

PUBLIC WORKS DEPARTMENT

CONTRACT

**ANNUAL CONTRACT FOR BRIDGE REPAIR, MAINTENANCE
AND PAINTING**

DESCRIPTION

Engineer Control Systems Corporation

CONTRACTOR

Unit Price Contract Not To Exceed \$502,000.00

AMOUNT

February 18, 2014

COMMISSION APPROVAL DATE

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS AGREEMENT made and entered into this 18th day of February, 2014, by and between the City of Fort Lauderdale, a Florida municipal corporation (City) and Engineer Control Systems Corporation, (Contractor), (parties);

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No., 243-11290, Project Number, 12010, which was opened on November 20, 2013; 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 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.

- 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 as 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 – An adjective which 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.

- 1.15 Effective Date of the Agreement – The date specified in the Notice to Proceed given by the City to the Contractor indicating when the Contract Time will commence to run and on which the Agreement becomes effective, but if no such date is indicated, it means the date on which the Agreement is approved by the City Commission or if City Commission approval is not required it is the date on which the Agreement is fully executed by the City.
- 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.
- 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 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 will be signed and sealed by the Engineer of Record or a Professional Land Surveyor licensed in the State of Florida.
- 1.31 Substantially Completed Date – A date when the Contractor has requested in writing, stating that the Work is substantially completed and is ready for an inspection and issuance of a final punch list for the Project.
- 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:

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ITB **243-11290** PROJECT **12010**

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

PROJECT DESCRIPTION

Under this Annual contract, the contractor shall restore/repair City bridges as indicated by the Engineer. The scope of work shall be as follows:

- 1) Repair of all concrete spalling by removing all unsound concrete, cleaning and treating all corroded rebars and reforming structure to the original shape;
 - 2) Removing and replacing all deteriorated expansion joints;
 - 3) Injecting flowable fill at all locations indicated by the Engineer.
- 2.3 Within ten (10) days of the execution of this Agreement, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of those 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 operations.

ARTICLE 3 – PROJECT MANAGER

- 3.1 The Project Manager is hereby designated by the City as Raymond Nazaire whose address is 100 N. Andrews Avenue, 4th Floor, Fort Lauderdale, FL 33301. 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:

- 4.1 This Agreement.
- 4.2 Exhibits to this Agreement (Plans (sheets [1] to [4] 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 and Drawings.
- 4.8 Addenda number 1 through 5, 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., 243-11290, Instructions to Bidders and Bid Bond.
- 4.12 Contractor's response to the City's Invitation to Bid No., 243-11290, dated November 27, 2013.
- 4.13 Schedule of Completion and Schedule of Values.
- 4.14 All amendments, modifications and 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.

There are no Contract Documents other than those listed in this Article 4. The Contract Documents may only be altered, amended, or repealed in accordance with the provisions of the terms of this Agreement.

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

- a. Specific direction from the City Manager (or designee)
- b. This Agreement dated February 18, 2014, and any attachments.
- c. Invitation to Bid No., 243-11290, and the specifications prepared by the City.

- d. Contractor's response to the City's Invitation to Bid No., 243-11290, dated November 27, 2013.
- e. Schedule of Values.
- f. 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, at once and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

It is the intent of the specifications and plans to describe a complete Project to be constructed in accordance with the Contract Documents. 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 Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work shall commence within 5 calendar days of the date of the Purchase Order/Notice to Proceed.
- 5.2 The Work shall be Substantially Completed within N/A calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.
- 5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within N/A calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.
- 5.4 The initial contract term shall commence upon date of award by the City and shall expire 1 years from that date. The City reserves the right to extend the contract for 3, additional 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.
- 5.5 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 ninety (90) 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.

ARTICLE 6 – CONTRACT PRICE

- 6.1 City shall pay Contractor for performance of the Work in accordance with Article 7, subject to additions and deletions by Change Order, as provided for in this Agreement.
- 6.2 The parties expressly agree that the Contract Price which shall not exceed the amount of **\$502,000.00**, constitutes the total maximum compensation payable to Contractor for performing the Work, plus any Work done pursuant to a Change Order. The Contract Price is in accordance with the line item unit prices listed in the Bid. Line items are based on a unit price cost multiplied by a defined quantity. Any additional duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change to the Contract Price.
- 6.3 The Contract Price constitutes the compensation payable to Contractor for performing the Work plus any Work done pursuant to a Change Order. 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 City as provided 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 (1st) and the tenth (10th) 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, 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.
- 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. However, not less than ten percent (10%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications and shop drawings. Including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.
- 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.

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, 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 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 which can in any way affect the Work 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 finds and has further 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.
- 8.5 Contractor has made or caused 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 he 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 The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space and maintenance of traffic. A certified "competent person" shall be assigned to the job site. Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to maintenance of traffic. Failure to pursue the Work with the properly certified supervisory staff may result in 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 material 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. 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 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 at variance therewith, the Contractor shall give the Project Manager prompt written notice thereof, and any necessary changes shall be adjusted by any appropriate modifications. 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 his 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 do 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 required herein that may be destroyed or damaged.

During the progress of the work, the Contractor shall keep the premises free from accumulations 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 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.

8.17 Project Record Documents and As-Builts (Record Drawings): The Contractor shall keep one record copy of all specifications, plans addenda, modifications, shop drawings and samples at the site, in good order and annotated to show all changes made during the construction process. These shall be available to the Project Manager for examination and shall be delivered to the Project Manager upon completion of the Work. Upon completion of the project and prior to final payment, an as-built (record drawings) of the Project shall be submitted to the Project Manager. The as-built drawings shall be signed and sealed by a Florida Registered Professional Surveyor and Mapper, Engineer, Architect or Landscape Architect depending on the type of drawing.

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 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 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entities claiming by, through or under the Contractor, releases and discharges the City, from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances

including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, representatives, contractors and subcontractors, successors, and assigns (hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use, handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence of any Hazardous Substance including asbestos located, transported, or present on, undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. sections 9607, as amended, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for

personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 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 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.

8.23 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.

8.24 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 he is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

- 8.25 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.

- 8.26 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 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 they, the sub recipient or the subcontractor 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 data 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.
- 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”), each in an amount at least equal to 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.

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 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.

A. The City is required to be named as additional insured on the Commercial General Liability insurance policy. BINDERS ARE UNACCEPTABLE. The insurance coverage required shall include those classifications, as listed in standard liability insurance manuals, which most nearly reflect the operations of the Contractor. Any exclusions or provisions in the insurance maintained by the Contractor that precludes coverage for the work contemplated in this Agreement shall be deemed unacceptable, and shall be considered a breach of contract.

- B. The Contractor shall provide the City an original Certificate of Insurance for policies required by Article 10. All certificates shall state that the City shall be given ten (10) days' notice prior to expiration or cancellation of the policy. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, 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 Finance Department. Such policies shall: (1) name the insurance company or companies affording coverage acceptable to the City, (2) state the effective and expiration dates of the policies, (3) include special endorsements where necessary. Such policies provided under Article 10 shall not be affected by any other policy of insurance, which the City may carry in its own name.
- C. Contractor shall as a condition precedent of this Agreement, furnish to the City of Fort Lauderdale, c/o Project Manager, 100 N. Andrews Avenue, Fort Lauderdale, FL 33301, Certificate(s) of Insurance upon execution of this Agreement, which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

10.3.2 Property Insurance (Builder's Risk): The Contractor shall purchase and maintain property insurance upon the Work at or off the site of 100% of the contract completed value. These policies shall insure the interest of the owner, contractor and subcontractors in the Work, and shall insure against "all risks" of physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage. All such insurance required by this paragraph shall remain in effect until the Work is completed and accepted by the City.

10.3.3 Commercial General Liability

- A. Limits of Liability:

Bodily Injury and Property Damage - Combined Single Limit	
Each Occurrence	\$1,000,000
Project Aggregate	\$1,000,000
General Aggregate	\$2,000,000
Personal Injury	\$1,000,000
Products/Completed Operations	\$1,000,000
- B. Endorsements Required:
 - City of Fort Lauderdale included as an Additional Insured
 - Broad Form Contractual Liability
 - Waiver of Subrogation
 - Premises/Operations
 - Products/Completed Operations
 - Independent Contractors
 - Owners and Contractors Protective Liability
 - Contractors Pollution Liability

10.3.4 Business Automobile Liability

- A. Limits of Liability:
Bodily Injury and Property Damage - Combined Single Limit
All Autos used in completing the contract
Including Hired, Borrowed or Non-Owned Autos
Any One Accident \$1,000,000

- B. Endorsements Required:
Waiver of Subrogation

10.3.5 Workers' Compensation and Employer's Liability Insurance

Limits: Workers' Compensation – Per Florida Statute 440
Employers' Liability - \$500,000

Any firm performing work on behalf of the City of Fort Lauderdale must provide Workers' Compensation insurance. Exceptions and exemptions can only be made if they are in accordance with Florida Law.

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

- 10.3.6 Umbrella/Excess Liability: The Contractor shall provide umbrella/excess coverage with limits of no less than \$2,000,000 excess of Commercial General Liability, Automobile Liability and Employer's Liability.

- 10.3.7 All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The Contractor's insurance must be provided by an A.M. Best's "A-" rated or better insurance company authorized to issue insurance policies in the State of Florida, subject to approval by the City's Risk Manager. Any exclusions or provisions in the insurance maintained by the Contractor that precludes coverage for work contemplated in this project shall be deemed unacceptable, and shall be considered breach of contract.

NOTE: CITY PROJECT NUMBER MUST APPEAR ON EACH CERTIFICATE.

Compliance with the foregoing requirements shall not relieve the Contractor of their liability and obligation under this section or under any other section of this Agreement.

The Contractor shall be responsible for assuring that the insurance certificates required in conjunction with this Section remain in force for the duration of the Project. If insurance certificates are scheduled to expire during the contractual period, the Contractor shall be responsible for submitting new or renewed insurance certificates to the City at a minimum of thirty (30) calendar days in advance of such expiration. In the event that expired certificates are not replaced with new or renewed certificates that cover the contractual period, the City shall:

- A. Suspend the Agreement until such time as the new or renewed certificates are received by the City.
- B. The City may, at its sole discretion, terminate the Agreement for cause and seek damages from the Contractor in conjunction with the violation of the terms and conditions of the Agreement.

**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 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: The Contractor shall give the Project Manager timely (minimum of thirty six (36) hours) notice of readiness of the Work for all required inspections, tests, or approvals.
 - 11.2.1 If any law, ordinance, rule, regulation, code or order of any public body having jurisdiction requires any Work (or part thereof) to specifically be inspected, tested or approved, the Contractor shall assume full responsibility, pay all costs in connection therewith and furnish the Project Manager the required certificates of inspection, testing or approval. The Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with the City's acceptance of a manufacturer, fabricator, supplier or distributor of materials or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation of the Work.
 - 11.2.2 All inspections, tests or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction shall be performed by the City or by a professional testing firm designated by the City. The City will pay for sampling and testing if the test results are passing. The

Contractor will reimburse the City for sampling, testing, and retesting costs associated with failing tests.

