Solicitation 12218-693

Annual Sidewalk, Asphalt, and Paver Emergency Repair (P12458)

Bid Designation: Public

CITY OF FORT LAUDERDALE

City of Fort Lauderdale

Bid 12218-693
Annual Sidewalk, Asphalt, and Paver Emergency Repair (P12458)

Bid Number	12218-693
Bid Title	Annual Sidewalk, Asphalt, and Paver Emergency Repair (P12458)
Bid Start Date	Dec 7, 2018 3:55:04 PM EST
Bid End Date	Jan 8, 2019 2:00:00 PM EST
Question & Answer End Date	Dec 31, 2018 5:00:00 PM EST
Bid Contact	Maureen Lewis, MBA, CPPB Procurement Specialist II Finance 954-**828**-5239 maureenl@fortlauderdale.gov
Contract Duration	**2 years**
Contract Renewal	2 annual renewals
Prices Good for	**120 days**

Bid Comments

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction services in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

Sealed bids will be received electronically until 2:00 P.M., local time, on TUESDAY, JANUARY 8, 2019, and opened immediately thereafter in the 5th Floor Conference Room, City Hall, 100 North Andrews Avenue, Fort Lauderdale, Florida, 33301, for BID NO., 12218-693, PROJECT NO., 12458, ANNUAL SIDEWALK, ASPHALT, AND PAVER EMERGENCY REPAIR.
This Project does not have any drawings.

This Project is located City-wide in the City of Fort Lauderdale. It is an annual contract without a fixed volume of work. Work will be based on the City's desire to perform work on an as-needed basis. Work in the first year will include, but is not limited to, installation of 6-inches thick concrete sidewalk, various curbs, brick pavers, limerock base of various depths, type S-3 asphaltic concrete, thermoplastic pavement marking, ADA concrete ramps, removal of asphalt, tree roots and other items quantified in the proposal pages of this contract.

NOTE: Payment on this contract will be made by Visa or MasterCard.

Licensing Requirements: Possession of a State Certified General Contractor license is required for this Project.

Pre-Bid Meeting/Site visit: There will not be a pre-bid meeting or site visit for this Invitation to Bid.

It will be the sole responsibility of the bidder to ensure that his bid is submitted prior to the bid opening date and time listed. PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM

Bid Security : A certified check, cashier's check, bank officer's check or bid bond for FIVE percent (5%) of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each proposal.

Bid Bonds:

Bidders can submit bid bonds for projects four different ways.

1) BidSync allows bidders to submit bid bonds electronically directly through their system using Surety 2000. For more information on this feature and to access it, contact BIDSYNC customer care department.

2) Bidders may upload their original executed bid bond on BIDSYNC to accompany their bids with the electronic proposal, and deliver the original, signed and sealed hard copy within five (5) business days after bid opening, with the company name, bid number and title clearly indicated.

3) Bidders can hand deliver their bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.

4) Bidders can mail their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.

Certified Checks, Cashier's Checks and Bank Drafts
These cannot be submitted via BIDSYNC, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that his bid bond or other bid security is received by the Procurement Services Division before time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Question/Answer feature provided by BIDSYNC at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. (See addendum section of BIDSYNC Site). Contractors please note: No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Contractor has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – http://www.fortlauderdale.gov/departments/finance/procurement-services. For general inquiries, please call (954) 828-5933.

Item Response Form

Item	**12218-693--01-01 -** BASE BID TOTAL: Mobilization
Lot Description	BASE BID TOTAL
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Mobilization, Transportation, Demobilization, Insurance, Bond cost, Project signage & other fixed costs for projects with written work request

Item	**12218-693--01-02 -** BASE BID TOTAL: Paving
Lot Description	BASE BID TOTAL
Quantity	**1 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials and equipment to install Florida Department of Transportation Type III asphaltic concrete surface (at one inch depth) using not more than 25% by weight of total aggregates of reclaimed asphalt on existing paved and newly-constructed streets as specified herein, including cut-backs where necessary. The price for this item is subjected to adjust semi-annually as described in special conditions section. The price for this item is subjected to adjust semi-annually as described in special conditions section.

Item	**12218-693--01-03 -** BASE BID TOTAL: Paving
Lot Description	BASE BID TOTAL
Quantity	**1 ton**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials and equipment to install Type S-3 asphaltic concrete leveling course (as determined by the engineering inspector) using not more than 25% by weight of total aggregates of reclaimed asphalt. The price for this item is subjected to adjust semiannually as described in special conditions section. This item also includes maintenance of traffic preparation, routing, and setup.

Item	**12218-693--01-04 -** BASE BID TOTAL: Paving
Lot Description	BASE BID TOTAL
Quantity	**1 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials and equipment to install Florida Department of Transportation SP 9.5 Superpave Asphaltic Concrete including cut-backs where necessary. The price for this item is subjected to adjust semi-annually as described in special conditions section. Maintenance of traffic preparation, routing, and setup will be paid for under item 1

Item	**12218-693--01-05 -** BASE BID TOTAL: Stamped Asphalt Pavement
Lot Description	BASE BID TOTAL

Quantity **1 square yard**

Unit Price

Delivery Location **City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials labor and equipment to construct stamped asphalt pavement where required. Color and design specifications to be determined by the City.

Item **12218-693--01-06 -** BASE BID TOTAL: Tack Coat

Lot Description BASE BID TOTAL

Quantity **1 gallon**

Unit Price

Delivery Location **City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to apply tack coat as described in special conditions section.

Item **12218-693--01-07 -** BASE BID TOTAL: Prime Coat

Lot Description BASE BID TOTAL

Quantity **1 gallon**

Unit Price

Delivery Location **City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to apply prime coat as described in special conditions section, including sanding

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Item **12218-693--01-08 -** BASE BID TOTAL: Milling

Lot Description BASE BID TOTAL

Quantity **1 square yard**

Unit Price

Delivery Location **City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to mill and dispose of existing asphalt pavement to a depth of one inch

Item	**12218-693--01-09 -** BASE BID TOTAL: Milling
Lot Description	BASE BID TOTAL
Quantity	**1 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to mill and dispose of existing asphalt pavement to a depth of two inches

Item	**12218-693--01-10 -** BASE BID TOTAL: Paver bricks
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor, and equipment to install new 3-1/8-inch thick concrete pavers of various shapes over sand-leveling course, as well as reconstruction of base, as shown on pages detail specifications. This item also includes clearing, grubbing, removal, and proper disposal of existing materials. Locking sand shall be utilized between pavers

Item	**12218-693--01-11 -** BASE BID TOTAL: Paver bricks
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor, and equipment to install new 2-3/8-inch thick concrete pavers of various shapes over sand-leveling course, as well as reconstruction of base as shown on pages detail specifications. This item also includes clearing, grubbing, removal, and proper disposal of existing materials. Locking sand shall be utilized between pavers

Item	**12218-693--01-12 -** BASE BID TOTAL: Clay bricks
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications

See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor, and equipment to install new 2-1/4 inch x 4-inchx 8-inch solid hard-burned, clay brick pavers over sand leveling coarse, as well as reconstruction of base, as shown on detail specifications. This item includes clearing, grubbing, removal, and disposal of existing materials. Locking sand shall be utilized between pavers

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Item **12218-693--01-13 - BASE BID TOTAL: Paver bricks**
Lot Description BASE BID TOTAL
Quantity **1 square foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor, and equipment to remove existing paver bricks of various shape and thickness and replace same paver bricks, and any additional similar paver bricks as needed to properly complete repair over sand-leveling course. This item includes any sub-base repair, up to 12 of compacted limerock, and sand as required. Locking sand shall be utilized between pavers

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Item **12218-693--01-14 - BASE BID TOTAL: Clay bricks**
Lot Description BASE BID TOTAL
Quantity **1 square foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor, and equipment to remove existing solid clay blocks of various shape and thickness and replace same solid clay blocks, and any additional similar solid clay blocks as needed to properly complete repair over sand-leveling course. This item includes any sub-base repair, up to 12 of compacted limerock and sand as required. Locking sand shall be utilized between pavers

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Item **12218-693--01-15 -** BASE BID TOTAL: Color concrete sidewalk
Lot Description BASE BID TOTAL
Quantity **1 square foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials labor and equipment to construct 6-inch thick concrete un-reinforced sidewalk (various colors). This includes clearing and grubbing, removal and disposal of existing sidewalk, reconstruction of existing base rock and compaction where

required. Concrete shall contain the proper proportion of CHROMIX admixture for color-conditioned concrete and/or with decorative brick chips/seashells or other exposed aggregate to match existing/surrounding walkway materials. Concrete color and design specifications of the concrete to be determined by theProject Manager. Sandblasting and/or pressure cleaning are included in this item. See detail C2.1.

Item **12218-693--01-16 -** BASE BID TOTAL: Pavement marking and signage
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install new 6-inch single yellow thermoplastic. This item includes temporary painting.

Item **12218-693--01-17 -** BASE BID TOTAL: Pavement marking and signage
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install new 6-inch single white thermoplastic. This item includes temporary painting.

Item **12218-693--01-18 -** BASE BID TOTAL: Pavement marking and signage
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install new 12-inch single white thermoplastic. This item includes temporary painting.

Item **12218-693--01-19 -** BASE BID TOTAL: Pavement marking and signage
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install new 24-inch stop bar white thermoplastic. This item includes temporary painting.

Item **12218-693--01-20 -** BASE BID TOTAL: Pavement marking and signage
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install various colors and blue R.P.M. s at fire hydrants where streets are overlaid per FDOT Standard Specification for Road and Bridge Construction 2010, Section 706.

Item **12218-693--01-21 - BASE BID TOTAL: Pavement marking and signage**
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install Thermoplastic Symbols and Words per FDOT Index No.17346, including temporary paint

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Item **12218-693--01-22 -** BASE BID TOTAL: ADA/Wheelchair Access Ramps
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct concrete ADA/wheelchair access ramps, as well as reconstruction of base where required, to include clearing and grubbing. Concrete slab shall have 6-inches minimum thickness per detailed specifications. All ramps shall have detectable warning surface truncated dome epoxy-type installation Provide Armor Tile - Cast In Place or approved equal detectable warning surface on each ramp location also per detailed specifications.

Item **12218-693--01-23 -** BASE BID TOTAL: Curbs
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Type D curb, Drop curb, Type A median curb, Valley Gutter curb, and Type F curb; reconstruction of base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-24 - BASE BID TOTAL: Type D curb**
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Type D curb; reconstruction and addition of limerock base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-25 - BASE BID TOTAL: Drop curb**
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Drop curb; reconstruction and addition of limerock base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-26 - BASE BID TOTAL: Type A median curb**
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications

See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Type A median curb; reconstruction and addition of limerock base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-27 -** BASE BID TOTAL: Valley gutter
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Valley gutter; reconstruction and addition of limerock base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-28 - BASE BID TOTAL: Type F curb**
Lot Description BASE BID TOTAL
Quantity **1 linear foot**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to construct standard Type F curb; reconstruction and addition of limerock base where required. This item also includes clearing and grubbing, removal and proper disposal of existing curb. See detailed specifications.

Item **12218-693--01-29 -** BASE BID TOTAL: Limerock Base
Lot Description BASE BID TOTAL
Quantity **1 square yard**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to install Furnish all materials, 12-inch thick compacted limerock base in 2 - 6 inch lifts

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Item **12218-693--01-30 -** BASE BID TOTAL: Clearing and grubbing

Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment for clearing and grubbing

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Item	**12218-693--01-31 -** BASE BID TOTAL: Sod
Lot Description	BASE BID TOTAL
Quantity	**1 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to lay Bahia sod authorized by the City, including clear and grubbing, and all other appurtenances.

Item	**12218-693--01-32 -** BASE BID TOTAL: Sod
Lot Description	BASE BID TOTAL
Quantity	**1 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to lay St. Augustine Floratam sod authorized by the City, including clear and grubbing, and all other appurtenances.

Item	**12218-693--01-33 - BASE BID TOTAL: Remove existing temporary material and base pave flush 4-inch, 5-inch, or 6-inch**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 4-inch, 5-inch, or 6-inch depth asphalt (1 to 100 square feet)

Item	**12218-693--01-34 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 4-inch, 5-inch, or 6-inch**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 4-inch, 5-inch or 6-inch depth asphalt (101 to 300 square feet)

Item	**12218-693--01-35 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 4-inch, 5-inch, or 6-inch**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 4-inch, 5-inch or 6-inch depth asphalt (301 to 500 square feet)

Item	**12218-693--01-36 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 4-inch, 5-inch, or 6-inc**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 4-inch, 5-inch, or 6-inch depth asphalt (501 to 750 square feet)

Item	**12218-693--01-37 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 4-inch, 5-inch, or 6-inc**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 4-inch, 5-inch, or 6-inch depth asphalt (751 to 1000 square feet)

Item	**12218-693--01-38 -** BASE BID TOTAL: Additional asphalt replacement one (1)**-inch depth**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment for additional asphalt replacement one (1)-inch depth

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Item	**12218-693--01-39 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 7-inch, 8-inch, or 9-inch**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 7-inch, 8-inch, or 9-inch depth asphalt (1 to 100 square feet)

Item	**12218-693--01-40 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 7-inch, 8-inch, or 9-inc**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications

See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 7-inch, 8-inch, or 9-inch depth asphalt (101 to 300 square feet)

Item	**12218-693--01-41 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 7-inch, 8-inch, or 9-inc**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 7-inch, 8-inch, or 9-inch depth asphalt (301 to 500 square feet)

Item	**12218-693--01-42 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 7-inch, 8-inch, or 9-inc**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 7-inch, 8-inch, or 9-inch depth asphalt (501 to 750 square feet)

Item	**12218-693--01-43 -** BASE BID TOTAL: Remove existing temporary material and base pave **flush 7-inch, 8-inch, or 9-inch**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and base pave flush 7-inch, 8-inch, or 9-inch depth asphalt (751 to 1000 square feet)

Item	**12218-693--01-44 -** BASE BID TOTAL: Grind and cap minimum 1.5**-inch depth C2-pg 64-10 asphalt (1 to 300 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 1.5-inch depth C2-pg 64-10 asphalt (1 to 300 square feet)

Item	**12218-693--01-45 -** BASE BID TOTAL: Grind and cap minimum 1.5**-inch depth asphalt (301 to 3000 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 1.5-inch depth C2-pg 64-10 asphalt (301 to 3000 square feet)

Item	**12218-693--01-46 -** BASE BID TOTAL: Grind and cap minimum 3**-inch depth RAC asphalt (100 to 300 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 3-inch depth RAC asphalt (100 to 300 square feet)

Item	**12218-693--01-47 -** BASE BID TOTAL: Grind and cap minimum 3**-inch depth RAC asphalt (301 to 3000 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 3-inch depth RAC asphalt (301 to 3000 square feet)

Item	**12218-693--01-48 -** BASE BID TOTAL: Grind and cap 3**-inch depth RAC asphalt (100 to 300 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to grind and cap 3-inch depth RAC asphalt (100 to 300 square feet)

Item	**12218-693--01-49 -** BASE BID TOTAL: Grind and cap 3**-inch depth RAC asphalt (301 to 3000 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to grind and cap 3-inch depth RAC asphalt (301 to 3000 square feet)

Item	**12218-693--01-50 -** BASE BID TOTAL: Grind and cap minimum 2**-inch depth RAC asphalt (100 to 300 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 2-inch depth RAC asphalt (100 to 300 square feet)

Item	**12218-693--01-51 -** BASE BID TOTAL: Grind and cap minimum 2**-inch depth RAC asphalt (301 to 3000 square feet)**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to grind and cap minimum 2-inch depth RAC asphalt (301 to 3000 square feet)

Item	**12218-693--01-52 -** BASE BID TOTAL: Type II Slurry Seal
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to install Type II Slurry Seal

Item	**12218-693--01-53 -** BASE BID TOTAL: Remove existing temporary material and placement of **6-inch depth concrete (1 to**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and placement of 6-inch depth concrete (1 to 100 square feet)

Item	**12218-693--01-54 -** BASE BID TOTAL: Remove existing temporary material and placement of **6-inch depth concrete (101 t**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications

Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and placement of 6-inch depth concrete (101 to 200 square feet)

Item	**12218-693--01-55 -** BASE BID TOTAL: Remove existing temporary material and placement of **6-inch depth concrete (201 t**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and placement of 6-inch depth concrete (201 to 300 square feet)

Item	**12218-693--01-56 -** BASE BID TOTAL: Remove existing temporary material and placement of **6-inch depth concrete (301 t**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and placement of 6-inch depth concrete (301 to 400 square feet)

Item	**12218-693--01-57 -** BASE BID TOTAL: Remove existing temporary material and placement of **6-inch depth concrete (401 t**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment to remove existing temporary material and placement of 6-inch depth concrete (401 to 500 square feet)

Item	**12218-693--01-58 -** BASE BID TOTAL: Additional concrete replacement thickness per one **(1)-inch depth greater than 6**
Lot Description	BASE BID TOTAL
Quantity	**1 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment for additional concrete replacement thickness per one (1)-inch depth greaterr than 6 inch

Item	**12218-693--01-59 -** BASE BID TOTAL: Additional charge (replace existing meter box with **one provided by the City wher**
Lot Description	BASE BID TOTAL
Quantity	**1 each**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment for an additional charge for replacing an existing meter box with one provided by the City where concrete is being replaced (small)

Item	**12218-693--01-60 -** BASE BID TOTAL: Additional charge (replace existing meter box with **one provided by the City wher**
Lot Description	BASE BID TOTAL
Quantity	**1 each**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
Furnish all materials, labor and equipment for an additional charge for replacing an existing meter box with one provided by the City where concrete is being replaced (large)

Item	**12218-693--01-61 -** BASE BID TOTAL: Utility adjustment
Lot Description	BASE BID TOTAL
Quantity	**1 each**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to adjust the elevation of existing sanitary sewer, storm sewer, and/or air valve manhole covers to match the new resurfaced pavement elevation

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Item **12218-693--01-62 -** BASE BID TOTAL: Utility adjustment
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to adjust the elevation of valve box covers to match the new resurfaced pavement elevation

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Item **12218-693--01-63 -** BASE BID TOTAL: Utility adjustment
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish all materials, labor and equipment to adjust the elevation of existing storm inlets and storm inlet covers to match the new resurfaced pavement elevation

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Item **12218-693--01-64 -** BASE BID TOTAL: Tree grate
Lot Description BASE BID TOTAL
Quantity **1 each**
Unit Price
Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1

Description
Furnish and install new tree grates to match existing, damaged or missing grates.

CITY OF FORT LAUDERDALE
CONTRACT AND SPECIFICATIONS PACKAGE

BID NO. 12218-693

PROJECT NO. 12458

ANNUAL SIDEWALK, ASPHALT, AND PAVER EMERGENCY REPAIR

JEAN EXAMOND
PROJECT MANAGER II

MAUREEN LEWIS, MBA, CPPB
PROCUREMENT SPECIALIST II
Telephone: (954) 828-5239 E-mail: maureenl@fortlauderdale.gov

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Note: The following documents are available electronically for completion and documents must be returned with your bid along with your bid security, proof of insurance, and proof of required licenses/certifications.

CITB Prime Contractor ID
CITB Questionnaire Sheets
Local Business Price Preference Certification
CITB Non-Collusion Statement
Non-Discrimination Certification
Contract Payment Method
CITB Construction Bid Certification

INVITATION TO BID

Sealed bids will be received electronically until 2:00 P.M., local time, on **TUESDAY, JANUARY 8, 2019,** and opened immediately thereafter in the 5th Floor Conference Room, City Hall, 100 North Andrews Avenue, Fort Lauderdale, Florida, 33301, for **BID NO., 12218-693, PROJECT NO., 12458, ANNUAL SIDEWALK, ASPHALT, AND PAVER EMERGENCY REPAIR.**

This Project does not have any drawings.

This Project is located City-wide in the City of Fort Lauderdale. It is an annual contract without a fixed volume of work. Work will be based on the City's desire to perform work on an as-needed basis. Work in the first year will include, but is not limited to, installation of 6-inches thick concrete sidewalk, various curbs, brick pavers, limerock base of various depths, type S-3 asphaltic concrete, thermoplastic pavement marking, ADA concrete ramps, removal of asphalt, tree roots and other items quantified in the proposal pages of this contract.

NOTE: Payment on this contract will be made by Visa or MasterCard.

Licensing Requirements: Possession of a State Certified General Contractor license is required for this Project.

Pre-Bid Meeting/Site visit: There will not be a pre-bid meeting or site visit for this Invitation to Bid.

It will be the sole responsibility of the bidder to ensure that his bid is submitted prior to the bid opening date and time listed. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM**

Bid Security: A certified check, cashier's check, bank officer's check or bid bond for **FIVE** percent **(5%)** of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each proposal.

Bid Bonds:

Bidders can submit bid bonds for projects four different ways.

1) BidSync allows bidders to submit bid bonds electronically directly through their system using **Surety 2000**. For more information on this feature and to access it, contact BIDSYNC customer care department.

2) Bidders may **upload** their original executed bid bond on BIDSYNC to accompany their bids with the electronic proposal, and deliver the original, signed and sealed hard copy within five (5) business days after bid opening, with the company name, bid number and title clearly indicated.

3) Bidders can **hand deliver** their bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, before time of bid

4) opening, with the company name, bid number and title clearly indicated on the envelope.

5) Bidders can **mail** their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.

Certified Checks, Cashier's Checks and Bank Drafts

These **cannot** be submitted via BIDSYNC, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, FL 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that his bid bond or other bid security is received by the Procurement Services Division before time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Question/Answer feature provided by BIDSYNC at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. (See addendum section of BIDSYNC Site). **Contractors please note:** No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Contractor has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – http://www.fortlauderdale.gov/departments/finance/procurement-services. For general inquiries, please call (954) 828-5933.

INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding bidders in properly preparing their bids or proposals. These directions have equal force and weight with the specifications and strict compliance is required with all of these provisions.

QUALIFICATIONS OF BIDDERS – No proposal will be accepted from, nor will any contract be awarded to, any person who is in arrears to the CITY OF FORT LAUDERDALE, upon any debt or contract, or who has defaulted, as surety or otherwise, upon any obligation to the City, or who is deemed irresponsible or unreliable by the City Commission of Fort Lauderdale.

PERSONAL INVESTIGATION - Bidders shall satisfy themselves by personal investigation, and by such other means as they may think necessary or desirable, as to the conditions affecting the proposed work and the cost. No information derived from maps, plans, specifications, or from the Engineer, City Manager, or their assistants shall relieve the Contractor from any risk or from fulfilling all terms of the contract.

INCONSISTENCIES – Any seeming inconsistency between different provisions of the plans, specifications, proposal or contract, or any point requiring explanation must be inquired into by the bidder, in writing, at least ten (10) days prior to the time set for opening proposals. After proposals are opened, the bidders shall abide by the decision of the Engineer as to such interpretation.

ADDENDA AND INTERPRETATIONS - No interpretations of the meaning of the plans, specifications or other contract documents will be made orally to any bidder. Prospective bidders must request such interpretation in writing as instructed in the bid package. To be considered, such request must be received by the Questions and Answers deadline as indicated in BIDSYNC.COM. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. **It is the bidder's responsibility to verify if addendums have been issued in BIDSYNC.COM.** Failure of any bidder to receive any such addenda or interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become a part of the contract document. **Bidder** shall verify **in BIDSYNC.COM** that he has all addenda before submitting a bid.

LEGAL CONDITIONS - Bidders are notified to familiarize themselves with the provisions of the laws of the State of Florida relating to hours of labor on municipal work, and with the provisions of the laws of the State of Florida and the Charter and the ordinances of the City of Fort Lauderdale.

PUBLIC ENTITY CRIMES - 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 in excess of the threshold amount provided in Section 287.017, Florida Statutes, for CATEGORY TWO for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

FORMS OF PROPOSALS - Each proposal and its accompanying statements must be made on the blanks provided. THE FORMS MUST BE SUBMITTED ELECTRONICALLY, IN GOOD ORDER WITH ALL BLANKS COMPLETED, and must show the name of the bidder and a statement as to its contents.

FORMS OF PROPOSALS (CONTINUED) - The proposal must be signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the proposal. No proposal will be accepted, for any reason whatsoever, which is not submitted to the City as stated above, within the specified time.

INSURANCE - Contractor shall provide and shall require all of its sub-contractors to provide, pay for, and maintain in force at all times during the term of the Agreement, such insurance, including Property Insurance (Builder's Risk), Commercial General Liability Insurance, Business Automobile Liability Insurance, Workers' Compensation Insurance, Employer's Liability Insurance, and Umbrella/Excess Liability, as stated below. Such policy or policies shall be issued by companies authorized to do business in the State of Florida and having agents upon whom service of process may be made in the State of Florida.

BID BOND - A certified check, cashier's check or bank officer's check, for the sum set forth in the advertisement, made payable to the City of Fort Lauderdale, Florida, or bid bond in such amount, shall accompany each proposal as evidence of the good faith and responsibility of the bidder. The check or bond shall be retained by the City as liquidated damages should the bidder refuse to or fail to enter into a contract for the execution of the work embraced in this proposal, in the event the proposal of the bidder is accepted. Retention of such amount shall not be construed as a penalty or forfeiture.

The above bond or check shall be a guarantee that the bidder will, if necessary, promptly execute a satisfactory contract and furnish good and sufficient bonds. As soon as a satisfactory contract has been executed and the bonds furnished and accepted, the check or bond accompanying the proposal of the successful bidder will be returned to him. The certified or other checks or bid bonds of the unsuccessful bidders will be returned to them upon the acceptance of the bid of the successful bidder. If the successful bidder shall not enter into, execute, and deliver such a contract and furnish the required bonds within ten (10) days after receiving notice to do so, the certified or other check or bid bond shall immediately become the property of the City of Fort Lauderdale as liquidated damages. Retention of such amount shall not be construed as a penalty or forfeiture.

FILLING IN BIDS - All prices must be electronically submitted in the proposal pages, and all proposals must fully cover all items for which proposals are asked and no other. Bidders are required to state the names and places of residence of all persons interested, and if no other person is interested, the bidder shall distinctly state such fact and shall state that the proposal is, in all respects, fair and without collusion or fraud. Where more than one person is interested, it is required that all persons interested or their legal representative make all verification and subscribe to the proposal.

PRICES QUOTED: Deduct any discount offered and quote firm net unit prices. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.

BIDS FIRM FOR ACCEPTANCE: Bidder warrants, by virtue of bidding, that his bid and the prices quoted in his bid will be firm for acceptance by the City for a period of one hundred and twenty (120) days from the date of bid opening unless otherwise stated in the ITB. The City shall award contract within this time period or shall request to the recommended awarded vendor an extension to hold pricing, until products/services have been awarded.

ADDITIONAL ITEMS OR SERVICES: The City may require additional items or services of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items or services, and shall provide the City prices on such additional items or services. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

DELETION OR MODIFICATION OF SERVICES: The City reserves the right to delete any portion of the Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor will submit a revised budget to the City for approval prior to proceeding with the work.

CAUSES FOR REJECTION - No proposal will be canvassed, considered or accepted which, in the opinion of the City Commission, is informal or unbalanced, or contains inadequate or unreasonable prices for any items; each item must carry its own proportion of the cost as nearly as is practicable. Any alteration, erasure, interlineation, or failure to specify bids for all items called for in the schedule shall render the proposal informal.

REJECTION OF BIDS - The City reserves the right to reject any bid if the evidence submitted by the bidder, or if the investigation of such bidder, fails to satisfy the City that such bidder is properly qualified to carry out the obligations and to complete the work contemplated. Any or all proposals will be rejected, if there is reason to believe that collusion exists among bidders. A proposal will be considered irregular and may be rejected, if it shows serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all proposals and to waive such technical errors as may be deemed best for the interests of the City.

BID PROTEST PROCEDURE: Any proposer or bidder who is not recommended for award of a contract and who alleges a failure by the City to follow the City's procurement ordinance or any applicable law may protest to the Procurement Division – Deputy Director of Finance, by delivering a letter of protest within five (5) days after a Notice of Intent to award is posted on the City's website at the following link: http://www.fortlauderdale.gov/departments/finance/procurement-services/notices-of-intent-to-award. The complete protest ordinance may be found on the City's website at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPR

WITHDRAWALS - Any bidder may, without prejudice to himself, withdraw his proposal at any time prior to the expiration of the time during which proposals may be submitted. Such request for withdrawal must be in writing and signed in the same manner and by the same person who signed the proposal. After expiration of the period for receiving proposals, no proposal can be withdrawn, modified, or explained.

CONTRACT - The bidder to whom award is made shall execute a written contract to do the work and maintain the same in good repair until final acceptance by the proper authorities, and shall furnish

good and sufficient bonds as specified within ten (10) days after receiving such contract for execution. If the bidder to whom the first award is made fails to enter into a contract as provided, the award may be annulled and the contract let to the next lowest bidder who is reliable, responsible, and responsive in the opinion of the City Commission, and that bidder shall fulfill every stipulation and obligation as if such bidder were the original party to whom award was made.

The contract shall provide that the Contractor agrees to correct any defective or faulty work or material, which may appear within one (1) year after completion of the work and receipt of final payment.

ENFORCEMENT OF SPECIFICATIONS - Copies of the specifications will be placed in the hands of all the assistants to the Engineer and Inspectors employed on the work, who shall enforce each and every requirement of the contract. Such assistants shall have no authority to vary from such requirements.

COPIES OF DRAWING PLANS - Copies of the drawing plans are on file in the Public Works Department, City Hall, 4th Floor, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301.

SURETY BOND – The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2014), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

The successful bidder shall furnish a performance and payment bond in compliance with Section 255.05, Florida Statutes, written by a Corporate Surety company, holding a Certificate of Authority from the Secretary of the Treasury of the United States as acceptable sureties on federal bonds, in an amount equal to the total amount payable by the terms of the contract, executed and issued by a Resident Agent licensed by and having an office in the State of Florida, representing such Corporate Surety, conditioned for the due and faithful performance of the work, and providing in addition to all other conditions, that if the Contractor, or his or its subcontractors, fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor, or his or its subcontractor or subcontractors, in performance of the work contracted to be done, the Surety will pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the rate of fifteen percent (15%) per annum, and that they shall indemnify and save harmless the City of Fort Lauderdale to the extent of any and all payments in connection with carrying out of the contract, which the City may be required to make under the law.

The Contractor is required at all times to have a valid surety bond in force covering the work being performed. A failure to have such bond in force at any time shall constitute a default on the part of the Contractor. A bond written by a surety, which becomes disqualified to do business in the State of Florida, shall automatically constitute a failure on the part of the Contractor to meet the above requirements.

Such bond shall continue in effect for one (1) year after completion and acceptance of the work with liability equal to at least twenty-five percent (25%) of contract price, or an additional bond shall be conditioned that the Contractor will correct any defective or faulty work or material which appear within one (1) year after completion of the contract, upon notification by the City, except in contracts which are concerned solely with demolition work, in which cases twenty-five percent (25%) liability will not be applicable.

AUDIT OF CONTRACTOR'S RECORDS - Upon execution of the Contract, the City reserves the right to conduct any necessary audit of the Contractor's records. Such an audit, or audits, may be conducted by the City or its representatives at any time prior to final payment, or thereafter, for a period up to three (3) years. The City may also require submittal of the records from either the Contractor, the Subcontractor, or both. For the purpose of this Section, records shall include all books of account, supporting documents and papers deemed necessary by the City to assure compliance with the contract provisions.

Failure of the Contractor or Subcontractor to comply with these requirements may result in disqualification or suspension from bidding for future contracts or disapproval as a Subcontractor at the option of the City.

The Contractor shall assure that each of its Subcontractors will provide access to its records pertaining to the project upon request by the City.

PERIODIC ESTIMATE FOR PARTIAL PAYMENT - After the Contractor has submitted a periodic estimate for partial payment, approved and certified by the Public Works Department, the City shall make payment in the manner provided in the Contract Documents and in accordance with Florida's Prompt Payment Act, Section 218, Florida Statutes.

RESERVATION FOR AWARD AND REJECTION OF BIDS - The City reserves the right to accept or reject any or all bids, part of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

MINORITY AND WOMEN BUSINESS ENTERPRISE PARTICIPATION AND BUSINESS - It is the desire of the City of Fort Lauderdale to increase the participation of minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the City does not have any preference or set aside programs in place, it is committed **to a policy of equitable participation for these firms.** The City of Fort Lauderdale wants to increase the participation of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Small Business Enterprises (SBE) in its procurement activities. If your firm qualifies in accordance with the below definitions please indicate in the space provided in this ITB.

Minority Business Enterprise (MBE) "A Minority Business" is a business enterprise that is owned or controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural, racial, chronic economic circumstances or background or other similar cause. Such persons include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

The term “Minority Business Enterprise” means a business at least fifty-one percent (51%) of which is owned by minority group members or, in the case of a publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by minority group members. For the purpose of the preceding sentence, minority group members are citizens of the United States who include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

Women Business Enterprise (WBE) a “Women Owned or Controlled Business” is a business enterprise at least fifty-one percent (51%) of which is owned by females or, in the case of a publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by females.

Small Business Enterprise (SBE) “Small Business” means a corporation, partnership, sole proprietorship, or other legal entity formed for the purpose of making a profit, which is independently owned and operated, has either fewer than 100 employees or less than $1,000,000 in annual gross receipts.

BLACK includes persons having origins in any of the Black racial groups of Africa.

WHITE includes persons whose origins are Anglo-Saxon and Europeans and persons of Indo-European decent including Pakistani and East Indian.

HISPANIC includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or other Spanish culture or origin, regardless of race.

NATIVE AMERICAN includes persons whose origins are American Indians, Eskimos, Aleuts, or Native Hawaiians.

ASIAN AMERICAN includes persons having origin in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

DEBARRED OR SUSPENDED BIDDERS OR PROPOSERS - The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

LOBBYING ACTIVITIES - **ALL CONTRACTORS PLEASE NOTE**: Any contractor submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-00-27 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No., C-00-27, and Resolution No. 07-101, may be obtained from the City Clerk’s Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301. The ordinance may also be viewed on the City's website at http://www.fortlauderdale.gov/clerk/LobbyistDocs/lobbyist_ordinance.pdf.

SPECIAL CONDITIONS

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction services in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

02. TRANSACTION FEES

The City of Fort Lauderdale uses BidSync (www.bidsync.com) to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation process, nor will any fees be charged to the awarded contractor.

03. SUBMISSION OF BIDS

It is the sole responsibility of the Contractor to ensure that their bid is submitted electronically through BidSync at www.bidsync.com and that any bid security not submitted via BidSync reaches the City of Fort Lauderdale, Procurement Services Division, 6th floor, Room 619, 100 N. Andrews Avenue, Fort Lauderdale, FL 33301, in a sealed envelope marked on the outside with the ITB solicitation number and Contractor's name, no later than the time and date specified in this solicitation. **PAPER BID SUBMITALS WILL NOT BE ACCEPTED. PLEASE SUBMIT YOUR BID RESPONSE ELECTRONICALLY.**

04. INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact **Maureen Lewis**, **Procurement Specialist II**, at (954) 828-5239 or email at maureenl@fortlauderdale.gov. Such contact shall be for clarification purposes only.

For information concerning technical specifications please utilize the Question/Answer feature provided by BidSync at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. (See addendum section of BidSync Site). **Contractors please note**: No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Contractor has familiarized himself with the nature and extent of the work, and the equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation. The questions and answers submitted in BidSync shall become part of any contract that is created from this ITB.

05. CONTRACT TIME

5.1 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work on each Written Work Request shall commence immediately upon the Contractor's receipt of an executed Written Work Request.

5.2 The initial contract term shall commence upon the date specified in the Notice To Proceed given by the City and shall expire **two (2)** years from that date. The City reserves the right to extend the contract for **two (2)** additional **one (1)** year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

5.3 The Contractor shall mobilize to the project site and begin construction activities within **two (2)** calendar days of receipt of the executed Written Work Request or by the specific date noted within the Written Work Request (whichever applies).

5.4 The Work on each Written Work Request shall be substantially completed within the timeframe agreed upon and noted in each executed Written Work Request.

5.5 The Work on each Written Work Request shall be finally completed on or before the Final Completion Date and ready for final payment in accordance with Final Completion Date agreed upon and noted in each executed Written Work Request.

5.6 In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the City as authorized by the awarding authority. The extension period shall not extend for more than one hundred and eighty (180) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate in effect when this extension clause is invoked by the City. No new Written Work Requests will be assigned after the contract's expiration nor will any new work be performed after that date.

The City of Fort Lauderdale reserves the right to waive any informality in any bid and to reject any or all bids. The City of Fort Lauderdale reserves the right to reduce or delete any of the bid items.

At time of award of contract, the City reserves the right to set a maximum dollar limit that may be expended on this project. Contract quantities of any or all items may be increased, reduced, or eliminated to adjust the contract amount to coincide with the amount of work necessary or to bring the contract value to within the established limit. All quantities are estimated and the City reserves the right to increase, reduce, or eliminate the contract quantities in any amount.

The undersigned bidder affirms that he has or will obtain all equipment necessary to complete the work described, that he has or will obtain all required permits and licenses from the appropriate agencies, and that his firm is authorized to do business in the State

of Florida.

06. BID SECURITY

A certified check, cashier's check, bank officer's check or bid bond for **FIVE** percent **(5%)** of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each proposal.

07. REQUIRED LICENSES/CERTIFICATIONS

Contractor must possess the following licenses/certifications to be considered for award.

State Certified General Contractor's license

Note: Contractor must have proper licensing and be able to provide evidence of same, if requested, at time of award.

08. SPECIFIC EXPERIENCE REQUIRED

The following expertise is required to be considered for this contract. Specific references attesting to this expertise must be submitted with the bid.

The contractor shall have previous construction experience in asphalt paving, sidewalk and paver brick construction in the State of Florida within the last five (5) years. Bidder shall submit proof of construction experience for a minimum of three (3) projects of similar scope and scale (or larger) and shall, for each project listed, identify location; dates of construction; project name and overall scope; scope of work that was self-performed by Contractor; and client's name, address, telephone number and e-mail address.

NOTE: REFERENCES SHALL NOT INCLUDE ONLY CITY OF FORT LAUDERDALE EMPLOYEES OR WORK PERFORMED FOR THE CITY. THE CITY IS ALSO INTERESTED IN WORK EXPERIENCE AND REFERENCES FROM ENTITIES OTHER THAN THE CITY OF FORT LAUDERDALE.

By signing this bid solicitation, contractor is affirming that this expertise will be provided for this contract at no additional charge.

09. BID ALLOWANCE

Allowance for permits: Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The amount indicated is intended to be sufficient to cover the entire project. If the City Permit

fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of City Permit Fees required for project completion.

Allowances	$
Additional equipment rental allowance	2,500
Additional labor allowance	3,000
Additional material allowance	3,000
Allowance for dumping fee	2,000
Consideration for Indemnification.	500
Crane rental allowance	
FPL, AT&T allowance	15,000
Lighting protection allowance	
Maintenance of traffic allowance	3,000
Permit fee allowance	1,500
Permit fees and testing allowance	2,000
Other: to be determined	1,000
Other: to be determined	1,000
TOTAL	**34,500**

Note: The City will add this allowance to your bid.

10. INSURANCE REQUIREMENTS *(See Article 10, Bonds and Insurance, of the Contract for details)*

10.1 As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at the Contractor's sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be from insurers authorized to write insurance policies in the State of Florida and that possess an A.M. Best rating of A-, VII or better. All insurance policies are subject to approval by the City's Risk Manager.

The coverages, limits, and endorsements required herein protect the interests of the City, and these coverages, limits, and endorsements may not be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposure, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

10.1.1 Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $1,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $1,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for Contractual Liability and Independent Contractors.

The City and the City's officers, employees, and volunteers are to be covered as additional insureds with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City or the City's officers, employees, and volunteers.

10.1.2 Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

10.1.3 Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City and the City's officers, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than thirty (30) days prior to the start of work contemplated in this Agreement.
b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.

c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d. In the event the Agreement term goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for the payment of all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as applied to the City and the City's officers, employees, and volunteers. Any insurance or self-insurance maintained by the City covering the City, the City's officers, employees, or volunteers shall be non-contributory.

Any exclusion or provision in the insurance maintained by the Contractor that excludes coverage for work contemplated in this Agreement shall be unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement shall be provided to the Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER AND NAME MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORTLAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON ALL LIABILITY POLICIES, WITH THE EXCEPTION OF WORKERS' COMPENSATION.

A Sample Insurance Certificate shall be included with the proposal to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

11. PERFORMANCE AND PAYMENT BOND: **100%**

Number of awards anticipated: 1

12. CITY PROJECT MANAGER

The Project Manager is hereby designated by the City as **Jean Examond** whose address is 1**00 North Andrews, 4th Floor, Fort Lauderdale, FL 33301, telephone number: (954) 828-4507, and e-mail address is jexamond @fortlauderdale.gov**. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

13. Upon failure of the Contractor to complete the Work of an executed task order within the agreed upon and approved time for said Task Order, the Contractor shall pay to the City the sum of **Five Hundred Dollars ($500.00)** for each and every calendar day that the completion of the Task Order is delayed beyond the time agreed upon for said Task Order, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. (See Article 16, Liquidated Damages Clause, of the Contract)

14. PAYMENT (*See Article 7, Payment, of the Contract for other details*)

The City shall make payment to the Contractor through utilization of the City's P-Card Program. The City has implemented a Purchasing Card (P-Card) Program utilizing both VISA and MASTERCARD networks. Purchases from this contract will be made utilizing

the City's Purchasing Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. The City reserves the right to revise this program as necessary. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

15. WORK SCHEDULE (including overtime hours): 7:00 am to 6:00 pm

Regular work hours: **8:00 am to 5:00 pm, Monday through Friday.**
City Inspector Hours: **8:00 am to 4:30 pm, Monday through Friday.**

Any inspection requested by the contractor outside those hours will be considered overtime to be paid by the Contractor.

16. INSPECTION OVERTIME COST: $222.00

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____, 20__, by and between the City of Fort Lauderdale, a Florida municipal corporation (City) and _____, (Contractor), (parties);

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No._____, Project No. _____, which was opened on _____; and,

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project.

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents –This Agreement, advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion - Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

SAMPLE CONSTRUCTION AGREEMENT

1.7 Change Order - A change order is defined as a written order to a contractor approved by the city, authorizing a revision of an underlying agreement between the City and a contractor that is directly related to the original scope of work or an adjustment in the original contract price or the contract time directly related to the original scope of work, issued on or after the effective date of the contract.

1.8 City – The City of Fort Lauderdale, Florida including but not limited to its employees, agents, officials, representatives, contractors, subcontractors, volunteers, successors and assigns, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, General Conditions as amended by the Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, change orders and work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The monies payable to the Contractor by the City under the Contract Documents and in accordance with the line item unit prices listed in the Bid.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the work shall be started and shall be completed as stated in the Notice to Proceed.

1.12 Contractor – The person, firm, company, or corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, their subcontractors and their other successors and assigns.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – When modifying the word "Work" refers to work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

SAMPLE CONSTRUCTION AGREEMENT

1.15 Effective Date of the Agreement – The effective date of the agreement shall be the date the Contract is executed by the parties. The Contractor shall provide all required payment and performance bonds and insurances to the City within ten (10) Calendar days following the City Commission approval. Upon verification of all bonds and insurances, the City will issue a written notice to proceed (NTP) to the Contractor. Contract time will commence on the date when the Notice to Proceed is issued. The Contractor shall commence the work immediately upon receipt of the Notice to Proceed. Failure of the contractor to proceed with the Work agreed will constitute nonperformance of the Contractor and would be grounds for termination of the contract per ARTICLE 17 of the Agreement.

