffic Stripe (4" White, Thermoplastic) 6'-10'	LF
	711-34-641	Skip Traffic Stripe (4" Yellow, Thermoplastic) 6'-10' Skip	LF
	711-35-41	Solid Traffic Stripe (4" White)(Thermoplastic)	LF
	711-36-41	Solid Traffic Stripe (4" Yellow)(Thermoplastic)	LF
1 Quantities to be measured by Engineer for payment under this Article will be as follows:	711-14-160	Thermoplastic, Preformed, White, Message	EA
	711-5-541	Guidelines [(4" White) (Thermoplastic)]	LF
	711-5-641	Guidelines 4' Yellow (Thermoplastic)	LF
	711-72	Removal Of Existing Pavement Markings	SF
a. The length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.	715-5-30	Luminaire & Bracket Arm, Install	EA
	715-5-50	Luminaire & Bracket Arm, Remove	EA
	715-7-11G	Load Center, F&I, Secondary Voltage	EA
	715-7-12	Load Center, F&I, Primary Voltage	EA
b. The total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance, for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.	715-7-21	Load Center, Rework, Secondary Voltage	EA
	715-7-31	Load Center, Relocate, Secondary Voltage	EA
	715-7-32	Load Center, Relocate, Secondary Voltage	EA
	715-7-41	Load Center, Remove, Secondary Voltage	EA
c. The net length, in feet, of all other types of lines and stripes, authorized and acceptably applied.	715-7-42	Load Center, Remove, Primary Voltage	EA
	715-10-2D	Light Pole Foundation, F&I	EA
	715-10-3	Light Pole Foundation, Repair	EA
	715-10-4A	Light Pole Foundation, Straighten Existing Foundation	EA
d. The area, in square feet, of Removal of Existing Pavement Markings, acceptably removed. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in Maintenance of Traffic.	715-10-5B	Light Pole Foundation, Remove	EA
	715-11-111D	Luminaire, Furnish & Install, Roadway, Cobra head (480V)(400 Watts)	EA
	715-11-113	Luminaire, F&I, Roadway, Pole Top	EA
e. The number of pavement messages, symbols and directional arrows, authorized and acceptably applied.			
L. Basis of Payment			
1 Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.			
2. <<No separate pay item(s) for Thermoplastic Traffic Stripes and Markings will be provided under this contract.>>			
3. 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).			
Item	Description	Unit	
711-16-101	Thermoplastic (White) Solid 6"	LF	
711-16-102	Thermoplastic (White) Solid 8"	LF	
711-11-123	Thermoplastic (White) Solid 12"	LF	
711-11-124	Thermoplastic (White) Solid 18"	LF	
711-11-125	Thermoplastic (White) Solid 24"	LF	
711-11-131	Thermoplastic (Std)(White)(Skip)6"	GM	
711-11-141	Thermoplastic (White)(Skip) 6"	LF	
711-11-151	Thermoplastic (White) Dotted/Guideline 6"	LF	
711-11-160	Thermoplastic (White) Message	EA	
711-11-170	Thermoplastic (White) Arrows	EA	
711-16-201	Thermoplastic (Yellow) Solid 6"	LF	

715-11-115	Luminaire, F&I, Roadway, Wall Mount	EA
715-11-116A	Luminaire, F&I, Roadway, Pendant	EA
715-11-125A	Luminaire, F&I, Under Deck, Wall Mount	EA
715-11-400	Luminaire, Relocate	EA
715-11-500	Luminaire, Remove	EA
715-11-600	Luminaire, Repair & Reinstall	EA
715-16-5	Lighting-Ballast, Replace	EA
715-17-52	Lighting-Lamp, Replace, Mercury Vapor	EA
715-17-53	Lighting-Lamp, Replace, Metal Halide	EA
715-17-55	Lighting-Lamp, Replace, Low Pressure Sodium	EA

City Commission Agenda Item Report

Meeting Date: September 17, 2024

Submitted by: Aurelio Carmenates

Submitting Department: Public Works & Engineering

Item Type: Resolution

Agenda Section:

Subject:

A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF SOUTH MIAMI, FLORIDA, SELECTING AND AWARDED A CONTRACT FOR CONSTRUCTION TO V ENGINEERING CORP. FOR THE CONSTRUCTION OF TRAFFIC CIRCLES AT SW 76TH TERRACE AND SW 61ST AVENUE AND SW 77TH TERRACE AND SW 58TH AVENUE IN AN AMOUNT NOT TO EXCEED \$828,328.74; PROVIDING FOR AUTHORIZATION; PROVIDING FOR IMPLEMENTATION, CORRECTIONS, AND AN EFFECTIVE DATE. 3/5 (CITY MANAGER-PUBLIC WORKS & ENGINEERING DEPT.)

Suggested Action:

Attachments:

[Memo-2Traffic_Circl_-V_Eng9-5-24.docx](#)

[49L647502-Resolution Selecting V Engineering Corp for Traffic Circles at SW 76th Terrace and SW 77th Terrace.DOCX](#)

[Exhibit A - Construction Contract - V Engineering Corp. - Traffic Circles at SW 76th Terrace.DOCX](#)

[FINAL ITB Various Traffic Circles CA 5.6.24.pdf](#)

[V-Engineering Bidding Document.PDF](#)

[Bid Tabulation ITB PW2024-06 6.14.24.pdf](#)

[Proposal Summary ITB PW2024-06 6.14.24.pdf](#)

[Demand Star ITB PW2024-06 6.14.24.pdf](#)

[Sun Biz V-Engineering 6.14.24.pdf](#)



**CITY OF SOUTH MIAMI
OFFICE OF THE CITY MANAGER
INTER-OFFICE MEMORANDUM**

TO: The Honorable Mayor, Vice Mayor, and Members of the City Commission

FROM: Genaro “Chip” Iglesias, City Manager 

DATE: September 17, 2024

SUBJECT: Construction of two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue.

RECOMMENDATION: Approval of Construction of two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue.

BACKGROUND: The City desires to construct two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue.

The City developed a design, prepared construction documents and obtained all the necessary permits for the construction of two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue. The project consists of furnishing all materials, labor, and equipment necessary for the construction of two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue.

**PROCUREMENT
PROCESS:**

Through the Procurement Division, the City’s Public Works & Engineering issued a solicitation on May 16, 2024, for the Construction of two (2) new traffic circles at the intersections of SW 76th Street and SW 61st Avenue and SW 77th Terrace and SW 58th Avenue.

On June 14, 2024, the City received a total of five (5) proposals in response to a solicitation. Pursuant to review, it was determined that V-Engineering and Consulting Corp., is the most cost effective and responsible bidder for this proposal. Below are the proposals received:

Contractor	Bid Price
V Engineering	\$828,328.74
Maggolc	\$847,605.10
Quality Paving	\$903,854.00
Hartec	\$984,746.29
Homestead Concrete	\$1,119,596.13



**CITY OF SOUTH MIAMI
OFFICE OF THE CITY MANAGER
INTER-OFFICE MEMORANDUM**

VENDOR & EXPENSE: V Engineering and Consulting Corp.

Contract amount shall not exceed \$828,328.74.

FUNDING: The expenditure shall be charged \$828,328.74 to the People's Transportation Fund account number 124-1730-541-6490 subject to the approval of the FY25 budget or other funding source as determined by the City Manager to be in the best interest of the City.

ATTACHMENTS: Resolution
ITB PW2024-06 Construction Documents with Exhibits
V Engineering, Bid Documents
Bid Tabulation ITB PW2024-06
Proposal Summary ITB PW2024-06
Daily Business Review Advertisement
Sun Biz