11.2.3 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from his obligations to perform the Work in accordance with 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 Paragraph 11.2.1, 11.2.2 and 11.2.3 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 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, 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 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, servants or employees; (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, 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, at any time or 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. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 14 or Article 15 on the basis of a claim made by either Party.
- 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

Change of Contract Price, approved by CITY, shall be computed as follows:

- 14.1 Cost of the Work: The term "Cost of the Work" means the sum of all direct costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by the City, these costs shall be in amounts no higher than those prevailing in the City and shall include only the following items and shall not include any of the costs itemized in Paragraph 14.2:

14.1.1 Payroll costs for employees in the direct employ of the Contractor in the performance of the Work under schedules of job classifications agreed upon by the City and the Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus and cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and applicable holiday pay.

14.1.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage, and required suppliers and field services. All cash discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they may be obtained.

14.1.3 Supplemental costs including the following:

14.1.3.1 Cost, including transportation and maintenance of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work.

14.1.3.2 Rentals of all construction equipment and machinery and the parts whether rented from the Contractor or others in accordance with rental agreements approved by the City, and the costs of transporting, loading, unloading, installation, dismantling and removal. The rental of any such equipment, machinery or parts shall cease when the use is no longer necessary for the Work.

14.1.3.3 Sales, consumer, use or similar taxes related to the Work and for which the Contractor is liable, imposed by laws and regulations.

14.1.3.4 Royalty payments and fees for permits and licenses.

14.1.3.5 The cost of utilities, fuel and sanitary facilities at the Work site.

14.1.3.6 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

14.1.3.7 Cost of premiums for additional bonds and insurance required because of changes in the Work.

14.2 The Contract Price may only be increased by a Change Order when Work is modified in accordance with Article 13 and approved by the CITY in writing. Any claim for an increase in the Contract Price resulting from a Change Order shall be based on written notice delivered to the Project Manager within ten (10) days of the occurrence of the Change Order giving rise to the claim. Notice of the amount of the claim with supporting data shall be included in the Change Order and delivered within twenty (20) days of such occurrence unless Project Manager allows an additional period of time to ascertain accurate cost data. Any change in the Contract Price resulting from any such claim shall be incorporated in the Change Order.

- 14.3 Not Included in the Cost of the Work: The term “cost of the Work” shall not include any of the following:
- 14.3.1 Payroll costs and other compensation of the Contractor’s officers executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditor, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by the Contractor whether at the site or in the Contractor’s principal or branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 14.1.1, all of which are to be considered administrative costs covered by the Contractor’s fee.
 - 14.3.2 Expenses of the Contractor’s principal and branch offices other than the Contractor’s office at the site.
 - 14.3.3 Any part of the Contractor’s capital expenses, including interest on the Contractor’s capital employed for the Work and charges against the Contractor for delinquent payments.
 - 14.3.4 Cost of premiums for all bonds and for all insurance whether or not the Contractor is required by the Contract Documents to purchase and maintain the same.
 - 14.3.5 Costs due to the negligence of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.
 - 14.3.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 14.1
- 14.4 Basis of Compensation: The Contractor’s compensation, allowed to the Contractor for overhead and profit, shall be determined as follows:
- 14.4.1 A mutually acceptable negotiated fee:
 - 14.4.1.1 For costs incurred under Paragraphs 14.1.1 and 14.1.2, the Contractor’s fee shall not exceed five percent (5%).
 - 14.4.1.2 No fee shall be payable on the basis of costs itemized under Paragraphs 14.1.3.1, 14.1.3.2, 14.1.3.3, 14.1.3.4, 14.1.3.5, 14.1.3.6, 14.1.3.7, 14.3.1, 14.3.2, 14.3.3, 14.3.4, 14.3.5 and 14.3.6.
 - 14.4.1.3 The amount of credit to be allowed by the Contractor to the City for any such change which results in a net decrease plus a deduction in the Contractor’s fee by an amount equal to five percent (5%) for the net decrease.
 - 14.4.1.4 When both additions and credits are involved in any one change the combined overhead and profit shall be figured on the basis of net

increase if any, however, not to exceed five percent (5%) of the agreed compensation. Profit will not be paid on any Work not performed.

14.5 Cost Breakdown Required: Whenever the cost of any Work is to be determined pursuant to this Article, the Contractor will submit in form acceptable to the City an itemized cost breakdown together with supporting documentation. Whenever a change in the Work is to be based upon mutual acceptance of a lump sum, whether the amount is an addition, credit, or no-charge-in-cost, the Contractor shall submit an estimate substantiated by a complete itemized breakdown:

14.5.1 The breakdown shall list quantities and unit prices for materials, labor, equipment and other items of cost.

14.5.2 Whenever a change involves the Contractor and one (1) or more subcontractors and the change is an increase in the agreed compensation, the overhead and profit percentage for the Contractor and each subcontractor shall be itemized separately.

14.6 Time for the City to Approve Extra Work: Any Extra Work in an amount up to and not exceeding a cumulative amount of \$25,000 for a specific project can be approved by the City Manager and shall require a written Change Order proposal to be submitted to the Public Works Director for submittal and approval by the City Manager. Extra Work exceeding the cumulative amount of \$25,000 for a specific project must be approved by the City Commission and a written Change Order proposal must be submitted to the Public Works Director for submittal and approval by the City Manager and City Commission. No financial or time claim for delay to the project resulting from the Change Order approval process outlined above under Section 14.6 will be allowed.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Project Manager within five (5) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

15.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if a claim is made there for as provided in Paragraph 15.1. Such delays shall include but not be limited to, acts or neglect by the City, or to fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

15.3 All time limits stated in the Contract Documents are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.4 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.

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 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.
- 17.2 City May Terminate Work: The City retains the right to terminate this Agreement, with thirty (30) days prior written notice. Additionally, the City may also terminate this Agreement upon 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 the Contractor persistently fails to perform the Work in accordance with the Contract Documents, including but not limited to, failure to supply sufficient skilled Workers or suitable materials or equipment or failure to adhere to the progress schedule as same may be revised from time to time.
- 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 Contractor otherwise violates any provisions of this Agreement.
- 17.3 Further, the Contractor may be excluded from the Work site and the City take possession of the Work and of all 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.

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.

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 Contractor 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 Contractor 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 Contractor 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 addition 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 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 Where the Contractor's service have been so 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.

17.6 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 – NOTICES

18.1 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:

To the City:

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

with copy to the:

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

To the Contractor:

Engineer Control Systems Corporation
12550 Biscayne Boulevard, Suite 800
North Miami, FL 33181

ARTICLE 19 – LIMITATION OF LIABILITY

- 19.1 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.
- 19.2 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 20 – GOVERNING LAW

- 20.1 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.

ARTICLE 21 – MISCELLANEOUS

- 21.1 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.
- 21.2 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.
- 21.3 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.
- 21.4 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.
- 21.5 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.
- 21.6 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.

Bid No. 243-11290
PROJECT 12010
ANNUAL CONTRACT FOR BRIDGE REPAIR, MAINTENANCE AND PAINTING

TO THE COMMISSION OF THE CITY OF
FORT LAUDERDALE, FLORIDA

Gentlemen:

The undersigned bidder agrees to furnish all labor, tools, material and supplies, and to sustain all the expense incurred in doing the work set forth below that may be awarded the undersigned by the City of Fort Lauderdale, Florida, through its proper officers, and to do the same strictly in accordance with the plans and contract documents on file in the Public Works Department of Fort Lauderdale, which are referred to below and made a part hereof, at the following unit prices, to-wit:

ITEM 1: Mobilization, demobilization (move-in and move out), staging of equipment, insurance, base cost and other fixed costs. This item must not exceed \$1,000 for each mobilization and demobilization.

Approximately four (4) locations. If two bridges are within 500' of each other, contractor shall be granted only one mobilization/demobilization.

@ \$1,000.00 ____/EACH (4)

\$4,000.00 _____

ITEM 2: Maintenance of traffic (MOT). Furnish all materials, labor, and equipment to maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work, including signs to warn boaters of bridge closure for marine traffic during repairs. This item should not exceed \$500 for each location. If two site locations are within 500' of each other, contractor shall be granted only one MOT.

Approximately four (4) locations.

@ \$500.00 ____/EACH

\$2,000.00 _____

ITEM 3: Furnish all materials, labor, and equipment to remove and dispose of existing expansion joint. Seal, clean and install new one according to the details shown on the plans.

Approximately 1000 linear feet.

@ \$18.50 ____/L.F

\$18,500.00 _____

ITEM 4: Furnish all materials, labor, and equipment to repair bridge approach railing, as directed by the Public Works Director. Work includes, but is not limited to, replacement of missing sections and anchor bolts identical to original ones:

(a) Aluminum railing up to 48-inches in high

Approximately 100 linear feet

@ \$40.00 _____ /L.F.

\$4,000.00 _____

(b) Galvanize steel up to 48-inches high

Approximately 100 linear feet

@ \$25.00 _____/L.F.

\$2,500.00 _____

ITEM 5: Furnish all materials, labor and equipment to paint new and/or existing aluminum bridge railing, as directed in the field by the Public Works Director.

Approximately 200 linear feet.

@ \$8.00 _____/L.F.

\$1,600.00 _____

ITEM 6: Furnish all materials, labor, and equipment to install floating turbidity barrier at several locations where work is in progress. Approximately 70' per location.

Approximately 9 locations

@ \$1,000.00 _____/EACH

\$9,000.00 _____

ITEM 7: Furnish all materials, labor, and equipment to perform all operations to place externally bonded fiber reinforced polymer (FRP) around damaged/deteriorated existing pre-stressed concrete piles, as shown on the project plans and described in the detailed specifications.

Approximately 50 linear feet.

@ \$200.00 _____/L.F.

\$10,000.00 _____

ITEM 8: Furnish twelve (12) 8-strand 14"x14" pre-stressed concrete vertical pile, inspected and certified at plant, delivered to job site, 25' long. FDOT Section 02367.

Approximately 125 linear feet

@ \$42.00 _____/L.F.

\$5,250.00 _____

ITEM 9: Furnish all materials, labor, and equipment to drive 14" square pre-stressed concrete vertical pile.

Approximately 125 linear feet

@ \$50.00 _____/L.F.

\$6,250.00 _____

ITEM 10: Furnish all materials, labor, and equipment to repair spall areas with Epoxy Mortar, including but not limited to, removal of loose material to sound concrete, and as directed by the Public Works Director to prepare surface to receive concrete repair materials or cover exposed steel rebars with Sika Armatec 110 EpoCem or approved equal. Replace unsound concrete with Sika MonoTop 611 with compressive strength of 6500 psi or approved equal. This item also includes cleaning river bottom of debris that has fallen in the water from the unsound concrete removal operation and incidentals to complete same. All debris shall be disposed of at an approved Broward County site.