1.16 Final Completion Date – The date the Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

1.17 Hazardous Materials (HAZMAT) - Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance - As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas}.

1.19 Hazardous Waste - Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays - Those designated non-work days as established by the City Commission of the City of Fort Lauderdale.

SAMPLE CONSTRUCTION AGREEMENT

1.21 Inspection – The term “inspection” and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award - The written notice by City to the Contractor stating that upon compliance by the Contractor with the conditions precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice given by the City to the Contractor fixing the date on which the Contract Time will commence to run and on which the Contract Time will end.

1.24 Plans - The drawings which show the character and scope of the work to be performed and which have been prepared or approved by the City and/or are referred to in the Contract Documents.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The total construction of the Work to be provided as defined in the Contract Documents.

1.27 Project Manager - The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the contract Documents in connection with completion of the Work in accordance with this Agreement.

1.28 Punch List - The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents - A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" - A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor. These documents shall be signed and sealed by a Professional Engineer or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantially Completed Date – The Contractor shall submit a written request to the City for an inspection to determine if the Work is substantially complete. If, at the time of inspection, it is determined the project is substantially complete, the City will issue a letter of Substantial Completion along with a punch list of incomplete or deficient items to be completed prior to requesting a Final Completion inspection.

SAMPLE CONSTRUCTION AGREEMENT

1.32 Work – The entire completed delivered product or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating material and equipment into the product, all as required by the Contract Documents.

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

ANNUAL SIDEWALK, ASPHALT AND PAVER EMERGENCY REPAIR
ITB 12218-693 PROJECT 12458

2.2 All Work for the Project shall be constructed in accordance with the Drawings and Specifications. The Work generally involves:

PROJECT DESCRIPTION

This Project is City-wide in the City of Fort Lauderdale. It is an annual contract without a fixed volume of work. Work will be based on the City's to perform work on an as-needed basis. Work in the first year will include, but is not limited to, installation of 6-inches thick concrete sidewalk, various curbs, brick pavers, limerock base of various depths, type S-3 asphaltic concrete, thermoplastic pavement marking, ADA concrete ramps, removal of asphalt, tree roots and other items quantified in the proposal pages of this contract.

2.3 Within two (2) days of the execution of this Agreement, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of any subcontractors that will be utilized by the Contractor. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with current and on-going operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as Jean Examond, whose address is **100 N. Andrews Avenue, 4th Floor, Fort Lauderdale, FL 33301**, telephone number: **(954) 828 - 4507**, and email address is Jexamond @fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between the City and Contractor are attached to this Agreement, are made a part hereof and consist of the following:

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4.1 This Agreement.

4.2 Exhibits to this Agreement [Plans (sheets [ ] to [ ] inclusive)].

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

4.5 General Conditions as amended by the Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number_____ through _____, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement.

4.11 Invitation to Bid No., _____, Instructions to Bidders and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No., _____, dated _____.

4.13 Schedule of Completion and Schedule of Values.

4.14 All amendments, modifications, supplements, change orders, and work directive changes, issued on or after the Effective Date of the Agreement.

4.15 Any Additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Specific written direction from the City Manager (or designee)

b. Approved change orders, addenda or amendments.

c. Specifications (quality) and Drawings (location and quantity).

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d. Supplemental conditions or special terms.

e. General Terms and Conditions.

f. This Agreement dated _____ and any attachments.

g. Invitation to Bid No., _____, and the specifications prepared by the City.

h. Contractor's response to the City's Invitation to Bid No., _____, dated _____.

i. Schedule of Values.

j. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five (5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or associations, or to the code of any governmental authority whether such reference be specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The initial contract term shall commence upon the date of award by the City and shall expire **two (2)** years from that date. The City reserves the right to extend the contract for **two (2)** additional **one (1)** year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

5.2 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work on each Written Work request shall commence immediately upon the Contractor's receipt of an executed Written Work request.

5.3 The Contractor shall mobilize to the project site and begin construction activities within **two (2)** calendar days of receipt of the executed Written Work request or by the specific date noted within the Written Work request (whichever applies).

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5.4 The Work on each Written Work request shall be substantially completed within the timeframe agreed upon and noted in each executed Written Work request.

5.5 The Work on each Written Work request shall be finally completed on or before the Final Completion Date and ready for final payment in accordance with Final Completion Date agreed upon and noted in each executed Written Work request.

5.6 In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the City as authorized by the awarding authority. The extension period shall not extend for more than one hundred and eighty (180) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate in effect when this extension clause is invoked by the City. No new Written Work requests will be assigned after the contract's expiration nor will any new work be performed after that date.

ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7 based on the value of the executed Written Work requests issued for this Contract.

6.2 The parties expressly agree that the Contract Price is a unit price contract, in accordance with those line item unit prices contained in the Contractor's ITB response and incorporated by reference herein. The quantities of work in the Proposal are a rough approximation only. The total quantities of work to be included in this Contract and actually performed may vary widely depending upon the work that will be authorized by the City through Written Work requests, during the period of this Contract.

6.3 The Contract Price constitutes the total compensation payable to Contractor for the cumulative value of each executed Written Work request. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract price.

ARTICLE 7 – PAYMENT PROCEDURES

7.1 Contractor shall submit Applications for Payment in accordance with the Contract Documents. Applications for Payment will be processed by the City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's monthly Applications for Payment, which shall be submitted by the Contractor between the first (1^{st}) and the tenth (10^{th}) day after the end of each calendar month for which payment is requested. All progress payments will be made on the basis of the progress of the Work completed.

7.3 Prior to Final Completion of each, progress payments will be made in an amount equal to ninety percent (90%) of the value of Work completed less in each case the aggregate of payments previously made.

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7.4 Final Payment: Upon final completion of the Work, in accordance with the General Conditions, as may be supplemented, the City shall pay Contractor an amount sufficient to increase total payments to one-hundred percent (100%) of the Contract Price.

7.5 The City shall make payment to the Contractor in accordance with the Florida Prompt Payment Act, Section 218.70, Florida Statutes.

7.6 The City shall make payment to the Contractor through utilization of the City's P-Card Program. The City has implemented a Purchasing Card (P-Card) Program utilizing both VISA and MASTERCARD networks. Purchases from this contract will be made utilizing the City's Purchasing Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. The City reserves the right to revise this program as necessary. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

8.2 Contractor has visited the Work Site, conducted all necessary extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted within the Contract Time as defined in this Agreement. Furthermore, Contractor warrants and confirms that he is totally familiar with, understands and obligates Contractor to comply with all federal, state and local laws, ordinances, rules, regulations and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters

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which can in any way affect the Work, schedule, or the cost thereof under the Contract Documents.

8.4 The Contractor has also studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and will determine that no conditions exist that would in any manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted and within the timeframe agreed upon within each Written Work Request.

8.5 Contractor has made or cause to be made examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work at the Contract Prices, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

8.6 Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution by City is acceptable to the Contractor.

8.8 Labor

8.8.1 The Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the site.

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of the Notice to Proceed. The Contractor understands and agrees that the superintendent's physical presence on the job site is indispensable to the successful completion of the Work. If the superintendent is frequently absent from the job site, the Project Manager may deliver written notice to the Contractor to stop work or terminate the Contract in accordance with Article 17.

8.8.4 A certified "competent person" shall be assigned to the job site for each Written Work Request. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of

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Transportation qualifications are required relative to MOT. Failure to pursue the Work with the properly certified supervisory staff may result in a notice to stop work or terminate the Contract in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work.

8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 7 a.m. and 6:00 p.m., Monday through Friday.

The Contractor will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy two (72) hours in advance of starting such work. If the Project Manager permits overtime work, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. It shall be noted that the City's Inspector work hours are from 8:00 AM to 4:30 PM and any Work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime. The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds himself or itself to indemnify and save harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses. The Contractor shall pay all government charges which are applicable at the time of opening of proposals. It shall be the responsibility of the Contractor to secure and pay

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for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom; however, it shall not be the Contractor's primary responsibility to make certain that the specifications and plans are in accordance with such laws, ordinances, rules and regulations.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the laws of the City of Fort Lauderdale, County of Broward, State of Florida.

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor. The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which does not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for, or will be required to replace or restore at no expense to the City all vegetation not protected or preserved as may be required that is destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials and shall leave the site clean and ready for occupancy by the City. The Contractor shall restore to their original condition

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those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.
8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

8.17 Project Record Documents and As-Builts (Record Drawings): Contractor shall be responsible for maintaining up to date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-builts) and a CD of the electronic drawing files created in AutoCAD 2014 or later. All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the project and other persons who may be affected thereby.
8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.
8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the

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8.18.3 Contractor. The Contractor's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

8..21 No Damages for Delay: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.22 No Liens: If any Subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a Subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

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8.23 Weather Emergencies: Upon issuance of a Hurricane Watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a Hurricane Warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available and in the City before, during and immediately after the storm.

Upon issuance of a Hurricane Warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.24 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other party or that could not have been reasonably foreseen and prevented. For this purposes, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, war, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their subcontractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within 96 hours after such an occurrence. The CONTRACTOR shall use its reasonable efforts to minimize such delays. The CONTRACTOR shall promptly provide an estimate of the anticipated additional time required to complete the Project.

8.25 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted

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contract or in the administration of its DBE program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the contractor assures that it, the sub recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. 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 recipient deems appropriate. (This additional language must be included in each subcontract the prime contractor signs with a subcontractor.)

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 The City's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in the Contract Documents.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue, with reasonable promptness, such written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event, and written supporting date will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

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9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), in an amount equal to 100% of the Contract Price as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2014), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

10.3 Insurance

10.3.1 As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement,

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the Contractor, at the Contractor's sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be from insurers authorized to write insurance policies in the State of Florida and that possess an A.M. Best rating of A-, VII or better. All insurance policies are subject to approval by the City's Risk Manager.

The coverages, limits, and endorsements required herein protect the interests of the City, and these coverages, limits, and endorsements may not be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposure, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

10.3.2 Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $1,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $1,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for Contractual Liability and Independent Contractors.

The City and the City's officers, employees, and volunteers are to be covered as additional insureds with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City or the City's officers, employees, and volunteers.

10.3.3 Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

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10.3.4 Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City and the City's officers, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than thirty (30) days prior to the start of work contemplated in this Agreement.
b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d. In the event the Agreement term goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for the payment of all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered

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because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as applied to the City and the City's officers, employees, and volunteers. Any insurance or self-insurance maintained by the City covering the City, the City's officers, employees, or volunteers shall be non-contributory.

Any exclusion or provision in the insurance maintained by the Contractor that excludes coverage for work contemplated in this Agreement shall be unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement shall be provided to the Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER AND NAME MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORTLAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON ALL LIABILITY POLICIES, WITH THE EXCEPTION OF WORKERS' COMPENSATION.

A Sample Insurance Certificate shall be included with the proposal to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the City that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of

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all defects shall be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, Contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to the City before the work and testing is done. Testing results shall be submitted to the Engineer for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Section 11.2 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive

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Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if he makes a claim therefore as provided in Articles 14 and 15.

11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as Specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If, within one (1) year after the date of final acceptance of work, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If The Contractor does not promptly comply with the terms of such instructions or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contracts Documents, including appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete

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corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, employees and elected and appointed officials from or on account of all claims, damages, losses, liabilities and expenses, direct, indirect or consequential including but not limited to fees and charges of engineers, architects, attorneys, consultants and other professionals and court costs arising out of or in consequence of the performance of this Agreement at all trial and appellate levels. Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees, or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the work; (i) the violation of any federal, state, county or city laws, ordinances or regulations by Contractor, its subcontractors, agents, servants, independent contractors or employees; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee.

12.2.2 Contractor agrees to indemnify, defend, save and hold harmless the City, its officers, agents and employees, from all damages, liabilities, losses, claims,

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fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any Subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a Subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06(2), Florida Statutes controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, from time to time order additions, deletions or revisions in the Work through the issuance of Change Orders. Upon receipt of a Change Order, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents.

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13.2 The Project Manager may authorize minor changes in the work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

Contract Price shall not exceed that which is agreed to in this Agreement. Any increase to the Contract Price shall be executed through an Amendment to this Agreement and approved by the City Commission.

14.1 Time for the City to Approve Contract Amendment: Should the cumulative amount of the executed Written Work Requests exceed the Contract Price, a Contract Amendment must be approved by the City Commission authorizing additional funding for this Contract.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time shall be for **two (2) years** from the date of Commission award subject to **two (2) one (1) year** renewal terms.

15.2 All time limits stated in the Contract Documents and within each executed Written Work Requests are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.3 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the CONTRACTOR (non-affiliated Contractors) shall not give rise to a claim by the CONTRACTOR for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.4 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Contract, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **Five Hundred Dollars ($500.00)** for each and every calendar day that the completion of the Work is delayed beyond the time, specified in this Agreement for completion, as fixed and agreed

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liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each portion of the Work for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

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17.2 City May Terminate Work: The City retains the right to terminate this Agreement as well as any task order, with thirty (30) days prior written notice. Additionally, the City may also terminate this Agreement as well as any task order upon fifteen (15) days' notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor commences a voluntary case or a petition is filed against the Contractor, under any chapter of the Bankruptcy Code, or if the Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency.

17.2.2 If the Contractor makes a general assignment for the benefit of creditors.

17.2.3 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Contract, whose appointment or authority to take charge of property of the Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the Contractor's creditors.

17.2.4 If Contractor fails to begin the Work within fifteen (15) calendar days after the Project Initiation Date, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work, 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 Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.5 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.6 If the Contractor repeatedly disregards proper safety procedures.

17.2.7 If the Contractor disregards any local, state or federal laws or regulations.

17.2.8 If the Contactor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

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17.3.1 If after notice of termination of Contractor's right to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth in Section 17.5 below.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contactor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contactor agrees to waive the notice provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the United States Bankruptcy Court. The Contactor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in additional to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor

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agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Contract may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work executed and expenses incurred prior to termination in addition to termination settlement costs reasonably incurred by Contractor relating to commitments which had become firm prior to the termination. Payment shall include reasonable profit for work/services satisfactorily performed. No payment shall be made for profit for work/services which have not been performed.

17.6 Where the Contractor's service has so been terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under or, by reason

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of, the Contract Documents which cannot be resolved by mutual agreement of Contract Administrator and Contractor shall be submitted to the Consultant for resolution. When either party has determined that a disputed question, claim, difficulty or dispute is at an impasse, that party shall notify the other party in writing and submit the question, claim, difficulty or dispute to the Consultant for resolution. The parties may agree to a proposed resolution at any time without the involvement and determination of the Consultant.

18.1.1 Consultant shall notify Contract Administrator and Contractor in writing of Consultant's decision within twenty-one (21) calendar days from the date of the submission of the question, claim, difficulty or dispute, unless Consultant requires time to gather information or allow the parties to provide additional information.

18.1.2 In the event the determination of a dispute by the Consultant under this Article is unacceptable to any of the parties hereto, the party objecting to the determination must notify the other party and the City Manager, in writing within ten (10) days after receipt of the determination. The notice must state the basis of the objection and the proposed resolution. Final resolution of such dispute shall be made by the City Manager. The City Manager's decision shall be final and binding on the parties.

18.1.3 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.4 During the pendency of any dispute and after a determination thereof, Contractor, Consultant, and Contract Administrator shall act in good faith to mitigate any potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.5 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the parties. Should any objection not be resolved in mediation, the parties retain all their legal rights and remedies under applicable law. If a party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

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To the City: City Manager
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301

with copies to:

Project Manager and City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301

To the Contractor:

_____
_____
_____

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes, or to extend the City's liability beyond the limits established in said Section 768.28; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

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ARTICLE 21 – GOVERNING LAW

21.1 This Agreement shall be governed by the laws of the State of Florida. Both Parties agree that the courts of the State of Florida shall have jurisdiction of any claim arising in connection with this Agreement. Venue for any claim, objection or dispute arising out of this Agreement shall be in Broward County, Florida. **By entering into this contract, Contractor and City hereby expressly waive any rights either party may have to a trial by jury of any civil litigation related to, or arising out of the Project. Contractor shall specifically bind all subcontractors to the provisions of this Contract**.

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

22.3 The Contractor and its employees, volunteers and agents shall be and remain an independent contractors and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

SAMPLE CONSTRUCTION AGREEMENT

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2018), that it is not engaged in a boycott of Israel, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2018), as may be amended or revised. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2018), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2018), or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2018), as may be amended or revised.

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes, a person or affiliate who is a contractor, consultant or other provider, 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 the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: If CITY or CONSULTANT incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

22.10 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

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Contractor shall:

1. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, 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 in Chapter 119, Florida Statutes (2018), as may be amended or revised, or as otherwise provided by law.

3. 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 term and following completion of this contract if the Contractor does not transfer the records to the City.

4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

SAMPLE CONSTRUCTION AGREEMENT

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Annual Sidewalk, Asphalt and Paver Emergency Repair
(Contractor)
Project 12458

CITY

IN WITNESS OF THE FOREGOING**,** the parties have set their hands and seals the day and year first above written.

CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida

By: _____
LEE R. FELDMAN, City Manager

(CORPORATE SEAL)

ATTEST:

By: _____
JEFFREY A. MODARELLI
City Clerk

Approved as to Legal Form:

By:_____
RHONDA MONTOYA HASAN
Assistant City Attorney

SAMPLE CONSTRUCTION AGREEMENT

CONTRACTOR

WITNESSES:

CONTRACTOR,
a Florida corporation.

_____ By_____

_____ _____ _____
Print Name PRINT NAME Title

_____

_____
Print Name

(CORPORATE SEAL)

STATE OF FLORIDA:
COUNTY OF BROWARD:

The foregoing instrument was acknowledged before me this _____ day of _____, 2018, by _____ (Name), as _____ (Title) of _____ (CONTRACTOR), a Florida corporation, on behalf of the Corporation.

SEAL

_____
Notary Public, State of Florida

_____
Name of Notary Typed, Printed or Stamped

☐ Personally Known or ☐ Produced Identification:

Type of Identification Produced: _____

SAMPLE CONSTRUCTION AGREEMENT

GENERAL CONDITIONS

Unless otherwise modified in the projects special conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a Bid for the Work.

"Bonds" –shall mean Bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

“City” – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City’s authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract. For the purpose of this Contract, “City” without modification shall mean the City Commission, and/or City Manager or his/her designee(s) as applicable.

“Construction Manager” - shall mean the Public Works Director or his/her designee.

“Construction Project Manager” - shall mean the Public Works Director or his/her designee.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

“Contract Work” - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof except Extra Work as hereinafter defined, it being understood that, in case of any inconsistency in or between any part or parts of this Contract, the Public Works Director shall determine which shall prevail.

“Design Documents” – shall mean the construction plans and specifications included as part of a Bid/Proposal Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

“Engineer” - shall mean the Public Works Director or his/her designee.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

"Notice" - shall mean written notice sent by certified United States Mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

“Owner” - shall mean the City of Fort Lauderdale.

“Project Manager” - shall mean the Public Works Director or his/her designee.

"Public Works Director" –shall mean the Public Works Director of the City of Fort Lauderdale, Florida or his/her designee(s).

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Public Works Director.

"Subcontractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor’s experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

The Contractor, on its own, has made or caused to be made examinations, investigations, tests and studies of reports and related data in addition to those referred above, as Contractor deemed necessary to perform the Work at the Bid price set by the Contractor, within the contract time and in accordance with the other terms and conditions of the Contract Documents and the Bid made by the Contractor; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor to assure that the Work can be done at the Bid price set by the Contractor.

The Contractor further acknowledges that it has satisfied itself based on any geotechnical reports the City may provide and inspection of the project Site as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the City or included in the Contract Documents and finds and has further determined that no conditions exist that would in any manner affect the Bid price and that the project can be completed for the Bid price submitted.

Any failure by the Contractor to acquaint itself with all the provided information and information obtained by visiting the project Site will not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents. In the event that the actual subsurface conditions vary from the actual City provided reports, the Contractor shall notify the City and the Contract amount may be adjusted depending on the conditions, at the approval of the City.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Bidder making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead, in addition to the "Contractor's Request for Substitution" form provided by the Public Works Director. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall reach the Public Works Director no less than ten (10) Working Days prior to the date set for opening of Bids; and

2. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Public Works Director will consider reports from reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and

3. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and

4. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and

5. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution; and

If a proposed substitution is approved by the Public Works Director, an Addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of Bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC - 04 - CONTROL OF THE WORK - The Public Works Director shall have full control and direction of the Work in all respects. The Public Works Director and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Public Works Director may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be directed or permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Public Works Director so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Public Works Director, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Public Works Director, as will insure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

The Contractor shall keep the Public Works Director informed, a reasonable time in advance, as to his need for grades and lines in order that the same may be furnished and all necessary measurements made for records and for payment with the minimum of inconvenience to the Public Works Director or of delay to the Contractor. The Contractor shall submit to the Public Works Director or Inspector on the job a written request outlining the streets, etc., for which the Contractor desires lines and grades. It is the intention not to delay the Work for the giving of lines and grades, but when necessary, work operations shall be suspended for such reasonable time as the Public Works Director may require for this purpose. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 05 - SUBCONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Public Works Director. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Public Works Director, a list of all Subcontractors. No Work shall be done by any Subcontractor until such Subcontractor has been officially approved by the Public Works Director. A subcontractor not appearing on the original list will not be approved without written request submitted to the Public Works Director and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Subcontractors and the Subcontractor is liable to be discharged by the Contractor, at the direction of the Public Works Director, for neglect of duty, incompetence or misconduct.

Acceptance of any Subcontractor, other person, or organization by the Public Works Director shall not constitute a waiver of any right of Public Works Director to reject defective Work or Work not in conformance with the Contract Documents.

Contractor shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any Subcontractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any Subcontractor or other person, or organization, except as may otherwise be required by law.

GC – 06 - **QUANTITIES** - It is mutually agreed that the proposal shows the approximate amounts only along with the Plans and the general location. It is also mutually agreed that no change will be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Public Works Director shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract.

The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC–07 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 08 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

The Contractor shall be required to observe all the ordinances in relation to obtaining permits for occupying, excavating, or in any way obstructing the streets and alleys. He shall erect and maintain barricades and sufficient safeguards around all excavations, embankments or obstructions; he shall place sufficient warning lights at or near the Work; keep the same burning from sunset to sunrise, employ watchmen, and strictly obey all laws and ordinances controlling or limiting those engaged in similar work.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given, and all the facilities, afforded the owners of such construction encountered or likely to be encountered, as will enable them to preserve the same from injury.

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

Where lifting operations involving the use of specialized cranes are required as part of construction, Contractor must make undertake the following investigation and submit the results and documentation to the Engineer prior to commencing any lifting operations: marking a very specific area in the field for the placement of the crane; a drawing showing the limitations of the job operation (i.e. not over adjacent properties or pedestrian and high vehicular traffic areas);underground utility exploration in the vicinity of the crane location, which may include ground penetrating radar to identify voids or old pipe or other subsurface features that could lead to sudden failure; assessment of the underlying soil and roadway materials and a worst case analysis based on entire load being distributed on just one or two outriggers; provision of properly sized pads under the outriggers; loading charts from manufacturer showing allowable configurations/loads; and inspection to make sure crane operation is in accordance with the permit conditions.

GC - 09 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Public Works Director may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 10 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, or other data received from the Public Works Director, and shall notify the Public Works Director of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflictions, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting there from nor from rectifying such condition at his own expense.

GC - 11 - SUPPLEMENTARY DRAWINGS - When, in the opinion of the Public Works Director, it becomes necessary to explain more fully the Work to be done, or to illustrate the work further, or to show any changes which may be required, drawings, known as supplementary drawings, with specifications pertaining thereto, will be prepared by the Public Works Director and copies will be given to the Contractor.

The supplementary drawings shall be binding upon the Contractor with the same force as the original Plans. Where such supplementary drawings require either less or more than the estimated quantities of work, credit to the City or compensations therefore to the Contractor shall be subject to the terms of the Contract.

GC - 12 - MATERIALS AND WORKMANSHIP - All material and workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of dispute the Public Works Director's decision shall be final. Wherever the Plans, specifications, Contract Documents, or the directions of the Public Works Director are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Public Works Director, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

In all cases, new materials shall be used, unless this provision is waived by notice from the City in writing.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and bench marks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed surveyor if disturbed or destroyed during the course of construction.

GC - 14 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 15 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over $100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 16 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry separate bodily injury and property damage insurance in the amounts as stated below. This insurance shall be taken out and maintained during the life of the Contract.

Bodily injury insurance in an amount not less than $500,000.00 for injuries, including wrongful death to any one person, and subject to the same limit for each person, in an amount not less than $1,000,000.00 on account of any one occurrence, and

Property damage insurance in an amount not less than $500,000.00 for damages on account of any one occurrence and in an amount not less than $1,000,000.00 for damages on account of all occurrences.

GC - 17 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aide services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Public Works Director every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 18 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are necessary for the protection of its employees, as well as the public and City employees. All riggings and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 19 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance by the above methods, and then he will be required to immediately construct temporary patches per City standards.

GC - 20 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at his own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or maintain such barricades, warning lights, etc., the Public Works Director may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 21 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road. The following section: Part VI Traffic Controls for Street and Highway Construction and Maintenance Operations, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. Department of Transportation Federal Highway Administration, 2009, or current edition, shall be used as a guide for requirement and placement of traffic control devices, signs and barricades. The Public Works Director shall determine requirements for the above. The above publication is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. In the event that a Maintenance of Traffic (MOT) Plan is required, the Plan shall be prepared by an A.A.S.T.A. certified technician.

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times.

GC - 22 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Public Works Director before construction is started and shall coordinate his Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange his Work and dispose of his materials so as to not interfere with the operation of other Contractors engaged upon adjacent work and to join his Work to that of others in a proper manner and to perform his Work in the proper sequence in relation to that of other Contractors all as may be directed by the Public Works Director.

Each Contractor shall be responsible for any damage done by him or his agents to the work performed by another Contractor.

The Contractor shall contact the Broward County Transportation Department and the Florida Department of Transportation, as applicable, to verify and obtain location of any and all traffic conduits, loops, and street light underground services.

GC - 23 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing

Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 24 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2018), that it is not engaged in a boycott of Israel, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2018), as may be amended or revised. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2018), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2018), or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2018), as may be amended or revised.

GC - 25 - LOCATION OF UNDERGROUND FACILITIES - If the Proposer, for the purpose of responding to this solicitation, requests the location of underground facilities through the Sunshine State One-Call of Florida, Inc. notification system or through any person or entity providing a facility locating service, and underground facilities are marked with paint, stakes or other markings within the City pursuant to such a request, then the Proposer shall be deemed non-responsive to this solicitation in accordance with Section 2-184(5) of the City of Fort Lauderdale Code of Ordinances.

GC - 26 – USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), The City specifies that lumber, timber, and other forest products used for this project shall be produced and manufactured in the state of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture.

The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC – 27 – PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the Solicitation purporting to require confidentiality of any portion of the Proposer's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the

exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. Proposals purporting to be subject to copyright protection in full or in part will be rejected.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Telephone Number: **(954) 828-5002**

Mailing Address: **City Clerk's Office**
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

E-mail: **prrcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, 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 in Chapter 119, Florida Statutes (2018), as may be amended or revised, or as otherwise provided by law.

3. 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 term and following completion of this contract if the Contractor does not transfer the records to the City.

4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Contract, the Contractor shall destroy any duplicate public records

that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

DETAILED SPECIFICATIONS
PROJECT 12458
ANNUAL SIDEWALK, ASPHALT, AND PAVER EMERGENCY REPAIR

GENERAL: The work consists of furnishing all labor, material, equipment and incidentals necessary for the construction of the contract items indicated by the Proposal within City streets, rights-of-way and other City-owned property. All work shall be in accordance with the City's CONSTRUCTION STANDARDS AND SPECIFICATIONS except where stated otherwise herein.

The City of Fort Lauderdale is responsible for maintaining over 1,400 miles of underground piping for the distribution and collection of water, wastewater, and stormwater. This work often involves the removal of asphalt, concrete sidewalks, paver bricks, curbs and other materials so that the pipe can be accessed. The areas must then be restored for both the benefit and safety of the public. The contractor is to supply all labor, permits, equipment, and materials necessary for the replacement of these contract items.

Work under this contract will generally be in the form of numerous work assignments for relatively small size jobs. No guarantee shall be made regarding the quantity or size of work assignments. As a point of reference, the previous contractor averaged twenty-seven (27) work assignments per month. Individual work assignments may include quantities that may exceed or be less than the quantities show on the bid item list.

Samples of Work Assignments:

A. Removal and construction of two “flags” (5’ x 5’ sections) of 4” thick concrete sidewalk to be replaced as a result of relocation of meter boxes into the sidewalk.

B. Construction of 20’ of standard concrete curb and gutter as a result of a water line repair.

Suitable barricades and lights shall be placed by the Contractor to protect the public prior to the removal of sidewalk, curb, etc., and shall remain until replaced concrete is sufficiently hard to sustain pedestrian traffic. Barricades and lights shall be removed as soon as possible after placing concrete.

The Contractor shall arrange his work and dispose of his materials so as not to interfere with the operations of other Contractors engaged upon adjacent work and in accordance with the Plans and Specifications, and perform his work in the proper sequence in relation to that of other Contractors, or as may be directed by the Engineer.

Each Contractor shall be held responsible for any damage done by him or his agents to work performed by another Contractor.

The quantities of work in the Proposal section of this contract are rough approximations only. The total quantities of work to be included in this contract and actually performed may vary widely and some items may be completely eliminated depending upon the work that will be authorized by the City during the period of this contract, by field conditions or availability of funds.

CONTRACT DATES: The termination date for issuance of purchase orders shall be two (2) years from effective date of the agreement, whichever comes first. All work orders issued before the contract termination must be completed under this contract even if contract has expired.

MOBILIZATION AND DEMOBILIZATION: This item includes moving of equipment on and off the job, traffic maintenance, insurance, and bonds. One (1) mobilization and demobilization will be allowed for work within one (1) square mile and on the same PO. Once the Contractor starts work on an assigned job by authorized City personnel, he shall remain on the job for the necessary number of consecutive working days until it is completed. The City authorized personnel shall determine when the work is completed. Leaving the job before the work is completed makes the Contractor responsible for liquidated damages of $500 per day for each day off the jobsite until the work has been inspected and approved as complete.

CONCRETE CONSTRUCTION: **All concrete strength must be 3000 psi.** The Contractor will be responsible for establishing the grade and squaring of the valve meter boxes and miscellaneous fixtures to the existing line and grades of the existing building and curb. Where a sidewalk under-drain is encountered, the Contractor will exercise care in the removal and replacement; however, if it is constructed in such a manner that it is impossible to salvage, the City will supply the necessary materials and the Contractor will perform the work at no extra cost.

WHEELCHAIR RAMPS: Existing concrete shall be neatly cut on straight lines with a concrete saw and all excavated concrete and excess material shall be disposed of. A minimum of 9-feet of curb and gutter or curb shall be removed and replaced with standard drop curb with transitions to standard curb and gutter placed monolithically with minimum 6-inch-thick concrete sidewalk ramp and transitions to the remaining sidewalk. All ramps shall have detectable warning surface truncated domes as on detail specifications, epoxy-type installation, armor tile - cast in place or approved equal detectable warning surface on each ramp location. The Engineer will determine detectable warning surface color at time of application. Stabilized and compacted sub-base shall be provided for the support of the wheelchair ramp structure.
Payment for wheelchair ramps will be made on the basis of the unit price bid for each wheelchair ramp, complete, in place.

CONCRETE GRINDING/HORIZONTAL SAW-CUTTING: This item is for the grinding or horizontal saw cutting of concrete sidewalks and concrete header curbs. Grinding and horizontal saw cutting shall be performed so that the sidewalk surface has essentially the same or slightly rougher texture adjacent to either side of the joint or crack. The finished surface shall have a rectangular appearance consisting of a straight back line with no stray grinding marks. The adjacent concrete shall remain relatively untouched by the grinding process without scars or damage. Grinding or horizontal saw cutting will be performed using dry, horizontal carbide grinding equipment that will leave a non-slip surface. The finished slope shall be a maximum of 12:1 (12” back for 1” high). The Contractor shall remove and properly dispose of all residues from grinding/saw cutting process. Each grind shall leave a smooth transition to adjacent areas. See detail on page detail specifications.

FDOT INLETS: Existing FDOT type storm drain inlets to be repaired shall have the top slab and as much of the gutter and inlet apron as may be necessary removed, disposed of, and reconstructed according to the Standard Drawing for FDOT Inlets.

REINFORCED CONCRETE DEMOLITION: This work is for the demolition, hauling and disposal of any type of reinforced concrete structure, including but not limited to: walls, seawall caps, ramps, poles, posts, beams, columns, abutments, footers, footing, steps, etc. The demolition shall not extend beyond 36 inches below grade elevation.

PAVER BLOCK REPLACEMENT: These items are for the removal of old broken or damaged paving blocks and replacement with new blocks of same type and color. These items include reworking the base material and addition or removal of sand-leveling course as necessary to replace the paving blocks to original grade and condition.

The sand-leveling course shall consist of 1-1/2-inch-minimum-thickness of clean (washed), sharp and coarse sand on a 1/8-inch sieve. Sand shall be free of salt contamination. An approved herbicide shall be applied per manufacturer's recommendations prior to installation of the paving blocks. Sand shall be screeded or leveled prior to replacement of the original paving blocks. (Refer to manufacturer's specifications for more detail.)

PAVER BLOCK RESTORATION: These items are for the removal and replacement of same paving blocks that have settled or become misaligned. These items include reworking the base material and addition or removal of sand-leveling course as necessary to replace the paving blocks to original grade and condition.

The sand-leveling course shall consist of 1-1/2-inch-minimum-thickness of clean (washed), sharp and coarse sand on a 1/8-inch sieve. Sand shall be free of salt contamination. An approved herbicide shall be applied per manufacturer's recommendations prior to installation of the paving blocks. Sand shall be screeded or leveled prior to replacement of the original paving blocks. (Refer to manufacturer's specifications for more detail.)

CLAY BRICK PAVER REPLACEMENT AND AREA RESTORATION: This item is for the removal of old broken and/or damaged clay brick pavers that have settled and/or become misaligned, and replacement with new paver bricks of similar size and color.

TREE GRATES: All work performed on trees shall be in conformance with the CODE OF ORDINANCES OF THE CITY OF FORT LAUDERDALE, FLORIDA, Section 47-58.12(D) entitled "Tree Abuse."

ROOT PRUNING: All work performed on trees shall be in conformance with the CODE OF ORDINANCES OF THE CITY OF FORT LAUDERDALE, FLORIDA, Section 47-58.12(D) entitled "Tree Abuse." Roots shall be pruned to within 6-inches of nearest concrete walk or curb, or as agreed to by the Engineering Inspector.

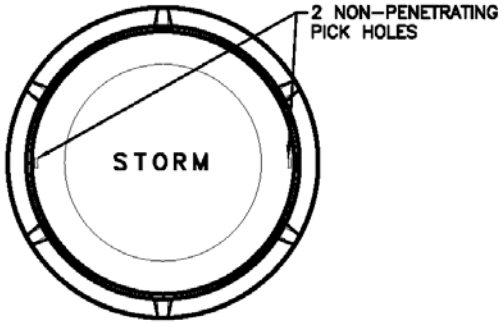
MAINTENANCE OF TRAFFIC: Contractor shall be responsible for maintaining traffic in accordance with the Florida Department of Transportation, Broward County and all other applicable local agency requirements. Contractor shall be responsible for obtaining all applicable permits for maintenance of traffic.

PROTECTION AND RESTORATION OF SURVEY MONUMENTS

The Contractor shall carefully protect from disturbances all survey monuments, stakes and bench marks, whether or not established by him, or he shall not remove nor destroy any surveying point until it has been properly witnessed or otherwise disposed of by the Engineer. All major survey monuments such as section corners, property corners, or block control points shall be replaced at the Contractor's expense with markers of a size and type approved by the Engineer. The replacement shall be under the supervision of a Florida Registered Land Surveyor.

SURVEYING BENCH MARKS AND CONTROL POINTS: The Contractor is responsible for all layout, construction, and as-built surveying. However, in the event that a survey has been performed and provided by the City Surveyor, the Contractor is responsible to protect and preserve all reference points and stakes established by the City Surveyor. In the event the stakes are damaged or moved, the Contractor shall be responsible for re-establishing the field reference points and stakes at his own expense.

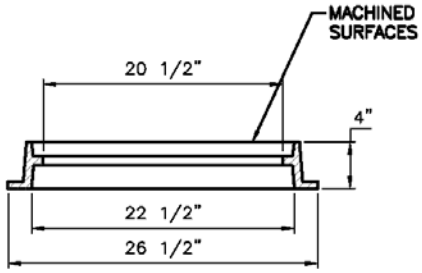
CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER





COVER

MACHINED SURFACES



FRAME

NOTES:

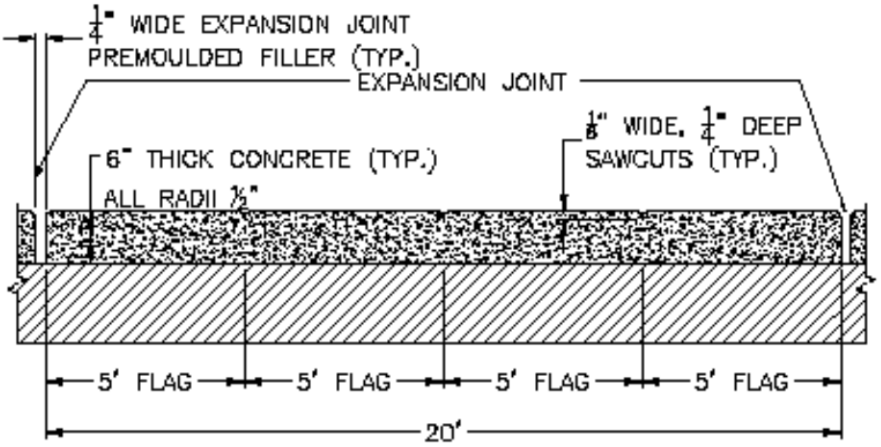
1. MATERIAL: FRAME AND COVER AS SPECIFIED.
2. ADDITIONAL GRADE RINGS MAY BE USED TO ELEVATE EXISTING MANHOLE FRAMES TO RESURFACED GRADE (MAX. 4" HEIGHT).
3. ALL DIMENSIONS ARE NOMINAL.
4. OPTIONAL: HINGED FRAME AND COVER AS SPECIFIED.

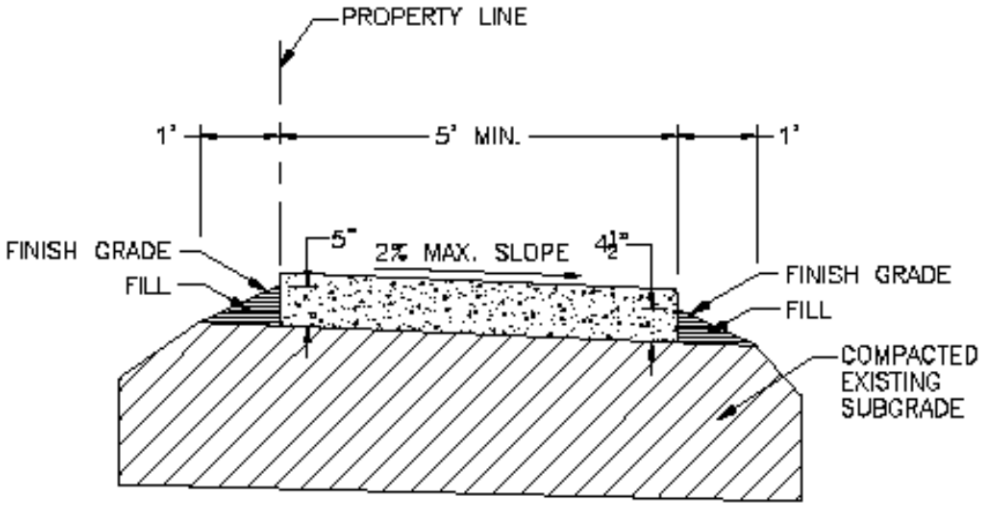
MANHOLE FRAME & COVER (201)

DATE: FEB'06	SCALE: N.T.S.	MANHOLE FRAME AND COVER UNPAVED AREAS	S 201 1 OF 1
REVISED: MARCH '09	DRAWN BY: R.C.		

CITY OF FORT LAUDERDALE

OFFICE OF THE CITY ENGINEER





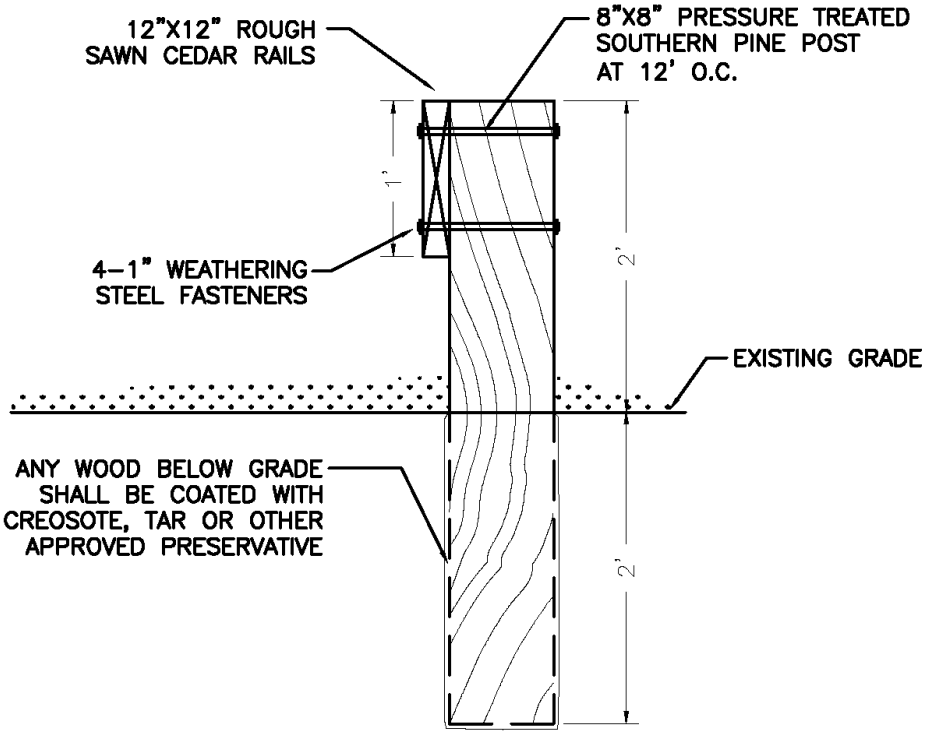
NOTES:

1. A MINIMUM OF 6" THICK SIDEWALK IS REQUIRED ON ALL SIDEWALK APPLICATIONS.
2. CONCRETE STRENGTH SHALL BE 3000 P.S.I.
3. THE USE OF REINFORCEMENT WILL NOT BE PERMITTED.
4. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

DATE: JAN.'82	SCALE: N.T.S.	SIDEWALK CONSTRUCTION	C 2.1
REVISED: OCT. 2015	DRAWN BY:		

CITY OF FORT LAUDERDALE

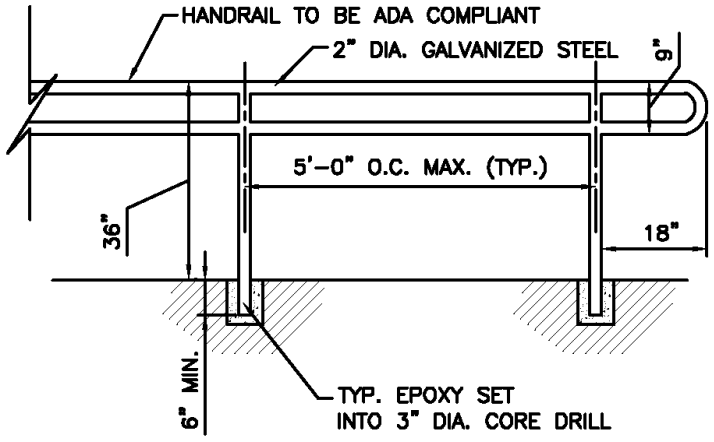
OFFICE OF THE CITY ENGINEER



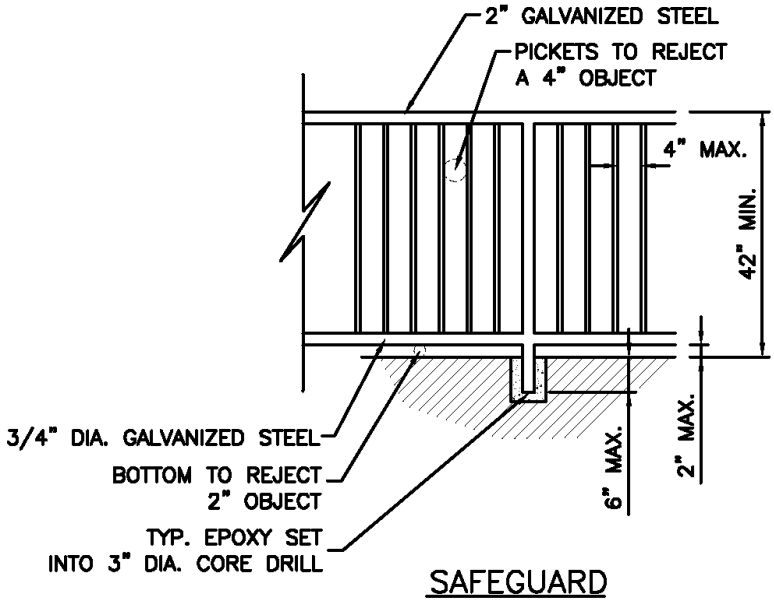
TYPICAL WOOD RAIL FENCE POST

DATE: 04/2012	SCALE: N.T.S.	TYPICAL WOOD RAIL	
REVISED:	DRAWN BY: W.D.		