(a) Approximately 800 cubic feet of spall repair

@ \$330.00 _____ /C.F.

\$264,000.00 _____

(b) Approximately 300 linear feet of covering exposed steel

@ \$95.00 _____/L.F.

\$28,500.00 _____

ITEM 11: Furnish all materials, labor, and equipment to construct new seawall concrete cap (30" x 16"), according to the details shown on the project plans including, but not limited to, removal of deteriorated existing one, and hauling away demolished material.

Approximately 100 linear feet

@ \$48.00 _____/L.F.

\$4,800.00 _____

ITEM 12: Furnish all materials, labor and equipment to clean and reseal the vertical joint at each side of the pile, and concrete panel with cement pressure grout.

Approximately 200 linear feet

@ \$20.00 _____/L.F.

\$4,000.00 _____

ITEM 13: Furnish all materials, labor, and equipment to demolish deteriorated existing concrete bulkhead panel bridge parapet wall and balusters, and piling, including but not limited to, excavation, removal, and hauling away demolished materials off the job site to Broward County approved location.

Approximately 1,000 square feet

@ \$10.00 _____/S.F.

\$10,000.00 _____

ITEM 14: Furnish all materials, labor, and equipment to construct new concrete bulkhead panel (L x 8' 6' wide x 7" thick), bridge parapet walls and balusters where shown on the plans and/or directed by the Public Works Director, including but not limited to, delivery to job site, installation, restoration of fill, sod, and incidental to complete the work.

Approximately 400 linear feet

@ \$45.00 _____/L.F.

\$18,000.00 _____

ITEM 15: Furnish all materials, labor and equipment to construct a toe-wall footing consisting of eight (8) feet long aluminum sheet piling, topped with 12" of Type 1 concrete seal, including but not limited to, any required specialty equipment and means to drive the specified sheet length into the ground regardless of the existing soil layers, in accordance with the details shown on the project plans and detailed specifications, and/or as directed by the Public Works Director.

Approximately 50 linear feet

@ \$170.00 _____/L.F.

\$8,500.00 _____

ITEM 16: Furnish all materials, labor, and equipment to construct miscellaneous reinforced (various steel bar sizes) concrete work as directed by the Public Works Director.

Approximately 100 linear feet

@ \$170.00 ____/L.F.

\$17,000.00 _____

ITEM 17: Furnish all materials, labor, and equipment to paint the concrete parapets of nine (9) reinforced concrete bridges, including but not limited to, tools, pressure wash, removal of all old paint, removal of vegetation on bridge structure, doing all the work involved in preparing the concrete surface to receive two (2) coats of paint, protection of the work, existing facilities, vehicles, boats, and the public from damage due to this work and incidentals need to complete the work. Paint color shall be determined by the Public Works Director.

Approximately 10,000 square feet.

@ \$1.25 ____/S.F.

\$12,500.00 _____

ITEM 18: Furnish all materials, labor and equipment to install an appropriate containment system to prevent any pollution of the waterway at selected locations during the pressure washing and painting of the bridge's concrete surfaces.

Approximately 9 bridges

@ \$800.00 ____/EACH

\$7,200.00 _____

ITEM 19: Furnish all materials, labor, and equipment to fill voids under approach slabs:

(a) Fill voids without slab jacking procedure (flowable fill). Approximately 30 cubic yards

@ \$150.00 ____ /C.Y.

\$4,500.00 _____

(b) Fill voids and restore slab to original elevation using slab jacking procedure (fill lightweight aggregate). Approximately 30 cubic yards.

@ \$250.00 ____/C.Y.

\$7,500.00 _____

ITEM 20: Furnish all materials, labor, and equipment to install reusable temporary 8" DIP water main, pressure class 350, up to 100 linear feet to include, but not limited to, all restrained joints and bypass system, including all necessary gate valves, plugs, fittings, rubber gaskets, bolts, nuts, grip rings, glands and supports.

Approximately 200 linear feet

@ \$40.00 _____/L.F.

\$8,000.00 _____

ITEM 21: Furnish all materials, labor, and equipment to remove, as directed by the Public Works Director, existing 6" or 8" water main running along the sides, or under the bridge up to 10 feet past the approach slab at each side of the bridge, including but not limited to, removal of pipe supports, deteriorated pipe sleeves, required section of concrete sidewalk and/or approach slab, hauling away of removed materials, and incidentals to complete same.

Approximately 200 linear feet

@ \$25.00 _____/L.F.

\$5,000.00 _____

ITEM 22: Furnish all materials, labor, and equipment to install new 6" DIP water main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, rubber gaskets, bolts, nuts, grip rings, glands, and incidentals to complete same, including pressure and disinfection testing.

Approximately 200 linear feet

@ \$45.00 _____/L.F.

\$9,000.00 _____

ITEM 23: Furnish all materials, labor, and equipment to install new 8" DIP water main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, rubber gaskets, bolts, nuts, grip rings, glands, and incidentals to complete same, including pressure and disinfection testing.

Item 23 (continued)

Approximately 200 linear feet

@ \$55.00 _____/L.F.

\$11,000.00 _____

ITEM 24: Furnish all materials, labor and equipment to install reusable temporary 200 linear feet of 6" DIP force main bypass system, as shown on the project plans, and 3" air line, including all necessary fittings, rubber gaskets, valves, bolts, nuts, grip rings, glands, and supports. This work also includes complete assembly and disassembly of temporary 6" DIP force main for two (2) bridges.

Approximately 200 linear feet

@ \$35.00 _____/L.F

\$7,000.00 _____

ITEM 25: Furnish all materials, labor, and equipment to remove, as directed by the Public Works Director, existing 4" or 6" force main and air line running along the sides, or under the bridge up to 10 feet past the approach slab at each side of the bridge, including but not limited to, removal of pipe supports, deteriorated pipe sleeves, required section of concrete sidewalk and/or approach slab, hauling away of removed materials, and incidentals to complete same.

Approximately 200 linear feet

@ \$12.00 _____/L.F.

\$2,400.00 _____

ITEM 26: Furnish all materials, labor, and equipment to install new 4" DIP force main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, grip rings, rubber gaskets, bolts, nuts, glands, and incidentals to complete same.

Approximately 200 linear feet

@ \$30.00 _____/L.F.

\$6,000.00 _____

ITEM 27: Furnish all materials, labor and equipment to install new 6" DIP force main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, grip rings, rubber gaskets, bolts, nuts, glands, and incidentals to complete same.

Approximately 200 linear feet

@ \$20.00 _____/L.F.

\$4,000.00 _____

TOTAL BID:

\$502,000.00
(FIGURES)

Five Hundred and Two Thousand and 00/100

(TOTAL WRITTEN DOLLAR AMOUNT)

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 above 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.

CONTRACT TIME

- 1.1 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work shall commence within 5 calendar days of the date of the Notice to Proceed.
- 1.2 The Work shall be Substantially Completed within ___ calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed. **N/A**
- 1.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within ___ calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed. **N/A**
- 1.4 The initial contract term shall commence upon date of award by the City and shall expire 1 year from that date. The City reserves the right to extend the contract for 3, additional 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.
- 1.5 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 ninety (90) 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.

SCHEDULE OF VALUES

The schedule of values is an itemized list that establishes the value of cost of certain parts of the work. It shall be used as the basis for preparing progress payments and may be used as a basis for pricing additional work or credits which may arise during the construction. Give unit prices for each work item shown which is an installed price, including material, labor and equipment. If the item has been revised to an approved equal, please provide the unit price for the approved equal.

ITEM 1-S: Furnish all materials, labor, and equipment to clean and seal random cracks smaller than 1/32" on the deck, approach slabs, sidewalks, parapets, and concrete railing.

@ \$120.00 ____ /L.F.

ITEM 2-S: Furnish all materials, labor, and equipment to pressure wash, clean and seal with penetrant sealant, the concrete deck-riding surface, approach slabs and sidewalks.

@ \$56.00 ____ /S.F.

ITEM 3-S: Furnish all materials, labor, and equipment to clean, inject and seal cracks and spaces greater than 1/32" with epoxy.

@ \$150.00 ____ /L.F.

ITEM 4-S: Furnish all materials, labor, and equipment to remove existing concrete approach slab.

@ \$500.00 ____ /C.Y.

ITEM 5-S: Furnish all materials, labor, and equipment to construct new concrete approach slab.

@ \$750.00 ____ /C.Y.

ITEM 6-S: Furnish all materials, labor, and equipment to mill existing pavement up to 1-1/2" thick.

@ \$12.00 ____ /S.F.

ITEM 7-S: Furnish all materials, labor, and equipment to mill existing pavement up to 1-1/2" thick.

@ ~~\$45.00~~ _____ /S.F.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as follows:

CONTRACTOR:

Engineer Control Systems Corporation

WITNESSES:

Jose Lopez
(Signature)
JOSE LOPEZ
(Witness print/type name)

Rekie Anderson
(Signature)
Rekie ANDERSON
(Witness print/type name)

(Corporate Seal)

By: *Frank Ayas*
(Signature)
FRANK AYAS, President
(Print Name and Title)

Attest:
By: *Angie Zayas*
(Signature)
ANGIE ZAYAS
(Print/type name)

CITY:

City of Fort Lauderdale, a municipal corporation of the State of Florida

By: *Lee R. Feldman*
LEE R. FELDMAN, City Manager

(Corporate Seal)

ATTEST:

By: *Jonda K. Joseph*
JONDA K. JOSEPH, City Clerk

APPROVED AS TO FORM:

By: *Pammy Sanyal*
Sr. Assistant City Attorney

ACKNOWLEDGEMENT OF CONTRACTOR

STATE OF: FL

COUNTY OF: MIAMI DADE

The foregoing instrument was acknowledged before me this 18 day of MARCH,
2014, by FRANK ZAYAS and Angie ZAYAS,
as President and Secretary, respectively,
of Engineer Control Systems Corporation FLORIDA
corporation, on behalf of the corporation, who is personally known to me or has produced
_____ as identification.



(SEAL)

Notary Public, State of Florida
(Signature of Notary taking Acknowledgement)

MARIA LOPEZ

Name of Notary Typed, Printed or Stamped

My Commission Expires: 7/25/16

EE 219414

Commission Number

SURETY BOND

IN COMPLIANCE WITH AND INCORPORATING THE PROVISIONS OF SECTION 255.05, FLORIDA STATUTES

THIS IS A SURETY BOND given by Engineer Control Systems Corporation the "Contractor" as principal, referred to in this Bond as "Contractor" and Berkley Insurance Company as "Surety," and they represent by this instrument that they are bound to the CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida ("City"), in the sum of \$502,000.00 Five Hundred and Two Thousand Dollars and 00/100

for the payment of which, to be made to the City of Fort Lauderdale, Florida, they jointly and severally, bind themselves and each of their heirs, executors, administrators, successors and assigns.

Owner Name: CITY OF FORT LAUDERDALE
a municipal corporation of the State of Florida

Owner Address and Telephone: City Hall, Public Works Department
100 N. Andrews Avenue
Fort Lauderdale, Florida 33301
(954) 828-5772

Bond No.: 0170138

Contractor Name, Address, Telephone: Engineer Control Systems Corporation
12550 Biscayne Boulevard, Suite 800
North Miami, FL 33181
(305) 895-4376

Surety Company, Address, Telephone: Berkley Insurance Company
475 Steamboat Road
Greenwich, CT 06830
203-542-3800

City Project No.: 12010
Name of Project: Annual Contract For Bridge Repair, Maintenance and Painting

Project Location: Within the City of Fort Lauderdale

Legal Description and Street Address
Description of Work

1) Repair of all concrete spalling by removing all unsound concrete, cleaning and treating all corroded rebars, and reforming structure to the original shape; 2) Removing and replacing all deteriorated expansion joints; 3) Injecting flowable fill at all locations indicated by the Engineer.

"Contractor" is bound by an instrument in writing dated the 18th day of February, 2014, by which Contractor has contracted with the City of Fort Lauderdale, Florida, to furnish labor, tools, and materials for the Project referenced and described above, together with all work incidental thereto, as fully set out in the plans, specifications and details on file in the Office of the City Engineer of the City.

Notice required by Section 255.05(6), Florida Statutes: "This bond is given to comply with Section 255.05 Florida Statutes, and any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes."

The condition of the above obligation is such that if the above bound "Contractor," or its successor or assigns shall in good faith and in good, sufficient, substantial and workmanlike manner, perform the work and

comply with the conditions of the contract, including payment of penalties, in strict accordance with the terms and provisions stipulated in it and shall indemnify and hold harmless the City against and for payments of any and all damages that may happen to persons or property by reason of excavations, embankments, obstructions and all other work in streets, alleys or places in connection with the work, or arising out of any act, neglect or omission of the "Contractor" or its agents, servants, or employees with relation to the work, and shall indemnify and hold harmless the City against and from all suits and acts of every nature and description arising out of any claims by patentees of any process connected with the work agreed to be performed under the contract, or of any materials used upon the work, and pay all costs accruing if the contract is cancelled and a new contract for finishing the work is let, and all other expenses lawfully chargeable to the "Contractor," then this agreement shall be null and void; otherwise it is to remain in full force and effect, but it is expressly provided, understood and agreed that if the "Contractor" or its subcontractors fail to duly and promptly pay for any labor, material, or other supplies used by "Contractor" or any of its subcontractors in the performance of the work to be done, or the Contractor defaults in its Contract with the City, the "Surety" will promptly pay to all claimants, as defined in Section 255.05(1), Florida Statutes, the same in an amount not exceeding the sum specified in this bond, together with interest at the rate of fifteen percent (15%) per annum, and the Surety hereby stipulates and agrees that no change, extension, reduction, alteration or addition to the terms of the contract or the plans, details and specifications shall in any way affect the obligations of this bond.

Whenever Contractor shall be, and is declared by the City to be in default under the contract, the City may proceed to cancel the contract and award a new contract for finishing the work or order the Surety to promptly remedy the default by obtaining a bid or bids for completing the contract in accordance with the original contract terms and conditions. Upon the determination by the City of the lowest responsible bidder, the Surety shall complete all work and pay the full cost of completion, less previous payments.

This Bond is effective for one (1) year after completion and acceptance of the work, with liability equal to 25% of the contract price, and is so conditioned that the "Contractor" will, at its own expense, correct any defective or faulty work or material which appears within one (1) year after completion of the work and final payment, upon notification by the City.

IN WITNESS WHEREOF, the above "Contractor" has signed this Agreement, and the "Surety" has caused this Agreement to be signed in its name by its Attorney-in-Fact, and its corporate seal affixed, this 13th day of March, 2014.

Signed, sealed and delivered in the presence of:

[Signature]
(Witness) Signature

Maria Lopez
(Witness) Print Name

[Signature]
(Witness) Signature

Maura Rodriguez
(Witness) Print Name

CONTRACTOR:

Engineer Control Systems Corporation (SEAL)

[Signature] (SEAL)
Print Name and Title
Frank Zayas, President

SURETY: Berkley Insurance Company
Brown & Brown of FL Inc. (SEAL)
Local Agent

Ramon A Rodriguez, Atty-in-fact & FL Res Agent (SEAL)
Print Name and Title

[Signature]
Ramon A Rodriguez

POWER OF ATTORNEY
BERKLEY INSURANCE COMPANY
WILMINGTON, DELAWARE

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *Ramon A. Rodriguez or Fausto Alvarez of Brown & Brown, Inc. of Miami Lakes, Florida* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **Fifty Million and 00/100 U.S. Dollars (U.S.\$50,000,000.00)**, to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

RESOLVED, that, with respect to the Surety business written by Berkley Surety Group, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

RESOLVED, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

RESOLVED, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

RESOLVED, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 12 day of December, 2013.

Attest:

Berkley Insurance Company

(Seal)

By

By

Ira S. Lederman
Senior Vice President & Secretary

Jeffrey M. Hafter
Senior Vice President

WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.

STATE OF CONNECTICUT)

) ss:

COUNTY OF FAIRFIELD)

Sworn to before me, a Notary Public in the State of Connecticut, this 12 day of December, 2013, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Senior Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

Kathleen Corey
Notary Public, State of Connecticut

KATHLEEN COREY
NOTARY-PUBLIC
CONNECTICUT
MY COMMISSION EXPIRES OCTOBER 31, 2017

CERTIFICATE

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 13th day of March, 2014.

(Seal)

Andrew M. Tuma

WARNING - Any unauthorized reproduction or alteration of this document is prohibited. This power of attorney is void unless seals are readable and the certification seal at the bottom is embossed. The background imprint, warning and confirmation (on reverse) must be in blue ink.



CERTIFICATE OF LIABILITY INSURANCE

OP ID: CR

DATE (MM/DD/YYYY)

06/17/13

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER BUTLER, BUCKLEY, DEETS INC. 8161 BLUE LAGOON DR., STE 420 MIAMI, FL 33128 RAFAEL F ALAYON	305-262-0086	CONTACT NAME: RAFAEL F. ALAYON PHONE (A/C, H/O, Ext): 305-262-0086 FAX (A/C, No): 305-262-0187 E-MAIL ADDRESS: RALAYON@BBDINS.COM PRODUCER CUSTOMER ID #: ENGIN-1
INSURED ENGINEER CONTROL SYSTEMS 12550 BISCAYNE BLD., SUITE 800 PMB 206 NORTH MIAMI, FL 33181	INSURER(S) AFFORDING COVERAGE	
	INSURER A: NORTHERN ASSURANCE CO	NAIC #
	INSURER B: XL SPECIALTY INSURANCE CO	
	INSURER C: Ins Co of the St of PA	
	INSURER D: The Hartford Insurance Group	38261
	INSURER E:	
	INSURER F:	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR. CAT.	TYPE OF INSURANCE	ADDITIONAL SUBR. INSR. (VVVV)	POLICY NUMBER	POLICY EFF. (MM/DD/YYYY)	POLICY EXP. (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input type="checkbox"/> OCCUR		B5JH24888	05/19/13	06/19/14	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (EA OCCURRENCE) \$ 50,000 MED EXP (Any one person) \$ 5,000
	<input checked="" type="checkbox"/> Marine Liability PROT & INDEMNITY GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PROJ <input type="checkbox"/> LOG		B5JH24888	05/19/13	06/19/14	PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMPROP AGG \$ 1,000,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS					COMBINED SINGLE LIMIT (EA accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR EXCESS LIAB <input checked="" type="checkbox"/> CLAIMS-MADE		UM00021628MA12A	05/19/13	06/19/14	EACH OCCURRENCE \$ 4,000,000 AGGREGATE \$ 4,000,000
	DEDUCTIBLE <input checked="" type="checkbox"/> RETENTION \$					
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under: DESCRIPTION OF OPERATIONS below	Y/N <input type="checkbox"/> N/A	WC001083230	05/03/13	05/03/14	<input checked="" type="checkbox"/> WG STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
D	INLAND MARINE		08 MS HX9777	04/13/13	04/13/14	LIMIT 221,478

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES: (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER IS NAMED ADDITIONAL INSURED WITH RESPECTS TO GENERAL LIABILITY ANNUAL CONTRACT FOR BRIDGE REPAIR, MAINTENANCE AND PAINTING. PROJECT#12010

CERTIFICATE HOLDER CITY OF FORT LAUDERDALE 100 N. ANDREWS AVE FT LAUDERDALE, FL 33301	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

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City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

ITB 243-11290
P12010 Annual Contract for Bridge Repair, Maintenance and Painting

ISSUED 11/20/2013

1. This addendum is being issued to make the following change:

The Bid Opening date has been changed to Wednesday,
November 27, 2013 at 2:00 PM EST

All other terms, conditions, and specifications remain unchanged.

James T. Hemphill
Sr. Procurement Specialist

Company Name: Engineer Control Systems, Corp.
(please print)

Bidder's Signature: [Handwritten Signature]

Date: 11.27.2013



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 2

ITB 243-11290
Annual Contract for Bridge Repair, Maintenance and Painting

ISSUED 11/21/2013

1. This addendum is being issued to make the following change:

Pricing pages P-1(b) and P-1(c) are to be replaced by the revised pricing pages attached to this addendum.

Additionally, the carry-on of item #16 on the original document which is at the top of page P-1(d) is to be disregarded as the complete item 16 is now on page P-1(c)

All other terms, conditions, and specifications remain unchanged.

James T. Hemphill
Sr. Procurement Specialist

Company Name: Engineer Control Systems, Corp.
(please print)

Bidder's Signature: [Handwritten Signature]

Date: 11.27.2013



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 3

ITB 243-11290
Annual Contract for Bridge Repair, Maintenance and Painting

ISSUED 11/22/2013

1. This addendum is being issued to make the following change:

Pricing page P-1(g) and Schedule of Values page P-1(i) are to be replaced by the revised pages attached to this addendum.

All other terms, conditions, and specifications remain unchanged.