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



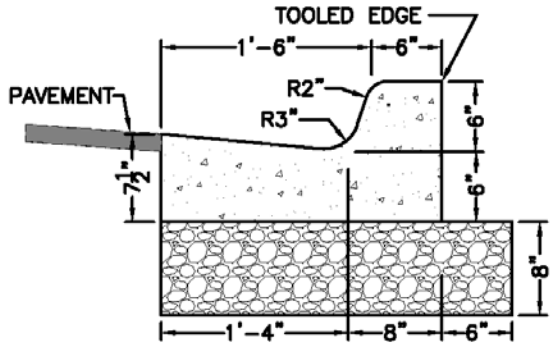
HANDRAIL



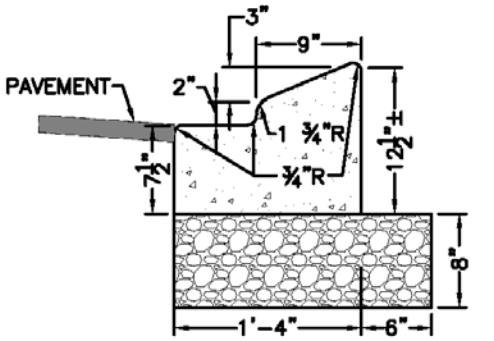
SAFEGUARD
(REQ'D FOR DROPS OF 30" OR GREATER)

DATE: 04/2012	SCALE: N.T.S.	HANDRAIL & SAFEGUARD	
REVISED:	DRAWN BY: W.D.		

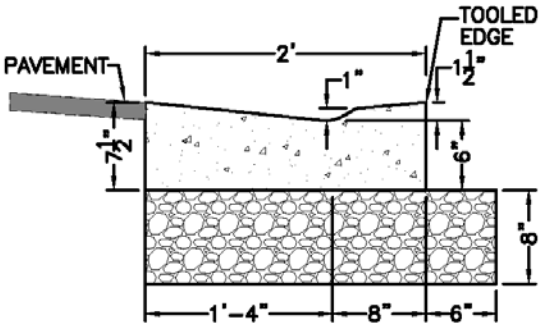
CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



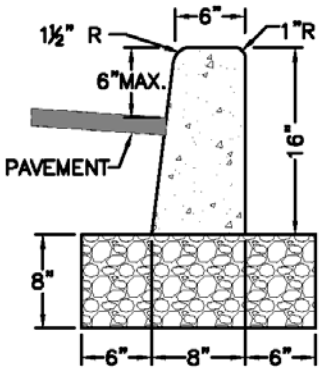
TYPE 'F' CURB & GUTTER



TYPE 'A' MEDIAN CURB



DROP CURB



TYPE 'D'

NOTE:

1. ALL CURBS MUST HAVE AN 8" THICK MINIMUM STABILIZED LIMEROCK BASE, COMPACTED TO 98% MAX. DENSITY PER AASHTO T-180.
2. ALL CONCRETE STRENGTH TO BE 3000 P.S.I.

DATE: JAN.'82	SCALE: N.T.S.	STANDARD CURB DETAILS	C
REVISED: MARCH '09	DRAWN BY:		3.1
			1 OF 2

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

ADA CURB RAMPS GENERAL NOTES*:

1. PUBLIC SIDEWALK CURB RAMPS SHALL BE CONSTRUCTED IN THE PUBLIC RIGHT OF WAY AT LOCATIONS THAT WILL PROVIDE CONTINUOUS UNOBSTRUCTED PEDESTRIAN CIRCULATION PATHS TO PEDESTRIAN AREAS, ELEMENTS, AND FACILITIES IN THE PUBLIC RIGHT OF WAY AND TO ACCESSIBLE PEDESTRIAN ROUTES ON ADJACENT SITES. CURBED FACILITIES WITH SIDEWALKS AND THOSE WITHOUT SIDEWALKS ARE TO HAVE CURB RAMPS CONSTRUCTED AT ALL STREET INTERSECTIONS AND AT TURNOUTS THAT HAVE CURBED RETURNS. RAMPS CONSTRUCTED AT LOCATIONS WITHOUT SIDEWALKS SHALL HAVE A LANDING CONSTRUCTED AT THE TOP OF EACH RAMP.

2. THE LOCATION AND ORIENTATION OF CURB RAMPS SHALL BE AS SHOWN IN THE PLANS.

3. CURB RAMP RUNNING SLOPES AT UNRESTRAINED SITES SHALL NOT BE STEEPER THAN 1:12 AND CROSS SLOPE SHALL BE 0.02 OR FLATTER. TRANSITION SLOPES SHALL NOT BE STEEPER THAN 1:12.

WHEN ALTERING PEDESTRIAN FACILITIES WHERE EXISTING SITE DEVELOPMENT PRECLUDES THE ACCOMMODATION OF A RAMP SLOPE OF 1:12, A RUNNING SLOPE BETWEEN 1:12 AND 1:10 IS PERMITTED FOR A RISE OF 6" MAXIMUM AND A RUNNING SLOPE OF BETWEEN 1:10 AND 1:8 IS PERMITTED FOR A RISE OF 3" MAXIMUM. WHERE COMPLIANCE WITH THE REQUIREMENTS FOR A CROSS SLOPE CANNOT BE FULLY MET, THE MINIMUM FEASIBLE CROSS SLOPE SHALL BE PROVIDED.

RAMP RUNNING SLOPE IS NOT REQUIRED TO EXCEED 8' IN LENGTH, EXCEPT AT SITES WHERE THE PLANS SPECIFY A GREATER LENGTH.

4. IF A CURB RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, THEN THE WALK SHALL HAVE TRANSITION SLOPES TO THE RAMP; THE MAXIMUM SLOPE OF THE TRANSITIONS SHALL BE 1:12. RAMPS WITH CURB RETURNS MAY BE USED AT LOCATIONS WHERE OTHER IMPROVEMENTS PROVIDE GUIDANCE AWAY FROM THAT PORTION OF THE CURB PERPENDICULAR TO THE SIDEWALK; IMPROVEMENTS FOR GUIDANCE ARE NOT REQUIRED AT CURB RAMPS FOR LINEAR PEDESTRIAN TRAFFIC.

* AMENDED FROM FDOT INDEX 304

DATE: JAN.'82	SCALE: N.T.S.	ADA CURB RAMPS	C
REVISED: MARCH '09	DRAWN BY:	(FOR DETAILS C4.2 - C4.9)	4.1
			1 OF 2

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

ADA CURB RAMPS GENERAL NOTES *: (CONT'D)

5. CURB RAMP DETECTABLE WARNING SURFACE SHALL EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24" FROM THE BACK OF THE CURB. DETECTABLE WARNING SURFACES SHALL BE VANGUARD, ARMOR TILE, OR APPROVED EQUAL.

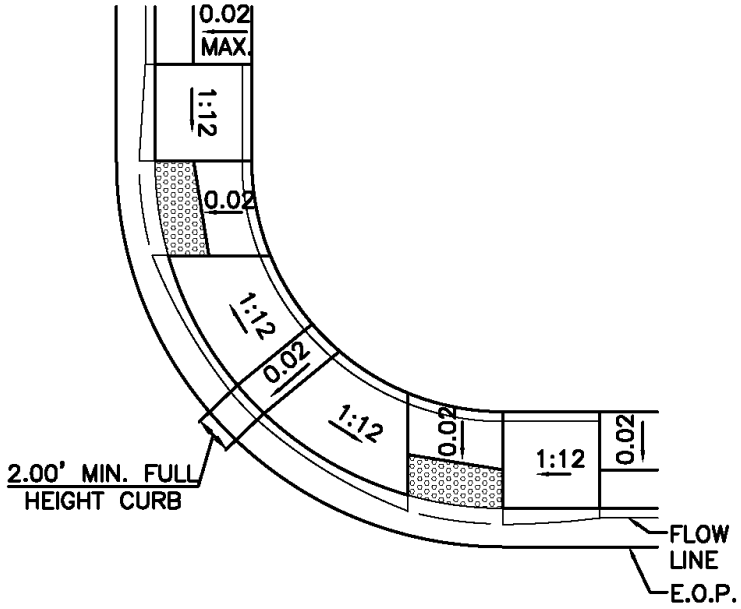
6. WHERE A RAMP IS CONSTRUCTED WITHIN EXISTING EXISTING CURB, CURB AND GUTTER, AND/OR SIDEWALK, THE EXISTING CURB OR CURB AND GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITIONS OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB AND GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE OR WALK AROUND OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG.

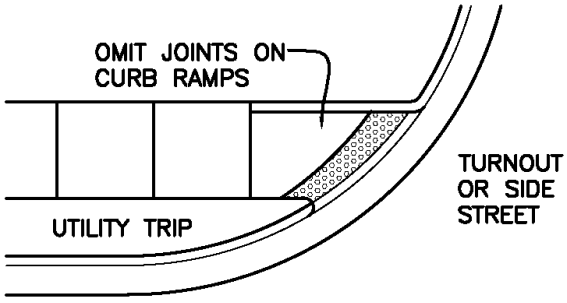
7. DETECTABLE WARNING SURFACE COLOR SHALL CONTRAST WITH SURROUNDING SURFACE AS DIRECTED BY CITY ENGINEER (DEFAULT COLOR IS YELLOW).

* AMENDED FROM FDOT INDEX 304

DATE: JAN.'82	SCALE: N.T.S.	ADA CURB RAMPS	C
REVISED: MARCH '09	DRAWN BY:	(FOR DETAILS C4.2 - C4.9)	4.1 2 OF 2

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



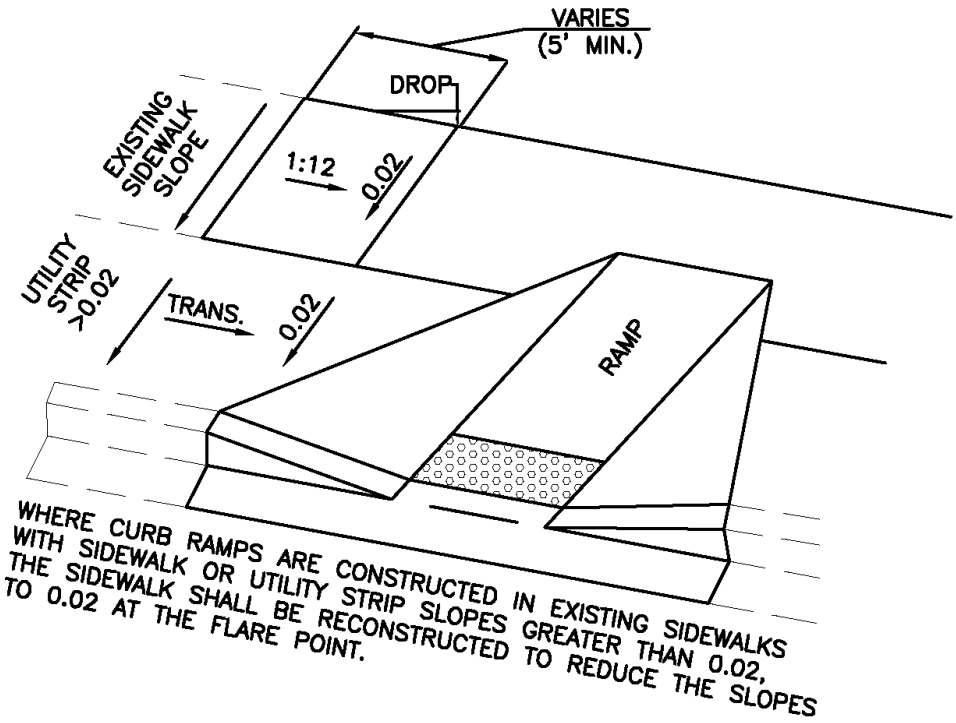


LINEAR SIDEWALK RAMPS *

* AMENDED FROM FDOT INDEX 304

DATE: JAN.'82 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY:	TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS	C 4.2 1 OF 2

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

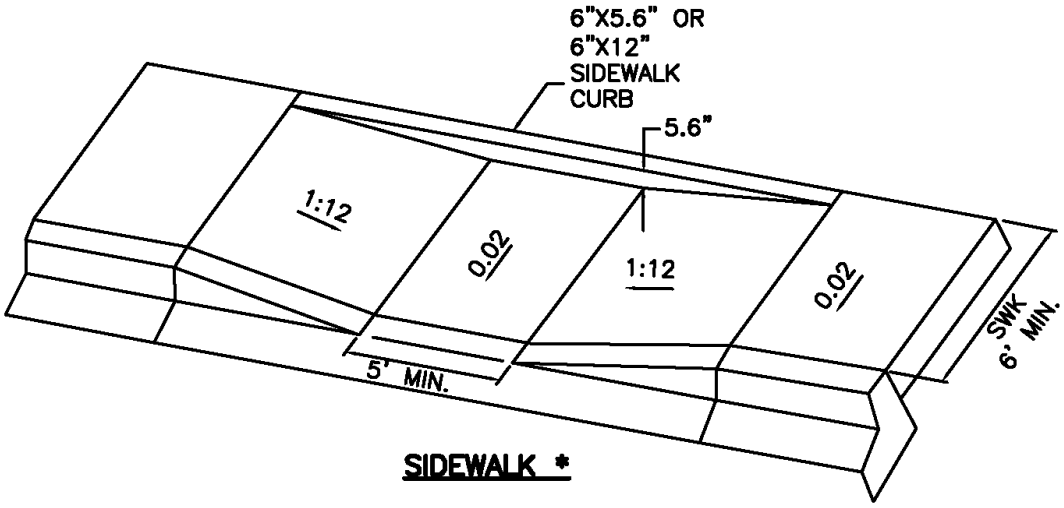


SIDEWALK / UTILITY STRIP * TRANSITION

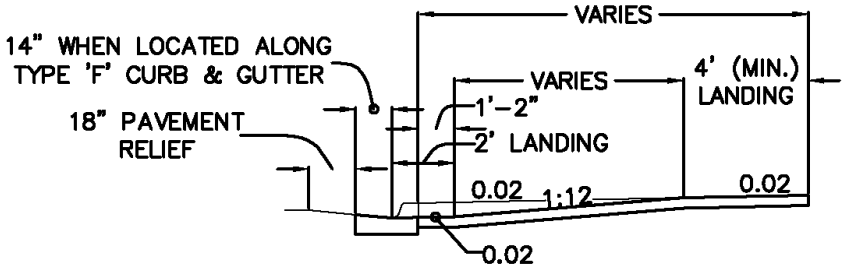
* AMENDED FROM FDOT INDEX 304

DATE: JAN.'82 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY:	TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS	C 4.2 2 OF 2

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OFFICE OF THE CITY ENGINEER



SIDEWALK *

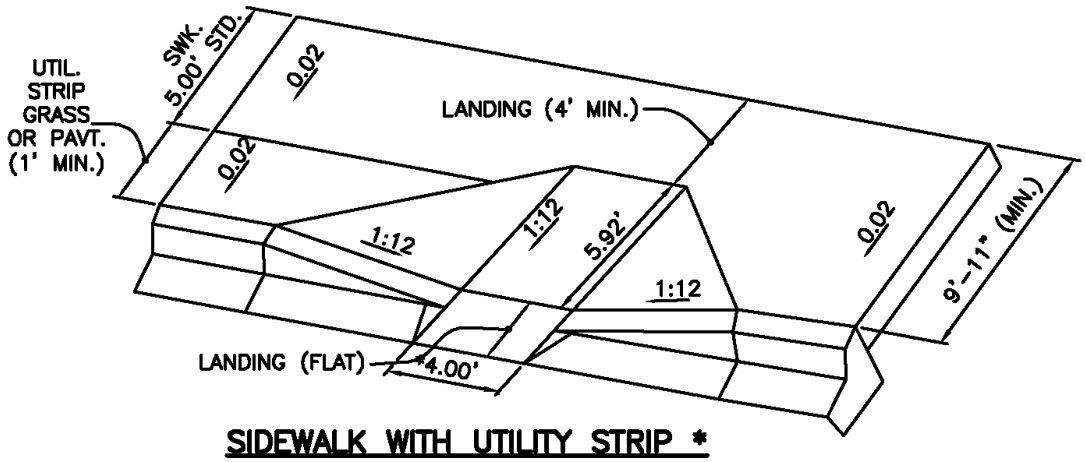


SECTION THROUGH RAMP RUN AND LANDINGS WITH * UPPER LANDING AT NORMAL SIDEWALK ELEVATION

* AMENDED FROM FDOT INDEX 304

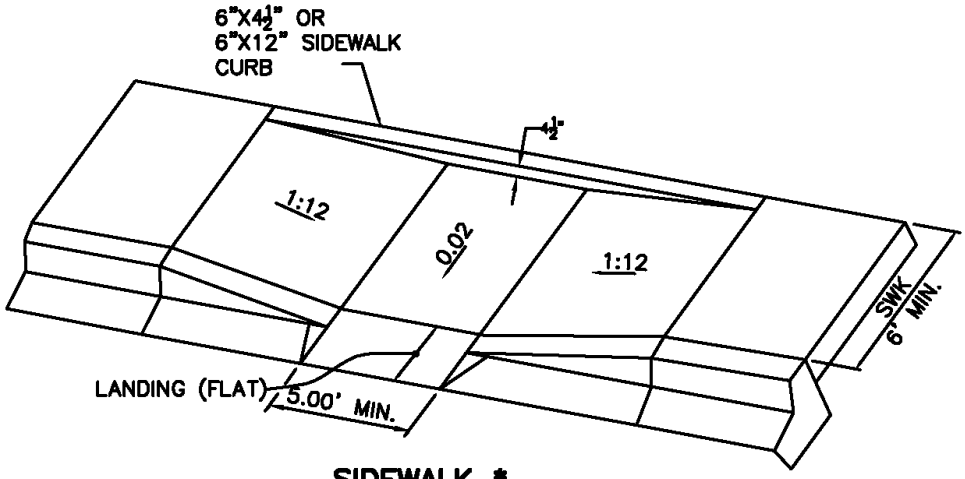
DATE: JAN.'81 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY:	DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK RAMPS WHERE RAMP AND LANDING DEPTH ARE NOT RESTRICTED BY R/W	C 4.3

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



SIDEWALK WITH UTILITY STRIP *

*MAY BE REDUCED TO 3' IN RESTRICTED CONDITIONS

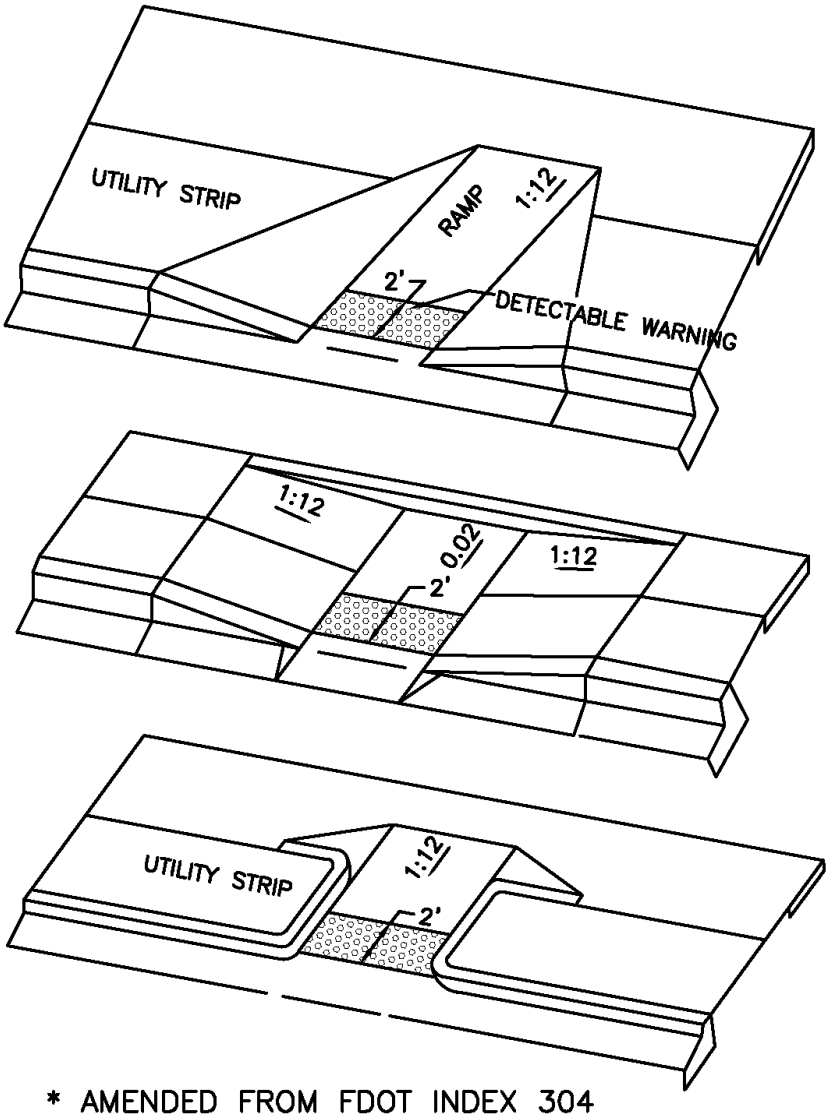


SIDEWALK *

* AMENDED FROM FDOT INDEX 304

DATE: JAN.'82	SCALE: N.T.S.	DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK CURB RAMPS WHERE RAMP AND LANDING DEPTH ARE RESTRICTED BY R/W	C 4.4
REVISED: MARCH '09	DRAWN BY:		

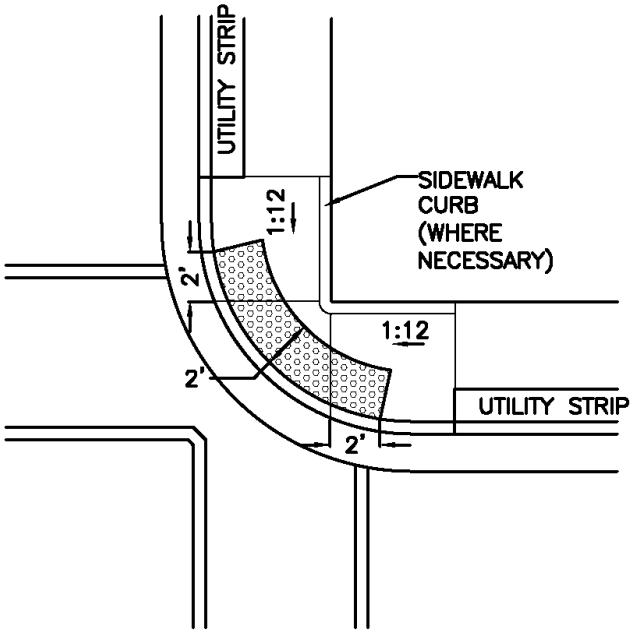
CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

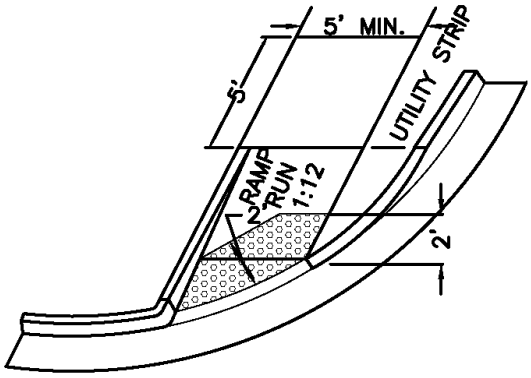


* AMENDED FROM FDOT INDEX 304

DATE: OCT.'08 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY: W.D.	TYPICAL PLACEMENT OF DETECTABLE WARNING ON CURB RAMPS	C 4.5 1 OF 2

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OFFICE OF THE CITY ENGINEER

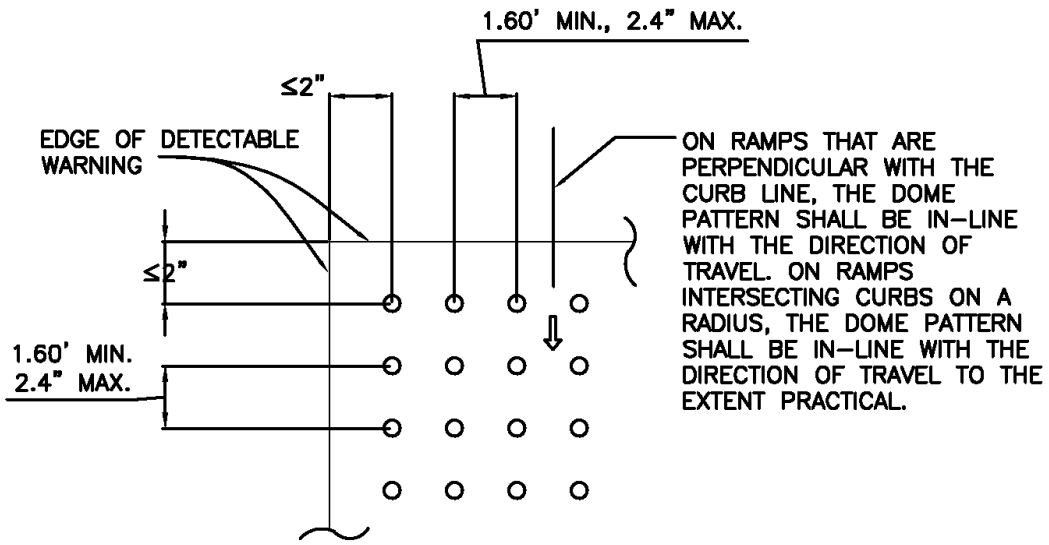




* AMENDED FROM FDOT INDEX 304

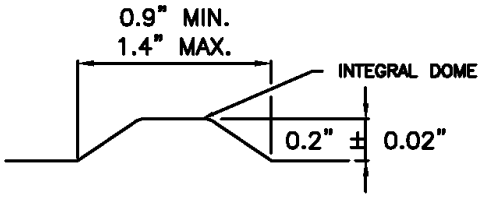
DATE: OCT.'08 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY: W.D.	TYPICAL PLACEMENT OF DETECTABLE WARNING ON CURB RAMPS	C 4.5 2 OF 2

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



BASE-TO-BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.

PLAN VIEW *



THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.

TRUNCATED DOME *

NOTE:
ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACE THAT EXTEND THE FULL WIDTH OF RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES FROM THE BACK OF THE CURB.

* AMENDED FROM FDOT INDEX 304

DATE: OCT.'08	SCALE: N.T.S.	CURB RAMP DETECTABLE WARNING DETAIL	C 4.6
REVISED: MARCH '09	DRAWN BY: W.D.		

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

1) CONTRACTOR SHALL GIVE SPECIAL ATTENTION TO ACHIEVE COMPACTION REQUIREMENTS AT AREAS ADJACENT TO EDGE RESTRAINTS, CATCH BASINS, AND UTILITY STRUCTURES.

2) CONTRACTOR SHALL FORM THE INTENDED SURFACE PROFILE OF THE BASE SO THAT THE PAVERS CAN BE PLACED ON A UNIFORM THICKNESS OF BEDDING SAND.

3) SURFACE OF COMPACTED BASE SHALL BE SMOOTH WITH A SURFACE SMOOTHNESS MAXIMUM TOLERANCE OF +/– 3/8" OVER A 10' STRAIGHTEDGE. UNEVEN AREAS OF THE LIMEROCK BASE SURFACE MUST BE MADE LEVEL PRIOR TO PLACING THE BEDDING SAND. BEDDING SAND SHALL NOT BE USED TO COMPENSATE FOR AN UNEVEN BASE.

4) CONTRACTOR SHALL ENSURE THAT ALL SURROUNDINGS CONTAINING EDGES, AND COMPACTED BASE ARE COMPLETED PRIOR TO INITIATING PAVER INSTALLATION.

5) BEDDING SAND SHALL CONFORM TO ASTMC33 (CONCRETE SAND) WITH 0% PASSING NO.200 SIEVE. SPREAD BEDDING SAND AT OPTIMUM MOISTURE CONTENT EVENLY OVER BASE AND SCREED SAND TO AN EVEN THICKNESS OF 1" (+/– 3/16in.). THE SCREEDED SAND SHOULD NOT BE DISTURBED.

6) LAY PAVERS IN THE PATTERN INDICATED. MAINTAIN STRAIGHT JOINT LINES. JOINTS BETWEEN PAVERS SHALL BE CONSISTENT AND BETWEEN 1/16 TO 1/8 INCH WIDE.

7) AFTER AN AREA OF PAVERS ARE PLACED, IT SHALL BE COMPACTED WITH A VIBRATING PLATE COMPACTOR, EXERTING 5000 LBS. OF CENTRIFUGAL COMPACTION FORCE, WITH SURFACE CLEAN AND JOINTS UNSANDED. A MINIMUM OF THREE PASSES SHALL BE MADE. PLATE VIBRATOR SHALL HAVE A RUBBER MAT OR ROLLER FEET TO AVOID CHIPPING THE PAVERS.

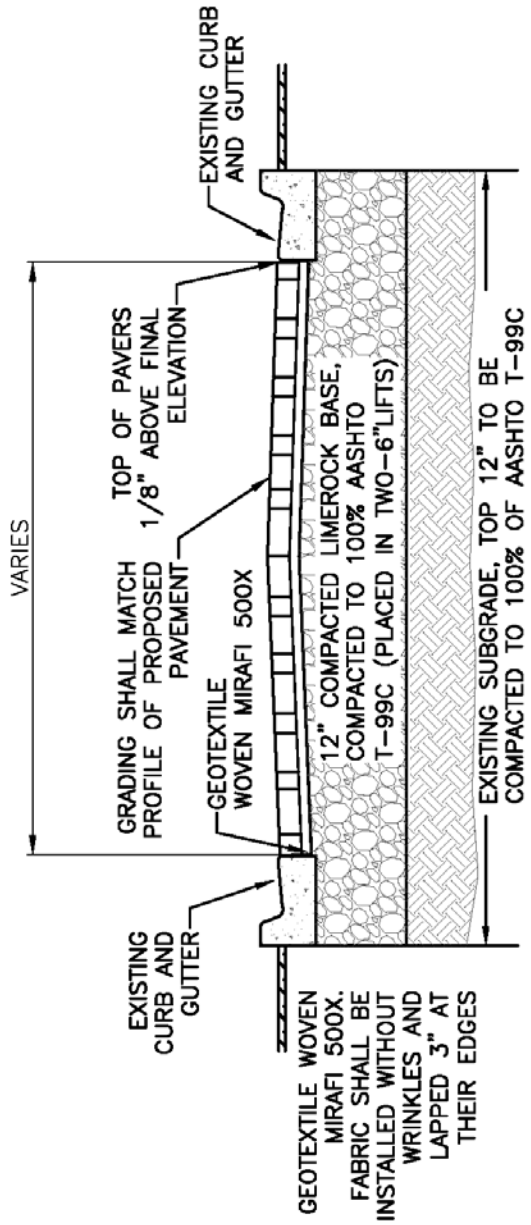
8) JOINT SAND SHALL BE FINER THAN THE BEDDING SAND TO FACILITATE FILLING OF THE JOINTS. THIS CAN OBTAINED BY PASSING THE BEDDING SAND THROUGH A No. 8 SIEVE. AFTER THE FIRST PASS OF THE PLATE COMPACTOR, DRY JOINT SAND SHALL BE SWEPT INTO THE JOINTS AND THE PAVERS COMPACTED, REPEAT THE PROCESS UNTIL THE JOINTS ARE FILLED WITH SAND. WET SAND SHALL NOT BE INSTALLED.

9) CONTRACTOR SHALL LEAVE TOP OF PAVERS 3/16" ABOVE FINAL ELEVATION TO COMPENSATE FOR POSSIBLE MINOR SETTLING.

10) ALL CUTS TO BE VERTICAL AND TRUE, NO EDGE PIECE TO BE SMALLER THAN 1/3 FULL PAVER SIZE.

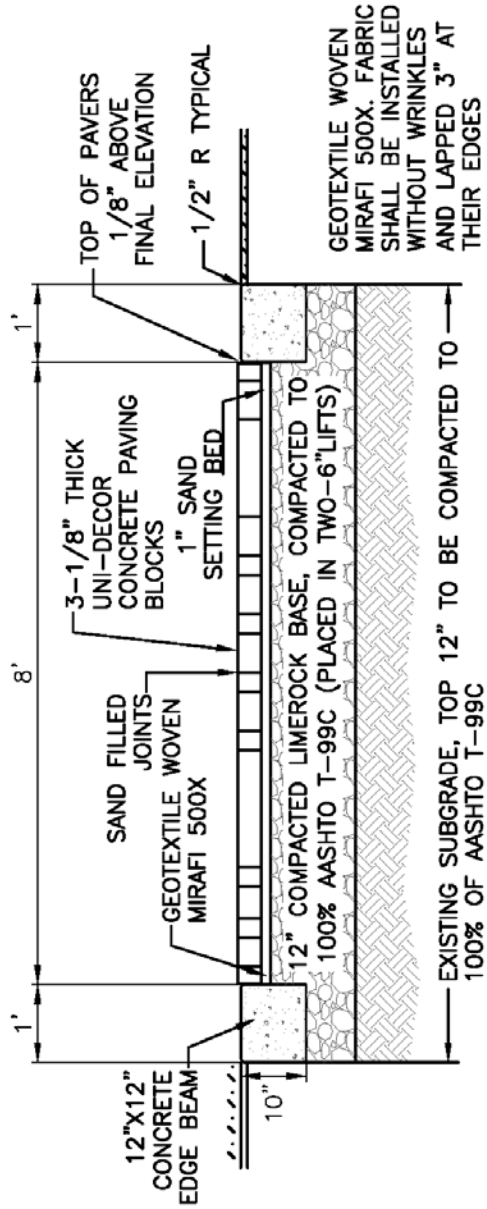
DATE: JAN.'09	SCALE: N.T.S.	PAVERS WITH LIMESTONE BASE	C
REVISED: MARCH '09	DRAWN BY: R.C.	CONSTRUCTION NOTES	1.4 3 OF 3

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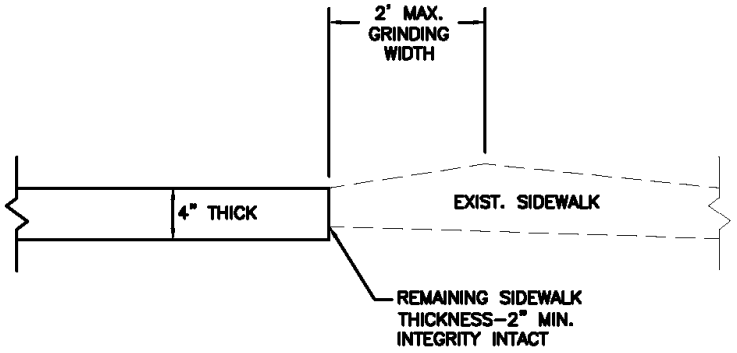
DATE: JAN.'09	SCALE: N.T.S.	PAVERS WITH LIMESTONE BASE	C
REVISED: MARCH '09	DRAWN BY: R.C.	LONGITUDINAL SECTION	1.4
			2 OF 3

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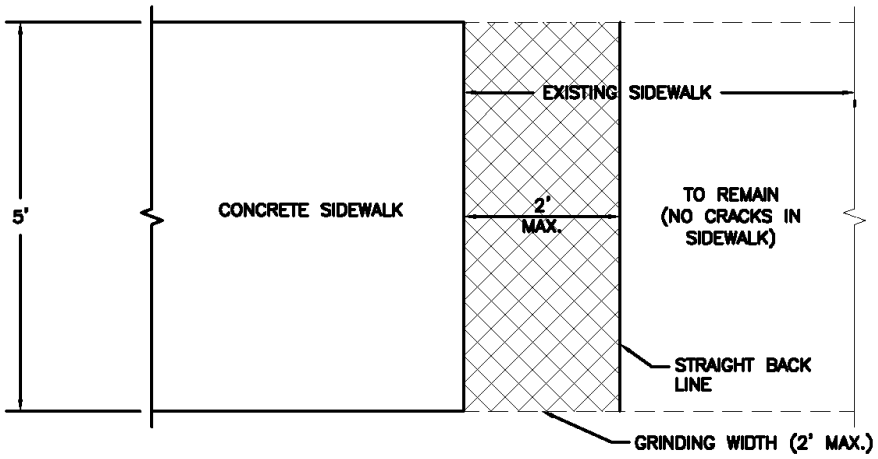


DATE: JAN.'09 REVISED: MARCH '09	SCALE: N.T.S. DRAWN BY: R.C.	PAVERS WITH LIMESTONE BASE CROSS SECTION	C 1.4 1 OF 3

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



SIDEWALK (SIDE VIEW)



SIDEWALK (PLAN VIEW)
CONCRETE SIDEWALK GRINDING DETAIL

DATE: 04/2012	SCALE: N.T.S.	CONCRETE SIDEWALK GRINDING DETAIL	
REVISED:	DRAWN BY: W.D.		

STAMPED ASPHALT SPECIFICATIONS

SURFACE PREPARATION

The pavement surface shall be dry and clean: free of all dirt, debris, salts, concrete admixtures and any chemical residues.

A. Bituminous residue must be removed from new pavement surface prior to installation of imprint.

B. Removal of contaminants may be done by brooming, compressed air, pressure washing or if necessary, light-grit blasting. Wire brush may be used to remove loose or powdery materials.

C. Surfaces with a high degree of porosity require a primer before imprint is installed. Thermobond primer available from integrated Paving Concepts Inc. is the recommended primer.

INSTALLATION OF IMPRINT

Imprint is to be installed only by an accredited imprint installer.

A. Application temperature conditions:

B. Application thickness: imprint is to be applied at a thickness of 0.6-inch to 0.8-inch.

C. For substrates that have properly installed control joints to the extent where possible, it is recommended to lay the imprint pattern in such a way that the natural joints of the pattern coincide with the construction joints in the substrate. To help mitigate reflective cracking through to the imprint, a construction joint coinciding with the substrate control joint must be installed in the imprint.

D. The imprint material shall be prepared for installation utilizing a heating kettle specifically designed for hot applied polymer modified synthetic asphalt surface treatment and capable of mixing components to a homogenous consistency. The material shall be heated within the temperature range of 374°F – 410°F prior to installation. To preserve the integrity of the material, do not overheat the imprint material.

E. The imprint material shall be uniformly distributed onto the pavement surface by means of pre-heated finishing irons.

STAMPED ASPHALT SPECIFICATIONS (Continued)

F. The heated and mixed material is hand applied over the prepared surface at an average depth of between 0.6-inches and 0.8-inches. Grade control devices may be used by the accredited imprint installer to ensure the proper thickness is obtained.

G. Interface with adjacent surfaces shall be flush, providing smooth transition from surface to surface. Precautions to protect the immediate perimeter around the installation are to be taken.

H. Applying the sand cover: Immediately apply the dried silica sand at an approximate rate of 0.2 lb./SF. The placement of this material does not require any compaction.

I. Imprinting the pattern design: The accredited imprint installer will stamp the pattern into the semi-molten material immediately after the silica sand application using an approved mold. The mold is pressed into the material to a depth of between 0.2 inches and 0.04 inches, depending on the thickness of the material.

J. After initial set, remove excess aggregate by hand or suction sweeping prior to opening to traffic.

K. Heat all cold edges to ensure good adhesion between successive applications of material.

TECHNICAL SPECIFICATIONS

SECTION 010000 - GENERAL REQUIREMENTS

PART 1 PROJECT DESCRIPTION

1.01 GENERAL

A. A brief description of the Work is stated in the INVITATION TO BID. To determine the full scope of the project or any particular part of the project, coordinate the applicable information in these Contract Documents and review the available project drawings.

B. Project specific drawings if necessary will accompany each separate Written work request (TO) under this contract and will become part of the specification. If specifications are not issued with the individual written work request, the requirements set forth in the specifications for the award of this contract shall apply for each separate, subsequent associated Written work request. If a conflict occurs between the individual written work request specification and the Contract specifications, the most stringent requirement shall apply. Unless indicated in the specific statement of work / written work request, for written work requests with a value less than $750,000 with a duration less than six (6) months, specifications 01 32 16.00 25 Construction Progress Schedule and 01 45 00.10 25 Quality Control For Minor Construction shall apply; for written work requests with a value equal to and greater than $750,000 and a duration equal to or greater than six (6) months, specification sections 01 32 17.00 25 Network Analysis Schedules and 01 45 00.00 25 Quality Control shall apply. Additionally, when work is in the vicinity of the airfield, specification 01 35, 13.00 25 Special Project Procedures shall apply. Contractor shall immediately check furnished drawings and specs for each written work request package and notify the CITY ENGINEER of any discrepancies.

C. Location: The work under each written work request associated with this contract may be located anywhere within the City of Fort Lauderdale.