James T. Hemphill
Sr. Procurement Specialist

Company Name: Engineer Control Systems, Corp
(please print)

Bidder's Signature: [Handwritten Signature]

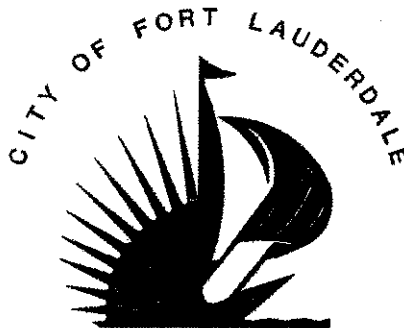
Date: 11.27.2013

**CITY OF FORT LAUDERDALE
CONTRACT AND SPECIFICATIONS PACKAGE**

BID # 243-11290

PROJECT NO. 12010

**ANNUAL CONTRACT FOR
BRIDGE REPAIR,
MAINTENANCE AND PAINTING**



27NOV 13 2:00PM

**Public Works Department
100 North Andrews Avenue
Fort Lauderdale, Florida 33301**

**RAYMOND NAZAIRE
PROJECT ENGINEER**

**JAMES T. HEMPHILL
SENIOR PROCUREMENT SPECIALIST
Telephone: (954) 828-5143 E-mail: jhemphill@fortlauderdale.gov**

27NOV 13 2:01PM

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INVITATION TO BID

Sealed bids will be received until 2:00 P.M. on **WEDNESDAY, NOVEMBER 20, 2013**, in the Public Works Department, City Hall, 100 North Andrews Avenue, 4th Floor, City of Fort Lauderdale, Florida and opened immediately thereafter in the Conference Room, for **Bid No. 243-11290, PROJECT NO. 12010, "ANNUAL CONTRACT FOR BRIDGE REPAIR, MAINTENANCE AND PAINTING"**.

This project consists of Drawing File No.4-137-72 (4) sheets.

The Citywide bridge restoration work includes:

- 1) Repair of all concrete spalling by removing all unsound concrete, cleaning and treating all corroded rebars and reforming structure to the original shape;
- 2) Removing and replacing all deteriorated expansion joints;
- 3) Injecting flowable fill at all locations indicated by the Engineer.

The contractor will receive work orders during the effective term of the contract and prior to the contract's expiration date. Each work order will be based on the unit prices of the executed contract. **A Performance Bond (Surety Bond) of \$200,000 is required for this contract.** The Project Manager will send a Notice To Proceed to the contractor after obtaining approval as applicable for each work order from the City Manager or the City Commission.

Bidding blanks may be obtained free of charge at BIDSYNC.COM or hard copies may be picked up at the Public Works Department. Plans and specifications are on file in the Public Works Department, City of Fort Lauderdale at 100 North Andrews Avenue, 4th floor, (Monday thru Friday 8:00 am to 4:30 pm) at a **NON-REFUNDABLE cost of \$25.00 (including sales tax per set)**. Only cash or cashier's check made payable to the City of Fort Lauderdale are accepted. Plans and specifications are also available on a CD diskette at a **NON-REFUNDABLE cost of \$5.00 (including sales tax per CD)**.

It will be the sole responsibility of the bidder to clearly mark the bid as such, and ensure that his bid reaches the City prior to the bid opening date and time listed.

A certified check, cashier's check, bank officer's check or bid bond for **TEN** percent (10%) of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each proposal.

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

Invitation to Bid (Continued)

Information on bid results and projects currently out to bid can be obtained on the City's website – www.fortlauderdale.gov/engineering/bids.htm. For general inquiries - please call (954) 828-5143.

Jonda K. Joseph
City Clerk

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 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 IN GOOD ORDER AND WITH ALL BLANKS COMPLETED.** The forms must be enclosed in a sealed envelope when submitted to the Public Works Department, City Hall, 4th Floor, 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 and must show the name of the bidder and a statement as to its contents.

INSTRUCTIONS TO BIDDERS (continued)

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 Public Works Department 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 written in the proposal and also stated in figures, 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 prices. Give both unit price and extended total. 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.

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.

INSTRUCTIONS TO BIDDERS (continued)

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/engineering/bids.htm>. The complete protest ordinance may be found on the City's website at the following link: <http://www.fortlauderdale.gov/purchasing/protestordinance.pdf>

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 PLANS AND SPECIFICATIONS - Copies of the specifications, details, contract and bonds are on file in the Public Works Department, City Hall, 4th Floor, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301.

SURETY BOND - 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

INSTRUCTIONS TO BIDDERS (continued)

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 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 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 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.

INSURANCE REQUIREMENTS

10.1 Insurance

- 1.1 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.
- A. The City is required to be named as additional insured on the Commercial General Liability insurance policy. BINDERS ARE UNACCEPTABLE. The insurance coverage required shall include those classifications, as listed in standard liability insurance manuals, which most nearly reflect the operations of the Contractor. Any exclusions or provisions in the insurance maintained by the Contractor that precludes coverage for the work contemplated in this Agreement shall be deemed unacceptable, and shall be considered a breach of contract.
- B. The Contractor shall provide the City an original Certificate of Insurance for policies required by Article 10. All certificates shall state that the City shall be given ten (10) days' notice prior to expiration or cancellation of the policy. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, 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 Finance Department. Such policies shall: (1) name the insurance company or companies affording coverage acceptable to the City, (2) state the effective and expiration dates of the policies, (3) include special endorsements where necessary. Such policies provided under Article 10 shall not be affected by any other policy of insurance, which the City may carry in its own name.
- C. Contractor shall as a condition precedent of this Agreement, furnish to the City of Fort Lauderdale, c/o Project Manager, 100 N. Andrews Avenue, Fort Lauderdale, FL 33301, Certificate(s) of Insurance upon execution of this Agreement, which indicate that insurance coverage has been obtained which meets the requirements as outlined below:
- 1.2 Property Insurance (Builder's Risk): The Contractor shall purchase and maintain property insurance upon the Work at or off the site of 100% of the

contract completed value. These policies shall insure the interest of the owner, contractor and subcontractors in the Work, and shall insure against "all risks" of physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage. All such insurance required by this paragraph shall remain in effect until the Work is completed and accepted by the City.

1.3 Commercial General Liability

- A. Limits of Liability:
- | | |
|---|-------------|
| Bodily Injury and Property Damage - Combined Single Limit | |
| Each Occurrence | \$1,000,000 |
| Project Aggregate | \$1,000,000 |
| General Aggregate | \$2,000,000 |
| Personal Injury | \$1,000,000 |
| Products/Completed Operations | \$1,000,000 |
- B. Endorsements Required:
- City of Fort Lauderdale included as an Additional Insured
 - Broad Form Contractual Liability
 - Waiver of Subrogation
 - Premises/Operations
 - Products/Completed Operations
 - Independent Contractors
 - Owners and Contractors Protective Liability
 - Contractors Pollution Liability

1.4 Business Automobile Liability

- A. Limits of Liability:
- | | |
|---|-------------|
| Bodily Injury and Property Damage - Combined Single Limit | |
| All Autos used in completing the contract | |
| Including Hired, Borrowed or Non-Owned Autos | |
| Any One Accident | \$1,000,000 |
- B. Endorsements Required:
- Waiver of Subrogation

1.5 Workers' Compensation and Employer's Liability Insurance

Limits: Workers' Compensation – Per Florida Statute 440
Employers' Liability - \$500,000

Any firm performing work on behalf of the City of Fort Lauderdale must provide Workers' Compensation insurance. Exceptions and exemptions can only be made if they are in accordance with Florida Law.

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

1.6 Umbrella/Excess Liability: The Contractor shall provide umbrella / excess coverage with limits of no less than \$2,000,000 excess of Commercial General Liability, Automobile Liability and Employer's Liability.

1.7 All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The Contractor's insurance must be provided by an A.M. Best's "A-" rated or better insurance company authorized to issue insurance policies in the State of Florida, subject to approval by the City's Risk Manager. Any exclusions or provisions in the insurance maintained by the Contractor that precludes coverage for work contemplated in this project shall be deemed unacceptable, and shall be considered breach of contract.

NOTE: CITY PROJECT NUMBER MUST APPEAR ON EACH CERTIFICATE.

Compliance with the foregoing requirements shall not relieve the Contractor of their liability and obligation under this section or under any other section of this Agreement.

The Contractor shall be responsible for assuring that the insurance certificates required in conjunction with this Section remain in force for the duration of the Project. If insurance certificates are scheduled to expire during the contractual period, the Contractor shall be responsible for submitting new or renewed insurance certificates to the City at a minimum of thirty (30) calendar days in advance of such expiration. In the event that expired certificates are not replaced with new or renewed certificates that cover the contractual period, the City shall:

- A. Suspend the Agreement until such time as the new or renewed certificates are received by the City.
- B. The City may, at its sole discretion, terminate the Agreement for cause and seek damages from the Contractor in conjunction with the violation of the terms and conditions of the Agreement.

PROPOSAL
Bid No. 243-11290
PROJECT 12010
ANNUAL CONTRACT FOR BRIDGE REPAIR, MAINTENANCE AND PAINTING

TO THE COMMISSION OF THE CITY OF
FORT LAUDERDALE, FLORIDA

Gentlemen:

The undersigned bidder agrees to furnish all labor, tools, material and supplies, and to sustain all the expense incurred in doing the work set forth below that may be awarded the undersigned by the City of Fort Lauderdale, Florida, through its proper officers, and to do the same strictly in accordance with the plans and contract documents on file in the Public Works Department of Fort Lauderdale, which are referred to below and made a part hereof, at the following unit prices, to-wit:

ITEM 1: Mobilization, demobilization (move-in and move out), staging of equipment, insurance, base cost and other fixed costs. This item must not exceed \$1,000 for each mobilization and demobilization.

Approximately four (4) locations. If two bridges are within 500' of each other, contractor shall be granted only one mobilization/demobilization.

@ \$1,000.00 /EACH (4)

\$4,000.00 _____

ITEM 2: Maintenance of traffic (MOT). Furnish all materials, labor, and equipment to maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work, including signs to warn boaters of bridge closure for marine traffic during repairs. This item should not exceed \$500 for each location. If two site locations are within 500' of each other, contractor shall be granted only one MOT.

Approximately four (4) locations.

@ \$500.00 /EACH

\$2,000.00 _____

ITEM 3: Furnish all materials, labor, and equipment to remove and dispose of existing expansion joint. Seal, clean and install new one according to the details shown on the plans.

Approximately 1000 linear feet.

@ \$18.50 /L.F

\$18,500.00 _____

ITEM 4: Furnish all materials, labor, and equipment to repair bridge approach railing, as directed by the Public Works Director. Work includes, but is not limited to, replacement of missing sections and anchor bolts identical to original ones:

(c) Aluminum railing up to 48-inches in high

Approximately 100 linear feet

@ \$40.00 /L.F.

\$4,000.00

(d) Galvanize steel up to 48-inches high

Approximately 100 linear feet

@ \$25.00 /L.F.

\$2,500.00

ITEM 5: Furnish all materials, labor and equipment to paint new and/or existing aluminum bridge railing, as directed in the field by the Public Works Director.

Approximately 200 linear feet.

@ \$8.00 /L.F.

\$1,600.00

ITEM 6: Furnish all materials, labor, and equipment to install floating turbidity barrier at several locations where work is in progress. Approximately 70' per location.

Approximately 9 locations

@ \$1,000.00 /EACH

\$9,000.00

ITEM 7: Furnish all materials, labor, and equipment to perform all operations to place externally bonded fiber reinforced polymer (FRP) around damaged/deteriorated existing prestressed concrete piles, as shown on the project plans and described in the detailed specifications.

Approximately 50 linear feet.

@ \$200.00 /L.F.

\$10,000.00

ITEM 8: Furnish twelve (12) 8-strand 14"x14" pre-stressed concrete vertical pile, inspected and certified at plant, delivered to job site, 25' long. FDOT Section 02367.

Approximately 125 linear feet

@ \$42.00 _____/L.F. \$5,250.00 _____

ITEM 9: Furnish all materials, labor, and equipment to drive 14" square pre-stressed concrete vertical pile.

Approximately 125 linear feet

@ \$50.00 _____/L.F. \$6,250.00 _____

ITEM 10: Furnish all materials, labor, and equipment to repair spall areas with Epoxy Mortar, including but not limited to, removal of loose material to sound concrete, and as directed by the Public Works Director to prepare surface to receive concrete repair materials or cover exposed steel rebars with Sika Armatec 110 EpoCem or approved equal. Replace unsound concrete with Sika MonoTop 611 with compressive strength of 6500 psi or approved equal. This item also includes cleaning river bottom of debris that has fallen in the water from the unsound concrete removal operation and incidentals to complete same. All debris shall be disposed of at an approved Broward County site.

(c) Approximately 800 cubic feet of spall repair

@ \$330.00 _____/C.F. \$264,000.00 _____

(d) Approximately 300 linear feet of covering exposed steel

@ \$95.00 _____/L.F. \$28,500.00 _____

ITEM 11: Furnish all materials, labor, and equipment to construct new seawall concrete cap (30" x 16"), according to the details shown on the project plans including, but not limited to, removal of deteriorated existing one, and hauling away demolished material.

Approximately 100 linear feet

@ \$48.00 _____/L.F. \$4,800.00 _____

ITEM 12: Furnish all materials, labor and equipment to clean and reseal the vertical joint at each side of the pile, and concrete panel with cement pressure grout.

Approximately 200 linear feet

@ \$20.00 /L.F.

\$4,000.00

ITEM 13: Furnish all materials, labor, and equipment to demolish deteriorated existing concrete bulkhead panel bridge parapet wall and balusters, and piling, including but not limited to, excavation, removal, and hauling away demolished materials off the job site to Broward County approved location.

Approximately 1,000 square feet

@ \$10.00 /S.F.

\$10,000.00

ITEM 14: Furnish all materials, labor, and equipment to construct new concrete bulkhead panel (L x 8' 6' wide x 7" thick), bridge parapet walls and balusters where shown on the plans and/or directed by the Public Works Director, including but not limited to, delivery to job site, installation, restoration of fill, sod, and incidental to complete the work.

Approximately 400 linear feet

@ \$45.00 /L.F.

\$18,000.00

ITEM 15: Furnish all materials, labor and equipment to construct a toe-wall footing consisting of eight (8) feet long aluminum sheet piling, topped with 12" of Type 1 concrete seal, including but not limited to, any required specialty equipment and means to drive the specified sheet length into the ground regardless of the existing soil layers, in accordance with the details shown on the project plans and detailed specifications, and/or as directed by the Public Works Director.

Approximately 50 linear feet

@ \$170.00 /L.F.

\$8,500.00

ITEM 16: Furnish all materials, labor, and equipment to construct miscellaneous reinforced (various steel bar sizes) concrete work as directed by the Public Works Director.

Item 16 (continued)

Approximately 100 linear feet

@ \$170.00 /L.F.

\$17,000.00

ITEM 17: Furnish all materials, labor, and equipment to paint the concrete parapets of nine (9) reinforced concrete bridges, including but not limited to, tools, pressure wash, removal of all old paint, removal of vegetation on bridge structure, doing all the work involved in preparing the concrete surface to receive two (2) coats of paint, protection of the work, existing facilities, vehicles, boats, and the public from damage due to this work and incidentals need to complete the work. Paint color shall be determined by the Public Works Director.

Approximately 10,000 square feet.

@ \$1.25 /S.F.

\$12,500.00

ITEM 18: Furnish all materials, labor and equipment to install an appropriate containment system to prevent any pollution of the waterway at selected locations during the pressure washing and painting of the bridge's concrete surfaces.

Approximately 9 bridges

@ \$800.00 /EACH

\$7,200.00

ITEM 19: Furnish all materials, labor, and equipment to fill voids under approach slabs:

(c) Fill voids without slab jacking procedure (flowable fill).
Approximately 30 cubic yards

@ \$150.00 /C.Y.

\$4,500.00

(d) Fill voids and restore slab to original elevation using slab jacking procedure (fill lightweight aggregate).
Approximately 30 cubic yards.

@ \$250.00 /C.Y.

\$7,500.00

ITEM 20: Furnish all materials, labor, and equipment to install reusable temporary 8" DIP water main, pressure class 350, up to 100 linear feet to include, but not limited to, all restrained joints and bypass system, including all necessary gate valves, plugs, fittings, rubber gaskets, bolts, nuts, grip rings, glands and supports.

Approximately 200 linear feet

@ \$40.00 /L.F.

\$8,000.00

ITEM 21: Furnish all materials, labor, and equipment to remove, as directed by the Public Works Director, existing 6" or 8" water main running along the sides, or under the bridge up to 10 feet past the approach slab at each side of the bridge, including but not limited to, removal of pipe supports, deteriorated pipe sleeves, required section of concrete sidewalk and/or approach slab, hauling away of removed materials, and incidentals to complete same.

Approximately 200 linear feet

@ \$25.00 /L.F.

\$5,000.00

ITEM 22: Furnish all materials, labor, and equipment to install new 6" DIP water main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, rubber gaskets, bolts, nuts, grip rings, glands, and incidentals to complete same, including pressure and disinfection testing.

Approximately 200 linear feet

@ \$45.00 /L.F.

\$9,000.00

ITEM 23: Furnish all materials, labor, and equipment to install new 8" DIP water main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, rubber gaskets, bolts, nuts, grip rings, glands, and incidentals to complete same, including pressure and disinfection testing.

Item 23 (continued)

Approximately 200 linear feet

@ \$55.00 /L.F.

\$11,000.00

ITEM 24: Furnish all materials, labor and equipment to install reusable temporary 200 linear feet of 6" DIP force main bypass system, as shown on the project plans, and 3" air line, including all necessary fittings, rubber gaskets, valves, bolts, nuts, grip rings, glands, and supports. This work also includes complete assembly and disassembly of temporary 6" DIP force main for two (2) bridges.

Approximately 200 linear feet

@ \$35.00 /L.F.

\$7,000.00

ITEM 25: Furnish all materials, labor, and equipment to remove, as directed by the Public Works Director, existing 4" or 6" force main and air line running along the sides, or under the bridge up to 10 feet past the approach slab at each side of the bridge, including but not limited to, removal of pipe supports, deteriorated pipe sleeves, required section of concrete sidewalk and/or approach slab, hauling away of removed materials, and incidentals to complete same.

Approximately 200 linear feet

@ \$12.00 /L.F.

\$2,400.00

ITEM 26: Furnish all materials, labor, and equipment to install new 4" DIP force main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, grip rings, rubber gaskets, bolts, nuts, glands, and incidentals to complete same.

Approximately 200 linear feet

@ \$30.00 /L.F.

\$6,000.00

ITEM 27: Furnish all materials, labor and equipment to install new 6" DIP force main, pressure class 350, all restrained joint running alongside or under the bridge, up to 10 feet past the approach slab at each side of the bridge, including but not limited to, new pipe supports, new pipe sleeves, fittings, grip rings, rubber gaskets, bolts, nuts, glands, and incidentals to complete same.

Approximately 200 linear feet

@ \$20.00 /L.F.

\$4,000.00

TOTAL BID:

\$502,000.00
(FIGURES)

Five Hundred and Two Thousand and 00/100

(TOTAL WRITTEN DOLLAR AMOUNT)

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 above 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.

CONTRACT TIME

- 1.1 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work shall commence within 5 calendar days of the date of the Notice to Proceed.
- 1.2 The Work shall be Substantially Completed within ___ calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed. **N/A**
- 1.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within ___ calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed. **N/A**
- 1.4 The initial contract term shall commence upon date of award by the City and shall expire 1 year from that date. The City reserves the right to extend the contract for 3, additional 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.
- 1.5 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 ninety (90) 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.

SCHEDULE OF VALUES

The schedule of values is an itemized list that establishes the value of cost of certain parts of the work. It shall be used as the basis for preparing progress payments and may be used as a basis for pricing additional work or credits which may arise during the construction. Give unit prices for each work item shown which is an installed price, including material, labor and equipment. If the item has been revised to an approved equal, please provide the unit price for the approved equal.

ITEM 1-S: Furnish all materials, labor, and equipment to clean and seal random cracks smaller than 1/32" on the deck, approach slabs, sidewalks, parapets, and concrete railing.

@ \$120.00 _____/L.F.

ITEM 2-S: Furnish all materials, labor, and equipment to pressure wash, clean and seal with penetrant sealant, the concrete deck-riding surface, approach slabs and sidewalks.

@ \$56.00 _____/S.F.

ITEM 3-S: Furnish all materials, labor, and equipment to clean, inject and seal cracks and spaces greater than 1/32" with epoxy.

@ \$150.00 _____/L.F.

ITEM 4-S: Furnish all materials, labor, and equipment to remove existing concrete approach slab.

@ \$500.00 _____/C.Y.

ITEM 5-S: Furnish all materials, labor, and equipment to construct new concrete approach slab.

@ \$750.00 _____/C.Y.

ITEM 6-S: Furnish all materials, labor, and equipment to mill existing pavement up to 1-1/2" thick.

@ \$12.00 _____/S.F.

ITEM 7-S: Furnish all materials, labor, and equipment to mill existing pavement up to 1-1/2" thick.

@ \$45.00 _____/S.F.

The work described below includes all the necessary excavations, fill and removal of materials attendant upon the construction of the work complete in place, and the disposal of all excess material and the final cleaning up of the work.

State the true, exact, correct and complete name of the partnership, corporation, or trade name under which you do business, and the address of the place of business (Post Office Box is inappropriate). 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. If the firm is a foreign corporation (i.e., non-Florida), it must be authorized to do business in the State of Florida by the Florida Secretary of State.

PLEASE PRINT OR TYPE.

Firm Name: Engineer Control Systems, Corp.

Address: 12550 Biscayne Blvd. Ste 800
NORTH Miami, FL 33181

Telephone: 305 895 4376 Fax: 305 895 0019

E-Mail Address: FRANK.Zayas@eccontrols.comcastbiz.net

FRANK M. ZAYAS (Name) President (Title)

Angie C. Zayas (Name) Secretary/Treasurer (Title)

(Name)

(Title)

(Attach additional sheets, if necessary).