D. Project Environmental Goals: Contractor shall distribute copies of the Environmental Goals to each subcontractor and the City Engineer. The overall goal for design, construction, and operation is to produce a facility/building that meets the functional program needs and incorporates the principles of sustainability. Specifically:

1. Preserve and restore the site ecosystem and biodiversity; avoid site degradation and erosion. Minimize offsite environmental impact.

2. Use the minimum amount of energy, water, and materials feasible to meet the design intent. Select energy and water efficient equipment and strategies.

3. Use environmentally preferable products and decrease toxicity level of materials used.

4. Use renewable energy and material resources.

5. Optimize operational performance (through commissioning efforts) in order to ensure energy efficient equipment operates as intended.

6. Consider the durability, maintainability, and flexibility of building systems.

7. Manage construction site and storage of materials to ensure no negative impact on the indoor environmental quality of the building.

8. Reduce construction waste through reuse, recycling, and supplier take-back.

E. Work under this Contract shall be performed by the Contractor as required by the City of Fort Lauderdale (City). Work will be authorized by a Notice to Proceed (NTP) issued to the Contractor. The Contractor shall complete all work within the number of calendar days stipulated in the Contract or written work request unless an extension in the time of completion is granted by the CITY'S ENGINEER, as stated in the Instructions to Bidders. Upon satisfactory completion of the work and compliance with applicable provisions in the Contract Documents, the Contractor will receive final payment for all work done.

~~F. Occupancy of Premises: Building(s) will be occupied during performance of work under this Contract. Before work is started, the Contractor shall arrange with the CITY ENGINEER a sequence of procedure, means of access, space for storage of materials and equipment, use of approaches and any potential impacts to traffic and/or installation operations.~~ **NOT USED**

G. Existing Work: In addition to requirements to protect existing vegetation, structures, equipment, utilities or other improvements, remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which will remain. Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the CITY'S ENGINEER. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

H. The following additional information, though not all-inclusive, is given to assist contractors in their evaluation of the work required to meet the project objectives.

I. The Contractor shall become familiar with the existing operating conditions of the City's water system, sewage transmission system and pumping stations and take such into consideration in planning and scheduling work. No extra claims shall be made for work required to achieve conditions beyond those obtainable under normal operation of the existing transmission, collection and pumping facilities necessary to accomplish the Work.

A. Contractor shall be required to submit a Maintenance of Traffic (MOT) plan for work in the county and state highways and City streets. Contractor shall coordinate with MOTs for nearby or highway work and obtain approval for all traffic control as required by the permits contained elsewhere in this Section.

PART 2 SEQUENCE OF OPERATIONS

2.01 SCHEDULING

A. General: Prepare and submit schedule in accordance with the provisions of Section 013200, Construction Progress Documentation.

B. Plan the work and carry it out with minimum interference to the operation of the existing facilities. Prior to starting the work, confer with the CITY'S ENGINEER to develop an approved work schedule, which will permit the facilities to function normally as practical. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid undesirable conditions. The Contractor shall do this work at such times, and at no additional cost to the City. Do not make connections between existing work and new work until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the Contract Documents.

C. No work shall be started until the Contractor has received approved shop drawings, established material/delivery dates for all equipment, and received approval of the construction schedule from the CITY'S ENGINEER. The Contractor shall have sufficient manpower, equipment, and material to complete the project.

D. No work shall commence without express consent of the CITY'S ENGINEER.

E. If a privately owned staging area is required, no work shall commence until approval of the facility is obtained from City Planning and Zoning in accordance with Section 47-19.2 of the Unified Land Development Regulations. Submit a copy of the approval and agreement to the CITY'S ENGINEER.

F. Special Scheduling Requirements: Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work. The Contractor shall conduct his operations so as to cause the least possible interference with normal operations of the activity. Permission to interrupt any Activity roads, railroads, and/or utility service shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption. The work under this IDIQ contract may require special attention to the scheduling and conduct of the work in connection with existing operations. Special scheduling requirements will be indicated in each individual written work request (TO). As indicated in the TO identify on the construction schedule each factor which constitutes a potential interruption to operations.

2.02 MOBILIZATION AND DEMOBILIZATION

A. Contractor shall be responsible for mobilization and demobilization of labor, materials and equipment. Payment for mobilization and demobilization shall be included in the lump sum price indicated in the Proposal for the project.

2.03 COORDINATION

A. Contractor shall cooperate in the coordination of separate activities in a manner that will provide the least interference with the Owner's operations and other contractors and utility companies working in the area, and in the interfacing and connection of the separate elements of the overall project work.

B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the CITY'S ENGINEER.

2.05 OPERATION OF EXISTING SYSTEM PROHIBITED

A. At no time is the Contractor to undertake to close off any utility lines or open valves or take any other action, which would affect the operation of existing systems. The City's operations crew will operate all valves. Provide at least one business day notice to City prior to any operations.

PART 3 SITE CONDITIONS

3.01 SITE INVESTIGATION AND REPRESENTATION

A. The Contractor acknowledges satisfaction as to the general nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, or similar physical conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.

B. Failure by the Contractor to become acquainted with the physical conditions and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data, the Contractor can perform the work in a good and workmanlike manner and to the satisfaction of the City. The City assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by the City.

3.02 INFORMATION ON SITE CONDITIONS

A. General: Information obtained by the CITY'S ENGINEER regarding site conditions, subsurface information, groundwater elevations, existing construction of site facilities, as applicable, and similar data will be available for inspection at the office of the CITY'S ENGINEER upon request. Such information is offered as supplementary information only. The CITY'S ENGINEER does not assume any responsibility for the completeness or interpretation of such supplementary information.

3.03 UTILITIES

A. The Contractor shall be responsible for determining and/or confirming, at his cost, the locations of all utilities within the project area, and shall be responsible for contacting each utility for location and notification prior to commencing work.

B. The Contractor shall contact potentially affected utilities as provided in Section 010600, Regulatory Requirements & Permits.

C. The Contractor shall contact Sunshine State One Call at 811 or visit www.callsunshine.com at least 2 business days (10 business days for water crossings) prior to any excavation and make arrangements for locating all utilities in the project area.

D. Utility Cutovers and Interruptions: Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and City holidays. Conform to procedures required in the paragraph "Work outside Regular Hours." Ensure that new utility lines are complete, except for the connection, before interrupting existing service. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, compressed air, and CATV or other communications shall be considered utility cutovers pursuant to the paragraph entitled "Work Outside Regular Hours."

3.04 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

A. Where the Contractor's operations could cause damage or inconvenience to utilities, telephone, television, power, water, or sewer systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor with the owner of the utility affected.

B. Notify all utility offices, which are affected by the construction operation at least 2 business days in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.

C. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage, which may result from the construction operations under this Contract.

D. Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the Work.

E. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.

F. In the event the Contractor encounters water service lines or sewer laterals that interfere with trenching, he may, by obtaining prior approval of the property owner, and the CITY'S ENGINEER, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's expense.

G. The Contractor shall replace, at his own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract documents or ordered by the City's Engineer.

H. Telephone and communications drops and signal systems may extend throughout the project area. Properly located cable, conduit, interface equipment, pull or junction boxes and other signal or systems equipment damaged by the Contractor shall be replaced at the Contractor's expense.

   a. Damaged cable shall be replaced as an entire run, from junction box to junction box.

   b. Notify Broward County Engineering two business days in advance of the need to remove traffic detection loops.

   c. Contractor shall verify marked cables and signal systems prior to excavation.

3.05 INTERFERING STRUCTURES

A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground.

B. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the easements obtained by the City. Where such existing fences, gates, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the City of any damaged underground structure, and make repairs or replacements before backfilling.

C. Without additional compensation, the Contractor may remove and shall replace in a condition as good as or better than original, such small miscellaneous structures as fences, mailboxes, and signposts that interfere with the Contractor's operations.

3.06 EASEMENTS AND WORK ON PRIVATE PROPERTY

A. Where portions of the work are located on public or private property, easements and permits will be obtained by the City, except as otherwise noted in these Specifications. Easements will provide for the use of property for construction purposes to the extent indicated on the easements. Copies of these easements and permits are available upon request to the City. It shall be the Contractor's responsibility to determine the adequacy of the easement obtained in every case and to abide by all requirements and provisions of the easement. The Contractor shall confine his construction operations to within the easement limits or street right-of-way limits or make special arrangements with the property owners or

appropriate public agency for the additional area required. Any damage to property, either inside or outside the limits of the easements provided by the City or street rights-of-way, shall be the responsibility of the Contractor as specified herein. The Contractor shall provide immediate notice to the owner of any damage to fencing and provide temporary fencing as required to provide a functionally similar level of security. The Contractor shall remove, protect, and replace all fences or other items encountered on public or private property. Before final payment will be authorized by the City's Engineer, the Contractor will be required to furnish the City with written releases from property owners or public agencies where side agreements or special easements have been made by the Contractor or where the Contractor's operations, for any reason, have not been kept within the construction right-of-way obtained by the City or the street right-of-way.

B. The Contractor shall be responsible for all damage to private property where work related activities have occurred without proper easement or authorization. The City may withhold payment to the Contractor pending resolution of any claims by private owners.

C. It is anticipated that the required easements and permits will be obtained before construction is started. However, should the procurement of any easement or permit be delayed, the Contractor shall schedule and perform the work around these areas until such a time as the easement or permit has been secured.

D. Prior to removing an existing structure or item, provide written notice to the Owner at least 14 days in advance of the anticipated removal.

E. The Contractor shall not engage in private construction activities within the project area without the presence of a contract with the private owner of the property containing a hold harmless clause protecting the City from any and all damages that occur during the performance of the privately authorized work.

PART 4 SAFETY AND CONVENIENCE

4.01 SAFETY AND ACCESS

A. The Contractor shall do all work necessary to protect the general public from hazards, including, but not limited to, surface irregularities or unramped grade changes in pedestrian sidewalk or walkway, and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work. All barricades and signs shall be clean and serviceable, in the opinion of the City's Engineer.

B. During construction, the Contractor shall construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable, at all openings, obstructions, or other hazards in streets, sidewalks, floors, roofs, and walkways. All such barriers shall have adequate warning lights as necessary, or required, for safety. All lights shall be regularly maintained, and in a fully operational state at all times.

C. The Contractor shall notify all residences and businesses of planned construction at least 5 (five) business days prior to the start of work in the block where they are located. Such notices shall be brochures or door-hangers with sufficient information to describe the extent and duration of the planned work. Notification activities shall be coordinated with the CITY'S ENGINEER.

D. Homeowners and business owners shall be provided reasonable access. The Contractor shall provide temporary sidewalks, bridges or driveway access, including safe passage over open excavations as required.

4.02 ACCIDENT REPORTS

A. In addition, the Contractor must promptly report in writing to the CITY'S ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the CITY'S ENGINEER.

B. If a claim is made by anyone against the contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the CITY'S ENGINEER, giving full details of the claim.

4.03 SAFE ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

A. Authorized representatives of the state, federal, or local governmental agencies, shall at all times have safe access to the work, and the Contractor shall provide proper facilities for such access and inspection.

4.04 PROTECTION OF PROPERTY

A. Protect stored materials located adjacent to the proposed work. Notify property owners affected by the construction at least two business days in advance of the time construction begins. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding 2 hours, unless the Contractor has made special arrangements with the affected persons.

B. The Contractor shall identify and isolate his active work zone in such a manner as to exclude all personnel not employed by him, the CITY'S ENGINEER, and the City.

4.05 FIRE PREVENTION AND PROTECTION

A. The Contractor shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable federal, state, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

4.06 ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE

A. Notify the fire department and police department before closing any street or portion thereof. No closing shall be made without the Owner's approval of MOT plan. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without special written permission from the fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access. MOT plans that result in restricted access for emergency vehicles must be submitted and approved 2 weeks prior to the proposed closing with separate and specific notification made to the ENGINEER to provide for appropriate agency coordination.

B. The Contractor shall leave a night emergency telephone number or numbers with the police department, the Engineer, and the Owner, so that contact may be made easily at all times in case of barricade and flare trouble or other emergencies.

C. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service. Move mailboxes to temporary locations designated by the U.S. Postal Service, and at the completion of the work in each area, replace them in their original location and in a condition satisfactory to the U.S. Postal Service.

PART 5 PRESERVATION, RESTORATION, AND CLEANUP

5.01 SITE RESTORATION AND CLEANUP

A. At all times during the work, keep the premises clean and orderly, and upon completion of the Work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on private property, or on state, county, or city rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition. Replace excavated areas as specified in Section 02221, Trench Excavation and Backfill, raked and graded to conform to their original contours.

5.02 FINISHING OF SITE, BORROW, AND STORAGE AREAS

A. Upon completion of the project, all areas used by the Contractor shall be properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain. Grassed areas shall be restored as specified.

5.03 HISTORIC PRESERVATION

A. The Contractor shall coordinate with the historic preservation representative supplied by the owner for initial excavation operations. If the project work should uncover prehistoric or historic artifacts associated with Native American cultures,

early colonial cultures, or American settlements, all project activities in the area shall cease immediately.

B. All such discoveries shall be reported to the Division of Historical Resources. Review and Compliance Section at (800) 847-7278.

C. Project activities in the affected area cannot resume without authorization from the Division of Historic Resources.

PART 6 PERMITS

6.01 GENERAL

A. City has prepared the following application for the Contractor to submit and obtain Permit:

a. Not Applicable for this project.

B. Permits to be obtained by the Contractor include, but are not limited to the following:

a. Local, County, and State contracting licenses.
b. MOT approval from local, county, and state agencies as required.
c. Broward County Planning and Environmental Regulation Division (BCPERD): Dewatering permit, including National Pollution Discharge Elimination System (NPDES) permit if required.
d. Environmental Resource Permit if necessary.

C. The Contractor shall comply with all applicable permit conditions.

END OF SECTION

SECTION 010050 - TECHNICAL PROVISIONS

PART 1 GENERAL

1.01 SCOPE

A. Work under this contract includes furnishing materials, labor, tools equipment, supervision and incidentals necessary to construct infrastructure improvements.

1.02 ITEMS SPECIFIED ON DRAWINGS

A. Items of material, equipment, machinery and the like may be specified on the Drawings and not in the Technical Specifications. The CONTRACTOR shall provide such items in accordance with the General Notes on the Drawings.

1.03 FIELD LAYOUT OF THE WORK AND RECORD DRAWINGS

A. After completion of construction, the CONTRACTOR shall provide a minimum of two hardcopy and electronic (PDF plots and DWG drawing files) sets of As-Built Drawings, drafted in electronic (AutoCAD) format, with all the As-Built information; all locations, coordinates, dimensions and elevations of the constructed facilities, certified, signed and sealed thereon by a Land Surveyor or a licensed Professional Engineer registered in the State of Florida. All elevations shall refer to N.A.V.D. 88 (North American Vertical Datum of 1988) and all state plane coordinates shall be NAD 83 (with 1990 adjustment). The cost of such field layout and recording work shall be the responsibility of the CONTRACTOR. The As-Built utility information shall meet the requirements of the City of Fort Lauderdale and other permitting agencies, as applicable.

1.04 SALVAGE

A. Any existing equipment or material, including but not limited to valves, pipes, fittings, couplings, etc., which is removed as a result of construction under this project may be designated as salvage by the CONTRACT ADMINISTRATOR, and if so, shall be delivered clean to the CITY at a location directed by the CONTRACT ADMINISTRATOR. Any equipment or material not worthy of salvaging shall be disposed of by the CONTRACTOR at a suitable location in accordance with all applicable regulations, ordinances and laws at no additional cost to the CITY.

1.05 POWER

A. The CONTRACTOR shall furnish and pay for all electrical power required for the construction, testing and trial operation, prior to final acceptance by the CITY.

1.06 WATER SUPPLY

A. All water required for testing, flushing, and construction shall be furnished by the CITY and paid for by the CONTRACTOR. The purchase price shall be the prevailing rate as published by the CITY. The quantity of water used shall be determined by reading the meter at the start and at the finish of construction. The CONTRACTOR

shall make all arrangements and incur all expense involved in having the CITY furnish and install the necessary water meters. Each water service line shall be provided with a vacuum relief or backflow preventer which shall meet the requirements of ASA A40.6, latest revision, and the local administrative authority.

1.07 MAINTENANCE

A. The CONTRACTOR shall fully cooperate at all times with the CITY in order to maintain the operation of the existing water and/or sewer system with the least amount of interference and interruption possible. The schedule, plans and work of the CONTRACTOR shall at all times be subject to alteration and revision if necessary for public health and safety considerations. The creation of a public nuisance will not be permitted.

B. It may be necessary to interrupt the operation of the existing water and/or sewer system. In all cases where the CONTRACTOR must cause an interruption, CONTRACTOR shall prepare and submit to the CITY'S ENGINEER four (4) working days prior to commencing the work, a complete description of the proposed procedure and a time schedule, which CONTRACTOR will guarantee. At least forty-eight (48) hours prior to the time proposed for starting the work, the CITY'S ENGINEER will notify the CONTRACTOR whether or not the work will be permitted as proposed.

1. The CITY'S ENGINEER reserves the right to require the CONTRACTOR to work 24 hours per day in all cases where, in ENGINEER'S opinion, interference with operation of the system may result in dangerous health hazards or offensive conditions.

2. In no case will the CONTRACTOR be permitted to interfere with the existing system until all materials, supplies, equipment, tools and incidentals necessary to complete the work are on the site. Backup equipment on key equipment items shall be required on work necessitating interference with the existing system.

1.08 SITE RESTORATION

A. The CONTRACTOR shall remove all excess material and shall clean up and restore the site to its original condition or better. All damage, as a result of work under this Contract, done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipe lines, conduits, drains, catch basins, flagstones, rocked, graveled, or stabilized areas of driveways, and including all obstructions not specifically named herein, shall be repaired, or replaced, as determined by the CITY'S ENGINEER. Site restoration shall be done in a timely manner as the work progresses. Site restoration work shall be completed on private property within 30 days after being disturbed.

1.09 SANITARY FACILITIES

A. The CONTRACTOR shall provide temporary facilities at the site as directed by the CITY'S ENGINEER.

1.10 STANDARDS

A. Wherever in these TECHNICAL SPECIFICATIONS or in the drawings name and/or number refer to certain standards or regulations, the applicable publication shall be the latest revision thereof. Reference by abbreviation is made in accordance with the Section 010700, "Abbreviations of Institutions."

1.11 QUALITY OF ITEMS

A. All material furnished for this project shall be new and unused. Any material, which has become excessively weathered or damaged since manufacture, shall not be considered as new. CITY'S ENGINEER shall be the sole judge as to what constitutes excessive weathering or damage.

1.12 TESTING

A. The City of Fort Lauderdale Engineering Minimum Design and Construction Standards may require that materials and equipment supplied meet given standards and testing to demonstrate conformance to the standards is a part of those standards. The cost of these tests shall be the obligation of the CONTRACTOR and no extra charge shall be made to the CITY on account of such testing.

B. The CONTRACTOR shall select a recognized, certified, independent testing laboratory to make tests on concrete, reinforcing steel, soils and other materials for the construction phase to ensure conformity with the TECHNICAL SPECIFICATIONS. The CITY'S ENGINEER shall approve in advance the CONTRACTOR'S testing laboratory. The costs for all required testing shall be the responsibility of the Contractor.

C. The CITY may select a recognized, independent testing laboratory to make additional tests on concrete, reinforcing steel, soils and other materials for the construction phase, which the CITY may decide to test for conformity with the TECHNICAL SPECIFICATIONS. The CONTRACTOR shall supply the necessary samples for this testing without cost to the CITY. The costs for this additional testing shall be paid for by the CITY except for tests which fail to meet the minimum specified tolerances set forth in the drawings and the TECHNICAL SPECIFICATIONS. The cost of the tests that fail will be charged to the CONTRACTOR by deducting the cost from the Contract price, or will be paid directly to the testing laboratory by the CONTRACTOR.

D. Construction in areas where installation and restoration must satisfy the additional requirements of a local, state or federal authority may require testing to demonstrate conformance. The CONTRACTOR shall ascertain the extent of testing required by regulatory agencies within these areas. The CONTRACTOR is responsible for performing such tests, including but not limited to, tests of compaction, concrete strength and slump, etc., and all costs for these tests shall be the obligation of the CONTRACTOR and no extra charge shall be made to the CITY on account of such testing.

1.13 UTILITY CROSSINGS

A. It is intended that wherever existing utilities must be crossed that the pipe may be deflected up to 75% of the manufacturer's recommended limits, but shall not exceed the allowable limits of the CITY. Adequate cover shall be used to adequately clear the obstruction. However, when in the opinion of the CITY'S ENGINEER, this procedure is not feasible CITY'S ENGINEER may direct the use of fittings to clear a utility crossing as detailed on the Drawings. The cost of such crossing including joint restraints shall be on the basis of the schedule of pay items applied.

B. Deflections and adjustments of the proposed water and/or sewer mains to avoid all other existing utilities shall be verified/determined in the field during construction.

1.14 BASIS OF MEASUREMENT

A. Where mains are to be paid for on a unit price per linear foot basis, the number of linear feet will be determined by measurement along the centerline of the pipe in place, including fittings. Square yardage will be determined by the actual number of square yards installed.

1.15 ADJUSTMENT AND RELOCATION OF EXISTING LINES

A. When the drawings indicate that existing lines must be deflected, the pipe may be deflected up to 75% of the manufacturer's recommended limits but shall not exceed the allowable limits of the CITY. The CONTRACTOR will need to be directed by the ENGINEER. If the ENGINEER determines that the use of new pipe and fittings is required for deflection, the CONTRACTOR will be directed to use this method. The price for either method shall be based upon the unit prices bid. This does not apply to connections to existing system (Paragraph 1.17, this Section).

1.16 CONNECTION TO EXISTING SYSTEM

A. The CONTRACTOR shall perform all work necessary to locate, excavate and prepare for connection to the existing mains as shown on the Drawings. The cost of this work and for the actual connection to the existing main shall be based upon the unit prices for installing the pipe and appurtenances and shall not result in any additional cost to the CITY. The cost of ductile iron sleeves shall be included in the fittings unit price.

B. Additional valves used for the CONTRACTOR's convenience shall not be considered as an extra cost payable by the CITY for the tie-in to the existing system.

C. During all phases of the work, (i.e. installation, testing and restoration), the CONTRACTOR shall ensure at all times the safe operation of the existing water and/or sewage systems. Service to the customers shall be maintained with the least amount of interference and interruption as possible.

1.17 RELOCATIONS

A. The CONTRACTOR shall be responsible for the relocation of structures that are shown on the drawings, including, but not limited to, light poles, signs, fences, piping, conduits and drains that interfere with the proposed positioning of the water/sewer

mains. The cost of all such relocations shall be included in the prices bid for the appropriate items.

1.18 UTILITIES

A. Existing utilities are shown on the Drawings insofar as information is reasonably available; however, it will be the responsibility of the CONTRACTOR to preserve all existing utilities whether shown on the Drawings or not. If utility conflicts are encountered by the CONTRACTOR during construction, CONTRACTOR shall give sufficient notice to the CITY so that they may make the necessary adjustments. Damage to any utility, which in the opinion of the CITY is caused by carelessness on the part of the CONTRACTOR shall be repaired at the expense of the CONTRACTOR.

1.19 GUARANTEE

A. The CONTRACTOR shall guarantee the equipment, material and labor performed under the Contract against any and all failures in proper use and operation for a period of one (1) year from date of written acceptance by the CITY.

B. The CONTRACTOR shall also obtain warranties from manufacturers for each piece of equipment furnished so that the manufacturer's warranty fully covers the equipment for a period of one (1) year from the date of written acceptance by the CITY, unless otherwise specified in the specifications.

C. The CONTRACTOR shall provide three (3) copies (Two (2) hard copies and one (1) electronic copy on CD-ROM) of all Operation and Maintenance Manuals for any installed equipment or materials.

D. The CONTRACTOR shall provide initial operation and maintenance training for any installed equipment and materials to CITY STAFF.

1.20 PERFORMANCE OF WORK

A. The CONTRACTOR shall provide all personnel and equipment required to complete all work specified herein and on the Drawings. In an emergency situation, if the CITY determines that it must provide staff and/or equipment to assist the CONTRACTOR in the satisfactory performance of the Contract terms and conditions, the CONTRACTOR at the applicable prevailing wage rates shall reimburse the CITY.

B. CONTRACTOR shall provide forty-eight (48) hours advance written notice to the CITY for approval of CONTRACTOR’S intention to work overtime on weekdays or to work on the weekends.

1.21 BARRICADING (SAFETY)

A. The CONTRACTOR shall be responsible for the furnishing and maintaining of all required barricades, either the lighted or the reflector type, to ensure the public's safety during open trench work or for any other potentially unsafe or hazardous construction activities. Barricades shall be located and displayed in conformance

with the most stringent regulations required by the governing agencies. All costs for barricading, including any permits, shall be the responsibility of the CONTRACTOR.

B. All work in public rights-of-way and on private property shall be done in strict compliance with these specifications and Florida Department of Transportation Minimum Standards. Failure to so comply will result in cessation of operations and the removal of project related obstructions from the right-of-way until compliance is achieved.

1.22 EMERGENCY ACCESS AND SECURITY

A. In order to provide protection to the workers and residents, the CONTRACTOR shall maintain emergency access to the property at all times during construction. These access ways shall be protected and delineated with lighted barricades or other such devices as approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the CITY with signage indicating that this access way is to be used by emergency vehicles only.

B. No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the ENGINEER, and it shall be the CONTRACTOR'S responsibility to provide proper protection of the open trench or hole as required by the regulatory agency. In addition, the CONTRACTOR shall provide a security guard at the site whenever the CONTRACTOR'S personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operating pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the CONTRACTOR shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The CONTRACTOR shall maintain and keep all safety barricades, signage, flashers, and detours, in operating condition. A copy of the approved MOT plans, and details, shall be on site at all times.

C. All roads are to be maintained during the described construction as to always allow Emergency Access. This item will be paid for under the bid item for Mobilization as named in the Bid Schedule.

1.23 VIBRATORY COMPACTION

A. The use of vibratory compaction equipment shall be limited to a total gross weight of three (3) tons. The use of vibratory equipment shall be limited to compacting backfill of utility trenches and subgrade of paved areas only. If approved in writing by the ENGINEER, larger vibratory compaction equipment may be allowed if operated in a static mode only.

1.24 REPORTING OF DAMAGE CLAIMS

A. The CONTRACTOR shall keep the CITY informed of any damage claims made against the CONTRACTOR during the construction period. All claims for automobile

damage, property damage/bodily injury will be reported to the CONTRACT ADMINISTRATOR within 24 hours of receipt of notice. CONTRACTOR will conduct a timely investigation of the claim and determine if they will honor the claim and/or report to their insurance carrier. CONTRACTOR will advise the City of Fort Lauderdale in writing of their decision/referral to carrier.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 010100 - SUMMARY OF WORK

PART 1 GENERAL

1.01 SCOPE

A. City of Fort Lauderdale

1. City's Representative/Engineer: *Barbara R. Howell, Project Manager I*

2. Project Description: The work under this contract shall consist of furnishing all labor, materials, equipment and incidentals necessary for removal and replacement of concrete sidewalk, limerock base or subgrade work where necessary, various curb replacement, and installation or modification of ADA ramps within City's right-of-way and City-owned, or managed properties. There may also be work within Florida Department of Transportation's or Broward County's right-of-way, where the City has maintenance responsibility for sidewalk repairs. Work within Broward County right-of-way will require a permit. Application for a Broward County permit may require a letter of credit or cash bond.

3. Project Location: City-wide

1.03 NOTICE TO BIDDERS

A. The successful bidder, in order to be considered responsive, must possess the appropriate License as described in the Contract Documents.

B. It should also be noted that the successful bidder will, at the time of the pre-construction conference, be required to show that each of the CONTRACTOR'S subcontractors is in compliance with the City's Code of Ordinances.

1.04 SITE INVESTIGATION

A. The CONTRACTOR, by virtue of signing the Contract and any associated Task Orders, acknowledges that CONTRACTOR and all subcontractors have satisfied themselves to the nature and location of the work, the general and local conditions including, but not restricted to: those bearing upon transportation; disposal, handling and storage of materials; access roads to the site; the conformation and conditions of the work area; and the character of equipment and facilities needed preliminary to and during the performance of the work. Failure on the part of the CONTRACTOR to completely or properly evaluate the site conditions shall not be grounds for additional compensation.

B. Soil boring information will not be furnished to the CONTRACTOR. The CONTRACTOR, by virtue of signing the Contract and associated Task Orders, acknowledges that CONTRACTOR and subcontractors have satisfied themselves as to the nature and extent of soil and (underground) water conditions on the project

site. No additional payment will be made to the CONTRACTOR because of differences between actual conditions and those shown by the boring logs.

1.05 WORK BY OTHERS

A. Concurrent Work by Other CONTRACTORS: The CONTRACTOR'S attention is directed to the fact that other CONTRACTORS may conduct work at the site during the performance of the WORK under this Contract. The CONTRACTOR shall conduct its operations so as to cause little or no delay to WORK of such other CONTRACTORS, and shall cooperate fully with such CONTRACTORS to provide continued safe access to their respective portions of the site, as required to perform work under their respective contracts.

B. Interference with Work on Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.06 WORK SEQUENCE

A. The CONTRACTOR shall schedule and perform the work in such a manner as to result in the least possible disruption to the public's use of any parking lot or park facilities, roadways, driveways, and utilities. Utilities shall include but not be limited to water, sewerage, drainage structures, ditches and canals, gas, electric, television, fiber optic lines, and telephone. Prior to commencing with the WORK, the CONTRACTOR shall perform a location investigation of existing underground utilities and facilities in accordance with Section 01530 entitled "Protection of Existing Facilities" and shall have obtained all required permits and permissions, the CONTRACTOR shall also deliver written notice to the CITY'S ENGINEER, and property occupants (private and public) of all planned disruption to roadway, driveways, temporary displacement of fences, mailboxes, street signs and traffic signs, and utilities 72 hours in advance of disruption.

1.07 WORK SCHEDULE

A. Time is of the essence in completing this project and each associated Task Order. Because time is of the essence the CONTRACTOR shall commit the necessary resources to this project to complete it in a timely manner. Those resources may include multiple working crews, working overtime, etc. Because time is of the essence, the CONTRACTOR'S construction progress will be monitored closely on a weekly basis. The Construction progress will be measured with the approved construction schedule submitted by the CONTRACTOR. If the CITY'S ENGINEER determines that the CONTRACTOR is behind schedule based on the approved schedule's critical path, or if the schedule does not meet the Critical Path Method (CPM) requirements as specified in Section 01311, the CONTRACTOR will be required to commit those resources necessary to ensure the completion of the project in a timely manner including working overtime, adding other work crews, etc. All costs incurred to implement measures to complete the work in timely manner, including any overtime or other fees associated with required inspections, will be borne by the CONTRACTOR at no additional cost to the OWNER.

B. REQUIRED PERIODS OF WORK SUSPENSION

1. CONTRACTOR shall shut down operations for all City Holidays, terminating production work by noon on the day preceding the holiday (or the weekend before said holiday) and not resuming operations until the start of the following week (or the day after the holiday, whichever is later). The CONTRACTOR shall ensure that the site is restored per Sections 01001 and 01010 and all areas that are off limits to the public will be clearly delineated and protected. For a full list of holidays, please refer to the City's website, however these include, but are not limited to New Year's Eve and Day, Martin Luther King's Birthday, Memorial Day, the 4th of July, Labor Day, Thanksgiving Day and the day after Thanksgiving Day, Christmas Eve and Christmas.

2. The CONTRACTOR shall include these provisions in the schedule required in 01311 and there shall be no additional time granted for these work suspensions.

3. No additional compensation shall be granted for demobilization, cleaning and remobilization as a result of these work suspensions.

4. During the work suspensions, the CONTRACTOR shall remain liable for the safety and security of the project site and be available 24 hours per the Contract Documents. CONTRACTOR shall have personnel visit the site daily during these suspensions to ensure the safety and security of the site.

C. SCHEDULE

1. CONTRACTOR shall submit scheduling information for the work noted in the Contract and/or each associated Task Order, as required in Section 013200 "Construction Progress Documentation".

2. No separate payment shall be made for preparation and/or revision of the schedule.

D. Work Hours: Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 7 a.m. and 6:00 p.m., Monday through Friday. The Contractor will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy two (72) hours in advance of starting such work. If the Project Manager permits overtime work, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. It shall be noted that the City's Inspector work hours are from 8:00 AM to 4:30 PM and any Work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime. The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for

each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued

1.08 COMPUTATION OF CONTRACT TIME

A. It is the CONTRACTOR'S responsibility to provide clear and convincing documentation to the ENGINEER as to the effect additional work will have with respect to additional contract time extension that may be justified. If additional quantities of work can be carried out concurrent with other existing construction activities without disrupting the critical path of the project then no contract time extension will be granted. The CONTRACTOR is obligated to provide documentation to the ENGINEER if additional elements of work affect the critical path of the project. If work set forth in the original scope of the project is deleted, the contract time may be reduced. This contract is a calendar day contract. While the CONTRACTOR may be granted time to suspend work operations for vacations or holidays, contract time will not be suspended. During suspensions, the CONTRACTOR shall be responsible for all maintenance of traffic and liability without additional compensation from the CITY.

1.09 CONTRACTOR USE OF PREMISES

A. The CONTRACTOR's use of the project site shall be limited to its construction operations. The CONTRACTOR will arrange for storage of materials and a copy of an agreement for use of other property shall be furnished to the ENGINEER.

1.10 POST AWARD KICK-OFF MEETING

A. After the award of the Contract, a Post Award Kick-Off Meeting will be held between the CONTRACTOR, the CITY'S ENGINEER, City Staff and other interested parties. The ENGINEER will set the time and place of the conference. The purpose of this meeting is to communicate administrative and operational requirements of the Contract. The requirements for construction mobilization, quality, safety, and execution of the project will be explained and documented. Submittal requirements, project communications, schedule, quality and safety requirements will be outlined and dates set for submission of pre-construction submittals.

1.10 PRE-CONSTRUCTION CONFERENCE

A. After the award of Contract, a Pre-Construction Work Conference will be held between the CONTRACTOR, the ENGINEER, the CITY, other interested Agencies, representatives of Utility Companies and others affected by the work. The ENGINEER will set the time and place of this conference. The CONTRACTOR shall bring to the conference a copy of the proposed work schedule for the approval by the ENGINEER of the proposed methods and manner of executing the work including sequences of operation and time schedule. The work shall be performed in accordance with such schedule or approved amendments thereto.

1.11 UTILITY LOCATIONS

A. As far as possible, all existing utility lines in the project area have been shown on the plans. However, the CITY does not guarantee that all lines are shown, or that said lines are in their true location. It shall be the CONTRACTOR'S responsibility to identify and locate all underground or overhead utility lines or equipment affected by the project. No additional payment will be made to the CONTRACTOR because of discrepancies in actual and plan location of utilities and damages suffered as a result thereof.

B. The CONTRACTOR shall notify each utility company involved at least thirty (30) days prior to the start of construction to arrange for positive underground location, relocation or support of its utility where that utility may be in conflict with or endangered by the proposed construction. The CONTRACTOR shall pay for relocation of water mains or other utilities for the convenience of the CONTRACTOR. The CONTRACTOR shall pay for all charges by utility companies for temporary support of its utilities. All costs of permanent utility relocations to avoid conflict shall be the responsibility of the CONTRACTOR and the utility company involved.

C. The CONTRACTOR shall schedule and coordinate their work in such a manner that they are not delayed by the utility companies relocating or supporting their utilities. No compensation will be paid to the CONTRACTOR for any loss of time or delay.

D. All overhead, surface, and underground structures and/or utilities encountered are to be carefully protected from damage or displacement. All damage to said structures and/or utilities is to be completely repaired within a reasonable time; needless delay will not be tolerated. The CITY reserves the right to remedy any damage by ordering outside parties to make repairs at the expense of the CONTRACTOR. All repairs made by the CONTRACTOR are to be made to the satisfaction of the utility owner and shall be inspected by a representative of the utility owner and the ENGINEER.

E. The CONTRACTOR should be aware of the Sunshine State One Call Center, which has a free locating service for CONTRACTORS and excavators. Within forty-eight hours before excavating, dial toll free 1-800-432-4770 (or local 811), and a locator will be dispatched to the work location. CONTRACTOR shall reasonably notify other utility companies not notified by Sunshine State One Call Center.

F. The permits listed below will be obtained for the project by the CITY prior to beginning construction (when applicable). The CONTRACTOR is responsible for compliance with any and all permit conditions. In the event that the CITY must obtain permits in addition to those listed below, the CONTRACTOR shall not have any claim for damages arising from any delay caused by the CITY'S obtaining said additional permits.

    a. BCPGMD: Surface Water License.
    b. BCHCED General Permit
    c. FDOT Driveway or Drainage Connection Permit

G. Permits to be obtained by the CONTRACTOR include, but are not limited to the following:

1. Local, County, and State contracting licenses.

1.12 LINE AND GRADE

N/A

1.13 PROTECTION AND RESTORATION OF SURVEY MONUMENTS

A. The CONTRACTOR shall carefully protect from disturbance all survey monuments, stakes and bench marks, whether or not established by CONTRACTOR, and shall not remove or destroy any surveying point until it has been properly witnessed by the ENGINEER. All major survey monuments that have been damaged by the CONTRACTOR such as section corners, 1/4 section corners, property corners or block control points shall be replaced at the CONTRACTOR'S expense with markers of a size and type approved by the ENGINEER. The replacement shall be under the supervision of a Florida Registered Land Surveyor where directed by the ENGINEER.

1.14 EQUIPMENT

A. All equipment necessary and required for the proper construction of all facilities shall be on the construction site, in first-class working condition.

1.15 STORAGE SITES

A. The CONTRACTOR shall furnish, at CONTRACTOR’s expense, properly zoned areas suitable for field office, material storage and equipment service and storage. No material may be stored in the public right of way without prior authorization by the agency having jurisdiction. The CONTRACTOR shall keep these areas in a clean and orderly condition so as not to cause a nuisance or sight obstruction to motorists or pedestrians.

1.16 OWNERSHIP OF EXISTING MATERIALS

A. All materials removed or excavated from the job site shall remain the property of the CITY until released by the Contract Administrator, at which time it shall become the property of the CONTRACTOR, who shall dispose of it in a manner satisfactory to the ENGINEER.

1.17 EXCESS MATERIAL

A. Upon direction of the ENGINEER, all vegetation, debris, concrete or other unsuitable materials shall be disposed of in areas provided by the CONTRACTOR and approved by the ENGINEER. Any excess material desired to be retained by the CITY shall be delivered by the CONTRACTOR to a designated area within a 5-mile radius of the project, at no extra cost to the CITY.

1.18 AUDIO-VISUAL PRECONSTRUCTION RECORD

A. General:

1. Prior to beginning any Contract or Task Order work, the CONTRACTOR shall thoroughly photograph or have a continuous color audio-video recording taken along the entire length of the project to serve as a record of preconstruction conditions.

1.21 ENVIRONMENTAL PROTECTION

A. The CONTRACTOR shall furnish all labor and equipment and perform all work required for the prevention of environmental pollution during and as a result of the work under this contract. For the purpose of this contract, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, land and involves noise, solid waste management and management of radiant energy and radioactive materials, as well as other pollutants. Environmental pollution prevention shall be in accordance with NPDES requirements with no additional cost to the CITY.

1.22 MAINTENANCE AND PROTECTION OF TRAFFIC

A. The CONTRACTOR shall provide all necessary traffic control devices in order to redirect, protect, warn or maintain existing vehicular and pedestrian traffic during the course of construction.

1. Construction Phasing Requirements
N/A for this project

B. TRAFFIC CONTROL

1. The CONTRACTOR is required to submit a conceptual Traffic Control Plan at the Pre-Construction Conference. This preliminary plan should identify the phases of construction that the CONTRACTOR plans to proceed with and identify traffic flows during each phase. The ENGINEER will have ten (10) days to notify the CONTRACTOR of any comments. Once the conceptual plan for maintaining traffic has been approved, the CONTRACTOR will be required to submit a detailed plan showing each phase's Maintenance and Protection Plan prior to starting construction of any phase.

2. The "Maintenance of Traffic" plan shall include pedestrian traffic as well as vehicular traffic.

It shall be the responsibility of the CONTRACTOR for any necessary Construction, Pavement Marking and Signage or any Pedestrian Signalization and/or Signal Modification to accommodate an alternate safe walk route.

3. The CONTRACTOR, at all times, shall conduct the work in such a manner as to insure the least obstruction to traffic as is practical. Convenience of the general public and of the residents adjacent to the work shall be provided for in a satisfactory manner, as determined by the CITY'S ENGINEER.

4. Sidewalks, gutters, drains, fire hydrants and private drives shall, insofar as practical, be kept in condition for their intended uses. Fire hydrants on or adjacent to the work shall be kept accessible to fire apparatus at all times, and no material or obstruction shall be placed within twenty (20) feet of any such hydrant.

5. All existing stop and street name signs will be maintained as long as deemed necessary by the CITY'S ENGINEER.

6. The CONTRACTOR shall furnish a sufficient number of protective devices to protect and divert the vehicular and pedestrian traffic from working areas closed to traffic, or to protect any new work. Failure to comply with this requirement will result in the ENGINEER shutting down the work until the CONTRACTOR provides the necessary protection.

7. Any time traffic is diverted for a period of time that will exceed one-work day temporary pavement markings will be required. Existing pavement markings that conflict with the new work zone traffic pattern must be obliterated. Painting over existing pavement markings (black out) is not permitted.

1.23 MAINTENANCE AND PROTECTION OF EXISTING DRAINAGE SYSTEM

A. It shall be the responsibility of the contractor to maintain positive drainage on the surface and to ensure that the existing underground drainage system continues to function as intended during the construction. The contractor shall follow the plans to ensure that existing catch basins and manholes are being protected during the entire phase of construction.

1.24 APPLICATION FOR PAYMENT FOR STORED MATERIALS

A. Application for payment for stored materials may not be made by the CONTRACTOR.

1.25 SPECIAL CONDITIONS FOR CONSTRUCTION BY OTHER AGENCIES

A. It will be the CONTRACTOR'S responsibility to coordinate construction schedules with other contractors so as to minimize disruptions, and inconveniences. The project site shall be safe at all times for construction workers and marina visitors.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 001025 - MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SUBMITTALS

A. See Section 013300, Submittal Procedures, and all other references to document submittals. Submittals shall include, but are not limited to:

1. Schedule of Values: Submit schedule on OWNER's form.

2. Application for Payment.

3. Final Application for Payment.

1.02 SCHEDULE OF VALUES

A. Prepare a schedule of values for the Work.

B. Unit Price Work: Reflect unit price quantity and price breakdown from conformed Bid Form.

C. Lump Sum Work:

1. Reflect schedule of values format included in conformed Bid Form.

2. List Bonds and insurance premiums, mobilization, demobilization, facility startup, and contract closeout separately.

3. Break down by Divisions 2 through 16 with appropriate subdivision of each Specification.

D. An unbalanced or front-end loaded schedule will not be acceptable.

E. Summation of the complete schedule of values representing all the Work shall equal the Contract Price.

1.03 APPLICATION FOR PAYMENT

A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of CONTRACTOR.

B. Use detailed Application for Payment Form provided by OWNER.

C. Include accepted schedule of values for each portion of Work and the unit price breakdown for the Work to be paid on unit price basis, and a listing of OWNER-selected equipment, if applicable, and allowances, as appropriate.