The undersigned bidder acknowledges that he may be required to furnish additional information as deemed necessary by the Public Works Department, to update their records should he be awarded the work described below.

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.

The undersigned bidder has not divulged to, discussed, or compared this bid with other bidders, and has not colluded with any other bidder or parties to a bid whatsoever. Further, the undersigned guarantees the truth and accuracy of all statements and answers contained in this proposal.

The initial contract term shall commence upon date of award by the City and shall expire one (1) year from that date. The City reserves the right to extend the contract for three (3), additional one-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.

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 ninety (90) 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.

The undersigned acknowledges receipt of the Addenda listed below (if applicable) and further acknowledges that the provisions of each Addendum have been included in the preparation for this Bid.

<u>Addendum No.</u>	<u>Date Received</u>	<u>Addendum No.</u>	<u>Date Received</u>
01	11.20.2013		
02	11.24.2013		
03	11.26.2013		

DATE: November 27, 2013

FOR: Engineer Control Systems, Corp

[Signature]
(Witness - Print or type name)

BY: [Signature]
(Signature)

Seal:

[Signature]
(Witness - Print of type name)

TITLE: President Vice-President

QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name: Engineer Control Systems, Corp.

President FRANK M. ZAYAS

Business Address: 12550 Biscayne Blvd, Ste 800, North Miami, FL

Telephone: 305 895 4376 Fax: 305 895 0019 33181

E-Mail Address: FRANK.ZAYAS@ECSCONTROLSECONOMASTBIZ.NET

What was the last project of this nature which you completed?
PROJECT 11530 " Bridge Repairs Maintenance & Painting "

The following are named as three corporations and representatives of those corporations for which you have performed work and which the City may contact as your references (include addresses and telephone numbers):

- Luis Franqui, Miami Dade County, 111 NW 1st Street, Miami, FL 305 281 8949
- Mercedes Barrios " " " " " " 786.222-9912
- Dore Edelle, City of Fort Lauderdale 100 N. Andrews Ave 954 826 6885

How many years has your organization been in business? 32 years

Have you ever failed to complete work awarded to you; if so, where and why?
No

The name of the qualifying agent for the firm and his position is: FRANK ZAYAS, President

Certificate of Competency Number of Qualifying Agent: CC 007494

Effective Date: 8.28.2012 Expiration Date: 8.31.2014

Licensed in: State Florida Engineering Contractor's License # 00-1649-W
(County/State)

Expiration Date: 8.31.2015

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request. A Broward County Engineering Contractor's License and/or the appropriate license issued by the State of Florida is required for working within public rights-of-way. Contractor must have proper licensing prior to submitting bid and must submit evidence of same with bid.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?

Yes we have

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a) *No, we will self perform the work*

b)

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?

Barges, Floats, Generators, Air compressors

4. What equipment will you purchase for the proposed work?

As required, we do not anticipate purchasing any equipment.

5. What equipment will you rent for the proposed work?

As Required

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: Engineer Control Systems, Corp.
Address of Firm: 12550 Biscayne Blvd. North Miami FL
Telephone Number: 305 895 4376 Ext 800 33181
Name of Person Completing Form: FRANK ZAYAS
Title: President
Signature: _____
Date: Nov 26, 2013
City Project Number: 12010
City Project Description: Annual Contract for Bridge Repair Maintenance & Painting

- 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.

Your firm should 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 will 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.

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.

<u>NAME</u>	<u>RELATIONSHIPS</u>
_____	_____
_____	_____
_____	_____
_____	_____

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.

No 24
Frank [unclear]
Engineer Control Systems Corp.
11/26/2013

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 designees(s)as applicable.

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

"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.

"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.

"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
6. Provide the "Contractor's Request for Substitution" form, completely executed. Failure to provide all pertinent data will result in immediate rejection of such a request.

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.

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, conflicts, 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 City Engineer, 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 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, six 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 Engineering Department, 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), this Section applies to any contract for goods or services of \$1 million or more:

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 and that it does not have business operations in Cuba or Syria as provided in section 287.135, Florida Statutes (2013), as may be amended or revised. The City may terminate this Contract 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 (2013), 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 has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2013), 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 - Contractor shall:

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

(a) Provide the public with access to public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2013), as may be amended or revised, or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

(d) Meet all requirements for retaining public records and transfer, at no cost, to the City, all public records in possession of the contractor upon termination of this contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the City.

SPECIAL CONDITIONS

General:

At time of award of contract, the City reserves the right to set a maximum dollar limit that may be extended on their bridge restoration program. Contract quantities may be reduced or increased to maintain the contract amount within this established limit.

It is the intent of this contract to spend all City funds allocated to this project.

Some items may be deleted entirely and the related money amount may be added to other items.

All work shall be scheduled through the office of the Public Works Director. An official Department notification form (work order) will be sent (mailed and faxed) to the contractor containing the date, time, location sketch and amount of work to be done as one job or work order. This form will not be the authorization to start work. The contractor shall commence each authorized bridge restoration within five (5) calendar days of receipt of City purchase order.

Upon receipt of City purchase order and prior to commencing work, the contractor and engineer shall reach an agreement as to the reasonable number of calendar days that will be required for the specific work ordered (unless the City purchase order states the number of calendar days to be allowed). The work shall be completed within the number of calendar days agreed upon between the engineer and contractor, subject to extensions allowed by the engineer due to unfavorable weather and other allowable causes substantiated by the contractor.

The work under this contract shall consist of furnishing all labor, materials, equipment and incidentals necessary for restoring City of Fort Lauderdale owned bridges.

The work shall consist of repairing all concrete spillings, protecting exposed rebars, replacing deteriorated concrete and repairing all concrete expansion joints.

CONTRACT TERM

The initial contract term shall commence upon date of award by the City and shall expire one (1) year from that date. The City reserves the right to extend the contract for three (3), additional one-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.

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 ninety (90) 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.

INSPECTION OVERTIME COSTS:

The normal work hours for the City's Engineering inspectors are: 7:30 AM. – 4:00 PM., with 1/2 hour lunch, Monday through Friday, except holidays. No contractor will be permitted to work more than eight (8) hours per day on work requiring inspection without written approval by the Public Works Director. Requests for permission to work overtime shall be in writing from the contractor and shall indicate the contractor's commitment to pay the inspection charge for overtime. When approved, overtime inspection costs will be billed to the contractor on a monthly

SPECIAL CONDITIONS

basis. The inspection overtime rate for all contracts is **\$50 per hour**. No final payment request will be processed until all inspection overtime charges have been paid. Inspection overtime charges shall not be deducted from partial payment requests. The contractor must submit payment in full by corporate check or money order to satisfy charges rendered for this service.

WORK SCHEDULING:

The work will be scheduled by work ordered for each bridge. The sequence of the work shall be carried out in accordance with the Engineer's instructions (or his/her representative).

A Public Work Department's letter of notification will be sent to the contractor. This form will be the authorization to start work. The contractor shall commence each authorized portion of work (individual bridge) within 5 calendar days of notification. Upon notification and prior to commencing work, the contractor shall indicate to the engineer the number of calendar days that will be required for the specific amount of work ordered. The work shall be completed within the number of calendar days agreed between the Engineer and the Contractor, subject to extensions allowed by the Engineer due to unfavorable weather or other allowable causes substantiated by the contractor.

STRIPING:

I. DESCRIPTION

This work shall consist of furnishing and installing thermoplastic preformed pavement markings in accordance with this provision and in reasonably close conformity with the dimensions and lines established by the Engineer and/or as existing before bridge deck work.

TRAFFIC CONTROL:

Traffic control consists of maintaining traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work.

The contractor may be allowed to restrict traffic to one-way operation for short periods of time provided that adequate means of traffic control are affected and traffic is not unreasonably delayed. When a construction activity requires restricting traffic to one-way operations and the flag-persons do not have visual contact with each other, the contractor must equip the flag-persons with two-way radios or use pilot vehicle(s).

TECHNICAL SPECIFICATIONS

BID No. 243-11290

PROJECT No. 12010

Annual Contract for Bridge Repair, Maintenance and Painting

DIVISION 1

GENERAL REQUIREMENTS

01001	General Requirements	01001-01 - 01001-03
01005	Technical Provisions	01005-01 - 01005-02
01031	Alteration Project Procedures	01031-01 - 01031-03
01045	Cutting and Patching	01045-01 - 01045-04
01050	Project Management	01050-01 - 01050-06
01152	Applications for Payment	01152-01 - 01152-05
01200	Project Meetings	01200-01 - 01200-04
01311	Construction Progress Documentation	01311-01 - 01311-08
01340	Submittal Procedures	01340-01 - 01340-09
01400	Quality Control	01400-01 - 01400-03
01410	Testing Laboratory Services	01410-01 - 01410-04
01505	Mobilization	01505-01 - 01505-01
01510	Temporary Utilities	01510-01 - 01510-03
01520	Construction Aids	01520-01 - 01520-02
01530	Protection of Existing Facilities	01530-01 - 01530-07
01550	Site Access and Storage	01550-01 - 01550-04
01560	Temporary Controls	01560-01 - 01560-02
01570	Traffic Regulations	01570-01 - 01570-03
01600	Material and Equipment	01600-01 - 01600-08
01700	Contract Closeout	01700-01 - 01700-05
01710	Cleaning	01710-01 - 01710-02

DIVISION 2

SITWORK

02050	Demolition	02050-01 - 02050-03
02110	Clearing	02110-01 - 02110-02
02577	Pavement Marking, and Car Stops	02577-01 - 02577-01

DIVISION 3

CONCRETE

03010	Concrete	03010-01 - 03010-06
03011	SIKA Epoxy Bonding Agent and Reinforcement	03011-01 - 03011-02
03100	Concrete Form Work	03100-01 - 03100-05
03200	Concrete Reinforcement	03200-01 - 03200-03
03300	Cast-In-Place Concrete	03300-01 - 03300-11
03370	Concrete Curing	03370-01 - 03370-03

DIVISION 4

MASONRY

04100	Mortar	04100-01 - 04100-03
04110	Cement Stucco	04110-01 - 04110-04

DIVISION 1 – GENERAL REQUIREMENTS**SECTION 01001
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. The 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 related task order for each proposed work, unless an extension in the time of completion is granted by the CITY 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.
- C. 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.
- D. The Contractor shall become familiar with the bridge structure to be restored and the level of traffic carried by the bridge. The contractor shall also take into consideration planning, maintenance of traffic and scheduling work.

PART 2 SEQUENCE OF OPERATIONS**2.01 SCHEDULING**

- A. General: Prepare and submit schedule.
- B. Plan the work and carry it out with minimum interference.
- C. The Contractor shall have sufficient manpower, equipment, and material to complete the project.
- D. No work shall commence without express consent of the CITY ENGINEER.