D. Preparation:

1. Round values to nearest dollar.

2. List each Change Order and Written Amendment executed prior to date of submission as separate line item. Totals to equal those shown on the Transmittal Summary Form.

3. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form, a listing of materials on hand as applicable, and such supporting data as may be requested by OWNER.

1.04 MEASUREMENT—GENERAL

A. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and Specifications as specified in National Institute of Standards and Technology, Handbook 44.

B. Whenever pay quantities of material are determined by weight, material shall be weighed on scales furnished by CONTRACTOR and certified accurate by state agency responsible. Weight or load slip shall be obtained from weigher and delivered to CONSTRUCTION MANAGER or OWNER's representative at point of delivery of material.

C. If material is shipped by rail, car weights will be accepted provided that actual weight of material only will be paid for and not minimum car weight used for assessing freight tariff, and provided further that car weights will not be acceptable for material to be passed through mixing plants.

D. Vehicles used to haul material being paid for by weight shall be weighed empty daily and at such additional times as required by CONSTRUCTION MANAGER. Each vehicle shall bear a plainly legible identification mark.

E. Materials that are specified for measurement by the cubic yard measured in the vehicle shall be hauled in vehicles of such type and size that actual contents may be readily and accurately determined. Unless all vehicles are of uniform capacity, each vehicle must bear a plainly legible identification mark indicating its water level capacity. Vehicles shall be loaded to at least their water level capacity. Loads hauled in vehicles not meeting above requirements or loads of a quantity less than the capacity of the vehicle, measured after being leveled off as above provided, will be subject to rejection, and no compensation will be allowed for such material.

F. Where measurement of quantities depends on elevation of existing ground, elevations obtained during construction will be compared with those shown on Drawings. Variations of 1 foot or less will be ignored, and profiles shown on Drawings will be used for determining quantities.

G. Units of measure shown on Bid Form shall be as follows, unless specified otherwise. All methods of measurement shall be approved by the CONSTRUCTION MANAGER.

Item	Method of Measurement
AC	Acre—Field Measure
CY	Cubic Yard—Field Measure within limits specified or shown, or measured in vehicle by volume, as specified
EA	Each—Field Count
GAL	Gallon—Field Measure
HR	Hour
LB	Pound(s)—Weight Measure by Scale
LF	Linear Foot—Field Measure
LS	Lump Sum—Unit is one; no measurement will be made
SF	Square Foot
SY	Square Yard
TON	Ton—Weight Measure by Scale (2,000 pounds)

1.05 PAYMENT

A. General:

1. Progress payments will be made monthly.

2. The date for CONTRACTOR's submission of monthly Application for Payment.

1.06 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

A. Payment will not be made for following:

1. Loading, hauling, and disposing of rejected or unused material.

2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.

3. Rejected loads of material, including material rejected after it has been placed by reason of failure of CONTRACTOR to conform to provisions of Contract Documents.

4. Material not unloaded from transporting vehicle.

5. Defective Work not accepted by OWNER.

6. Material remaining on hand after completion of Work.

1.07 MOBILIZATION

A. ~~See Section 01505, Mobilization, for payment limitations. All environmental compliance matters except for erosion control system shall be included in Mobilization.~~ **NOT USED**

B. Payment for mobilization will be made at an allowance price named in the Bid Schedule. Payment for mobilization will be made in equal monthly amounts during the duration of the original Task Order time.

1.08 MAINTENANCE OF TRAFFIC (M.O.T.)

A. See Section 015700, Traffic Regulations, and all other references to traffic control and maintenance, as well as parking control and maintenance in this document and any regulatory requirements.

B. ~~Payment for maintenance of traffic will be made at an allowance price named in the Bid Schedule. Payment for maintenance of traffic and parking activities will be made in equal monthly amounts during the duration of the original contract time.~~ **Not used**

1.09 ~~DEMOLITION~~

~~A. Measurement for payment to remove and dispose of existing hardscape elements will be based on a lump sum inclusive of all work on the Landscape drawings.~~

~~B. This lump sum payment for removal and disposal of existing hardscape elements as indicated on the Design Drawings shall constitute full compensation for the removal and disposal of all concrete, asphalt or structures. This includes, but is not limited to sidewalks, curbs, aprons, concrete collars, brick pavers, and all other miscellaneous concrete as directed by the ENGINEER. Existing structures will not be compensated under this line item.~~ **Not used**

1.10 PAVING AND DRAINAGE

A. Measurement for payment to furnish and install drainage structures, inlets or top slabs, connections, and paving in addition to all required connections, modifications and cleaning of drainage facilities will be based on the line items provided for each item of work for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing, modifying or cleaning all drainage appurtenances in the design drawings which price shall constitute full compensation for the completed installation of the structure including but not limited to excavation, backfill, compaction, modifications, disposal, cleaning, all required dewatering and full compliance with the Trench Safety Act.

1.11 WATER AND SEWER(Not applicable for this project)

A. Measurement for payment to furnish and install all water and sewer items will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all water and sewer items shall constitute full compensation for the completed installation of the structure including but not limited to excavation, backfill, compaction, modifications, disposal, cleaning, all required dewatering and full compliance with the Trench Safety Act.

1.12 STRUCTURES (Not applicable for this project)

A. Measurement for payment to furnish and install all shade structures and other structures, will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing shade structures and other structures, shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.13 AMENITIES (Not applicable for this project)

A. Measurement for payment to furnish and install all amenities will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all amenities shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.14 LANDSCAPING

A. Measurement for payment to furnish and install trees, sod, groundcover and irrigations will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all trees, sod, groundcover and irrigations, shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.15 ELECTRICAL(Not applicable for this project)

A. Measurement for payment to furnish and install all electrical equipment and conduits, will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all electrical equipment and conduits, shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.16 PERMIT FEES

A. Measurement for payment for permit fees will be based upon the actual permit fees required by the CONTRACTOR from the various agencies having jurisdiction for construction of the project, all in accordance with the Contract Documents. The allowance for permit fee amounts shown on the bid schedule is an estimate of permit fees required for the project and is a cost pass through item. The permit fees are based on allowances and OWNER will reconcile the actual cost with the CONTRACTOR by change order. The CONTRACTOR shall produce documentation upon request verifying actual cost. Only permit fees substantiated and approved by the ENGINEER will be paid as part of this bid item.

B. Because payment for permit fees will be paid as part of this bid item, payment for permit fees will not be paid as part of mobilization.

1.17 CONSIDERATION FOR INDEMNIFICATION (OWNER/ENGINEER)

A. Measurement for payment for indemnification of the OWNER and ENGINEER will be based upon the lump sum named for such work, all in accordance with the requirements of the contract documents.

B. Payment will be twenty-five dollars for consideration for indemnification named in the bid schedule and shall constitute full compensation for indemnifying the OWNER and ENGINEER as specified in the contract documents.

1.18 ALLOWANCE FOR FPL/COMCAST/AT&T

N/A for this project

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections include the following:
   1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Construction Project Manager will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form included following the end of Part 3.

1.4 REQUESTS FOR INFORMATION

A. If latent or unforeseen conditions arise that may require changes in the Work, the Contractor may submit a Request for Information to Construction Project Manager on the form included following the end of Part 3.

1.5 PROPOSAL REQUESTS

A. City-Initiated Proposal Requests: Construction Project Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

   1. Proposal Requests issued by Construction Project Manager are not instructions either to stop work in progress or to execute the proposed change.
   2. Within ten (10) days, when not otherwise specified after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
      b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.
      d. Include an updated Contractor's Construction Schedule that indicates the effect

of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

e. Quotation Form: Use forms acceptable to Construction Project Manager.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Construction Project Manager.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use forms acceptable to Construction Project Manager.

1.6 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: Refer to Division 01 Section “Allowances” for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit Price Adjustment: Refer to Division 01 Section “Unit Prices” for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

1.7 CHANGE ORDER PROCEDURES

A. On City's approval of a Proposal Request, Construction Project Manager will issue a Change Order for signature of the Contractor on City’s standard form. The Change Order will not be official until approved by the appropriate City Officials and signed by the City Engineer, City Manager and/or Mayor.

1.8 CONSTRUCTION CHANGE DIRECTIVE

Construction Change Directive: Construction Project Manager may issue a Construction Change Directive on AIA Document G714], EJCDC Document C-940 or form acceptable to the Construction Project Manager. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 -PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

1. Division 01 Section "Allowances" for procedural requirements governing handling and processing of allowances.
2. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
3. Division 01 Section "Unit Prices" for administrative requirements governing use of unit prices.
4. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
5. Division 01 sustainable design requirements Section for administrative requirements governing submittal of cost breakdown information required for LEED documentation.

C. BASIS OF PAYMENT - The price for each items shall include the furnishing of all labor, materials, equipment and incidentals required to complete the construction and to repair in a manner satisfactory to the Engineer any and all damage, as a result of work under this contract, done to existing structures, pavement, driveways paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipe lines, conduits, drains, catch basins, flagstones, rocked, graveled or stabilized areas or driveways and including all above and underground obstructions not specifically named here-in: replacing in a manner satisfactory to the Engineer and or all of the above items which may be damaged beyond repair as a result of work under this contract: performing the work necessary to complete any and all special connections, hangers, supports, bracing, blocking, shoring and patching necessary to complete the contract in a finished workmanlike manner ready for operation.

D. Retainage: The City shall retain a portion of each partial payment according to the following schedule:

1. The City will retain ten percent (10%) of all monies earned by Contractor until the work is fifty percent (50%) complete.
2. After the work is fifty percent (50%) complete, the City will retain five percent (5%) of all monies earned by Contractor until project is complete and final payment is issued.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

    a. City's Form - Periodic Estimate for Partial Payment.
    b. Submittals Schedule.
    c. Contractor's Construction Schedule.

2. Submit the Schedule of Values to City Representative at earliest possible date but no later than **seven (7)** days before the date scheduled for submittal of initial Applications for Payment.
3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

    a. Project name and location.
    b. Project Number
    c. Contractor's name and address.
    d. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

    a. Related Specification Section or Division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value.

        1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued

evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

a. Include separate line items under Contractor and principal subcontracts for LEED Documentation and other requirements as required. Project closeout requirements in an amount totaling no more than **five (5%) percent** of the Contract Sum and subcontract amount.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as General Conditions expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. The General Contractor must meet with the City Representative on or about the 25th of each month. The City Representative will go over the pay items and agree on the quantities and the dollar amounts of the work completed during the month. A copy of the agreed amounts will be signed by the parties and a copy will be left with each representative.

B. The General Contractor will make up a partial pay request using the City-supplied forms and submit the request to the City Representative before the first of the upcoming month.

C. Each pay request must be accompanied by an updated project schedule. The schedule

must show the originally accepted construction schedule and milestone and the current percentage complete for each using a ghant chart format. A vertical red line should indicate that progress date. The project's critical path should be clearly indicated by red bars. Any approved change orders should be reflected in the schedule.

D. Each pay request must be accompanied by a partial release of lien by the General Contractor and by all Subcontractors, suppliers, and for all labor, as outlined below.

1. Starting with the second (2nd) pay request and for each and every pay request thereafter, the General Contractor shall submit partial release of liens from all Subcontractors, suppliers, and laborers covering the preceding month's request (SEE FOLLOWING EXAMPLE).
2. EXAMPLE: In the first (1st) pay request, payment is requested by General Contractor for the asbestos contractor and the electrician. The General Contractor must attach his partial release of lien.
3. For the second (2nd) pay request, the General Contractor must attach his partial release of lien from the asbestos contractor and the electrician for the amounts billed in the 1st pay request; i.e., the General Contractor will be running one (1) month behind with the releases from the Subcontractors, suppliers, etc., until the final pay request.

E. For the final pay request, the General Contractor will be required to submit FINAL release of liens for ALL Subcontractors, suppliers, etc., and for ALL labor BEFORE FINAL PAYMENT WILL BE MADE.

F. No partial payments, after the first payment, will be made until all partial release of liens are submitted for the preceding month's billing, as described

G. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by City.

H. Payment Application Forms: Use City Form "PERIODIC ESTIMATE FOR PARTIAL PAYMENT" as form for Applications for Payment.

1. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. City will return incomplete applications without action.
2. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

I. Release of Lien: With each Application for Payment, submit release of lien from every entity lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial release of lien on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final release of lien.
3. City reserves the right to designate which entities involved in the Work must submit release of lien forms.

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. LEED submittal for project materials cost data.
4. Contractor's Construction Schedule (preliminary if not final).
5. Products list.
6. LEED action plans.
7. Schedule of unit prices.
8. Submittals Schedule (preliminary if not final).
9. List of Contractor's staff assignments.
10. List of Contractor's principal consultants.
11. Copies of building permits.
12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
13. Initial progress report.
14. Report of preconstruction conference.
15. Certificates of insurance and insurance policies.
16. Performance and payment bonds.
17. Data needed to acquire City's insurance.
18. Initial settlement survey and damage report if required.

K. City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

1. Defective Work not remedied.
2. Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor’s performance.
3. Failure of Contractor to make payments properly to Subcontractors or for material or labor.
4. Damage to another contractor not remedied.
5. Liquidated damages and costs incurred by City and/or Consultant for extended construction administration.
6. Failure of Contractor to provide any and all documents required by the Contract Documents.

L. No partial payment estimate will be processed for any contract which is beyond the contract completion date. After a contract runs past the completion date, only a final payment will be made when all work is complete.

M. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Evidence that claims have been settled.

5. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when City took possession of and assumed responsibility for corresponding elements of the Work.
6. Final, liquidated damages settlement statement.

N. The acceptance of final payment shall constitute a waiver of all claims by contractor, except those previously made in strict accordance with the provisions of the Contract and identified by Contractor as unsettled at the time of the application for final payment.

O. If evidence is produced before the final settlement of all or any balance, that the party of the second part has failed to pay to laborers, employed on this work, or failed to pay for the materials used therein, or if the City has reason to suspect the same, the City may withhold such balance and, upon written evidence satisfactory to the City as to the amount due for such labor and materials, settle and pay for the same and charge the amounts to the party of the second part and deduct the same from said balance or balances.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Special Project Procedures
3. Administrative and supervisory personnel.
4. Project meetings.
5. Requests for Interpretation (RFIs).
6. Use of Oracle Unifier Project Management System

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

C. Related Sections include the following:

1. Division 01 Section "Summary of Multiple Contracts" for a description of the division of Work among separate contracts and responsibility for coordination activities not in this Section.
2. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
3. Division 01 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
4. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.
5. Division 01 Section "General Commissioning Requirements" for coordinating the Work with Owner's Commissioning Authority.

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other

for proper installation, connection, and operation.

B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for City and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-installation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.5 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b. Indicate required installation sequences.
c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Construction Project Manager for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 24 by 36 inches (750 by 1000 mm).

3. Number of Copies: Submit two opaque copies of each submittal. Construction Project Manager will return one copy.

a. Submit five copies where Coordination Drawings are required for operation and maintenance manuals. Construction Project Manager will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

B. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A or form approved by the Construction Project Manager to Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.

C. Key Personnel Names: Within ten (10) days of contract award, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 SPECIAL PROJECT PROCEDURES

A. Discrepancies, Errors: Should discrepancies or errors appear in the drawings or specifications concerning materials, workmanship, or quantity of work to be performed, the Contractor will be required to immediately notify the City before proceeding with the work. If the Contractor fails to notify the City and proceeds with the work, Contractor will be required to correct the errors at his/her own expense. In the event of a conflict between the drawings and specifications, the City will decide on the way to perform the work or supply the

materials. See also General Conditions, "Contractor to Check Plans and Data," Section GC-10

B. Dimensions and Measurements: The figured dimensions on the drawings or notes including dimensions shall be used for construction instead of measurements of the drawings by scale. No scale measurements shall be used as a dimension for construction. Dimensions on all drawings as well as the detail drawings themselves are subject in every case to measurements of adjacent or previously completed work. All such measurements necessary shall be taken before undertaking any work dependent upon such data. Field verification of dimensions on plans is mandatory since actual locations, distances, and levels will be governed by actual field conditions.

C. Discrepancies or Inconsistencies: Should any discrepancy or inconsistency appear between larger and smaller scale drawings in any of the divisions of the specifications or in any of the contract documents, such discrepancy shall be immediately submitted to the City for correction before proceeding with the work in question. In no case shall the Contractor make any alterations, erasures, changes or modifications in the drawings or specifications.

1. Should it appear that any of the work as specified or shown by the drawings is not sufficiently detailed or explained, the Contractor shall apply to the City for such further details or information as may be necessary for full understanding of the work in question.
2. The data set forth in these specifications and indicated on the drawings are as accurate as can be obtained, but their extreme accuracy is not guaranteed. Final application thereto shall be determined on the job as conditions may demand and subject to the approval of the City.

D. Plans and Specifications Acknowledgment by Subcontractors and Suppliers: All Subcontractors and suppliers must submit, through the General Contractor to the City Engineer, a statement on their individual letterhead stationary, signed and sealed with their corporate seal, or a notarized statement on their letterhead stationery in the absence of a corporate seal, that the individual Subcontractor or Supplier:

1. Has received or reviewed a FULL set of approved plans and specifications for the project,
2. Is aware that items concerning their particular trade may be shown and/or detailed in other trades or sections of the plans and specifications, and
3. Will comply with said plans, specifications and all applicable codes and permit requirements.

E. In the event a Subcontractor or Supplier notes a mistake or details appear incomplete, or if there are questions or concerns with the plans and specifications, the Subcontractor or Supplier will immediately notify the General Contractor. No work will proceed until such conflicts or questions are resolved in writing.

F. The Subcontractor will not be permitted to start work, nor will any Shop drawings/submittals be accepted for review from a supplier until this letter of acknowledgment is received and approved by the General Contractor and City Engineer. Also, the City will not process any pay request for the work of any Subcontractor or Supplier whose acknowledgment letter is not on file with the City.

1.7 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. The Contractor shall employ a competent superintendent who can communicate with spoken English, and who shall be in attendance at the site full-time when any work is in progress. The superintendent shall be satisfactory to the City's Engineer and shall not be changed except with the consent of the City's Engineer.

B. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

1.8 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Construction Project Manager of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Construction Project Manager, within 48 hours of the completion of the meeting.

    a. Minutes from all meetings shall be prepared by the Contractor, reflecting all items discussed as well as agreed upon or suggested solutions. These minutes shall be a true reflection of what actually happened at the meeting.
    b. Items discussed and not resolved or being handled by any one of the parties present shall be reflected along with the name of the person responsible in all ongoing minutes until it is resolved.
    c. Minutes shall be typewritten within 24 hours from the completion of the meeting. They shall immediately be delivered electronically to all parties present and followed by a copy through the mail to the Construction Project Manager.
    d. All items requiring information and not resolved shall be reflected in each and every set of minutes thereafter until it is totally resolved

B. Initialization Meeting: Within ten (10) days of notification of contract award, the Contractor, the Construction Project Manager, the Designer of Record, and other assigned City's staff shall meet. The purpose of this meeting will be to quantify and clarify all items that must be presented by the Contractor at the Preconstruction meeting. The Contractor shall submit a schedule of values for the Project at this meeting for review by the City. The City's comments will be presented to the Contractor at the pre-construction meeting.

C. Preconstruction Meeting: After the contract(s) has been awarded, executed, and a tentative work schedule has been composed, and prior to the start of the work, the Contractor(s), the Construction Project Manager, the City's Representative, and other persons and/or governmental agencies that are involved shall meet. The minimum agenda is to include but is not limited to the following:

1. Distribute and discuss list of major Subcontractors
2. Tentative construction schedule
3. Phasing
4. Critical work sequencing and long-lead items
5. Relation and coordination of Prime Contractor
6. Designation of key personnel and their duties
7. Procedures for processing field decisions and Change Orders
8. Procedures for RFIs
9. Procedures for testing and inspecting
10. Adequacy of distribution of contract documents
11. Submittal of Shop drawings, project data, and samples
12. LEED requirements
13. Procedures for maintaining Record documents
14. Use of premises and existing building
15. Protection of existing construction including landscape materials
16. Work restrictions
17. City's occupancy requirements
18. Responsibility for temporary facilities and controls
19. Procedures for moisture and mold control.
20. Procedures for disruptions and shutdowns.
21. Major equipment deliveries and priorities
22. Construction waste management and recycling
23. Parking availability
24. Office, work and storage areas.
25. Working hours
26. Safety and first-aid procedures
27. Security procedures
28. Housekeeping procedures including progress cleaning.
29. Schedule of values.
30. Processing of payments or contract.

~~D. LEED Coordination Conference: City will schedule and conduct a LEED coordination conference before starting construction, at a time convenient to City, Construction Project Manager, Consultants and Contractor.~~ **NOT USED**

1. ~~Attendees: Authorized representatives of City, City's Commissioning Authority, Construction Project Manager, and their consultants; Contractor and its superintendent and LEED coordinator; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work~~.

2. ~~Agenda: Discuss items of significance that could affect meeting requirements for LEED certification, including the following:~~

   ~~a. LEED Project Checklist.~~
   ~~b. General requirements for LEED-related procurement and documentation.~~
   ~~c. Project closeout requirements and LEED certification procedures.~~
   ~~d. Role of LEED coordinator.~~
   ~~e. Construction waste management.~~
   f. ~~Construction operations and LEED requirements and restrictions~~.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

E. Pre-installation Conferences: Conduct a pre-installation conference at Project site a minimum of two (2) days before each construction activity identified on the approved construction schedule.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Construction Project Manager of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. The Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. LEED Requirements.
i. Review of mockups.
j. Possible conflicts.
k. Compatibility problems.
l. Time schedules.
m. Weather limitations.
n. Manufacturer's written recommendations.
o. Warranty requirements.
p. Compatibility of materials.
q. Acceptability of substrates.
r. Temporary facilities and controls.
s. Space and access limitations.
t. Regulations of authorities having jurisdiction.
u. Testing and inspecting requirements.
v. Installation procedures.
w. Coordination with other work.
x. Required performance results.
y. Protection of adjacent work.
z. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: The Contractor shall compile and distribute minutes of the meeting to each party present and to parties who should have been present.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

F. Progress Meetings: Conduct progress meetings at biweekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of City and the Construction Project Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

   a. Review and approve minutes of previous Progress Meeting.
   b. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

      1) Review schedule for next period.

   c. Review present and future needs of each entity present, including the following:

      1) Interface requirements.
      2) Sequence of operations.
      3) Status of submittals.
      4) Deliveries.
      5) Off-site fabrication.
      6) Access.
      7) Site utilization.
      8) Temporary facilities and controls.
      9) Work hours.
      10) Hazards and risks.
      11) Progress cleaning.
      12) Quality and work standards.
      13) Status of correction of deficient items.
      14) Field observations.
      15) RFIs.
      16) Status of proposal requests.
      17) Pending changes.
      18) Status of Change Orders.
      19) Pending claims and disputes.
      20) Documentation of information for payment requests.

3. Minutes: General Contractor shall record the meeting minutes. These minutes shall indicate all items discussed as well as agreed upon or suggested solutions. They shall be a true reflection of what occurred at the meeting.

4. Reporting: Within 24 hours, distribute minutes of the meeting by electronic means to each party present and to parties who should have been present.

    a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

G. Coordination Meetings: Conduct Project coordination meetings at biweekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

1. Attendees: In addition to representatives of City and the Construction Project Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

    b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

    c. Review present and future needs of each contractor present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

H. Project Closeout Conference: City shall Schedule and conduct a project closeout conference, at a time convenient to City and Construction Project Manager, but no later than **30** days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.

2. Attendees: Authorized representatives of City, City's Commissioning Authority, Construction Project Manager, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

   a. Preparation of record documents.
   b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
   c. Submittal of written warranties.
   ~~d. Requirements for completing [**LEED**] [**sustainable design**] documentation.~~
   e. Requirements for preparing operations and maintenance data.
   f. Requirements for delivery of material samples, attic stock, and spare parts.
   g. Requirements for demonstration and training.
   h. Preparation of Contractor's punch list.
   i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
   j. Submittal procedures.
   k. Coordination of separate contracts.
   l. Owner's partial occupancy requirements.
   m. Installation of Owner's furniture, fixtures, and equipment.
   n. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

1.9 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.

2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. City Project Number
2. City Project Name.
3. Date.
4. Name of Contractor.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

    a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. Hard-Copy RFIs: Form at end of this Section.

1. Identify each page of attachments with the RFI number and sequential page number.

D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above. Word Template is available upon request from the City Engineer’s Office.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

E. Construction Project Manager's Action: Construction Project Manager will review each RFI, determine action required, and return it. Allow seven days for Construction Project Manager's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Construction Project Manager's actions on submittals.
    f. Incomplete RFIs or RFIs with numerous errors.

2. Construction Project Manager's action may include a request for additional information, in which case Construction Project Manager's time for response will start again.

3. Construction Project Manager's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Construction Project Manager in writing within 10 days of receipt of the RFI response.

F. On receipt of Construction Project Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Construction Manager within seven days if Contractor disagrees with response.

G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. RFI number including RFIs that were dropped and not submitted.
4. RFI description.
5. Date the RFI was submitted.
6. Date Construction Project Manager's response was received.
7. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
8. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.10 USE OF ORACLE UNIFIER PROJECT MANAGEMENT SYSTEM

A. General: Contractors will purchase, at a minimum, one (1) user license for Oracle Unifier. This cost of this license accounted for in accordance with Section 012100 Allowances. The Construction Project Manager will coordinate the use of this license by the contractor by assigning project user rights within the City's Unifier System.

B. Procedure: Upon obtaining license, the Contractor shall provide the license information to the Construction Project Manager. The Construction Project Manager will provide access to project level information and the City will provide introductory training to the Contractor.

1. All Submittals, RFIs, and project related correspondence will be provided through the Unifier System.

2. Upon completion of the project, the license will revert to the City, unless it is deemed advantageous to the City to allow the Contractor to use the license on another contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Special reports.

B. Related Sections include the following:

1. Division 01 Section "Summary of Multiple Contracts" for preparing a combined Contractor's Construction Schedule.
2. Division 01 Section "Payment Procedures" for submitting the Schedule of Values.
3. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
4. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
5. Division 01 Section "Photographic Documentation" for submitting construction photographs.
6. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by the Construction Project Manager.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.

F. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either City or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Milestone: A key or critical point in time for reference or measurement.

H. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

I. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file in MS Project or Primavera format, where indicated.
2. PDF electronic file.
3. **Two (2)** paper copies.

B. Startup construction schedule.

1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

E. CPM Reports: Concurrent with CPM schedule, submit **three (3)** copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.
4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.

F. Daily Construction Reports: Submit **two (2)** copies at **weekly** intervals.

G. Material Location Reports: Submit **two (2)** copies at **weekly** intervals.

H. Field Condition Reports: Submit **two (2)** copies at time of discovery of differing conditions.

I. Special Reports: Submit **two (2)** copies at time of unusual event.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Construction Project Manager's request.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section 013100 "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including phasing, work stages, area separations, interim milestones and partial City occupancy.
4. Review delivery dates for City-furnished products.
5. Review schedule for work of City's separate contracts.
6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for Project closeout and City startup procedures**,** including commissioning activities.
9. Review and finalize list of construction activities to be included in schedule.
10. Review submittal requirements and procedures.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule and network diagram. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to proceed to date of Final Completion.

B. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

2. Activity Duration: Define activities so no activity is longer than ten (10) days, unless

specifically allowed by Construction Project Manager.

3. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

4. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.

5. Startup and Testing Time: Include no fewer than **fifteen (15)** days for startup and testing.

6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Construction Project Manager's administrative procedures necessary for certification of Substantial Completion.

7. Punch List and Final Completion: Include not more than **thirty (30)** days for completion of punch list items and final completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

2. Work under More Than One Contract: Include a separate activity for each contract.

3. Work by City: Include a separate activity for each portion of the Work performed by City.

4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.

5. City-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section 01100 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.

6. Work Restrictions: Show the effect of the following items on the schedule:

   a. Coordination with existing construction.
   b. Limitations of continued occupancies.
   c. Uninterruptible services.
   d. Partial occupancy before Substantial Completion.
   e. Use of premises restrictions.
   f. Provisions for future construction.
   g. Seasonal variations.

h. Environmental control.

7. Retain subparagraph and associated subparagraphs below for large projects and complicated small projects. Consider limiting it to critical work or important subcontracts.

8. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Building flush-out.
   m. Startup and placement into final use and operation.

9. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

   a. Structural completion.
   b. Temporary enclosure and space conditioning.
   c. Permanent space enclosure.
   d. Completion of mechanical installation.
   e. Completion of electrical installation.
   f. Substantial Completion.

10. Other Constraints:

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, Final Completion, and Certificate of Occupancy, **and the following interim milestones:**

   1. Final Inspection

F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

   1. Refer to Division 01 Section 012900 "Payment Procedures" for cost reporting and payment procedures.

G. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and Contract Time.

H. Recovery Schedule: When periodic update indicates the Work is **fourteen (14)** or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and dating by which recovery will be accomplished.

I. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

1. Microsoft Project 2010 for Windows 7 operating system.

2.3 STARTUP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule seven (7) days prior to the date established for the Pre-Construction Conference.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first **ninety (90**) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within **fourteen (14)** days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer completing, indicate an estimated completion percentage in **ten (10)** percent increments within time bar.

2.5 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Preliminary Network Diagram: Submit diagram within **seven (7)** days prior to the date established for the Pre-Construction Conference. Outline significant construction activities for the first **ninety (90)** days of construction. Include skeleton diagram for the remainder of

the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's Construction Schedule using a computerized cpst and resource loaded, time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than **fourteen (14)** days after date established for the Notice to Proceed.

    a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Construction Project Manager's approval of the schedule.

2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

3. Use "one workday" as the unit of time. Include list of non-working days and holidays incorporated into the schedule.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

    a. Preparation and processing of submittals.
    b. Mobilization and demobilization.
    c. Purchase of materials.
    d. Delivery.
    e. Fabrication.
    f. Utility interruptions.
    g. Installation.
    h. Work by City that may affect or be affected by Contractor's activities.
    i. Testing and Commissioning
    j. Punch list and final completion.
    k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.

3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.

4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.

a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.

5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Construction Project Manager's approval prior to assigning costs to fabrication and delivery activities. Assign costs under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, LEED documentation, and demonstration and training (if applicable), in the amount of **five (5)** percent of the Contract Sum.

   a. Each activity cost shall reflect an appropriate value subject to approval by Construction Project Manager.
   b. Total cost assigned to activities shall equal the total Contract Sum.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

F. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Principal events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.
9. Average size of workforce.
10. Dollar value of activity (coordinated with the Schedule of Values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.

1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.

3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.

    a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
    b. Submit value summary printouts one week before each regularly scheduled progress meeting.

2.6 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial Completions and occupancies.
19. Substantial Completions authorized.

B. Material Location Reports: At **biweekly** intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.7 SPECIAL REPORTS

A. General: Submit special reports directly to City within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise City in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: City may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Construction Project Manager, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

SUMMARY

B. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

C. Related Sections include the following:

1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
3. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
4. Division 01 Section "Photographic Documentation" for submitting **construction photographs and construction video recordings**.
5. Division 01 Section "Quality Requirements" for submitting test and inspection reports **and for mockup requirements**.
6. Division 01 Section "Closeout Procedures" for submitting warranties.
7. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
8. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
9. Division 01 Section "Demonstration and Training" for submitting videotapes of demonstration of equipment and training of City's personnel.
10. Divisions 02 through 33 Sections for specific requirements for submittals in those Sections.

DEFINITIONS

D. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

E. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

F. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

G. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

H. Unifier: Oracle Unifier is an Oracle based project management tool used by the city for managing projects, conducting project related communications, and submitting and tracking of RFIs and Submittals.

ORACLE UNIFIER

I. The City of Fort Lauderdale is now using a program called Oracle Unifier. This tool is used to track and manage all project related items including submittals, RFIs, and other communications and project related issues. Contract shall purchase at least one (1) user license from city designated source for use during the duration of the project. Construction Project manager will coordinate privileges, and introductory training. All submittals, RFIs, change requests and project related communications shall be conducted through the Unifier tool unless expressly permitted by the Construction Manager.

ACTION SUBMITTALS

J. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.

e. Description of the Work covered.
f. Scheduled date for Architect's final release or approval.
g. Scheduled date of fabrication.
h. Scheduled dates for purchasing.
i. Scheduled dates for installation.
j. Activity or event number.

SUBMITTAL ADMINISTRATIVE REQUIREMENTS

K. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings **and Project record drawings**.

a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
b. Digital Drawing Software Program: The Contract Drawings are available in AutoCad 2009 dwg format.
c. Contractor shall execute a data licensing agreement in the form of **form acceptable to Owner and the City Engineer**.

L. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

M. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Construction Project Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow **Ten (10)** days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Project Manager will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same

manner as initial submittal.

3. Resubmittal Review: Allow **Ten (10)** days for review of each resubmittal.

N. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately **3 by 6 inches (75 by 150 mm)** on label or beside title block to record Contractor's review and approval markings and action taken by the City Engineer.
3. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Name of subcontractor.
    f. Name of supplier.
    g. Name of manufacturer.
    h. Submittal number or other unique identifier, including revision identifier.

        1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

    i. Number and title of appropriate Specification Section.
    j. Drawing number and detail references, as appropriate.
    k. Location(s) where product is to be installed, as appropriate.
    l. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.
    a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

        1) Project name.
        2) Date.
        3) Destination (To:).
        4) Source (From:).
        5) Name of Architect.
        6) Name of Contractor.
        7) Name of firm or entity that prepared submittal.

8) Names of subcontractor, manufacturer, and supplier.
9) Category and type of submittal.
10) Submittal purpose and description.
11) Specification Section number and title.
12) Specification paragraph number or drawing designation and generic name for each of multiple items.
13) Drawing number and detail references, as appropriate.
14) Indication of full or partial submittal.
15) Transmittal number.
16) Submittal and transmittal distribution record.
17) Remarks.
18) Signature of transmitter.

O. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., 10905-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 10905-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner**,** containing the following information:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Names of subcontractor, manufacturer, and supplier.
    g. Category and type of submittal.
    h. Submittal purpose and description.
    i. Specification Section number and title.
    j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Related physical samples submitted directly.
    n. Indication of full or partial submittal.
    o. Transmittal number.
    p. Submittal and transmittal distribution record.

q. Other necessary identification.
r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

a. Project name.
b. Number and title of appropriate Specification Section.
c. Manufacturer name.
d. Product name.
e. <**Insert required information**>.

6. Options: Identify options requiring selection by Architect.

7. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
8. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
a. Note date and content of previous submittal.
b. Note date and content of revision in label or title block and clearly indicate extent of revision.
c. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
9. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

10. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

F. Submittals Using Oracle Unifier: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.

a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., 10905-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 10905-061000.01.A).

3. Using the Oracle Unifier Tool, create a new and distinct submittal, link the submittal to

the approved submittal register and completely fill in the system form.

a. If submittal is delivered via other means than electronically, indicate the method, shipping date, expected delivery date and tracking information in the supplied form.

b. Any attachments created within the Oracle Unifier System will follow the naming conventions of this section.

4. Transmittal Form for Electronic Submittals: Use Oracle Unifier containing the following information:
   a. Project name.
   b. Date.
   c. Name of Architect.
   d. Name of Contractor.
   e. Name of firm or entity that prepared submittal.
   f. Names of subcontractor, manufacturer, and supplier.
   g. Category and type of submittal.
   h. Submittal purpose and description.
   i. Specification Section number and title.
   j. Specification paragraph number or drawing designation and generic name for each of multiple items.
   k. Drawing number and detail references, as appropriate.
   l. Location(s) where product is to be installed, as appropriate.
   m. Related physical samples submitted directly.
   n. Indication of full or partial submittal.
   o. Transmittal number.
   p. Submittal and transmittal distribution record.
   q. Other necessary identification.
   r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.

B. Options: Identify options requiring selection by Architect/Construction Project Manager.

C. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.

2. Note date and content of revision in label or title block and clearly indicate extent of revision.

3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via Oracle Unifier.

    a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit **five (5)** paper copies of each submittal unless otherwise indicated, or if submitted via Oracle Unifier. Architect will return **three (3)** copies.
3. Informational Submittals: Submit **five (5)** paper copies of each submittal unless otherwise indicated, or if submitted via Oracle Unifier. Architect will return **three (3)** copies.
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's catalog cuts.
b. Manufacturer's product specifications.
c. Standard color charts.
d. Statement of compliance with specified referenced standards.
e. Testing by recognized testing agency.
f. Application of testing agency labels and seals.
g. Notation of coordination requirements.
h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

a. PDF electronic file.

C. Submit **five (5)** paper copies of each submittal unless otherwise indicated, or if submitted via Oracle Unifier. Architect will return **three (3)** copies.

D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least **[8-1/2 by 11 inches (215 by 280 mm), but no larger than 24 by 36 inches (610 by 915 mm)]**.
3. Submit Shop Drawings in the following format:

a. PDF electronic file.
b. **Five (5)** opaque copies of each submittal. Architect will retain **two (2)** copies; remainder will be returned.

E. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.
    e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit **two (2)** full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit **five (5)** sets of Samples. Architect will retain **two (2)** Sample sets; remainder will be returned. **Mark up and retain one returned Sample set as a project record sample.**

        1) Submit a single Sample where assembly details, workmanship, fabrication

techniques, connections, operation, and other similar characteristics are to be demonstrated.

2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least **three (3)** sets of paired units that show approximate limits of variations.

F. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

    a. PDF electronic file.
    b. Submit **five (5)** paper copies of each submittal unless otherwise indicated, or if submitted via Oracle Unifier. Architect will return **three (3)** copies.

G. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

H. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

I. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

J. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

K. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

L. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

M. LEED Submittals: Comply with requirements specified in Division 01 sustainable design requirements Section.

N. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

O. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure

Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

P. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

Q. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

R. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

S. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

T. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

U. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

V. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

W. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

X. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

Y. Field Test Reports: Submit written reports indicating and interpreting results of field tests

performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

Z. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

DELEGATED-DESIGN SERVICES

AA. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

BB. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit **three (3)** paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 “Closeout Procedures.”

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

ARCHITECT'S ACTION

D. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

E. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Approved as submitted
2. Approved as noted
3. Revise and resubmit
4. Rejected.

F. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

G. Partial or incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

H. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, City, the City’s Building Official or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:

1. Division 01 Section "Allowances" for testing and inspecting allowances.
2. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by the City Construction Project Manager.

C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.

D. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of **five (5)** previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For **integrated exterior and laboratory** mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.

4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within **ten (10)** days of **Notice of Award**, and not less than **five (5)** days prior to preconstruction conference. Submit in format acceptable to Construction Manager. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager.

2. Minimum Qualifications:
   a. Minimum of five (5) years' experience conducting project quality control on asphalt pavement projects of similar size and scope at the municipal or state level.
   b. FDOT or equivalent quality control certification.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
3. Owner-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by the Commissioning Authority.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.

3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.9 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329, or latest revision; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

   a. Provide test specimens representative of proposed products and construction.
   b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
   c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
   d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
   e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
   f. When testing is complete, remove test specimens, assemblies, mockups, **and laboratory mockups**; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect **and Commissioning Authority, through Construction Project Manager**, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by the Construction Manager.
2. Notify Construction Manager **seven (7)** days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.

5. Obtain Construction Manager's approval of mockups before starting work, fabrication, or construction.

    a. Allow **seven (7)** days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed unless otherwise indicated.

L. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

M. Room Mockups: Construct room mockups incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Provide room mockups of the following rooms:

1. N/A

N. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 through 33.

1.10 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. The City Engineer or his authorized agent will direct all field testing. Unless otherwise specifically stated in the plans or specifications, all laboratory expenses will be paid by the City of Fort Lauderdale. The contractor shall give to City timely notice of when and where tests are to be made so that the City may be present for such procedures.
2. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor**.**

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least **twenty-four (24)** hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in pre-installation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Construction Project Manager**,** Commissioning Authority and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Construction Project Manager**,** Commissioning Authority and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Construction Project Manager**,** Commissioning Authority testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.11 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: The City will engage a qualified testing agency and special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections attached to this Section, and as follows:

B. Special Tests and Inspections: Conducted by a qualified testing agency and special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections and in Statement of Special Inspections attached to this Section, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notifying Construction Project Manager, Commissioning Authority, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Construction Project Manager, Commissioning Authority, with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.

5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and re-inspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING AGENCIES

A. Contractor shall submit name or list of proposed inspection and testing agencies for Construction Manager's approval **fourteen (14) days** following Notice of Award.

B. Construction Manager shall have **seven (7) days** to review and comment on proposed test and inspection agencies.

3.2 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Construction Project Manager, Commissioning Authority's reference during normal working hours.

3.3 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014100 – TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. CONTRACTOR will employ and pay for the services of an Independent Testing laboratory to perform all required testing: (All required testing services under the Contract and Permit Documents shall be provided by the CONTRACTOR through an independent testing firm.

1. CONTRACTOR shall cooperate with the laboratory to facilitate the execution of its required services.

2. Employment of the laboratory by the CONTRACTOR for specific testing shall in no way relieve the CONTRACTOR's obligations to perform the work of the Contract as specified.

3. The tests to be provided by the CONTRACTOR shall include, but not be limited to, the following

a. Density
b. Proctor
c. Limerock Bearing Ratio (LBR)
d. Carbonate Content
e. Gradation
f. Plastic Index and Liquid Limit
g. Organic Content
h. Concrete Compressive Strength and Slump
i. Asphalt Extraction
j. Any other tests as required to satisfy an permitting agency requirements.

B. CONTRACTOR shall pay for all required testing, including bacteriological testing.

1.02 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

1.03 QUALIFICATION OF LABORATORY

A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.

B. Meet basic requirements of ASTM E-329.

C. Authorized to operate in the state in which the project is located.

D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of Natural Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.

E. Testing Equipment

1. Calibrated at reasonable intervals by devices of accuracy traceable to either:

a. National Bureau of Standards.
b. Accepted values of natural physical constants.

1.04 LABORATORY DUTIES

A. Cooperate with OWNER's Representative and CONTRACTOR; provide qualified personnel after due notice.

B. Perform specified inspections, sampling and testing of materials and methods of construction:

1. Comply with specified standards.

2. Ascertain compliance of materials with requirements of Contract Documents.

C. Promptly notify OWNER's Representative and CONTRACTOR of observed irregularities of deficiencies of work or products.

D. Promptly submit written report of each test and inspection; one copy each to OWNER's Representative, OWNER, CONTRACTOR, and one copy to Record Document File. Each report shall include:

1. Date issued.

2. Project title, OWNER’S project number and Parcel number.

3. Testing laboratory name, address and telephone number.

4. Name and signature of laboratory inspector.

5. Date and time of sampling or inspection.

6. Record of temperature and weather conditions.

7. Date of test.

8. Identification of fill product and specification section.

9. Location of sample or test in the project area (i.e. station and offset or other relevant dimensioning).

10. Type of inspection or test.

11. Results of tests and compliance with Contract Documents.

12. Interpretation of test results, when requested by OWNER's Representative.

E. Perform additional tests as required by the OWNER's Representative.

1.05 LIMITATION OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract documents.

2. Approve or accept any portion of the work.

3. Perform any duties of the CONTRACTOR.

1.06 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel and provide access to work.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other material mixes, which require control by the Testing Laboratory.

D. Furnish copies of Products test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to work to be tested.

2. To obtain and handle samples at the project site or at the source of the product to be tested.

3. To facilitate inspections and tests.

4. For storage of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, reimburse OWNER for laboratory personnel and travel expenses incurred due to CONTRACTOR's negligence.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section. It shall be included in the price for all other work.

END OF SECTION

SECTION 015300 – PROTECTION OF EXISTING FACILITIES

PART 1 GENERAL

1.01 GENERAL

A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.

B. The CONTRACTOR shall verify the exact locations and depths of all utilities shown and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the WORK. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's work. When such exploratory excavations show the utility location as shown to be in error, the CONTRACTOR shall so notify the ENGINEER.

C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.02 RIGHTS-OF-WAY

A. The CONTRACTOR shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor shall the CONTRACTOR enter upon the rights-of-way involved until notified by the ENGINEER that the OWNER has secured authority from the proper party. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the OWNER shall determine the sequence and order of the WORK. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the OWNER to the CONTRACTOR so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for delay or damage, except as provided for temporary suspension of the WORK in the General Conditions of the Contract.

1.03 PROTECTION OF STREET OR ROADWAY MARKERS

A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper

authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the CONTRACTOR shall be accurately restored after all street or roadway resurfacing has been completed.

1.04 RESTORATION OF PAVEMENT

A. General: All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement OWNER. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.

B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

D. Restoration of Sidewalks or Private Properties: Wherever sidewalks or private properties and driveways have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or driveways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or driveways until the final restoration thereof has been made. The CONTRACTOR shall restore all private properties within thirty (30) days after a complaint is received by the OWNER.

1.05 EXISTING UTILITIES AND IMPROVEMENTS

A. General: The CONTRACTOR shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.

B. Utilities to be Moved: In the case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the CONTRACTOR, be notified by the OWNER to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the ENGINEER a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

C. Where the proper completion of the WORK requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the ENGINEER and the OWNER of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

D. OWNER's Right of Access: The right is reserved to the OWNER and to the OWNERs of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this Contract.

E. Underground Utilities Indicated: Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the CONTRACTOR.

F. Underground Utilities Not Indicated: In the event that the CONTRACTOR damages any existing utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a written report thereof shall be made immediately to the ENGINEER. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR under the provisions for changes and extra work contained in the General Conditions.

G. All costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work in accordance with the provisions of the General Conditions.

H. Approval of Repairs: All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement OWNER and the ENGINEER before being concealed by backfill or other work.

I. Maintaining in Service: All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm

drain lines, poles, and overhead power and communication wires and cables encountered along the line of the WORK shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

J. Existing Water Services: CONTRACTOR shall protect and provide temporary support for existing water services. Any water service damaged by the CONTRACTOR, shall be replaced at the CONTRACTOR's expense, with a new water service complete with new water main tap.

1.06 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

A. General: The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or the OWNER. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.

B. Trimming: Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.

C. Replacement: The CONTRACTOR shall immediately notify the jurisdictional agency and/or the OWNER if any tree is damaged by the CONTRACTOR's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at CONTRACTOR’s own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the CONTRACTOR shall pay to the OWNER of said tree a compensatory payment acceptable to the tree OWNER, subject to the approval of the jurisdictional agency or OWNER. The size of the trees shall be not less than 1-inch diameter nor less than 6 feet in height.

1.07 NOTIFICATION BY THE CONTRACTOR

A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the CONTRACTOR shall notify the respective authorities representing the OWNERs or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said OWNERs or agencies can be present during such work if they so desire. The CONTRACTOR shall also notify the

Sunshine State One Call Center 1-800-432-4770 at least 2 days, but no more than 14 days, prior to such excavation.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL

A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 FENCING

A. Materials to CONTRACTOR's option, minimum fence height = 6 feet.

2.03 BARRIERS

A. Materials to CONTRACTOR's option, as appropriate to serve required purpose.

PART 3 EXECUTION

3.01 GENERAL

A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for required purposes.

B. Maintain barriers during entire construction period.

C. Relocate barriers as required by progress of construction.

3.02 TREE AND PLANT PROTECTION

A. Preserve and protect existing trees and plants adjacent to work areas.

B. Consult with OWNER's Representative and remove agreed-on roots and branches which interfere with work.

1. Employ qualified tree surgeon to remove branches, and to treat cuts.

C. Protect root zones of trees and plants.

1. Do not allow vehicular traffic and parking.

2. Do not store materials or products.

3. Prevent dumping of refuse or chemically injurious materials or liquids.

4. Prevent puddling or continuous running water.

D. Carefully supervise all work to prevent damage.

E. Replace trees and plants which are damaged or destroyed due to work operations under this contract.

3.03 REMOVAL

A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by OWNER's Representative.

B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area.

3.04 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section, it shall be included in the price of all other work.

END OF SECTION

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Sections:

1. Division 01 Section "Temporary Facilities and Controls" for temporary site fencing.
2. Division 31 Section "Site Clearing" for removing existing trees and shrubs.

1.3 DEFINITIONS

A. Caliper: Diameter of a trunk measured by a diameter tape at 6 inches (150 mm) above the ground for trees up to, and including, 4-inch (100-mm) size; and 12 inches (300 mm) above the ground for trees larger than 4-inch (100-mm) size.

B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Verification: For each type of the following:

1. Organic Mulch: 1-quart (1-L) volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
2. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.

3. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.

C. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1. Species and size of tree.
2. Location on site plan. Include unique identifier for each.
3. Reason for pruning.
4. Description of pruning to be performed.
5. Description of maintenance following pruning.

D. Qualification Data: For qualified arborist and tree service firm.

E. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

F. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

G. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs or videotape.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.5 QUALITY ASSURANCE

A. Arborist Qualifications: **Certified Arborist as certified by ISA, Certified Arborist-Municipal Specialist as certified by ISA, Licensed arborist in jurisdiction where Project is located, Current member of ASCA, or Registered Consulting Arborist as designated by ASCA**.

B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

C. Pre-installation Conference: Conduct conference at Fort Lauderdale City Hall.

1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.

b. Enforcing requirements for protection zones.
c. Arborist's responsibilities.
d. Field quality control.

1.6 PROJECT CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil: Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than **1 inch (25 mm)** in diameter; and free of weeds, roots, and toxic and other nonsoil materials.

1. Obtain topsoil only from well-drained sites where topsoil is 4 inches (100 mm) deep or more; do not obtain from bogs or marshes.

B. Topsoil: Imported or manufactured topsoil complying with ASTM D 5268 or equivelent.

C. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:

1. Type: **Wood and bark chips**
2. Size Range: 3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum.
3. Revise subparagraph below if artificially colored mulch is required.
4. Color: Natural.

D. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements.

1. Chain-Link Protection-Zone Fencing: Polymer-coated galvanized-steel fencing fabricated from minimum 2-inch (50-mm) opening, 0.148-inch- (3.76-mm-) diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- (60-mm-) OD line posts, and 2-7/8-inch- (73-mm-) OD corner and pull posts; with 0.177-inch- (4.5-mm-) diameter top tension wire and 0.177-inch- (4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

   a. Height: 6 feet (1.8 m).
   b. Polymer-Coating Color: Dark green.

2. Plywood Protection-Zone Fencing: Plywood framed with four 2-by-4-inch (50-by-100-mm) rails, with 4-by-4-inch (100-by-100-mm) preservative-treated wood posts spaced not more than 8 feet (2.4 m) apart.

   a. Height: 4 feet (1.2 m)
   b. Plywood and Lumber: Comply with requirements in Division 06 Section Rough Carpentry.

3. Wood Protection-Zone Fencing: Constructed of two 2-by-4-inch (50-by-100-mm) horizontal rails, with 4-by-4-inch (100-by-100-mm) preservative-treated wood posts spaced not more than 8 feet (2.4 m) apart, and lower rail set halfway between top rail and ground.

   a. Height: 4 feet (1.2 m).
   b. Lumber: Comply with requirements in Division 06 Section "Rough Carpentry."

4. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and weighing a minimum of 0.4 lb/ft. (0.6 kg/m); remaining flexible from minus 60 to plus 200 deg F (minus 16 to plus 93 deg C); inert to most chemicals and acids; minimum tensile yield strength of 2000 psi (13.8 MPa) and ultimate tensile strength of 2680 psi (18.5 MPa); secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 8 feet (2.4 m) apart.

   a. Height: 4 feet (1.2).
   b. Color: High-visibility orange, nonfading.

5. Gates: Single swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width 36 inches (914 mm).

E. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes pre-punched and reinforced; legibly printed with nonfading lettering and as follows:

1. Size and Text: As shown on Drawings
2. Lettering: 3-inch- (75-mm-) high minimum, black characters on white background.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Tie a 1-inch (25-mm) blue-vinyl tape around each tree trunk at 54 inches (1372 mm) above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated.

1. Apply 4-inch (100-mm) average thickness of organic mulch. Do not place mulch within 6 inches (150 mm)]of tree trunks.

3.3 TREE- AND PLANT-PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
3. Access Gates: Install where indicated or directed by Construction Project Manager; adjust to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Construction Project Manager. Install one sign spaced approximately every **25 feet (8 m)** on protection-zone fencing, but no fewer than **four (4)** signs with each facing a different direction.

C. Maintain protection zones free of weeds and trash.

D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

E. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Division 31 Section "Earth Moving."

B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

A. Prune roots that are affected by temporary and permanent construction. Prune roots as shown on Drawings and as follows:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches (38 mm) in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.
3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
4. Cover exposed roots with burlap and water regularly.
5. Backfill as soon as possible according to requirements in Division 31 Section "Earth Moving."

B. Root Pruning at Edge of Protection Zone: Prune roots 6 inches (150 mm) outside of the protection zone, by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the required excavation to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

3.6 CROWN PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches **as shown on Drawings and as follows:**
1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
2. Pruning Standards: Prune trees according to ANSI A300 (Part 1)**.**
3. Cut branches with sharp pruning instruments; do not break or chop.
4. Do not apply pruning paint to wounds.

B. Chip removed branches and spread over areas identified by City Landscape Architect.

3.7 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

D. Minor Fill within Protection Zone: Where existing grade is 2 inches (50 mm or less below elevation of finish grade, fill with topsoil. Place topsoil in a single un-compacted layer and hand grade to required finish elevations.

3.8 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.9 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

1. Submit details of proposed root cutting and tree and shrub repairs.
2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
4. Perform repairs within 24 hours.
5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Trees: Remove and replace trees indicated to remain that are more than twenty-five (25%) percent dead or in an unhealthy condition before the end of the construction period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.

1. Provide new trees of same size and species as those being replaced for each tree that measures 4 inches (100 mm) or smaller in caliper size.
2. Provide two new tree(s) of 4-inch (100-mm caliper size for each tree being replaced that measures more than 4 inches (100 mm) in caliper size.

    a. Species: Species selected by City Landscape Architect.

3. Plant and maintain new trees as specified in Division 32 Section "Plants."

C. Soil Aeration: Where directed by Construction Project Manager, aerate surface soil compacted during construction. Aerate 10 feet (3 m) beyond drip line and no closer than 36 inches (900 mm) to tree trunk. Drill 2-inch- (50-mm-) diameter holes a minimum of 12 inches (300 mm) deep at 24 inches (600 mm) o.c. Backfill holes with an equal mix of augered soil and sand.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 01570 – TRAFFIC REGULATIONS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow on haul routes, at site entrances, on-site access roads, and parking areas.

B. Remove temporary equipment and facilities when no longer required, restore grounds to original, or specified conditions.

1.02 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.03 TRAFFIC SIGNALS AND SIGNS

A. Provide and operate traffic control and directional signals or signs required to direct and maintain an orderly flow of traffic in all areas under CONTRACTOR's control, or affected by CONTRACTOR's operations.

1.04 FLAGPERSON

A. Provide qualified and suitably equipped flag-person when construction operations encroach on traffic lanes, as required for regulation of traffic.

1.05 FLARES AND LIGHTS

A. Provide flares and lights during periods of low visibility:

1. To clearly delineate traffic lanes and to guide traffic.

2. For use of flag-person in directing traffic.

B. Provide illumination of critical traffic and parking areas.

1. Maintain free vehicular access to and through parking areas.

2. Prohibit parking on or adjacent to access roads, or in non-designated areas.

1.06 HAUL ROUTES

A. Consult with OWNER and governing authorities, establish public thoroughfares which will be used as haul routes and site access.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

1.07 EMERGENCY ACCESS

A. In order to provide protection to the workers and residents, the Contractor shall maintain emergency access to all adjacent properties at all times during construction. If a road is required to be closed to vehicular traffic and the distance of the closure exceeds 150 feet between stabilized surfaces, or prevents access to properties for a distance that exceeds 150 feet, the Contractor shall provide a 10 foot wide stabilized access way on one side of the trench capable of supporting a Fire Truck. Contractor shall also provide stabilized access ways across the trench or unstabilized area a minimum of 6 feet in width at a spacing not to exceed 100 feet capable of supporting foot traffic. These access ways shall be protected and delineated with lighted barricades or other such devices as approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the City of Fort Lauderdale and FDOT with signage indicating that this access way is to be used by emergency vehicles only.

No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the Engineer, and it shall be the Contractor's responsibility to provide proper protection of the open trench or hole as required by the regulatory agency. In addition the Contractor shall provide a security guard at the site whenever the Contractor's personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operation pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the contractor shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The contractor shall maintain and keep all safety barricades, signage, flashers, and detours, in operation condition. A copy of the approved MOT plans, and details, shall be on site at all times.

B. Measurement and payment for security guard services shall be included in the utility pipe installation unit price. Measurement for temporary emergency access ways will be paid for under the specified line item at the unit price described in the bid schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 MEASUREMENT AND PAYMENT

A. There shall be no special measurement and payment for work under the section; it shall be included in the lump sum price bid for Maintenance of Traffic.

END OF SECTION

SECTION 015900 – PROJECT SIGN

PART 1 GENERAL

Contractor shall furnish a **4' x 8'** sign, **below is a sample, not specific to the project**. **Sign shall be made to be weather resistant and on display for entire length of contract. Shop drawings must be submitted prior to sign construction. The exact style and design of the sign will be provided during the preconstruction meeting.**



See Page 2, "Construction Sign Request Form", for information on the sign for this Project.

END OF SECTION

Construction Sign Request Form

Title (Bold):

Title (Not Bold):

What's Happening?

Benefits:

Number of Neighbors Benefitted:

Cost:

Month and Year of Expected Completion:

Contractor:

Phone: 954-828-8000

We're Working On:

Project Manager Signature

Date

Senior Project Manager Signature

Date

SECTION 01710 – CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Execute cleaning, during progress of the Work, and at completion of the Work, as required by the General Conditions.

1.02 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.03 DISPOSAL REQUIREMENTS

A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS

2.01 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

A. Execute periodic cleaning to keep the work, the site and adjacent properties free from accumulation of waste material, rubbish and windblown debris, resulting from Construction Work.

B. Provide on-site containers for the collection of waste materials, debris and rubbish.

C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

C. The OWNER's Representative reserves the right to direct the CONTRACTOR to remove waste materials

D. Mechanical Sweeping: CONTRACTOR shall maintain on site a mechanical sweeping device for removing debris from existing, temporary and permanent pavement.

3.02 DUST CONTROL

A. Perform operations so that dust and other contaminants resulting from Construction Work operations will not cause any damages or maintenance problems to adjacent properties.

B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.03 FINAL CLEANING

A. Employ skilled workmen for final cleaning.

B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.

C. Polish glossy surfaces to a clear shine.

D. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.

E. Prior to final completion, or OWNER occupancy, CONTRACTOR shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify the entire work is clean.

F. All storage and staging areas shall be cleaned and returned to prior conditions or better as per requirements of this section.

3.04 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section; it shall be included in the price of all other work.

END OF SECTION

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of City-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

B. Related Sections include the following:

1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section "Submittal Procedures" for submitting surveys.
3. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of City-accepted deviations from indicated lines and levels, and final cleaning.
4. Division 02 Section "Selective Structure Demolition" for demolition and removal of selected portions of the building.
5. Division 07 Section "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Cutting and Patching Plan: Submit plan describing procedures at least **ten (10)** days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

E. Certified Surveys: Submit two copies signed by land surveyor.

F. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is licensed by the State of Florida and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or those results in increased maintenance or decreased operational life or safety. Operational elements include the following:

    a. Primary operational systems and equipment.
    b. Fire separation assemblies.

c. Air or smoke barriers.
d. Fire-suppression systems.
e. Mechanical systems piping and ducts.
f. Control systems.
g. Communication systems.
h. Fire-detection and -alarm systems.
i. Conveying systems.
j. Electrical wiring systems.
k. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Exterior curtain-wall construction.
d. Sprayed fire-resistive material.
e. Equipment supports.
f. Piping, ductwork, vessels, and equipment.
g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in Division 01 sustainable design requirements Section.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed

surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities, mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having

jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Identification: City will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of **two (2)** permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and site work.

E. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Division 01 Section "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing

materials.

b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a watertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 CITY-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for City's construction forces.

B. Coordination: Coordinate construction and operations of the Work with work performed by City's construction forces.

1. Construction Schedule: Inform City of Contractor's preferred construction schedule for City's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify City if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include City's construction forces at preinstallation conferences covering portions of the Work that are to receive City's work. Attend preinstallation conferences conducted by City's construction forces if portions of the Work depend on City's construction.

3.8 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in **Division 01 Section "Temporary Facilities and Controls." Division 01 Section "Construction Waste Management and Disposal."**

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Section "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.11 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017800
CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:

1. Submit prior to application for final payment.
   a) Record Documents.
   b) As-built drawings (signed and sealed hardcopies and electronic format – PDF and CAD files)
   c) Special Bonds, Special Guarantees, and Service Agreements.
   d) Consent of Surety to Final Payment.
   e) Releases or Waivers of Liens and Claims.
   f) Releases from Agreements.
   g) Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 001025, Measurement and Payment.
   h) Spare Parts, Special Tools and Extra Materials: As required by individual Specification sections.

A. Subcontractor Identification Form:

1. Submit form with final pay request.
2. Submit a separate form for each subcontractor used.
3. For Capital Improvement Projects, submit form along with final pay request to the PCM.
4. Form is attached as a Supplement to this Section.

1.02 RECORD DOCUMENTS

A. Quality Assurance:

1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.

2. Accuracy of Records:

   a. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
   b. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.

4. Prior to submitting each request for progress payment, request PCM's review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by PCM to recommend whole or any part of Contractor's Application for Payment, either partial or final.

1.03 RELEASES FROM AGREEMENTS

A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way.

B. In the Event Contractor is Unable to Secure Written Releases:

1. Inform PCM of the reasons.
2. Owner or its representatives will examine the site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.
3. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory Bond in a sum to cover legal claims for damages.
4. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if: (i) Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate claims that Contractor has failed to fulfill terms of side agreement or special easement, or (ii) Contractor is unable to contact or has had undue hardship in contacting grantor.

1.04 AS-BUILT DRAWINGS

A. Quality Assurance

1. As-built drawings must meet all minimum City of Fort Lauderdale CAD standards and be submitted in the latest version of AutoCAD available at the time the contract is signed.
2. As-built drawings will be submitted in both electronic and hard copy forms as follow:

a. 3 hard copy sets of as-builts will be submitted on 24x36 paper signed, sealed, and dated by a Florida Professional Licensed Surveyor (PLS).
b. 1 CD or jump drive which will include both DWG files for the package and a PDF document including the surveyors signature and seal.

3. As-built drawings will include the following:
a. PLS name, business name, license numbers, address, and telephone number

b. The following statement must be included:
"I hereby certify that the as-built location information of the potable water, reclaimed water, wastewater and drainage facilities shown on these drawings conforms to the minimum technical standards for land surveying in the State of Florida, Chapter 5J-17.050(10)(i) (Florida Administrative Code), as adopted by the Department of Agriculture and Consumer Services, Board of Professional Surveyors and Mappers, and that said as-builts are true and correct to the best of our knowledge and belief."

c. As-built drawings will contain the information on the design drawings (plan and profile views) plus document changes between the design and construction including correcting all information that is incorrect due to changes during construction. Incorrect or no longer relevant information will be erased or struck through. All location changes constructed materially different (one-tenth foot horizontal, one tenth vertical) than the design location will have their design location struck through and will be redrafted at the constructed location. Design drawing dimensioning will be corrected as necessary.

4. Drawing will be a complete set including cover sheet, index, and any other sheets included in the approved design set. Standard detail sheets are not necessary.

B.Minimum As-Built Drawing Requirements (Not applicable for this project), except in cases where a permitting agency requires an as-built.

1. Show the location of easements used by the water and wastewater facilities.
2. Indicate pipe joint locations where water and wastewater or reclaimed water piping crosses.
3. Indicated the length of gravity wastewater piping and actual slope between manhole centers.
4. Show all abandoned in place facilities including the extent and method of abandonment.
5. Show elevations to the nearest tenth of a foot for top of pipe for water mains, force mains, and reclaimed water mains at vertical deflection points, all bends, valves and fittings and every 200 feet along straight runs and where they cross all other facilities.
6. Show elevations to the nearest one hundredth of a foot for manhole rims, gravity main inverts at the manhole, force main connections to manholes, lift station top of slab, bottom of wet well, influent pipe invert and control set points.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS

A. General:

1. Promptly following commencement of Contract Times, secure from Engineer, at no cost to Contractor, one complete set of Contract Documents. Drawings will be full size.
2. Delete Engineer title block and seal from all documents.
3. Label or stamp each record document with title, “RECORD DOCUMENTS,” in neat large printed letters.
4. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded. Contractor is responsible for maintaining up-to-date “red-lined” markups, on site, of all changes including revised locations of buried features and provide access to the City for review at any time.
5. All piping inserts, fittings, and valve locations shall be located by a Florida Licensed Surveyor in accordance with City of Fort Lauderdale surveying standards and per NAVD 88. Contractor shall provide adequate notice to the surveyor to ensure that all locations are accessible, prior to backfill.

B. Preservation:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
2. Make documents and Samples available at all times for observation by PCM or Engineer.

C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
   a. Color Coding:
      1) Green when showing information deleted from Drawings.
      2) Red when showing information added to Drawings.
      3) Blue and circled in blue to show notes.
2. Date entries.
3. Call attention to entry by “cloud” drawn around area or areas affected.
4. Legibly mark to record actual changes made during construction, including, but not limited to:
   a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
   b. Horizontal and vertical locations of existing and new Underground Facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.
   c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
   d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.

e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, Written Amendment, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.

5. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.
   a. Clearly identify the item by accurate notes such as “cast iron drain,” “galv. water,” and the like.
   b. Show, by symbol or note, vertical location of item (“under slab,” “in ceiling plenum,” “exposed,” and the like).
   c. Make identification so descriptive that it may be related reliably to Specifications.

D.Coordination with Florida Licensed surveyor:

1. Contractor shall not cover any bends, valves, or fittings installed until they have been located by the survey crews for the purpose of preparing as-built and/or Record Drawings.
2.If the above conditions are not met, for any reason, Contractor shall bear the cost of potholing the constructed installation to allow for the locations.

3.02 FINAL CLEANING

A. At completion of the Work or of a part thereof and immediately prior to Contractor's request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor's notice of completion, clean entire site or parts thereof, as applicable.

1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner and PCM.
2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
4. Clean all windows.
5. Clean and wax wood, vinyl, or painted floors.
6. Broom clean exterior paved driveways and parking areas.
7. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
8. Rake clean all other surfaces.
9. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.
10. Leave water courses, gutters, and ditches open and clean.
11.

A. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.

B. Meet all requirements of Section 02575, Surface Restoration.

3.03 SUPPLEMENTS

A. The supplements listed below, following “END OF SECTION,” are part of this Specification.

1. Subcontractor Identification Form.

END OF SECTION

SUBCONTRACTOR IDENTIFICATION FORM

This form shall be completed by all City of Fort Lauderdale Prime Contractors who subcontracted out any portion of his/her City contract. The form shall be forwarded to the City of Fort Lauderdale's Public Services Department (Engineering and Architectural Services) with the prime contractor's final pay request. A separate form is to be completed and submitted for each subcontractor. Please telephone (954) 761-5057 or 761-5083, if you have any questions regarding this form.

1) CITY OF FORT LAUDERDALE PROJECT NO. _____

2) PROJECT DESCRIPTION _____

3) SUBContractor ____

_____
Business Name

_____
Address

_____
Telephone & Fax Nos.

_____
Email Address/Company Wesbsite (if applicable)

4) SUBCONTRACTOR'S PRINCIPAL OFFICER

5) CLASSIFICATION OF WORK SUBCONTRACTED OUT __

6) COST OF WORK SUBCONTRACTED OUT __

7) Please check the item(s) which properly identify the ownership status of the subcontractor's firm:

☐ Subcontractor firm is not a MBE or WBE

☐ Subcontractor firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically-disadvantaged individuals:

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic ☐ White

☐ Subcontractor firm is a WBE, as at least 51 percent is owned and operated by one or more women.

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic ☐ White

8) **PRIME Contractor** _____

_____
NAME & TITLE OF PRIME CONTRACTOR'S REPRESENTATIVE COMPLETING THIS FORM (*Please Print*)

_____
(Telephone No.) *(Fax No.)* *(Email Address)*

SIGNATURE _____ **DATE**_____
Prime Contractor's Representative

SECTION 027100 - LIMEROCK BASE

PART 1 GENERAL

1.01 DEFINITIONS

A. Completed Course: Compacted, unyielding, free from irregularities, with smooth, tight, even surface, true to grade, line, and cross section.

B. Completed Lift: Compacted with uniform surface reasonably true to cross-section.

PART 2 PRODUCTS

2.01 LIMEROCK BASE ROCK

A. The material used in limerock base shall be material classified as Miami Oolite Formation.

B. The minimum of carbonates of calcium and magnesium in the limerock shall be 70 percent. The maximum percentage of water-sensitive clay material shall be 3.

C. Limerock material shall be uniform in color and not contain cherty or other extremely hard pieces, or lumps, balls, or pockets of sand or clay size material in sufficient quantities as to be detrimental to the proper bonding, finishing, or strength of the limerock base.

D. The limerock base shall be uniformly graded from coarse to fine with 97 percent passing a 3-1/2-inch sieve, 80 percent passing a 2-inch sieve. The fine material shall consist entirely of dust of fracture. All crushing or breaking up, which might be necessary in order to meet such size requirements, shall be done before the material is placed on the road.

E. Physical Qualities:

1. Liquid Limit, AASHTO T89: Maximum 35 percent.
2. Nonplastic.
3. Limerock material shall have an average limerock bearing ratio (LBR) value of not less than 100.

2.02 SOURCE QUALITY CONTROL

A. Contractor: Perform tests necessary to locate acceptable source of materials meeting specified requirements.

B. Final approval of aggregate material will be based on materials' test results on installed materials.

C. Should separation of coarse from fine materials occur during processing or stockpiling, immediately change methods of handling materials to correct uniformity in grading.

PART 3 EXECUTION

3.01 SUBGRADE PREPARATION

A. As specified in Section 02319, Subgrade Preparation.

B. Obtain Engineer's acceptance of subgrade before placement of limerock base rock.

C. Do not place base materials on soft, muddy subgrade.

3.02 EQUIPMENT

A. Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For areas where the use of a mechanical spreader is not practicable, the Contractor may spread the rock using bulldozers or blade graders.

3.03 HAULING AND SPREADING

A. Hauling Materials:

1. The limerock shall be transported to the point where it is to be used and dumped on the end of the preceding spread.
2. Do not haul over surfacing in process of construction.
3. Loads: Of uniform capacity.
4. Maintain consistent gradation of material delivered; loads of widely varying gradations will be cause for rejection.

B. Spreading Materials:

1. Distribute material to provide required density, depth, grade and dimensions with allowance for subsequent lifts.
2. Produce even distribution of material upon roadway without segregation.
3. Should segregation of coarse from fine materials occur during placing, immediately change methods of handling materials to correct uniformity in grading.

3.04 CONSTRUCTION OF COURSES

A. General: Complete each lift in advance of laying succeeding lift to provide required results and adequate inspection.

B. Limerock Base:

1. Maximum Completed Lift Thickness: 6 inches or equal thickness.
2. Completed Course Total Thickness: As shown.

3. Spread lift on preceding course to required cross-section.
4. Lightly blade and roll surface until thoroughly compacted.
5. Blade or broom surface to maintain true line, grade, and cross-section.

C. Gravel Surfacing:

1. Maximum Completed Lift Thickness: 6 inches or equal thickness.
2. Completed Course Total Thickness: As shown.
3. Spread on preceding course in accordance with cross-section shown.
4. Blade lightly and roll surface until material is thoroughly compacted.

3.05 ROLLING AND COMPACTION

A. Commence compaction of each layer of base after spreading operations and continue until density of 98 percent of maximum density has been achieved as determined by AASHTO T 180.

B. Roll each course of surfacing until material shall not creep under roller before succeeding course of surfacing material is applied.

C. Commence rolling at outer edges of surfacing and continue toward center; do not roll center of road first.

D. When the material does not have the proper moisture content to ensure the required density, wet or dry, as required. When adding water, uniformly mix it in by disking 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.

E. Place and compact each lift to required density before succeeding lift is placed.

F. Bind up preceding course before placing leveling course. Remove floating or loose stone from surface.

G. Blade or otherwise work surfacing as necessary to maintain grade and cross-section at all times, and to keep surface smooth and thoroughly compacted.

H. Surface Defects: Remedy surface defects by loosening and rerolling. Reroll entire area, including surrounding surface, until thoroughly compacted.

1. Finished Surface: True to grade and crown before proceeding with surfacing.

3.06 SURFACE TOLERANCES

A. Finished Surface of Base Course and Leveling Course: Within plus or minus 0.04-foot of grade shown at any individual point.

B. Compacted Surface of Leveling Course: Within 0.04-foot from lower edge of 10-foot straightedge placed on finished surface, parallel to centerline.

C. Overall Average: Within plus or minus 0.01-foot from crown and grade specified.

3.07 DRIVEWAY RESURFACING

A. Replace gravel surfacing on driveways which were gravel surfaced prior to construction.

B. Provide compacted gravel surfacing to depth equal to original, but not less than 4 inches.

C. Leave each driveway in as good or better condition as it was before start of construction.

3.08 FIELD QUALITY CONTROL

A. In-Place Density Tests:

1. Construct base course so areas shall be ready for testing.
2. Allow reasonable length of time for Testing Firm to perform tests and obtain results during normal working hours.

3.09 CLEANING

A. Remove excess material; clean stockpile areas of aggregate.

END OF SECTION

SECTION 027610- PAVEMENT MARKING

PART 1 GENERAL

1.01 STANDARD SPECIFICATIONS

A. When referenced in this section, shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition.

1.02 DELIVER, STORAGE, AND PROTECTION

A. Packaging and Labeling: All coatings and traffic marking materials shall be shipped in strong containers plainly marked with the weight in pounds per gallon, the volume of coatings and traffic marking materials content in gallons, the color, user information, date of manufacture, LOT, batch and DOT code number. Each batch manufactured shall have a unique number. A true statement of the percentage composition of the pigment, the proportion of pigment to vehicle, and the name and address of the manufacturer, also shall be shown. The label shall warn the user of any special handling or precautions of the material, as recommended by the manufacturer. Any package not so marked will not be accepted for use under these Specifications.

B. Storage: Any coatings and traffic marking materials which, although inspected and approved at the point of manufacture, hardens or livers in the containers so that it cannot be readily broken up with a paddle to a smooth, uniform painting consistency, will be rejected. All materials shall have a container storage life of one year from date of manufacture. Any coatings and traffic marking materials not acceptable for proper application will be rejected, even though it conforms to these Specifications in all other respects.

C. Mixing: All paints except aluminum shall be delivered to the project completely mixed, and ready to be used without additional oil or thinner. Gasoline shall not be used for thinner under any circumstances.

PART 2 PRODUCTS

2.01 PAINT

A. Color: White, yellow, or blue traffic paint meeting the requirements of Section 971 of the Standard Specifications.

B. Homogeneous, easily stirred to smooth consistency, with no hard settlement or other objectionable characteristics during a storage period of 6 months.

2.02 THERMOPLASTIC STRIPING

A. White or yellow thermoplastic striping material meeting the requirements of Section 971-17 of the Standard Specifications.

2.03 RAISED REFLECTIVE MARKERS

A. Metallic or nonmetallic, or prismatic reflector type, of permanent colors retaining color and brightness under action of traffic.

B. Rounded surfaces presenting a smooth contour to traffic. The minimum area of each reflective face shall be 2-1/2 inches squared.

C. Marker and adhesive epoxy in accordance with ASTM D4280

D. Markers shall meet the requirements of Section 970 (Class B) of the Standard Specifications.

2.04 GLASS SPHERES

A. Glass spheres shall be of a composition designed to be highly resistant to traffic wear and to the effects of weathering.

B. In accordance with AASHTO M247, Type I with moisture resistant coating or a formulation specified by the traffic striping material manufacturer and Section 971-14 of the Standard Specifications.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

A. Cleaning:

1. Thoroughly clean surfaces to be marked before application of pavement marking material.
2. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water or a combination of these methods.
3. Completely remove rubber deposits, surface laitance, existing paint markings, and other coatings adhering to pavement with scrapers, wire brushes, sandblasting, approved chemicals, or mechanical abrasion.
4. Scrub areas of old pavement affected with oil or grease with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application.
5. Surfaces shall be completely free of dry dirt and ice, and dry of water at the time of application of any of the materials specified herein.
6. Oil-Soaked Areas: After cleaning, seal with cut shellac to prevent bleeding through the new paint.
7. Reclean surfaces when Work has been stopped due to rain.

8. Existing Pavement Markings:
    a. Remove existing pavement markings that may interfere or conflict with newly applied marking patterns, or that may result in a misleading or confusing traffic pattern.
    b. Do not apply thermoplastic markings over existing preformed or thermoplastic markings.
    c. Removal of striping shall be done by waterblasting methods, so finished pavement surface is not damaged.

B. Pretreatment for Early Painting: Where early painting is required on rigid pavements, pretreat with an aqueous solution containing 3 percent phosphoric acid and 2 percent zinc chloride.

C. New Concrete Pavement:

1. Allow a minimum cure time of 30 days before cleaning and marking with final thermoplastic striping.
2. Clean by either sandblasting or water blasting to the following results:
    a. No visible evidence of curing compound on peaks of textured concrete surface.
    b. No heavy puddled deposits of curing compound in valleys of textured concrete surface.
    c. Remaining curing compound is intact, with loose and flaking material completely removed.
    d. Peaks of textured pavement surface are rounded in profile and free of sharp edges and irregularities.
3. Allow a minimum drying time of 24 hours after water blasting before applying thermoplastic markings.

3.02 ALIGNMENT FOR MARKINGS

A. The Contractor shall be responsible for all measurements, reference points and marks, string lining, and any other steps required in establishing pavement marking locations and alignment. On tangents and on curves up to 1 degree, the alignment of the marking shall not deviate from the string line by more than 1 inch. On curves exceeding 1 degree, the maximum permissible deviation shall be 2 inches. All alignment width and location shall conform to the details shown on the Drawings.

3.03 PAINT APPLICATION

A. General:

1. Thoroughly mix pigment and vehicle together prior to application, and keep thoroughly agitated during application.
2. Do not add thinner.
3. Apply only when air and pavement temperatures are above 40 degrees F and less than 95 degrees F. Maintain paint temperature within these same limits.
4. Apply only when surface is dry.

5. Do not apply when conditions are windy to the point of causing overspray or fuzzy line edges.
6. New Asphalt Pavement: Allow a minimum pavement cure time as recommended by the manufacturer before applying paint.
7. Provide guide lines and templates to control paint application.
8. Take special precautions in marking numbers, letters, and symbols.
9. Sharply outline edges of markings and apply without running or spattering.

B. Rate of Application:

1. Reflective Markings:
   a. Paint: Apply evenly, 105 plus or minus 5 square feet per gallon.
   b. Glass Beads: Apply uniformly, 6 plus or minus 0.5 pounds of glass spheres per gallon of paint.
2. Nonreflective Markings: Apply paint evenly to pavement surface at a rate of 105 plus or minus 5 square feet per gallon.
3. On new pavement or new asphalt surface treatments, apply two coats of paint at a uniform rate of 210 square feet per gallon.

C. Drying:

1. Provide maximum drying time to prevent undue softening of bitumen and pickup, displacement, or discoloration by traffic.
2. If drying is abnormally slow, discontinue painting operations until cause is determined and corrected.

3.04 THERMOPLASTIC MARKING APPLICATION

A. Following specified surface preparation, prime and apply marking and glass beads to provide a reflectorized strip as shown on Drawings.

B. The material shall be applied to the pavement by the extrusion method only, wherein one side of extrusion shaping die is the pavement and the other sides are formed by suitable equipment for heating and controlling the flow of the material.

C. Application Temperatures:

1. Pavement Surface: Minimum 40 degrees F and rising.
2. Thermoplastic: Minimum 375 degrees F, maximum 425 degrees F.

D. Primer:

1. On portland cement concrete and existing asphalt pavements, apply epoxy resin primer/sealer according to the thermoplastic manufacturer’s recommendations.
2. All primer/sealer to dry prior to applying thermoplastic.

E. Thermoplastic Marking:

1. Extrude in a molten state, free of dirt or tint. at a thickness of 0.10 to 0.15 inch for lane lines and 0.07 to 0.10 inch for edge or other lines in accordance with FDOT 711-4.3.
2. Apply centerline, skipline, edgeline, and other longitudinal type markings with a mobile applicator.
3. Apply special markings, crosswalks, stop bars, legends, arrows, and similar patterns with a portable, extrusion-type applicator.

F. Glass Bead Application:

1. Immediately after marker application, mechanically apply such that the beads are held by and imbedded in the surface of the molten material.
2. Application Rate: One pound per 20 square feet of compound.

G. Cool completed marking to ambient temperature prior to allowing vehicular traffic.

3.05 INSTALLATION OF RAISED REFLECTIVE MARKERS

A. Apply markers to the bonding surface using bituminous adhesives only.

B. Apply the adhesive to the binding surface (not the marker) so that 100 percent of the bonding area of the marker will be covered.

C. Align markers carefully, projecting no more than 3/4-inch above level of pavement. Reflective face of the marker shall be perpendicular to a line parallel to the roadway centerline. Do not install markers over longitudinal or transverse joints of the bonding surface.

D. Spacing: As shown on the Drawings.

E. Immediately remove excess adhesive from the bonding surface and exposed surface of the marker.

F. Use only a mineral spirits meeting Federal Specifications TT-T-291 to remove adhesive from exposed faces of markers.

3.06 GLASS BEAD APPLICATION

A. Apply immediately following application of paint.

B. Use evenly distributed, drop-on application method.

C. Rate: 10 pounds per gallon of paint.

3.07 PROTECTION

A. The CONTRACTOR shall erect adequate warning signs and/or provide sufficient number of flagmen, and take all necessary precautions for the protection of the materials and safety of the public.

B. Protect surfaces from disfiguration by paint spatters, splashes, spills, or drips.

3.08 CLEANUP

A. Remove paint spatters, splashes, spills, or drips from Work and staging areas and areas outside of the immediate Work area where spills occur.

END OF SECTION

SECTION 027710- CONCRETE CURBS AND SIDEWALKS

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS

2.01 EXPANSION JOINT FILLER

A. 1/2-inch thick, preformed asphalt-impregnated, expansion joint material meeting AASHTO M153 Type I, II, or III, or AASHTO M213, or cellulose fiber types meeting the requirements of AASHTO M213, except the asphalt content is acceptable provided they contain minimum of 0.2 percent copper pentachlorophenate as a preservative and 1 percent water proofing wax.

2.02 CONCRETE

A. Ready-mixed meeting ASTM C94, Option A, with compressive strength of 3,000 psi at 28 days.

B. Maximum Aggregate Size: 1-1/2 inch.

C. Slump: 2 to 4 inches.

2.03 CURING COMPOUND

A. Liquid membrane-forming, clear or translucent, suitable for spray application and meeting ASTM C309, Type 1.

PART 3 EXECUTION

3.01 FORMWORK

A. Lumber Materials:

1. 2-inch dressed dimension lumber, or metal of equal strength, straight, free from defects that would impair appearance or structural quality of completed curb and sidewalk.
2. 1-inch dressed lumber or plywood may be used where short-radius forms are required.

B. Metals: Steel in new undamaged condition.

C. Setting Forms:

1. Construct forms to shape, lines, grades, and dimensions.
2. Stake securely in place.

D. Bracing:

1. Brace forms to prevent change of shape or movement resulting from placement.
2. Construct short-radius curved forms to exact radius.

E. Tolerances:

1. Do not vary tops of forms from gradeline more than 1/8 inch when checked with 10-foot straightedge.
2. Do not vary alignment of straight sections more than 1/8 inch in 10 feet.

3.02 PLACING CONCRETE

A. Prior to placing concrete, remove water from excavation and debris and foreign material from forms.

B. Place concrete as soon as possible, and within 1-1/2 hours after adding cement to mix without segregation or loss of ingredients, and without splashing.

C. Place, process, finish, and cure concrete in accordance with applicable requirements of ACI 304, and this section. Wherever requirements differ, the more stringent shall govern.

D. To compact, vibrate until concrete becomes uniformly plastic.

E. All edges shall be smooth and rounded.

3.03 SIDEWALK CONSTRUCTION

A. Thickness:

1. 6 inches in all areas, unless otherwise shown on design drawings.

B. Connection to Existing Sidewalk:

1. Remove old concrete back to an existing contraction joint.
2. Clean the surface.
3. Apply a neat cement paste immediately prior to placing new sidewalk.

C. Expansion Joints: Place at maximum 20-foot intervals, at adjacent curb expansion joint, where sidewalk ends at curb, and around posts, poles, or other objects penetrating sidewalk. Install expansion joint filler at each joint.

D. Contraction Joints:

1. Provide transversely to walks at locations opposite contraction joints in curb.
2. Dimensions: 3/16-inch by 1-inch weakened plane joints.

3. Construct straight and at right angles to surface of walk.

E. Finish:

1. Broom surface with fine-hair broom at right angles to length of walk and tool at edges, joints, and markings.
2. Ensure that the surface variations are not more than ¼ inch under a 10-foot straightedge, or more than 1/8 inch on a 5-foot transverse section.
3. Mark walks transversely at 5-foot intervals, or in pattern shown on Drawings, with jointing tool; finish edges with rounded steel edging tool.
4. Apply curing compound to exposed surfaces upon completion of finishing.
5. Protect sidewalk from damage and allow to cure for at least 7 days.

END OF SECTION

SECTION 027720 - ASPHALT CONCRETE PAVEMENT

PART 1 GENERAL

1.01 STANDARD SPECIFICATIONS

A. When referenced in this Section shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition.

1.02 QUALITY ASSURANCE

A. Qualifications:

1. Independent Testing Laboratory: In accordance with ASTM E329.
2. Asphalt concrete mix formula shall be prepared by an approved certified independent laboratory under the supervision of a certified asphalt technician.

1.03 ENVIRONMENTAL REQUIREMENTS

A. Temperature: Do not apply asphalt materials or place asphalt mixes when ground temperature is lower than 10 degrees C (50 degrees F), or air temperature is lower than 4 degrees C (40 degrees F). Measure ground and air temperature in shaded areas away from heat sources or wet surfaces.

B. Moisture: Do not apply asphalt materials or place asphalt mixes when application surface is wet.

PART 2 PRODUCTS

2.01 MATERIALS

A. Prime Coat: Cut-back asphalt, Grades RC-70 or RC-250 meeting the requirements of Section 916-2 of the Standard Specifications.

B. Tack Coat: Emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting the requirements of Section 916-4 of the Standard Specifications. The bituminous material shall be heated to a suitable consistency as directed by the Engineer.

C. Sand (Blotter Material): Clean, dry, with 100 percent passing a 4.75 mm (No. 4) sieve, and a maximum of 10 percent passing a 75 mm (No. 200) sieve.

2.02 ASPHALT CONCRETE MIX

A. General:

1. Mix formula shall not be modified except with the written approval of Engineer.
2. Source Changes:
   a. Should material source(s) change, establish a new asphalt concrete mix formula before the new material(s) is used.
   b. Perform check tests of properties of the plant-mix bituminous materials on the first day of production and as requested by Engineer to confirm that properties are in compliance with design criteria.
   c. Make adjustments in gradation or asphalt content as necessary to meet design criteria.

B. Asphalt Concrete: FDOT SP-9.5 (coarse or fine) and FC-9.5 or 12.5 meeting the requirements in Section 334 of the Standard Specifications.

C. Composition: Hot-plant mix of aggregate, mineral filler, and paving grade asphalt cement. The several aggregate fractions shall be sized, uniformly graded, and combined in such proportions that the resulting mixture meets the grading requirements of the mix formula.

D. Aggregate:

1. The aggregate shall meet the requirements in Section 334 of the Standard Specifications.
   a. Mineral Filler shall meet the requirements of Section 917 of the Standard Specifications

E. Asphalt Cement: Paving Grade AC-30 meeting the requirements of Section 916 of the Standard Specifications.

PART 3 EXECUTION

3.01 GENERAL

A. Traffic Control: Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt.

B. Driveways: Repave driveways from which pavement was removed. Leave driveways in as good or better condition than before start of construction.

3.02 LINE AND GRADE

A. Provide and maintain intermediate control of line and grade, independent of the underlying base to meet finish surface grades and minimum thickness.

B. Shoulders: Construct to line, grade, and cross-section shown.

3.03 PREPARATION

A. Prepare subgrade as specified in Section 02319, Subgrade Preparation.

B. Existing Roadway:

1. Modify profile by grinding, milling, or overlay methods as approved, to provide meet lines and surfaces and to produce a smooth riding connection to existing facility.
2. Resurface entire roadway following adjustment of base and asphalt grades.
3. Paint edges of meet line with tack coat prior to placing new pavement.

C. Thoroughly coat edges of contact surfaces (curbs, manhole frames) with emulsified asphalt or asphalt cement prior to laying new pavement. Prevent staining of adjacent surfaces.

3.04 PAVEMENT APPLICATION

A. General: Place asphalt concrete mixture on an approved, prepared base in conformance with this Section.

B. Prime Coat:

1. Heat cut-back asphalt between 100 degrees F and 150 degrees F prior to application.
2. Apply uniformly to clean, dry surfaces. Avoiding overlapping of applications.
3. Do not apply when moisture content of upper 3 inches of base exceeds optimum moisture content of base, or if free moisture is present.
4. Application Rate: Minimum 0.1 gallons per square yard of surface area.
5. Remove or redistribute excess material.
6. Allow a minimum of 5 full days for curing of primed surface before placing asphalt concrete.

C. Tack Coat:

1. Apply uniformly to clean, dry surfaces. Avoiding overlapping of applications.
2. Do not apply more tack coat than necessary for the day's paving operation.
3. Touch up missed or lightly coated surfaces and remove excess material.
4. Application Rate:
   a. Minimum 0.05 gallons to maximum 0.12 gallons of asphalt (residual if diluted emulsified asphalt) per square yard of surface area.
   b. Apply at rate, within range specified, sufficient to assure good bonding, but not so heavy that surplus asphalt flushes into asphalt concrete being placed.

D. Pavement Mix:

1. Prior to Paving:
    a. Sweep primed surface free of dirt, dust, or other foreign matter.
    b. Patch holes in primed surface with asphalt concrete pavement mix.
    c. Blot excess prime material with sand.
2. Place asphalt concrete pavement mix in lifts as shown.
3. Compacted Lift Thickness:
    a. Minimum: Twice the maximum aggregate size, but in no case less than 3/4 inch. Minimum thickness for Type S-111 and SP-9.5 is 1.5 inches.
    b. Maximum: 4 inches.
4. Total Compacted Thickness: As shown.
5. Apply such that meet lines are straight and edges are vertical.
6. Collect and dispose of segregated aggregate from raking process. Do not scatter material over finished surface.
7. Joints:
    a. Offset edge of each layer a minimum of 6 inches so joints are not directly over those in underlying layer.
    b. Offset longitudinal joints in roadway pavements, so longitudinal joints in wearing layer coincide with pavement centerlines and lane divider lines.
    c. Form transverse joints by cutting back on previous day's run to expose full vertical depth of layer.
8. Succeeding Lifts: Apply tack coat to pavement surface between each lift.
9. After placement of pavement, seal meet line by painting a minimum of 6 inches on each side of the joint with cut-back or emulsified asphalt. Cover immediately with sand.

E. Compaction:

1. Roll until roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture.
2. Joint Compaction:
    a. Place top or wearing layer as continuously as possible.
    b. Pass roller over unprotected end of freshly laid mixture only when placing of mix is discontinued long enough to permit mixture to become chilled.
    c. Cut back previously compacted mixture when Work is resumed to produce a slightly beveled edge for full thickness of layer.
    d. Cut away waste material and lay new mix against fresh cut.

F. Tolerances:

1. General: Conduct measurements for conformity with crown and grade immediately after initial compression. Correct variations immediately by removal or addition of materials and by continuous rolling.
2. Completed Surface or Wearing Layer Smoothness:
    a. Uniform texture, smooth, and uniform to crown and grade.
    b. Maximum Deviation: 1/8 inch from lower edge of a 12-foot straightedge, measured continuously parallel and at right angle to centerline.

c. If surface of completed pavement deviates by more than twice the specified tolerances, remove and replace wearing surface.

3. Transverse Slope Maximum Deviation: ¼ inch in 12 feet from the rate of slope shown.
4. Finished Grade:
   a. Perform a field differential level survey on a maximum 50-foot grid and along all grade breaks.
   b. Maximum Deviation: 0.02 foot from the grade shown.

G. Seal Coat:

1. General: Apply seal coat of paving grade or emulsified asphalt to finished surface at longitudinal and transverse joints, joints at abutting pavements, areas where the asphalt concrete was placed by hand, patched surfaces, and other areas as directed by the Engineer.
2. Preparation:
   a. Maintain surfaces that are to be sealed free of holes, dry, and clean of dust and loose material.
   b. Seal in dry weather and when the temperature is above 35 degrees F.
3. Application:
   a. Fill cracks over 1/16 inch in width with an asphalt-sand slurry or approved crack sealer prior to sealing.
   b. When sealing patched surfaces and joints with existing pavements, extend minimum 6 inches beyond edges of patches.

3.05 PATCHING

A. Preparation:

1. Remove damaged, broken, or unsound asphalt concrete adjacent to patches. Trim to straight lines exposing smooth, sound, vertical edges.
2. Prepare patch subgrade as specified in Section 02319, Subgrade Preparation.

B. Application:

1. Patch Thickness: 3 inches or thickness of adjacent asphalt concrete, whichever is greater.
2. Place asphalt concrete mix across full width of patch in layers of equal thickness.
3. Spread and grade asphalt concrete with hand tools or mechanical spreader, depending on size of area to be patched.

C. Compaction:

1. Roll patches with power rollers capable of providing compression of 200 to 300 pounds per linear inch. Use hand tampers where rolling is impractical.
2. Begin rolling top course at edges of patches, lapping adjacent asphalt surface at least 1/2 the roller width. Progress toward center of patch overlapping each preceding track by at least 1/2 the width of roller.

3. Make sufficient passes over entire area to remove roller marks and to produce desired finished surface.

D. Tolerances:

1. Finished surface shall be flush with and match grade, slope, and crown of adjacent surface.
2. Tolerance: Surface smoothness shall not deviate more than plus 1/4 inch or minus 0 when a straightedge is laid across patched area between edges of new pavement and surface of old surfacing.

3.06 FIELD QUALITY CONTROL

A. General: Provide services of an approved certified independent testing laboratory to conduct tests.

B. Field Density Tests:

1. Perform tests from cores or sawed samples.
2. Measure with properly operating and calibrated nuclear density gauge.
3. Maximum Density: In accordance with ASTM D2041, using a sample of mix taken prior to compaction from the same location as the density test sample.

C. Testing Frequency:

1. Quality Control Tests:
   a. Asphalt Content, Aggregate Gradation: Once per every 500 tons of mix or once every 4 hours, whichever is greater.
   b. Mix Design Properties, Measured Maximum (Rice's) Specific Gravity: Once every 1,000 tons or once every 8 hours, whichever is greater.
2. Density Tests: Once every 500 tons of mix or once every 4 hours, whichever is greater.

END OF SECTION

3SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this Section:

1. American Concrete Institute (ACI):
   a. 117, Standard Specification for Tolerances for Concrete Construction and Materials.
   b. 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
   c. 301, Standard Specification for Structural Concrete.
   d. 302.1R, Guide For Concrete Floor and Slab Construction.
   e. 304R, Guide for Measuring, Mixing, Transporting, and Placing Concrete.
   f. 304.2R, Placing Concrete by Pumping Methods.
   g. 305R, Hot Weather Concreting.
   h. 306.1, Standard Specification for Cold Weather Concreting.
   i. 309R, Guide for Consolidation of Concrete.
   j. 318/318R, Building Code Requirements for Structural Concrete.
   k. SP-15, Standard Specification for Structural Concrete.
2. ASTM International (ASTM):
   a. C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   b. C33, Standard Specification for Concrete Aggregates.
   c. C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   d. C88, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
   e. C94, Standard Specification for Ready-Mixed Concrete.
   f. C143, Standard Test Method for Slump of Hydraulic-Cement Concrete.
   g. C150, Standard Specification for Portland Cement.
   h. C157, Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
   i. C192, Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
   j. C231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
   k. C260, Standard Specification for Air-Entraining Admixtures for Concrete.
   l. C311, Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use as a Mineral Admixture in Portland-Cement Concrete.
   m. C452, Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate.

n. C494, Standard Specification for Chemical Admixtures for Concrete.
o. C595, Standard Specification for Blended Hydraulic Cements.
p. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
q. C1012, Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution.
r. C1018, Standard Test Method for Flexural Toughness and First-Crack Strength of Fiber-Reinforced Concrete (Using Beam with Third-Point Loading).
s. C1116, Standard Specification for Fiber-Reinforced Concrete and Shotcrete
t. C1218 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete
u. C1240, Standard Specification for Silica Fume for Use as a Mineral Admixture in Hydraulic-Cement Concrete, Mortar, and Grout.
v. D2000, Standard Classification System for Rubber Products in Automotive Applications.
w. D4580, Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding.
x. E329, Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

3. National Bureau of Standards: Handbook No. 44, Specifications, Tolerances, and Other Technical Requirements for Commercial Weighing and Measuring Devices.

1.02 DEFINITIONS

A. Defective Areas: Surface defects that include honeycomb, rock pockets, indentations greater than 3/16 inch, cracks 0.005 inch wide and larger as well as any crack that leaks for liquid containment basins and belowgrade habitable spaces; cracks 0.010 inch wide and larger in nonfluid holding structures spalls, chips, air bubbles greater than 3/4 inch in diameter, pinholes, bug holes, embedded debris, lift lines, sand lines, bleed lines, leakage from form joints, fins and other projections, form popouts, texture irregularities, and stains and other color variations that cannot be removed by cleaning.

B. Exposed Concrete: Concrete surfaces that can be seen inside or outside of structures regardless whether concrete is above water, dry at all times, or can be seen when structure is drained.

C. Hydraulic Structures: Liquid containment basins.

D. New Concrete: Less than 60 days old.

E. Slurry Concrete: Mixture of sand, 3/8-inch minus aggregate, cement, and water for wall construction joints.

1.03 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
   a. Product Data: Admixtures, bonding agent, bond breaker, and patching materials.
   b. Design Data: Concrete mix designs signed by qualified mix designer.
   c. Placement Drawings:
      1) Concrete, identifying location of each type of construction joint.
      2) Tremie concrete.
   d. Gradation for coarse and fine aggregates, and combined together. List gradings, percent passing through each sieve size.
   e. Detailed plan for hot weather placements including curing and protection for concrete placed in ambient temperatures over 80 degrees F.
   f. Concrete repair methods and materials.

B. Informational Submittals:

1. Statements of Qualification:
   a. Contractor's resident superintendent for concrete installation.
   b. Mix designer.
   c. Batch plant.
2. Test Reports:
   a. Admixtures, test reports showing chemical ingredients and percentage of chloride in each admixture and fly ash.
   b. Source test analysis report for fly ash, including percentage of chloride content.
   c. Statement identifying aggregates reactivity. Determine water soluble chloride in each component of aggregates in accordance with ASTM C1218.
   d. For each trial concrete mix design and signed by a qualified mix designer.
   e. Cylinder compressive test results for laboratory concrete mixes.
3. Concrete Delivery Tickets:
   a. For each batch of concrete before unloading at Site.
   b. Record of drum revolution counter, type, brand, test certification, Amount of fly ash if used in accordance with ASTM C94, Section 16.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Mix Designer: Licensed professional engineer registered in the State of Florida.
2. Batch Plant: Currently certified by the National Ready Mixed Concrete Association.

B. Preinstallation Conference:

1. Required Meeting Attendees:
   a. Contractor, including pumping, placing and finishing, and curing subcontractors.
   b. Ready-mix producer.
   c. Admixture representative.
   d. Testing and sampling personnel.
   e. Engineer.
2. Schedule and conduct prior to incorporation of respective products into Project. Notify Engineer of location and time.
3. Agenda shall include:
   a. Admixture types, dosage, performance, and redosing at Site.
   b. Mix designs, test of mixes, and Submittals.
   c. Placement methods, techniques, equipment, consolidation, and form pressures.
   d. Slump and placement time to maintain slump.
   e. Finish, curing, and water retention.
   f. Protection procedures for weather conditions.
   g. Other specified requirements requiring coordination.
4. Conference minutes as specified in Section 01200, Project Meetings.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cement: Furnish from one source.

1. Portland Cement Type I or Type II:
   a. Meet ASTM C150.
   b. Alkalies: Maximum 0.60 percent.
   c. Tricalcium Aluminate Content of Type I Cement: Maximum 12 percent.
   d. Nonhydraulic Abovegrade Structures: Type I or Type II cement.
   e. Hydraulic and Belowgrade Structures and Sewers: Type II cement or combination of Type I mixed with fly ash.
   f. Combine fly ash with cement at batch plant or during production of cement in accordance with ASTM C595, Type IP cement.

B. Aggregates: Furnish from one source.

1. Natural Aggregates:
   a. Free from deleterious coatings and substances in accordance with ASTM C33, except as modified herein.
   b. Free of materials and aggregate types causing popouts, discoloration, staining, or other defects on surface of concrete.
2. Nonpotentially Reactive: In accordance with ASTM C33, Appendix XI, Paragraph X1.1.

3. Aggregate Soundness: Test for fine and coarse aggregates in accordance with ASTM C33 and ASTM C88 using sodium sulfate solution.
4. Fine Aggregates:
   a. Clean, sharp, natural sand.
   b. ASTM C33.
   c. Materials Passing 200 Sieve: 4 percent maximum.
   d. Limit deleterious substances in accordance with ASTM C33, Table 1 with material finer than 200 sieve limited to 3 percent, coal and lignite limited to 0.5 percent.
5. Coarse Aggregate:
   a. Natural gravels, combination of gravels and crushed gravels, crushed stone, or combination of these materials containing no more than 15 percent flat or elongated particles (long dimension more than five times the short dimension).
   b. Materials Passing 200 Sieve: 0.5 percent maximum.
   c. Limit deleterious substances in accordance with ASTM C33, Table 3 for exposed concrete.

C. Admixtures: Furnish from one manufacturer.

1. Characteristics: Compatible with each other and free of chlorides or other corrosive chemicals.
2. Air-Entraining Admixture:
   a. ASTM C260, nontoxic after 30 days and contains no chlorides.
   b. Concrete with air-entrainment admixture added shall maintain air percentage as batched, within plus or minus 2 percent for time required for placement into structure.
3. Water-Reducing Admixture: ASTM C494, Type A or Type D.
   a. Manufacturers and Products:
      1) Master Builders, Inc., Cleveland, OH; Pozzolith or Polyheed.
      2) W. R. Grace & Co., Cambridge, MA; WRDA with HYCOL.
      3) Euclid Chemical Co., Cleveland, OH; Eucon WR-91.
4. High Range Water Reducing Admixture (Superplasticizer):
   a. ASTM C494.
   b. Hold slump of 5 inches or greater for time required for placement.
   c. Furnish type as recommended by manufacturer for allowed temperature ranges.
   d. Type F or G.
   e. Manufacturers and Products:
      1) Master Builders, Inc., Cleveland, OH; Rheobuild or Polyheed at dosage greater than 10 ounces per 100 pounds of cement.
      2) W. R. Grace & Co., Cambridge, MA; Daracem 100.
      3) Euclid Chemical Co., Cleveland, OH; Eucon 537.
5. Pozzolan (Fly Ash): Class C or Class F fly ash in accordance with ASTM C618, Table 1 and 2, except as modified herein:
   a. Shall not be produced from process that has utilized hazardous or potentially hazardous materials.
   b. Loss on Ignition: Maximum 3 percent.
   c. Water Requirement: Maximum 100 percent of control.

d. $\frac{CaO(\%) - 5}{FE_2O_3(\%)} : Maximum 1.5$

e. ASTM C618, Table 3, Reactivity with Cement Alkalies, apply when aggregate or portions of aggregate is reactive as specified under Paragraph Nonpotentially Reactive.

f. ASTM C618, Table 3, Uniformity Requirements, apply when loss on ignition of fly ash furnished exceeds 3 percent.

6. Fly Ash: Maximum 25 percent, minimum 15 percent of total weight of fly ash plus cement.

7. For fly ash not meeting requirements of chemical ratio listed above, furnish the following:
   a. Test fly ash in accordance with ASTM C1012.
   b. Furnish test data confirming fly ash in combination with cement used meets strength requirements, is compatible with air-entraining agents and other additives, and provides increased sulfate resistance equivalent to or better than Type II cement.
   c. Conduct tests using proposed fly ash and cement samples together with control samples using Type II cement without fly ash.

D. Water: Clean and potable containing less than 500 ppm of chlorides.

2.02 CONCRETE MIX DESIGN

A. Design: Select and proportion ingredients using trial batches; sample, cure and test concrete mix through approved independent testing laboratory in accordance with ACI 211.1.

1. Concrete Compressive Strength, F'c:
   a. 4,000 psi at 28 days, unless otherwise shown, except 3,000 psi at 28 days for secondary concrete elements such as curbs, sidewalks, and pipe/conduit encasements.
   b. Design lab-cured trial mix cylinders.
   c. Use additional cement or cement plus fly ash above minimum specified if required to meet average compressive strength, F'cr.
   d. Use F'cr as basis for selection of concrete proportions as set forth in ACI 301.
   e. F'cr: Equal to F'c plus 1,200 when data are not available to establish standard deviation.
2. Concrete Fill:
   a. Design for 2,500 psi at 28 days using 3/4-inch aggregate, 4-inch maximum slump and 0.46 maximum water-cement ratio.
   b. Use water-reducing admixture.

B. Proportions:

1. Design mix to meet aesthetic and structural concrete requirements.
2. In accordance with ACI 211.1, unless specified otherwise.

3. Unless specifically stated otherwise, water-cement ratio (or water-cement plus fly ash ratio) shall control amount of total water added to concrete as follows:

Water-Cement Ratio		
Coarse Aggregate Size	**Maximum W/C Ratio w/ Superplasticizer**	**Maximum W/C Ratio w/o Superplasticizer**
1-1/2”	0.40	0.44
1”	0.40	0.44
3/4”	0.40	0.44

4. Minimum Cement Content (or Combined Cement Plus Fly Ash Content When Fly Ash is Used):
   a. 517 pounds per cubic yard for concrete with 1-1/2-inch maximum size aggregate.
   b. 540 pounds per cubic yard for 1-inch maximum size aggregate.
   c. 564 pounds per cubic yard for 3/4-inch maximum size aggregate.
   d. Increase cement content or combined cement plus fly ash content, as required to meet strength requirements and water-cement ratio.

C. Admixtures:

1. Air Content: 4 to 6 percent when tested in accordance with ASTM C231; 3 percent maximum for interior slabs where heavy-duty concrete floor finish is required.
2. Fly Ash: Maximum 25 percent, minimum 15 percent of total weight of fly ash plus cement.
3. Water Reducers: Use in all concrete.
4. High Range Water Reducers (Superplastizicers): Use at Contractor’s option. Control slump and workability to at least 4-1/2-inch slump at discharge into forms by adjusting high range water reducer at batch plant.

D. Slump Range at Site:

1. 4-1/2 inches minimum, 8 inches maximum for concrete with a high range water reducing admixture.
2. 3 inches minimum and 5 inches maximum for concrete without high range water reducing admixture.

E. Combined Aggregate Gradation:

1. Structures: Select one of the gradations shown in the following table.

2. Combined Gradation Limits: Limits shown are for coarse aggregates and fine aggregates mixed together (combined).

Sieve Sizes	Combined Gradation Percentage Passing		
	1-1/2" Max.	**1" Max.**	**3/4" Max.**
2"	- 100	-	-
1-1/2"	95 - 100	- 100	-
1"	65 - 85	90 - 100	- 100
3/4"	55 - 75	70 - 90	92 – 100
1/2"	-		68 – 86
3/8"	40 - 55	45 - 65	57 – 74
No. 4	30 - 45	31 - 47	38 – 57
No. 8	23 - 38	23 - 40	28 – 46
No. 16	16 - 30	17 - 35	20 – 36
No. 30	10 - 20	10 - 23	14 – 25
No. 50	4 - 10	2 - 10	5 – 14
No. 100	0 - 3	0 - 3	0 – 5
No. 200	0 - 2	0 - 2	0 – 2

F. Tremie Concrete:

1. Minimum cement content of 658 pounds per cubic yard.
2. Use high range water reducing admixture (superplasticizers) admixture in accordance with ASTM C494, Type F or Type G.
3. Fine Aggregate Range: 40 to 50 percent of total aggregates by weight.
4. Use natural round gravel if available in Project area.
5. Proportion mix for design strength and slump range of 6 to 9 inches with maximum water-cement ratio.
6. Use anti-washout admixture in accordance with manufacturer's recommendations.

2.03 CONCRETE MIXING

A. General: In accordance with ACI 304R.

B. Concrete Mix Temperatures: As shown below for various stages of mixing and placing:

CONCRETE TEMPERATURES				
	Concrete Member Size, Minimum Dimension			
Ambient Air Temp.	**<12”**	**12”-36”**	**36”-72”**	**>72”**
Minimum concrete temperature as mixed for indicated air temperature:				
Above 30 deg .F	60 deg. F	55 deg. F	50 deg. F	45 deg. F
0 to 30 deg. F	65 deg. F	60 deg. F	55 deg. F	50 deg. F
Below 0 deg. F	70 deg. F	65 deg. F	60 deg. F	55 deg. F
Maximum allowable gradual temperature drop in first 24 hours after curing period and after end of protection:				
–	50 deg. F	40 deg. F	30 deg. F	20 deg. F

C. Truck Mixers:

1. Equip with electrically actuated counters to readily verify number of revolutions of drum or blades.
2. Counter:
   a. Resettable, recording type, mounted in driver’s cab.
   b. Actuated at time of starting mixers at mixing speeds.
3. Truck mixer operation shall furnish concrete batch as discharged that is homogeneous with respect to consistency, mix, and grading.
4. If slump tests taken at approximately 1/4 and 3/4 points of load during discharge give slumps differing by more than 2 inches when specified, slump is more than 4 inches, discontinue use of truck mixer unless causing condition is corrected and satisfactory performance is verified by additional slump tests.
5. Before attempting to reuse unit, check mechanical details of mixer, such as water measuring, and discharge apparatus, condition of blades, speed of rotation, general mechanical condition of unit, admixture dispensing equipment, and clearance of drum.
6. Do not use nonagitating or combination truck and trailer equipment for transporting ready-mixed concrete.
7. Concrete Volume in Truck:
   a. Limit to 63 percent of total volume capacity in accordance with ASTM C94 when truck mixed.
   b. Limit to 80 percent of total volume capacity when central mixed.
8. Mix each batch of concrete in truck mixer for minimum 70 revolutions of drum or blades at rate of rotation designated by equipment manufacturer.
9. Perform additional mixing, if required, at speed designated by equipment manufacturer as agitating speed.
10. Place materials, including mixing water, in mixer drum before actuating revolution counter for determining number of mixing revolutions.

D. Aggregates: Thoroughly and uniformly wash before use.

E. Admixtures:

1. Air-Entraining Admixture: Add at plant through manufacturer-approved dispensing equipment.
2. Water Reducers: Add prior to addition of high range water reducing admixture (superplasticizers).
3. High range water reducing admixture (superplasticizers) and Air-Entraining Admixtures:
   a. Add at concrete plant only through equipment furnished or approved by admixture manufacturer.
   b. Accomplish variations in slump, working time, and air content for flowable mixes by increasing or reducing high range water reducing admixture (superplasticizers) dose or air-entraining admixture dose at ready-mix plant only.
   c. Equipment shall provide for easy and quick visual verification of admixture amount used for each dose.
   d. Add discharge amount to each load of concrete into separate dispensing container, verify amount is correct, and add to concrete.
   e. Additional dosage of high range water reducing admixture (superplasticizers) may be added in field using manufacturer-approved dispensing when unexpected delays cause too great of slump loss.

2.04 SOURCE QUALITY CONTROL

A. Cement: Test for total chloride content.

B. Fly Ash: Test in accordance with ASTM C311.

C. Batch Plant Inspection: Engineer shall have access to and have right to inspect batch plants, cement mills, and supply facilities of suppliers, manufacturers, and Subcontractors, providing products included in these Specifications.

1. Weighing Scales: Tested and certified within tolerances set forth in the National Bureau of Standards Handbook No. 44.
2. Batch Plant Equipment: Either semiautomatic or fully automatic in accordance with ASTM C94.

PART 3 EXECUTION

3.01 PLACING CONCRETE

A. Preparation: Meet requirements and recommendations of ACI 304R and ACI 301, except as modified herein.

B. Inspection: Notify Engineer at least 1 full working day in advance before starting to place concrete.

C. Discharge Time:

1. As determined by set time, do not exceed 1-1/2 hours after adding cement to water unless special approved time delay admixtures are used. Coordinate time delay admixture information with manufacturer and Engineer prior to placing concrete.
2. Adjust slump or air content at Site by adding admixtures for particular load when approved by Engineer. Then, adjust plant dosage for remainder of placement. Additional dosage at Site shall be through approved dispenser supplied by admixture manufacturer.
3. Maintain required slump throughout time of concrete placement and consolidation. Discontinue use of high range water reducing admixture (superplasticizers) and provide new mix design if it fails to maintain slump between 4 to 8 inches and produce good consolidation for the length of time required. Redesign mix adjusting set control admixtures to maintain setting time in range required.

D. Placement into Formwork:

1. Before depositing concrete, remove debris from space to be occupied by concrete.
2. Prior to placement of concrete, dampen fill under slabs on ground, dampen sand where vapor retarder is specified, and dampen wood forms.
3. Reinforcement: Secure in position before placing concrete.
4. Place concrete as soon as possible after leaving mixer, without segregation or loss of ingredients, without splashing forms or steel above, and in layers not over 1.5 feet deep, except for slabs which shall be placed full depth. Place and consolidate successive layers prior to initial set of first layer to prevent cold joints.
5. Use placement devices, for example, chutes, pouring spouts, and pumps.
6. Vertical Free Fall Drop to Final Placement: 5 feet in forms 8 inches or less wide and 8 feet in forms wider than 8 inches, except as specified.
    a. For placements where drops are greater than specified, use placement device such that free fall below placement device conforms to required value.
    b. Limit free fall to prevent segregation caused by aggregates hitting reinforcing steel.
7. Do not use aluminum conveying devices.
8. Provide sufficient illumination in the interior of forms so concrete deposition is visible, permitting confirmation of consolidation quality.
9. Joints in Footings and Slabs:
    a. Ensure space beneath plastic water stop completely fills with concrete.
    b. During concrete placement, make visual inspection of entire water stop area.
    c. Limit concrete placement to elevation of water stop in first pass, vibrate concrete under water stop, lift water stop to confirm full consolidation without voids, place remaining concrete to full height of slab.
    d. Apply procedure to full length of water stops.

10. If reinforcement is in direct sunlight or is more than 20 degrees F higher in temperature than concrete temperature before placement, wet reinforcement with water fog spray before placing concrete to cool reinforcement.
11. Trowel and round off top exposed edges of walls with 1/4-inch radius steel edging tool.

E. Conveyor Belts and Chutes:

1. Design and arrange ends of chutes, hopper gates, and other points of concrete discharge throughout conveying, hoisting, and placing system for concrete to pass without becoming segregated.
2. Do not use chutes longer than 50 feet.
3. Minimum Slopes of Chutes: Angled to allow concrete to readily flow without segregation.
4. Conveyor Belts:
   a. Approved by Engineer.
   b. Wipe clean with device that does not allow mortar to adhere to belt.
   c. Cover conveyor belts and chutes.

F. Retempering: Not permitted for concrete where cement has partially hydrated.

G. Pumping of Concrete:

1. Provide standby pump, conveyor system, crane and concrete bucket, or other system onsite during pumping, for adequate redundancy to assure completion of concrete placement without cold joints in case of primary placing equipment breakdown.
2. Minimum Pump Hose (Conduit) Diameter: 4 inches.
3. Replace pumping equipment and hoses (conduits) that are not functioning properly.

H. Maximum Size of Concrete Placements:

1. Limit size of each placement to allow for strength gain and volume change due to shrinkage
2. Locate expansion, control, contraction, and construction joints where shown. When expansion or control joints are not shown, provide construction joints at maximum spacing of 40 feet. When expansion or control joint spacing exceeds 60 feet, provide intermediate construction joints at maximum spacing of 40 feet. Uniformly space construction joints. Vertical construction joint shall not be greater than 20 feet from wall corners or intersections
3. Consider beams, girders, brackets, column capitals, and haunches as part of floor or roof system and place monolithically with floor or roof system.
4. Should placement sequence result in cold joint located below finished water surface, install water stop in joint.

I. Minimum Time Between Adjacent Placements:

1. Construction Joints: 14 days (7 days wet cure and 7 days dry cure).
2. Control Joints: 6 days.
3. Expansion Joints/Contraction Joints: 1 day.
4. At least 2 hours shall elapse after depositing concrete in long columns and walls thicker than 8 inches before depositing concrete in beams, girders, or slabs supported thereon.
5. For columns and walls 10 feet in height or less, wait at least 45 minutes prior to depositing concrete in beams, girders, brackets, column capitals, or slabs supported thereon.

J. Removal of Water: Unless tremie method for placing concrete is specified, remove water from space to be occupied by concrete.

K. Consolidation and Visual Observation:

1. Consolidate concrete with internal vibrators with minimum frequency of 8,000 cycles per minute and amplitude as required to consolidate concrete in section being placed.
2. Provide at least one standby vibrator in operable condition at placement Site prior to placing concrete.
3. Consolidation Equipment and Methods: ACI 309R.
4. Provide sufficient windows in forms or limit form height to allow for concrete placement through windows and for visual observation of concrete.
5. Vibration consolidation shall not exceed distance of 3 feet from point of placement.
6. Vibrate concrete in vicinity of joints to obtain impervious concrete.

L. Hot Weather:

1. Prepare ingredients, mix, place, cure, and protect in accordance with ACI 305R.
2. Placement frequency shall be such that lift lines will not be visible in exposed concrete finishes.
3. Maintain concrete temperature below 90 degrees F at time of placement, or furnish test data or provide other proof that admixtures and mix ingredients do not produce flash set plastic shrinkage, or cracking due to heat of hydration. Cool ingredients before mixing to maintain fresh concrete temperatures as specified or less.
4. Provide for windbreaks, shading, fog spraying, sprinkling, ice, wet cover, or other means as necessary to maintain concrete at or below specified temperature.
5. Prevent differential temperature between reinforcing steel and concrete.
6. Evaporation Retardant: As specified in Section 03370, Concrete Curing.

3.02 PLACING TREMIE CONCRETE SEALS

A. Place concrete when water level inside area to be filled with concrete is equal to groundwater elevation outside.

B. Maintain relation of water levels until concrete design strength is obtained.

3.03 CONCRETE BONDING

A. Horizontal Construction Joints in Reinforced Concrete Walls:

1. Thoroughly clean and saturate surface of joint with water.
2. Limit slurry concrete placement to 2-inch maximum thickness, 1-inch minimum thickness.
3. Use positive measuring device such as bucket or other device that will contain only enough slurry concrete for depositing in visually measurable area of wall to ensure that portion of form receives appropriate amount of slurry concrete to satisfy placement thickness requirements.
4. Do not deposit slurry concrete from pump hoses or large concrete buckets, unless specified placement thickness can be maintained and verified through inspection windows close to joint.
5. Limit concrete placed immediately on top of slurry concrete to 12 inches thick. Thoroughly vibrate to mix concrete and slurry concrete together.

B. To Existing Concrete:

1. Thoroughly clean and mechanically roughen existing concrete surfaces to roughness profile of 1/4 inch.
2. Saturate surface with water for 24 hours prior to placing new concrete.

3.04 CONSTRUCTION JOINTS

A. As specified in Section 03251, Concrete Joints.

3.05 REPAIRING CONCRETE

A. General:

1. Inject cracks that leak with crack repair epoxy.
2. Obtain quantities of repair material and manufacturer’s detailed instructions for use to provide repair with finish to match adjacent surface or apply sufficient repair material adjacent to repair to blend finish appearance.
3. Repair of concrete shall provide structurally sound surface finish, uniform in appearance or upgrade finish by other means until acceptable to Engineer.

B. Tie Holes:

1. Fill with nonshrink grout as specified in Section 03600, Grout.

2. Match color of adjacent concrete and demonstrate on mockup panels first.
3. Compact grout using steel hammer and steel tool to drive grout to high density. Cure grout with water.

C. Alternate Form Ties; Through-Bolts:

1. Mechanically roughen entire interior surface of through hole. Epoxy coat roughened surface and drive elastic vinyl plug to half depth. Dry pack entire hole from both sides of plug with nonshrink grout, as specified in Section 03600, Grout. Use only enough water to dry pack grout. Dry pack while epoxy is still tacky. If epoxy has dried, remove epoxy by mechanical means and reapply new epoxy.
2. Compact grout using steel hammer and steel tool to drive grout to high density. Cure grout with water.

D. Exposed Metal Objects:

1. Metal objects not intended to be exposed in as-built condition of structure including wire, nails, and bolts, shall be removed by chipping back concrete to depth of 1 inch and then cutting or removing metal object.
2. Repair area of chipped-out concrete per requirements of Section 03720, Vertical And Overhead Concrete Repair Systems.

E. Blockouts at Pipes or Other Penetrations:

1. Install per details shown on Drawings or submit proposed blockouts for review.
2. Use nonshrink, nonmetallic grout.

3.06 CONCRETE WALL FINISHES

A. Type W-1 (Ordinary Wall Finish):

1. Patch tie holes.
2. Knock off projections.
3. Patch defective areas.

B. Type W-2 (Smooth Wall Finish):

1. Patch tie holes.
2. Grind off projections, fins, and rough spots.
3. Patch defective areas and repair rough spots resulting from form release agent failure or other reasons to provide smooth uniform appearance.

C. Type W-4 (Finish for Cementitious Coatings):

1. Patch tie holes.
2. Grind off projections, fins, and rough spots.
3. Patch and repair defective areas as specified for Type W-2.

D. Type W-5 (Finish for Painting):

1. Patch tie holes.
2. Grind off projections, fins, and rough spots.
3. Patch and repair defective areas as specified for Type W-2.
4. Leave surface ready for painting as specified in Section 09900, Painting and Protective Coatings.

E. Type W-7 (Smooth Rubbed Wall Finish):

1. Only water curing will be permitted on walls being rubbed.
2. Perform rubbing while green concrete can be physically worked and smoothed without adding other materials, if structurally possible, the day following placement. Finish no later than 3 days after placement has been completed.
3. Remove forms at such a rate that all finishing, form tie filling, fin removal, and patching can be completed on same day forms are removed while curing wall.
4. After pointings have set sufficiently to permit working on surface, thoroughly saturate entire surface with water for period of 3 hours and rub until uniform surface is obtained.
5. Rub either by hand with carborundum stone of medium-coarse grade or abrasive of equal quality, or mechanically operated carborundum stone.
6. Mechanically operated carborundum stones shall be approved by Engineer before concrete finishing.
7. No cement grout, other than cement paste drawn from the concrete itself by the rubbing process shall be used.
8. Finish paste formed by rubbing by either brushing or floating as follows:
    a. Brushing:
        1) Carefully strike with clean brush.
        2) Brush in long direction of surface being finished.
    b. Floating:
        1) Spread uniformly over surface and allow to reset.
        2) Finish by floating with canvas, carpet face, or cork float, or rub down with dry burlap.
9. Continue water curing of wall during finishing operation in areas not being rubbed.
10. Move water curing onto rubbed areas as soon as water will not erode rubbed surface.

F. Type W-8 (Rubbed Wall Finish):

1. Meet requirements for Type W-7, except allow paste obtained from rubbing to set at least 24 hours.
2. After thoroughly saturating with water, coat surface with mixture of 85 percent cement and 15 percent lime with sufficient water to give creamy consistency. Demonstrate on sample panel prior to production finishing.
3. Rub this mixture into surface with coarse carborundum stone and brush with damp brush.

4. Brush in long direction of surface being finished.
5. Latex bonding admixture may be used. Consult with Euclid Chemical Co., Cleveland, OH or Master Builders Co., Cleveland, OH.

G. Type W-9 (Grout Cleaned Finish):

1. Meet requirements for Type W-7, except that finish must be accomplished within 7 days of placement.
2. Grout: Mixed with 1 part Portland cement and 1-1/2 parts fine sand and bonding agent to produce grout with consistency of thick paint. White Portland cement shall be substituted for part of gray Portland cement in order to produce color matching color of surrounding concrete, as determined by trial patch.
3. Wet surface of concrete sufficiently to prevent absorption of water from grout and apply grout uniformly with brushes or spray gun.
4. Immediately after applying grout, scrub surface vigorously with cork float or stone to coat surface and fill air bubbles and holes.
5. While grout is still plastic, remove excess grout by working surface with rubber float, burlap, or other means. After surface whitens from drying (about 30 minutes at 70 degrees F), rub vigorously with clean burlap. Continue to water cure wall until curing period of 7 days is complete.
6. Latex bonding admixture may be used.

H. Type W-10 (Fractured Fin Finish):

1. Form exterior surface of walls with approved form liner.
2. Use stainless steel form ties and place at valleys.
3. Patch form tie holes.
4. Achieve final texture by light sandblast and then breaking off tips of ridge with light bushhammering, or other approved process.
5. Same person starting bushhammering shall complete process for any given structure and match approved mockup panel.

I. Type W-11 (Abrasive Blast - Sandblast Finish):

1. Intent of this procedure is to remove surface skin to depth no more than 1/16 inch, and expose only fine aggregate and air holes near surface, thus producing uniform texture.
2. Perform sandblasting on building or on concrete surfaces in same area of view at same time and obtain uniformity of appearance.
3. Same person shall accomplish sandblasting on one structure and on concrete in same area.
4. Perform sandblasting to match approved mockup panel.
5. Abrasive: Use clean silica sand, free of foreign materials, and supplied in sealed sacks.
6. Blast surface with 100 psi air pressure at rate of 2 to 3 square feet per minute with nozzle held approximately 2 feet from surface and perpendicular thereto.

3.07 CONCRETE SLAB FINISHES

A. General:

1. Finish slab concrete per the requirements of ACI 302.1R.
2. Use manual screeds, vibrating screeds, or roller compacting screeds to place concrete level and smooth.
3. Do not use “jitterbugs” or other special tools designed for purpose of forcing coarse aggregate away from surface and allowing layer of mortar, which will be weak and cause surface cracks or delamination, to accumulate.
4. Do not dust surfaces with dry materials.
5. Use evaporation retardant.
6. Round off edges of slabs with steel edging tool, except where cove finish is shown. Steel edging tool radius shall be 1/4 inch for slabs subject to wheeled traffic.

B. Type S-1 (Steel Troweled Finish):

1. Finish by screeding and floating with straightedges to bring surfaces to required finish elevation. Use evaporation retardant.
2. While concrete is still green, but sufficiently hardened to bear a person’s weight without deep imprint, wood float to true, even plane with no coarse aggregate visible.
3. Use sufficient pressure on wood floats to bring moisture to surface.
4. After surface moisture has disappeared, hand trowel concrete to produce smooth, impervious surface, free from trowel marks.
5. Burnish surface with an additional troweling. Final troweling shall produce ringing sound from trowel.
6. Do not use dry cement or additional water during troweling, nor will excessive troweling be permitted.
7. Power Finishing:
    a. Approved power machine may be used in lieu of hand finishing in accordance with directions of machine manufacturer.
    b. Do not use power machine when concrete has not attained necessary set to allow finishing without introducing high and low spots in slab.
    c. Do first steel troweling for slab S-1 finish by hand.

C. Type S-2 (Wood Float Finish):

1. Finish slab to receive fill and mortar setting bed by screeding with straightedges to bring surface to required finish plane.
2. Wood float finish to compact and seal surface.
3. Remove laitance and leave surface clean.
4. Coordinate with other finish procedures.

D. Type S-4 (Exposed Aggregate Finish):

1. Embed single layer of selected aggregates at surface of concrete slab immediately after it has been placed, screeded, and smoothed.
2. Embed aggregates by tamping with wood float, darby, or rolling device.
3. Accomplish exposure of selected aggregates by removing surface matrix by washing with water and brushing with stiff plastic bristled brush as soon as concrete has set sufficiently to support weight of a person.
4. Exposure: No greater than 1/3 the average diameter of aggregate, nor less than 1/4.
5. Next day acid wash until there is no noticeable cement film on aggregate exposed.
6. Apply clear sealer per manufacturer's recommendations.

E. Type S-5 (Broomed Finish):

1. Finish as specified for Type S-1 floor finish, except omit final troweling and finish surface by drawing fine-hair broom lightly across surface.
2. Broom in same direction and parallel to expansion joints, or, in the case of inclined slabs, perpendicular to slope, except for round roof slab, broom surface in radial direction.

F. Type S-6 (Sidewalk Finish):

1. Slope walks down 1/4 inch per foot away from structures, unless otherwise shown.
2. Strike off surface by means of strike board and float with wood or cork float to true plane, then flat steel trowel before brooming.
3. Broom surface at right angles to direction of traffic or as shown.
4. Lay out sidewalk surfaces in blocks, as shown or as directed by Engineer, with grooving tool.

G. Concrete Curbs:

1. Float top surface of curb smooth, and finish all discontinuous edges with steel edger.
2. After concrete has taken its initial set, remove front form and give exposed vertical surface an ordinary wall finish, Type W-1.

3.08 CONCRETE SLAB TOLERANCES

A. Slab Tolerances:

1. Exposed Slab Surfaces: Comprise of flat planes as required within tolerances specified.
2. Slab Finish Tolerances and Slope Tolerances: Crowns on floor surface not too high as to prevent 10-foot straightedge from resting on end blocks, nor low spots that allow block of twice the tolerance in thickness to pass under supported 10-foot straightedge.
3. Slab Type S-A: Steel gauge block 5/16 inch thick.
4. Slab Type S-B: Steel gauge block 1/8 inch thick.

5. Slab Type S-A and S-B: Finish Slab Elevation: Slope slabs to floor drain and gutter, and shall adequately drain regardless of tolerances.
6. Thickness: Maximum 1/4 inch minus or 1/2 inch plus from thickness shown. Where thickness tolerance will not affect slope, drainage, or slab elevation, thickness tolerance may exceed 1/2 inch plus.

B. Thickness: Maximum 1/4 inch minus or 1/2 inch plus from thickness shown. Where thickness tolerance will not affect slope, drainage, or slab elevation, thickness tolerance may exceed 1/2 inch plus.

3.09 BEAM AND COLUMN FINISHES

A. General: Inject cracks with crack repair epoxy. Patch and repair defective areas.

B. Match Wall Type:

1. Repair rock pockets.
2. Fill air voids.

3.10 BACKFILL AGAINST WALLS

A. Do not backfill against walls until concrete has obtained specified 28-day compressive strength.

B. Place backfill simultaneously on both sides of wall, where required, to prevent differential pressures.

3.11 FIELD QUALITY CONTROL

A. General:

1. Provide adequate facilities for safe storage and proper curing of concrete test cylinders onsite for first 24 hours, and for additional time as may be required before transporting to test lab.
2. Provide concrete for testing of slump, air content, and for making cylinders from the point of discharge into forms. When concrete is pumped, Samples used shall be taken from discharge end of pump hose.
3. Evaluation will be in accordance with ACI 301 and Specifications.
4. Specimens shall be made, cured, and tested in accordance with ASTM C31 and ASTM C39.
5. Frequency of testing may be changed at discretion of Engineer.
6. Pumped Concrete: Take concrete samples for slump (ASTM C143) and test cylinders (ASTM C31 and C39) and shrinkage specimens (ASTM C157) at placement (discharge) end of line.
7. Reject concrete represented by cylinders failing to meet strength and air content specified.

B. Tolerances:

1. Walls: Measure and inspect walls for compliance with tolerances specified in Section 03100, Concrete Formwork.
2. Slab Finish Tolerances and Slope Tolerances:
   a. Floor flatness measurements shall be made day after floor is finished and before shoring is removed to eliminate effects of shrinkage, curing, and deflection.
   b. Support 10-foot long straightedge at each end with steel gauge blocks of thicknesses equal to specified tolerance.
   c. Compliance with designated limits in four of five consecutive measurements is satisfactory, unless defective conditions are observed.

C. Water Leakage Tests:

1. Purpose: Determine integrity and watertightness of finished exterior and interior water holding concrete surfaces.
2. Potable Water Supply Reservoirs: Clean and sterilize prior to conducting test as specified in Section 02519, Disinfection of Water Systems.
3. Water-Holding Structures:
   a. Perform leakage tests after concrete structure is complete and capable of resisting hydrostatic pressure of water test. Concrete shall have achieved its full design strength.
   b. Perform leakage test before backfill, brick facing, grout topping slab, coatings, or other work that will cover concrete surfaces has begun.
   c. Install temporary bulkheads, cofferdams, and pipe blind flanges, and close valves. Inspect each to see that it provides complete seal.
   d. Fill with water to test level shown, or maximum liquid level if no test level is given. Maintain this level for 72 hours prior to start of test to allow water absorption, structural deflection, and temperature to stabilize.
   e. Measure evaporation and precipitation by floating a partially filled, transparent, calibrated, open top container.
   f. Measure water surface at two points 180 degrees apart when possible where attachments, such as ladders exist, at 24-hour intervals. Using sharp pointed hook gauge and fixed metal measure capable of reading to 1/100 of an inch. Continue test for period of time sufficient to produce at least 1/2-inch drop in water surface based on assumption that leakage would occur at maximum allowable rate specified or for 72 hours, whichever is lesser time.
4. Acceptance Criteria:
   a. Volume loss shall not exceed 0.075 percent of contained liquid volume in 24-hour period, correcting for evaporation, precipitation, and settlement.
   b. No damp spots or seepage visible on exposed surfaces. Damp spot is defined as sufficient moisture to be transferred to dry hand upon touching.

5. Repairs When Test Fails: Dewater structure; fill leaking cracks with crack repair epoxy as specified in Section 03740, Concrete Repair Crack Injection. Patch areas of damp spots previously recorded, and repeat water leakage test in its entirety until the structure successfully passes the test.

3.12 MANUFACTURER'S SERVICES

A. Provide the following representative at Site in accordance with Section 01640, Manufacturers' Services, for installation assistance, inspection, and certification of proper installation for concrete ingredients, mix design, mixing, and placement.

1. Batch Plant Representative:
   a. Observe how concrete mixes are performing.
   b. Be present during first placement of each type of concrete mix.
   c. Assist with concrete mix design, performance, placement, weather problems, and problems as may occur with concrete mix throughout Project.
   d. Establish control limits on concrete mix designs.
2. Admixture Manufacturer's Representative:
   a. Demonstrate special features, product performance, product mixing, testing, and placement or installation for each type of admixture.
   b. Observe how concrete mixes are performing.
   c. Be present during first placement of each type of concrete mix.
   d. Assist with concrete mix design, performance, placement, weather problems, and problems as may occur with concrete mix throughout Project, including instructions for redosing.
   e. Provide equipment for control of concrete redosing for air entrainment or high range water reducing admixture (superplasticizers) at Site to maintain proper slump and air content if so needed.
3. Bonding Agent Manufacturer's Representative: Demonstrate product performance, product mixing, and placement.

3.13 PROTECTION OF INSTALLED WORK

A. After curing as specified in Section 03370, Concrete Curing, and after applying final floor finish, cover slabs with plywood or particle board or plastic sheeting or other material to keep floor clean and protect it from material and damage due to other construction work.

B. Repair defective areas and areas damaged by construction.

END OF SECTION

SECTION 033700 - CONCRETE CURING

PART 1 GENERAL

1.01 THE REQUIREMENT

A. Protect all freshly deposited concrete from premature drying and excessively hot or cold temperatures, and maintain with minimal moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete in accordance with requirements specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Concrete Framework

B. Joints in Concrete

C. Cast-in-Place Concrete

D. Grout

E. Concrete Finishes

1.03 SUBMITTALS

A. In accordance with the procedures and requirements set forth in the Section entitled "Submittals", the contractor shall submit the following:

1. Request for acceptance along with procedures for protection of concrete under wet weather placement conditions.

2. Request for placement along with proposed procedures for hot weather placement.

3. Request for acceptance and proposed materials and procedures for moisture preservation.

1.04 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Without limiting the generality of other requirements of these specifications all work hereunder shall conform to the applicable requirements of the referenced portions of the following documents, to the extent that the requirements therein are not in conflict with the provisions of this Section.

1. Specifications for Structural Concrete for buildings, ACI 301.

2. Guide for Measuring, Mixing, Transporting, and Placing Concrete, ACI 304.

3. Hot Weather Concreting, ACI 305.

4. Specifications for Sheet Materials for Curing Concrete, ASTM C171.

5. Specification for Liquid Membrane - Forming Compounds for Curing Concrete, ASTM C309.

6. Federal Specification TT-C-800.

1.05 QUALITY ASSURANCE

A. Curing compound shall not be used on any surface where concrete or other material will be bonded unless the manufacturer certifies that the curing compound will not prevent bond or indicates measures to be taken to completely remove the curing compound from areas to receive bonded applications.

B. Care shall be taken to ensure that curing compounds are compatible with all finish concrete castings.

PART 2 PRODUCTS

2.01 CURING COMPOUNDS

A. All materials shall meet the ASTM specifications C309, Type 1-D or Federal Specification TT-C-800 and shall have a minimum solids content of 30 percent.

PART 3 EXECUTION

3.01 PROTECTION AND CURING

A. All concrete work shall be protected from the elements, flowing water and from defacement of any nature during construction operations.

B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury. Protect concrete during the curing period such that the concrete temperature does not fall below the requirements of Section 3.02 -Concrete Temperature. Cure concrete in accordance with paragraph E or paragraph F.

C. When concrete is placed in cold weather as defined in ACI 306, the concrete shall be protected in accordance with requirements of ACI 306, Cold Weather Concreting.

D. When concrete is placed in hot weather as defined in ACI 305, the concrete shall be protected in accordance with the requirements of ACI 305, Hot Weather Concreting.

E. After placing and finishing, use one or more of the following methods to preserve moisture in concrete:

1. Ponding or continuous fogging or sprinkling.

2. Application of mats or fabric kept continuously wet.

3. Continuous application of steam (under 150 degrees Fahrenheit).

4. Application of sheet materials conforming to ASTM C171.

5. Application of a curing compound conforming to ASTM C309 or Federal Specification TT-C-800. Apply the compound in accordance with the manufacturer's recommendation on after water sheen has disappeared from the concrete surface and after finishing operations. The rate of application shall not exceed 200 square feet per gallon. For rough surfaces, apply in two directions at right angles to each other.

F. Keep absorbent forms wet until they are removed. After form removal, cure concrete by one of the methods in paragraph E. Frames may be “cracked” within twenty-four hours and kept moist until they are required to be kept in place per Section 03100.

3.02 CONCRETE TEMPERATURE

A. When the average of the highest and lowest temperature during the period from midnight to midnight is expected to drop below 40 F for more than three successive days, concrete shall be delivered to meet the following minimum temperature immediately after placement:

1. 55 degrees Fahrenheit for sections less than 12 in. in the least dimension

2. 50 degrees Fahrenheit for sections 12 in. to 36 in. in the least dimension

3. 45 degrees Fahrenheit for sections 36 in. to 72 in. in the least dimension

4. 40 degrees Fahrenheit for sections greater than 72 in. in the least dimension

B. The temperature of concrete as placed shall not exceed these values by more than 20 degrees Fahrenheit.

C. These minimum requirements may be terminated when temperatures above 50 degrees Fahrenheit occur during more than half of any 24 hour duration.

D. Unless otherwise specified or permitted, the temperature of concrete as delivered shall not exceed 90 degrees Fahrenheit.

E. During and following curing, do not allow the surface of the concrete to change temperature more than the following:

1. 50 degrees Fahrenheit in any 24-hr period for sections less than 12 in. in the least dimension

2. 40 degrees Fahrenheit for sections from 12 to 36 in. in the least dimension

3. 30 degrees Fahrenheit for sections 36 to 72 in. in the least dimension

4. 20 degrees Fahrenheit for sections greater than 72 in. in the least dimension

3.03 FINAL CURING

A. Cure for at least the first seven days after placement for all concrete except high early strength concrete, for which the period shall be at least the first three days after placement.

1. Alternatively, moisture retention measures may be terminated when:

a. Tests are made on at least two additional cylinders kept adjacent to the structure and cured by the same methods as the structure and tests indicate 70 percent of the specified compressive strength, f'c, as determined in accordance with ASTM C39.

b. The temperature of the concrete is maintained at 50 degrees fahrenheit or higher for the time required to achieve 85 percent of f'c in laboratory-cured cylinders representative of the concrete in place.

c. The strength of concrete reaches f'c as determined by accepted nondestructive methods or laboratory-cured cylinder test results.

B. When one of the curing procedures in Paragraph 3.01-E is used initially, the curing procedure may be replaced by one of the other procedures when concrete is one day old, provided concrete is not permitted to become surface dry at any time.

END OF SECTION

SECTION 036000 - GROUT

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install grout complete as shown on the Drawings and as specified herein.

1.2 SUBMITTALS

A. Submit to the Engineer, in accordance with Section 01300, shop drawings and product data showing materials of construction and details of installation for:

1. Commercially manufactured nonshrink cementitous grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations, conformity to required ASTM standards and Material Safety Data Sheet.
2. Commercially manufactured nonshrink epoxy grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations, conformity to required ASTM standards and Material Safety Data Sheet.
3. Cement grout. The submittal shall include the type and brand of the cement, the gradation of the fine aggregate, product data on any proposed admixtures and the proposed mix of the grout.
4. Concrete grout. The submittal shall include data as required for concrete and fiber reinforcement as delineated in Section. This includes the mix design, constituent quantities per cubic yard and the water/cement ratio.

B. Samples

1. Samples of commercially manufactured grout products when requested by the Engineer.
2. Aggregates for use in concrete grout when requested by the Engineer.

C. Laboratory Test Reports

1. Submit laboratory test data as required under Section 03300 for concrete to be used as concrete grout.

D. Qualifications

1. Grout manufacturers shall submit documentation that they have at least 10 years experience in the production and use of the proposed grouts which they will supply.

1.3 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes
2. ASTM C579 - Standard Test Method for Compressive Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes
3. ASTM C827 - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
4. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
5. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics

B. U.S. Army Corps of Engineers Standard (CRD)

1. CRD C-621 - Corps of Engineers Specification for Nonshrink Grout

C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

A. Qualifications

1. Grout manufacturer shall have a minimum of 10 years experience in the production and use of the type of grout proposed for the work.

B. Services of Manufacturer's Representative

1. A qualified field technician of the nonshrink grout manufacturer, specifically trained in the installation of the products, shall attend the pre-installation conference and shall be present for the initial installation of each type of nonshrink grout. Additional services shall also be provided, as required, to correct installation problems.

C. Field Testing

1. All field testing and inspection services required shall be provided by the Owner. The Contractor shall assist in the sampling of materials and shall provide any ladders, platforms, etc, for access to the work. The methods of testing shall comply in detail with the applicable ASTM Standards.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the jobsite in original, unopened packages, clearly labeled with the manufacturer's name, product identification, batch numbers and printed instructions.

B. Store materials in full compliance with the manufacturer's recommendations. Total storage time from date of manufacture to date of installation shall be limited to 6 months or the manufacturer's recommended storage time, whichever is less.

C. Material which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material at no additional expense to the Owner.

D. Nonshrink cement-based grouts shall be delivered as preblended, prepackaged mixes requiring only the addition of water.

E. Nonshrink epoxy grouts shall be delivered as premeasured, prepackaged, three component systems requiring only blending as directed by the manufacturer.

1.6 DEFINITIONS

A. Nonshrink Grout: A commercially manufactured product that does not shrink in either the plastic or hardened state, is dimensionally stable in the hardened state and bonds to a clean base plate.

PART 2 PRODUCTS

2.1 GENERAL

A. The use of a manufacturer's name and product or catalog number is for the purpose of establishing the standard of quality desired.

B. Like materials shall be the products of one manufacturer or supplier in order to provide standardization of appearance.

2.2 MATERIALS

A. Nonshrink Cementitious Grout

1. Nonshrink cementitious grouts shall meet or exceed the requirements of ASTM C1107, Grades B or C and CRD C-621. Grouts shall be portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and shall require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.

a. General purpose nonshrink cementitious grout shall conform to the standards stated above and shall be SikaGrout 212 by Sika Corp.; Set Grout by Master Builders, Inc.; Gilco Construction Grout by Gifford Hill & Co.; Euco NS by The Euclid Chemical Co.; NBEC Grout by U. S. Grout Corp. or equal.

b. Flowable (Precision) nonshrink cementitious grout shall conform to the standards stated above and shall be Masterflow 928 by Master Builders, Inc.; Hi-Flow Grout by the Euclid Chemical Co.; SikaGrout 212 by Sika Corp.; Supreme Grout by Gifford Hill & Co.; Five Star Grout by U. S. Grout Corp. or equal.

B. Nonshrink Epoxy Grout

1. Nonshrink epoxy-based grout shall be a pre-proportioned, three component, 100 percent solids system consisting of epoxy resin, hardener, and blended aggregate. It shall have a compressive strength of 14,000 psi in 7 days when tested in conformity with ASTM D695 and have a maximum thermal expansion of 30 x 10^{-6} when tested in conformity with ASTM C531. The grout shall be Ceilcote 648 CP by Master Builders Inc.; Five Star Epoxy Grout by U.S. Grout Corp.; Sikadur 42 Grout-Pak by Sika Corp.; High Strength Epoxy Grout by the Euclid Chemical Co. or equal.

C. Cement Grout

1. Cement grouts shall be a mixture of one part portland cement conforming to ASTM C150, Types I, II, or III and 1 to 2 parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.

D. Concrete Grout

1. Concrete grout shall conform to the requirements of Section 03300 except as specified herein. It shall be proportioned with cement, pozzolan, coarse and fine aggregates, water, water reducer and air entraining agent to produce a mix having an average strength of 2900 psi at 28 days, or 2500 psi nominal strength. Coarse aggregate size shall be -in maximum. Slump should not exceed 5-in and should be as low as practical yet still retain sufficient workability.

E. Water

1. Potable water, free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

PART 3 EXECUTION

3.1 PREPARATION

A. Grout shall be placed over cured concrete which has attained its full design strength unless otherwise approved by the Engineer.

B. Concrete surfaces to receive grout shall be clean and sound; free of ice, frost, dirt, grease, oil, curing compounds, laitance and paints and free of all loose material or foreign matter which may effect the bond or performance of the grout.

C. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to ensure bond of the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.

1. Air compressors used to clean surfaces in contact with grout shall be the oilless type or equipped with an oil trap in the air line to prevent oil from being blown onto the surface.

D. Remove all loose rust, oil or other deleterious substances from metal embedments or bottom of baseplates prior to the installation of the grout.

E. Concrete surfaces shall be washed clean and then kept moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, flooding the surface, or other method acceptable to the Engineer. Upon completion of the 24 hour period, visible water shall be removed from the surface prior to grouting. The use of an adhesive bonding agent in lieu of surface saturation shall only be used when approved by the Engineer for each specific location of grout installation.

F. Epoxy-based grouts do not require the saturation of the concrete substrate. Surfaces in contact with epoxy grout shall be completely dry before grouting.

G. Construct grout forms or other leakproof containment as required. Forms shall be lined or coated with release agents recommended by the grout manufacturer. Forms shall be of adequate strength, securely anchored in place and shored to resist the forces imposed by the grout and its placement.

1. Forms for epoxy grout shall be designed to allow the formation of a hydraulic head and shall have chamfer strips built into forms.

H. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.

I. Equipment shall be supported during alignment and installation of grout by shims, wedges, blocks or other approved means. The shims, wedges and blocking devices shall be prevented from bonding to the grout by appropriate bond breaking coatings and removed after grouting unless otherwise approved by the Engineer.

3.2 INSTALLATION - GENERAL

A. Mix, apply and cure products in strict compliance with the manufacturer's recommendations and this Section.

B. Have sufficient manpower and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.

C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Take precautions to minimize differential heating or cooling of baseplates and grout during the curing period.

D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 60 and 90 degrees F range.

E. Install grout in a manner which will preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.

F. Reflect all existing underlying expansion, control and construction joints through the grout.

3.3 INSTALLATION - CEMENT GROUTS AND NONSHRINK CEMENTITIOUS GROUTS

A. Mix in accordance with manufacturer's recommendations. Do not add cement, sand, pea gravel or admixtures without prior approval by the Engineer.

B. Avoid mixing by hand. Mixing in a mortar mixer (with moving blades) is recommended. Pre-wet the mixer and empty excess water. Add premeasured amount of water for mixing, followed by the grout. Begin with the minimum amount of water recommended by the manufacturer and then add the minimum additional water required to obtain workability. Do not exceed the manufacturer's maximum recommended water content.

C. Placements greater than 3-in in depth shall include the addition of clean, washed pea gravel to the grout mix when approved by the manufacturer. Comply with the manufacturer's recommendations for the size and amount of aggregate to be added.

D. Place grout into the designated areas in a manner which will avoid segregation or entrapment of air. Do not vibrate grout to release air or to consolidate the material. Placement should proceed in a manner which will ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

E. Place grout rapidly and continuously to avoid cold joints. Do not place cement grouts in layers. Do not add additional water to the mix (retemper) after initial stiffening.

F. Just before the grout reaches its final set, cut back the grout to the substrate at a 45 degree angle from the lower edge of bearing plate unless otherwise approved by the Engineer. Finish this surface with a wood float (brush) finish.

G. Begin curing immediately after form removal, cutback, and finishing. Keep grout moist and within its recommended placement temperature range for at least 24 hours after placement or longer if recommended by the manufacturer. Saturate the grout surface by use of wet burlap, soaker hoses, ponding or other approved means. Provide sunshades as necessary. If drying winds inhibit the ability of a given curing method to keep grout moist, erect wind breaks until wind is no longer a problem or curing is finished.

3.4 INSTALLATION - NONSHRINK EPOXY GROUTS

A. Mix in accordance with the procedures recommended by the manufacturer. Do not vary the ratio of components or add solvent to change the consistency of the grout mix. Do not overmix. Mix full batches only to maintain proper proportions of resin, hardener and aggregate.

B. Monitor ambient weather conditions and contact the grout manufacturer for special placement procedures to be used for temperatures below 60 or above 90 degrees F.

C. Place grout into the designated areas in a manner which will avoid trapping air. Placement methods shall ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

D. Minimize "shoulder" length (extension of grout horizontally beyond base plate). In no case shall the shoulder length of the grout be greater than the grout thickness.

E. Finish grout by puddling to cover all aggregate and provide a smooth finish. Break bubbles and smooth the top surface of the grout in conformity with the manufacturer's recommendations.

F. Epoxy grouts are self curing and do not require the application of water. Maintain the formed grout within its recommended placement temperature range for at least 24 hours after placing, or longer if recommended by the manufacturer.

3.5 INSTALLATION - CONCRETE GROUT

A. Screed underlying concrete to the grade shown on the Drawings. Provide the surface with a broomed finish, aligned to drain. Protect and keep the surface clean until placement of concrete grout.

B. Remove the debris and clean the surface by sweeping and vacuuming of all dirt and other foreign materials. Wash the tank slab using a strong jet of water. Flushing of debris into tank drain lines will not be permitted.

C. Saturate the concrete surface for at least 24 hours prior to placement of the concrete grout. Saturation may be maintained by ponding, by the use or soaker hoses, or by other methods acceptable to the Engineer. Remove excess water just prior to placement of the concrete grout. Place a cement slurry immediately ahead of the concrete grout so that the slurry is moist when the grout is placed. Work the slurry over the surface with a broom until it is coated with approximately 1/16 to 1/8-in thick cement paste. (A bonding grout composed of 1 part portland cement, 1.5 parts fine sand, an approved bonding admixture and water, mixed to achieve the consistency of thick paint, may be substituted for the cement slurry.)

D. Place concrete grout to final grade using the scraper mechanism as a guide for surface elevation and to ensure high and low spots are eliminated. Unless specifically approved by the equipment manufacturer, mechanical scraper mechanisms shall not be used as a finishing machine or screed.

E. Provide grout control joints as indicated on the Drawings.

F. Finish and cure the concrete grout as specified for cast-in-place concrete.

3.6 SCHEDULE

A. The following list indicates where the particular types of grout are to be used:

1. General purpose nonshrink cementitious grout: Use at all locations where non shrink grout is called for on the plans except for base plates greater in area than 3-ft wide by 3-ft long and except for the setting of anchor rods, anchor bolts or reinforcing steel in concrete.
2. Flowable nonshrink cementitious grout: Use under all base plates greater in area than 3-ft by 3-ft. Use at all locations indicated to receive flowable nonshrink grout by the Drawings. The Contractor, at his/her option and convenience, may also substitute flowable nonshrink grout for general purpose nonshrink cementitious grout.
3. Nonshrink epoxy grout: Use for the setting of anchor rods, anchor bolts and reinforcing steel in concrete and for all locations specifically indicated to receive epoxy grout.
4. Cement grout: Cement grout may be used for grouting of incidental base plates for structural and miscellaneous steel such as post base plates for platforms, base plates for beams, etc. It shall not be used when nonshrink grout is specifically called for on the Drawings or for grouting of primary structural steel members such as columns and girders.
5. Concrete grout: Use for overlaying the base concrete to allow more control in placing the surface grade and elsewhere as shown on the Drawings.

END OF SECTION

SECTION 037400 - MODIFICATIONS AND REPAIR TO EXISTING CONCRETE

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and cut, chip, repair, demolish, excavate, or otherwise modify parts of existing structures or appurtenances as shown on the sketches and as specified herein.

B. Work under this Section shall include repairs to existing deteriorated concrete. Repairs are separated into three basic categories as follows:

1. Surface deterioration, greater than 1/2” and less than 2” depth, no exposed rebar.
2. Surface deterioration, greater than 2” and less than 3”, with exposed rebar, no rebar deterioration.
3. Surface deterioration, greater than 3” to maximum 16” with exposed, deteriorated and/or missing rebar.

1.2 RELATED WORK

A. Cast-In-Place Concrete is included in Section 033000.

B. Grout is included in Section 036000.

1.3 GENERAL

A. No existing structure or concrete shall be shifted, cut, removed, or otherwise altered until written authorization is given by the Engineer.

B. When removing materials or portions of existing structures and when making openings in existing structures, take all precautions and use all necessary barriers and other protective devices so as not to damage the structures beyond the limits necessary for the new work, nor to damage the structures or contents by falling or flying debris. Unless otherwise permitted, line drilling will be required in cutting existing concrete.

C. Manufacturer qualifications: The manufacturer of the specified products shall have a minimum of 10 years’ experience in the manufacture of such products and shall have an ongoing program of training, certifying and technically supporting the Contractor’s personnel.

D. Contractor qualifications: Contractors shall complete a program of instruction in the application of the approved manufacturer’s material and provide certification from the manufacturer attesting to their training and status as an approved applicator.

E. Furnish a notarized certificate stating that the materials specified meet the project requirements and submit the manufacturer’s current printed literature on the specified product.

1.4 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM D570 - Standard Test Method for Water Absorption of Plastics.
2. ASTM D1653, Method B - Standard Test Method for Water Vaspor Permeability of Organic Coating Films.
3. ASTM D 790 - Standard Test Method for flexural properties of unreinforced and reinforced plastics and electrical insulating materials.
4. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.
5. ASTM D732 - Standard Test Method for Shear Strength of Plastics by Punch Tool
6. ASTM D695 - Standard Test Method for Compressive Properties Rigid Plastics.
7. ASTM C882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear
8. ASTM D1525 - Standard Test Method for Vicat Softening Temperature of Plastics.

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

PART 2 PRODUCTS

2.1 MATERIALS

A. Epoxy Bonding Compound:

1. The epoxy bonding compound shall be furnished in two components for combining immediately prior to use in accordance with the manufacturer's written instructions and as specified herein.
2. The components of the epoxy resin system shall conform to the following requirements:
   a. Component A - Component A shall be a modified epoxy resin of the epichlorohydrin bisphenol A condensation type, containing suitable viscosity control agents and having an epoxide equivalent of 180 to 200.
   b. Component B - Component B shall be primarily a reaction product of an alkyl glycidyl ether and a polyfunctional aliphatic amine containing suitable viscosity agents modified with 2, 4, 6 tri (dimethylamino-methyl) phenol.
   c. The component ratio of B:A shall be 1:1 by volume.
   d. The resultant compound shall be polysulfide free.
3. Properties of Mixed Components:
   a. Solids Content: 100 percent by weight
   b. Pot Life: 20 to 30 minutes at 73 Degrees F
   c. Tack-Free Time (thin film): 3 to 5 hrs at 73 Degrees F
   d. Final Cure ASTM D695: 3 days at 73 Degrees F
4. (ASTM D695 percent ultimate strength)

a. Initial Viscosity (A+B): 2400 to 3200 cps minimum at 73 Degrees F
b. Color mixed: Straw

5. Properties of Cured Material:
   a. Neat Material
   b. Tensile Strength: 5300 psi minimum at
   c. (ASTM D638) 14 days 73 Degrees F cure
   d. Tensile Elongation: 4.8 percent at 14 days,
6. (ASTM D638 modified) 73 Degrees F cure
   a. Compressive Strength: 7000 psi minimum at
7. (ASTM D695) 28 days 73 Degrees F cure
   a. Compressive Modulus: 250,000 psi minimum at
   b. (ASTM D695) 1.0 percent maximum
8. (ASTM D570)
   a. Bond Strength: 1500 psi minimum at
9. (Plastic to Hardened) 14 days, 73 Degrees F cure
   a. Deflection Temperature: 180 Degrees F minimum
10. (ASTM D1525)
11. Epoxy bonding compound shall be Sikadur Hi-Mod as manufactured by Sika Chemical Corp., Lyndhurst, N.J.; W.R. Grace Co., Cambridge, MA; Adhesive Engineering Co., Lawrence, MA or equal.

B. Epoxy Paste

1. General
   a. Epoxy Paste shall be a two-component, solvent-free, asbestos free, moisture insensitive epoxy resin material used to bond dissimilar materials to concrete such as setting railing posts, dowels, anchor bolts and all-threads into hardened concrete and shall comply with the requirements of ASTM C881, Type I, Grade 3 and the additional requirements specified herein. It may also be used to patch existing surfaces where the glue line is 1/8-in or less.
2. Material
   a. Properties of the cured material:
      1) Compressive Properties (ASTM D695): 10,000 psi minimum at 28 days.
         Tensile Strength (ASTM D638): 3,000 psi minimum at 14 days.
         Elongation at Break - 0.3 percent minimum.
      2) Flexural Strength (ASTM D790 - Modulus of Rupture): 3,700 psi minimum at 4 days.
      3) Shear Strength (ASTM D732): 2,800 psi minimum at 14 days.
      4) Water Absorption (ASTM D570): 1.0 percent maximum at 7 days.
      5) Bond Strength (ASTM C882): 2,000 psi at 14 days' moist cure.
      6) Color: Concrete grey.
3. Approved manufacturers include:
   a. Overhead applications: Sika Corporation, Lyndhurst, NJ - Sikadur Hi-mod LV 31; Master Builders, Inc., Cleveland, OH - Concresive 1438 or equal.
   b. Sika Corporation, Lyndhurst, N.J. - Sikadur Hi-mod LV 32; Master Builders, Inc., Cleveland, OH - Concresive 1438 or equal.

C. Non-Shrink Precision Cement Grout, Non-Shrink Cement Grout, Non-Shrink Epoxy Grout and Polymer Modified mortar are included in Section 036000 GROUT.

D. Adhesive Capsule type anchor system shall be equal to Molly parabond two-part stud and capsule system by Emhart, Temple, PA or the HVA adhesive Anchoring System by Hilti Fastening Systems, Tulsa, OK. The capsule shall consist of a sealed glass capsule containing premeasured amounts of a polyester or vinylester resin, quartz sand aggregate and a hardener contained in a separate vial within the capsule.

E. Crack Repair Epoxy Adhesive

1. General
   a. Crack Repair Epoxy Adhesive shall be a two-component, solvent-free, moisture insensitive epoxy resin material suitable for crack grouting by injection or gravity feed. It shall be formulated for the specific size of opening or crack being injected.
2. Material
   a. Properties of the cured material
      1) Compressive Properties (ASTM D695): 10,000 psi minimum at 28 days.
      2) Tensile Strength (ASTM D638): 5,300 psi minimum at 14 days. Elongation at Break - 2 to 5 percent.
      3) Flexural Strength (ASTM D790 - Modulus of Rupture): 12,000 psi minimum at 14 days (gravity); 4,600 psi minimum at 14 days (injection)
      4) Shear Strength (ASTM D732): 3,700 psi minimum at 14 days.
      5) Water Absorption (ASTM D570 - 2-hour boil): 1.5 percent maximum at 7 days.
      6) Bond Strength (ASTM C882): 2,400 psi at 2 days dry; 2,000 psi at 14 days dry plus 12 days moist.

PART 3 EXECUTION

3.1 GENERAL

A. Cut, chip, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the sketches, specified herein, or necessary to permit completion of the Work. All work shall comply with other requirements of this of Section and as shown on the sketches.

B. All commercial products specified in this Section shall be stored, mixed and applied in strict compliance with the manufacturer's recommendations.

C. In all cases where concrete is repaired in the vicinity of an expansion joint or control joint the repairs shall be made to preserve the isolation between components on either side of the joint.

D. When drilling holes for dowels/bolts at new or existing concrete, drilling shall stop if rebar is encountered. As approved by the Engineer, the hole location shall be

relocated to avoid rebar. Rebar shall not be cut without prior approval by the Engineer. Where possible, rebar locations shall be identified prior to drilling using "rebar locators" so that drilled hole locations may be adjusted to avoid rebar interference.

3.2 REPAIRING EXISTING CONCRETE

A. Remove all deteriorated materials, dirt, oil, grease, and all other bond inhibiting materials from the surface by mechanical means, i.e. - waterblasting, sandblasting, grinding, etc, as approved by the Engineer. Be sure the areas are not less than 1/2-in in depth. Irregular voids or surface stones need not be removed if they are sound, free of laitance, and firmly embedded into parent concrete, subject to the Engineer's final inspection.

B. If reinforcing steel is exposed, it must be mechanically cleaned to remove all contaminants, rust, etc, as approved by the Engineer. If half of the diameter of the reinforcing steel is exposed, chip out behind the steel. The distance chipped behind the steel shall be a minimum of 1/2-in. Reinforcing to be saved shall not be damaged during the demolition operation.

C. After cleaning the exposed reinforcement, it is determined that more than ¼ of the effective cross sectional area has been lost, chip the concrete back along the bar a minimum of 18 bar diameters in each direction from the damaged section and replace the bar with new reinforcement of similar size. Lap the new bar 18 diameters to the exposed non-corroded section. Alternatively, contractor may drill and epoxy grout new rebar in to sound concrete adjacent to deteriorated bar. Embed new bar per grout manufacturer’s requirements.

D. Thoroughly wash the roughened concrete surfaces and keep the surfaces saturated for at least 6 hours before placing new concrete. All free water shall be removed prior to placing the concrete. An epoxy bonding compound as specified may be used in lieu of saturating surface for 6 hours in accordance with repair material manufacturer’s requirements.

E. Repair mortar, shall be placed/pumped to a thickness to match the existing surface.

1. Repair mortar shall be Nonshrink cementitous grout as specified in Section 036000.

F. When the finish surface is not specified to be lined the color of new concrete in the exposed surfaces shall match the color of the existing adjoining concrete as closely as possible.

3.3 CRACK REPAIR

A. Cracks on horizontal surfaces shall be repaired by gravity feeding crack sealant into cracks per manufacturer's recommendations. If cracks are less than 1/16-in in thickness they shall be pressure injected.

B. Cracks on vertical surfaces shall be repaired by pressure injecting crack sealant through valves sealed to surface with crack repair epoxy adhesive per manufacturer's recommendations.

END OF SECTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT

MINORITY BUSINESS ENTERPRISE (MBE) - WOMEN BUSINESS ENTERPRISE (WBE)

PRIME CONTRACTOR IDENTIFICATION FORM

In order to assist us in identifying the status of those companies doing business with the City of Fort Lauderdale, this form must be completed and returned with your bid package.

Name of Firm:

Address of Firm:

Telephone Number:

Name of Person Completing Form:

Title:

Signature:

Date:

City Project Number:

City Project Description:

Please check the item(s) which properly identify the status of your firm:

☐ Our firm is not a MBE or WBE.

☐ Our firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically disadvantaged individuals.

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic

☐ Our firm is a WBE, as at least 51 percent is owned and operated by one or more women.

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic

MBE/WBE CONTRACTOR INFORMATION

The City, in a continuing effort, is encouraging the increased participation of minority and women-owned businesses in Public Works Department related contracts. Along those lines, we are requiring that each firm provide documentation detailing their own programs for utilizing minority and women-owned businesses.

Submit this information as a part of this bid package and refer to the checklist, to ensure that all areas of concern are covered. The low responsive bidder may be contacted to schedule a meeting to discuss these objectives. It is our intention to proceed as quickly as possible with this project, so your cooperation in this matter is appreciated.

CONTRACTOR CHECKLIST

☐ List Previous City of Fort Lauderdale Contracts

☐ Number of Employees in your firm

--Percent (%) Women

--Percent (%) Minorities

--Job Classifications of Women and Minorities

☐ Use of minority and/or women subcontractors on past projects.

☐ Nature of the work subcontracted to minority and/or women-owned firms.

☐ How are subcontractors notified of available opportunities with your firm?

☐ Anticipated amount to be subcontracted on this project.

☐ Anticipated amount to be subcontracted to minority and/or women-owned businesses on this project.

QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name:

President

Business Address:

Telephone:

Fax:

E-Mail Address:

What was the last project of this nature which you completed? Include the year, description, and contract value.

The following are named as three corporations and representatives of those corporations for which you have performed work similar to that required by this contract, and which the City may contact as your references (include addresses, telephone numbers and e-mail addresses). Include the project name, year, description, and contract value.

How many years has your organization been in business?

Have you ever failed to complete work awarded to you; if so, where and why?

The name of the qualifying agent for the firm and his position is:

Certificate of Competency Number of Qualifying Agent:

Effective Date: Expiration Date:

Licensed in: Engineering Contractor's License #

(County/State)

Expiration Date:

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor must have proper licensing and shall provide copy of same with his proposal.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a)

b)

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?

4. What equipment will you purchase for the proposed work?

5. What equipment will you rent for the proposed work?

LOCAL BUSINESS PRICE PREFERENCE

Section 2-199.2, Code of Ordinances of the City of Fort Lauderdale, (Ordinance No. C-12-04), provides for a local business preference.

In order to be considered for a local business preference, a bidder must include the Local Business Preference Certification Statement of this ITB, as applicable to the local business preference class claimed **at the time of bid submittal**:

Upon formal request of the City, based on the application of a Local Business Preference the Bidder shall within ten (10) calendar days submit the following documentation to the Local Business Preference Class claimed:

A) Copy of City of Fort Lauderdale current year business tax receipt, **or** Broward County current year business tax receipt, **and**

B) List of the names of all employees of the bidder and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of bid submittal shall result in the bidder being found ineligible for the local business preference.

THE COMPLETE LOCAL BUSINESS PREFERENCE ORDINANCE MAY BE FOUND ON THE CITY'S WEB SITE AT THE FOLLOWING LINK:
https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-186LOBUPRPR

Definitions: The term "Business" shall mean a person, firm, corporation or other business entity which is duly licensed and authorized to engage in a particular work in the State of Florida. Business shall be broken down into four (4) types of classes:

1. Class A Business – shall mean any Business that has established and agrees to maintain a permanent place of business located in a non-residential zone and staffed with full-time employees within the limits of the City **and** shall maintain a staffing level of the prime contractor for the proposed work of at least fifty percent (50%) who are residents of the City.

2. Class B Business - shall mean any Business that has established and agrees to maintain a permanent place of business located in a non-residential zone and staffed with full-time employees within the limits of the City **or** shall maintain a staffing level of the prime contractor for the proposed work of at least fifty percent (50%) who are residents of the City.

3. Class C Business - shall mean any Business that has established and agrees to maintain a permanent place of business located in a non-residential zone **and** staffed with full-time employees within the limits of Broward County.

4. Class D Business – shall mean any Business that does not qualify as either a Class A, Class B, or Class C business.

LOCAL BUSINESS PRICE PREFERENCE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the local business price preference classification as indicated herein, and further certifies and agrees that it will re-affirm its local preference classification annually no later than thirty (30) calendar days prior to the anniversary of the date of a contract awarded pursuant to this ITB. Violation of the foregoing provision may result in contract termination.

(1) _____ Business Name is a **Class A** Business as defined in City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. A copy of the City of Fort Lauderdale current year Business Tax Receipt **and** a complete list of full-time employees and evidence of their addresses shall be provided within 10 calendar days of a formal request by the City.

(2) _____ Business Name is a **Class B** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. A copy of the Business Tax Receipt **or** a complete list of full-time employees and evidence of their addresses shall be provided within 10 calendar days of a formal request by the City.

(3) _____ Business Name is a **Class C** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. A copy of the Broward County Business Tax Receipt shall be provided within 10 calendar days of a formal request by the City.

(4) _____ Business Name requests a **Conditional Class A** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent shall be provided within 10 calendar days of a formal request by the City.

(5) _____ Business Name requests a **Conditional Class B** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent shall be provided within 10 calendar days of a formal request by the City.

(6) _____ Business Name is considered a **Class D** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186 and does not qualify for Local Preference consideration.

BIDDER'S COMPANY: _____

AUTHORIZED COMPANY PERSON: _____ _____ _____

NAME SIGNATURE DATE

3 4

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-17(a)(i)(ii), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

(a) Contractors doing business with the City shall not discriminate against their employees based on the employee's race, color, religion, gender (including identity or expression), marital status, sexual orientation, national origin, age, disability or any other protected classification as defined by applicable law.

Contracts. Every Contract exceeding $100,000, or otherwise exempt from this section shall contain language that obligates the Contractor to comply with the applicable provisions of this section.

The Contract shall include provisions for the following:

(i) The Contractor certifies and represents that it will comply with this section during the entire term of the contract.

(ii) The failure of the Contractor to comply with this section shall be deemed to be a material breach of the contract, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

Authorized Signature

Print Name and Title

Date

CONTRACT PAYMENT METHOD

The City of Fort Lauderdale has implemented a Procurement Card (P-Card) program which changes how payments are remitted to its vendors. The City is transitioning from traditional paper checks to credit card payments via MasterCard or Visa as part of this program.

This allows you as a vendor of the City of Fort Lauderdale, to receive your payment fast and safely. No more waiting for checks to be printed and mailed.

In accordance with Article 7, item 7.6 of the contract, payments on this contract will be made utilizing the City's P-Card. Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement acceptance of a card before the start of the contract term, or contract award by the City.

Please indicate with which credit card you prefer to be paid:

☐ Master Card

☐ Visa Card

Company Name:	
Signature:	
Print Name Title:	

CONSTRUCTION BID CERTIFICATION

Please Note: All fields below must be completed. If the field does not apply to you, please note N/A in that field. If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration)

Address:

City: State: Zip:

Telephone No. FAX No. Email:

Does your firm qualify for MBE or WBE status: MBE ☐ WBE ☐

If a corporation, state the name of the President, Secretary and Resident Agent. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name.

Name	Title	Name	Title
Name	Title	Name	Name

ADDENDUM ACKNOWLEDGEMENT - Bidder acknowledges that the following addenda have been received and are included in the bid:

Addendum No.	Date Received	Addendum No.	Date Received	Addendum No.	Date Received	Addendum No.	Date Received

VARIANCES: If you take exception or have variances to any term, condition, specification, or requirement in this bid you must specify such variance in the space provided below or reference in the space provided below all variances contained on other pages within your bid. Additional pages may be attached if necessary. No variances will be deemed to be part of the bid submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. If submitting your response electronically through BIDSYNC you must also click the "Take Exception" button.

The below signatory affirms that he has or will obtain all required permits and licenses from the appropriate agencies, and that his firm is authorized to do business in the State of Florida. The below signatory agrees to furnish all labor, tools, material, equipment and supplies, and to sustain all the expense incurred in doing the work set forth in strict accordance with the bid plans and contract documents at the unit prices indicated if awarded a contract. The below signatory has not divulged to, discussed, or compared this bid with other bidders, and has not colluded with any other bidder or parties to this bid whatsoever. Furthermore, the undersigned guarantees the truth and accuracy of all statements and answers contained in this bid. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a bid, that in no event shall the City's liability for bodder's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City protest ordinance contained in this competitive solicitation.

Submitted by:

Name (printed)

Date:

Signature

Date:

Question and Answers for Bid #12218-693 - Annual Sidewalk, Asphalt, and Paver Emergency Repair (P12458)

Overall Bid Questions
There are no questions associated with this bid.