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 as indicated in item 1 of the proposal bid items.

2.03 COORDINATION

- A. Contractor shall cooperate in the coordination of separate activities in a manner that will provide the least interference in 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 ENGINEER.

PART 3 SITE CONDITIONS

3.01 SITE INVESTIGATION AND REPRESENTATION

- A. 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.
- B. 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.

PART 4 SAFETY AND CONVENIENCE

4.02 ACCIDENT REPORTS

- A. In addition, the Contractor must promptly report in writing to the CITY 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 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 ENGINEER, giving full details of the claim.

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.

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.

END OF SECTION

SECTION 01005 – TECHNICAL PROVISIONS**PART 1 GENERAL****1.01 SCOPE**

- A. Work under this contract includes furnishing materials, labor, tools equipment, supervision and incidentals necessary to perform the necessary work.

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.

1.05 POWER

- A. The CONTRACTOR shall furnish and pay for all electrical power required for the construction.

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 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.

1.19 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.

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.

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 01031 – ALTERATION PROJECT PROCEDURES**PART 1 GENERAL****1.01 REQUIREMENTS**

- A. Coordinate work of trades and schedule elements of alterations and renovation work by procedure and methods to expedite completion of the work.
- B. In addition to demolition and that specifically shown, cut, move or remove items necessary to provide access or to allow alterations and new work to proceed. Include such items as:

Repair or removal of hazardous or unsanitary conditions.

Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.

Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete, shall be removed from the site expeditiously.

Cleaning of surfaces, and removal of surface finished as needed to install new work and finishes.

Protection as required for existing trees to remain.

For purposes of all existing underground utilities work, coordinate as required by use of special telephone number shown on engineering drawings.

Site storage for all existing benches, signals, signs, light poles, fire hydrants, manhole covers and grates to be relocated.

- C. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a professional transition to adjacent new items of construction.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 ALTERATIONS, CUTTING AND PROTECTION

- A. Assign the work of moving, removal, cutting, patching and protection to trades qualified to perform the work in a manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.
- B. Perform cutting and removal work to remove minimum necessary, and in a

manner to avoid damage to adjacent work.

1. Cut finish surfaces such as paving, masonry, tile, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division.
- C. Perform cutting and patching as specified in Section 01045.
- D. Protect existing finishes, equipment, and adjacent work which is scheduled to remain, from damage.
1. Protect existing and new work from weather and extremes of temperature.

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING, EXTENDING AND MATCHING

- A. General Requirements that work be complete:
1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.
 - a. Generally Contract Documents will not define products or standards of working conduct present in existing construction; CONTRACTOR shall determine products in inspection and any necessary testing by use of the existing as a sample of comparison.
 2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed as necessary to make work complete and consistent to existing identical standards of quality.

PART 3 EXECUTION

3.01 PERFORMANCE

- A. Patch and extend existing work using skilled mechanics who are capable of matching existing quality. Quality of patched or extended work shall be not less than that specified for new work.

3.02 DAMAGED SURFACES

- A. Patch and replace any portion of an existing finished surface with the exception of concrete curb or gutter which is found to be damaged, lifted, discolored, or shows other imperfections. Damaged curbing shall be replaced in sections as directed by the engineer.
1. Provide adequate support of substrate prior to patching the finish.

2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

3.03 TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or is finished flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance so that the patch of transition is invisible at a distance of five feet.
 1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.04 CLEANING

- A. Perform periodic and final cleaning as specified in Section 01710.
 1. Clean OWNER occupied areas daily.
 2. Clean spillage, overspray, and heavy collection of dust in OWNER occupied areas immediately.
- B. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
- C. At completion of alterations work in each area, provide final cleaning and return space to a condition suitable for use by OWNER.

3.05 MEASUREMENT AND PAYMENT

- A. There shall be no special measurement or payment for the work in this section. Payment for work shall be included in all other work.

END OF SECTION

SECTION 01045 – CUTTING AND PATCHING**PART 1 GENERAL****1.01 REQUIREMENTS INCLUDED**

- A. CONTRACTOR shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the work or to:
1. Make its several parts fit together properly.
 2. Uncover portions of the work to provide for installation of ill-timed work.
 3. Remove and replace defective work.
 4. Remove and replace work not conforming to requirements of Contract Documents.
 5. Remove samples of installed work as specified for testing.
 6. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 SUBMITTALS

- A. Submit a written request to ENGINEER well in advance of executing any cutting or alteration, which affects:
1. Work of the OWNER or any separate CONTRACTOR.
 2. Structural value of integrity of any element of the project.
 3. Integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.
 4. Efficiency, operational life, maintenance or safety of operational elements.
 5. Visual qualities of sight-exposed elements.
- B. Request shall include:
1. Identification of the project.
 2. Description of the affected work.

3. The necessity for cutting, alteration or excavation.
 4. Effect on work of OWNER or any separate CONTRACTOR, or on structural or weatherproof integrity of project.
 5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 6. Alternatives to cutting and patching.
 7. Cost proposal, when applicable.
 8. Written permission of any separate CONTRACTOR whose work will be affected.
- C. Should conditions of work or the schedule indicate a change of products from original installation, CONTRACTOR shall submit request for substitution as specified in Section 01600, paragraph 1.08.
- D. Submit written notice to ENGINEER designating the date and time the work will be uncovered.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering the work, inspect conditions affecting installation of products, or performance of work.
- C. Report unsatisfactory or questionable conditions affecting installation of products, or performance of work.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of work.

- B. Provide devices and methods to protect other portions of project from damage.
- C. Provide protection from elements for that portion of the project, which may be exposed by cutting and patching, work, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods, which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods, which will prevent settlement or damage to other work.
- C. Employ original Installer or Fabricator to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified product, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

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 unit price bid of any item requiring cutting and patching, including pavement restoration.

END OF SECTION

SECTION 01050 – PROJECT MANAGEMENT**PART 1 GENERAL****1.01 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.

1.02 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 Information (RFIs).
- B. Related Sections include the following:
 - 1. Section 01200, "Project Meetings"
 - 2. Section 01311, "Construction Progress Documentation"
 - 3. Section 01340, "Submittal Procedures"
 - 4. Section 1700, "Contract Closeout "

1.03 DEFINITIONS

- A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.04 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.
 - 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.
- B. 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.
- C. 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. Project closeout activities.

1.05 SUBMITTALS

- A. Key Personnel Names: Within 5 days of notice to proceed, 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.

1.06 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.
- 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 stationery, 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.

1.07 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.

12. Identify each page of attachments with the RFI number and sequential page number.
- C. 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.
- D. Engineer's Action: Engineer will review each RFI, determine action required, and return it. Allow seven working days for Engineer'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:

Requests for approval of submittals.
Requests for approval of substitutions.
Requests for coordination information already indicated in the Contract Documents.
Requests for adjustments in the Contract Time or the Contract Sum.
Requests for interpretation of Engineer's actions on submittals.
Incomplete RFIs or RFIs with numerous errors.
 2. Engineer's action may include a request for additional information, in which case Engineer's time for response will start again.
 3. Engineer'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 Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.
- E. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within seven days if Contractor disagrees with response.
- F. 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 Engineer's response was received.

7. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01152 – APPLICATIONS FOR PAYMENT**PART 1 GENERAL**

1.01 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.

1.02 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 "Alteration Project Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 01 Section "Measurement and Payment" for administrative requirements governing use of unit prices.
 - 3. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.03 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.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of
 - 1. Contractor's Construction Schedule. 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 days before the date scheduled for submittal of initial Applications for 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 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.
 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. For items stored off-site 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.

1.05 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 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.

- D. For each payment application requesting payment for undergrounding allowance for undergrounding work for overhead utilities, written authorization of payment from each utility being requested must be received with payment application.
- 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 who is 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:
 - List of subcontractors
 - Schedule of Values
 - Contractor's Construction Schedule (preliminary if not final)
 - Products list
 - Submittals Schedule (preliminary if not final)
 - List of Contractor's staff assignments

Copies of building permits
Copies of authorizations and licenses from authorities having jurisdiction
for performance of the Work
Initial progress report
Report of preconstruction conference

- K. 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:

Evidence of completion of Project closeout requirements
Insurance certificates for products and completed operations where
required and proof that taxes, fees, and similar obligations were paid
Updated final statement, accounting for final changes to the Contract
Sum
Evidence that claims have been settled
Final liquidated damages settlement statement

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01200 – PROJECT MEETINGS**PART 1 GENERAL****1.01 REQUIREMENTS INCLUDED**

- A. CITY's Representative shall schedule and administer a preconstruction meeting, progress meetings at a minimum of every two weeks on a day established by the CITY's Representative and specially called meetings throughout progress of the work.
 - 1. Prepare agenda for meetings.
 - 2. Distribute written notice of each meeting five (5) days in advance of meeting date.
 - 3. Make physical arrangements for meetings.
 - 4. Preside at meetings.
 - 5. Record the minutes; include significant proceedings and decisions.
 - 6. Reproduce and distribute copies of minutes within three days after each meeting.
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.
 - c. Furnish three copies of minutes to CITY's Representative.
- B. Representative of CONTRACTOR, subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. ENGINEER shall attend all meetings.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 PRE-CONSTRUCTION MEETING

- A. Schedule after date of Notice to Proceed.
- B. Location: A central site, convenient for all parties, designated by CITY's Representative.

C. Attendance:

1. The CONTRACTOR and its superintendent.
2. CITY ENGINEER and CITY ENGINEER'S professional consultants.
3. Resident Project Representative.
4. Representatives of the OWNER.
5. Major subcontractors.
6. Major Suppliers.
7. Governmental representatives as appropriate.
8. Others as requested by CONTRACTOR, CITY or CITY ENGINEER.

D. Suggested Agenda:

1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers.
 - b. Projected Construction Schedules.
 - c. Shop drawings and other submittals.
 - d. Traffic maintenance plan.
 - e. Community Public Relations.
2. Critical work sequencing.
3. Procurement of major equipment and materials requiring a long lead time.
4. Project Coordination
 - a. Designation of responsible personnel.
5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change Orders.
 - e. Applications for Payment
6. Adequacy of distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises:
 - a. Office, work and storage areas.

- b. CITY's requirements.
- 9. Construction facilities, controls and construction aids.
- 10. Temporary utilities.
- 11. Safety procedures.
- 12. Security procedures.
- 13. Housekeeping procedures.

1.04 PROGRESS MEETINGS

- A. Schedule regular biweekly meetings on a day established by the CITY's Representative as required.
- B. Hold called meetings as required by progress of the work.
- C. Location of the meetings: Project field office of CITY's Representative.
- D. Attendance
 - 1. CITY's Representative and CITY's professional consultants as needed.
 - 2. ENGINEER.
 - 3. Subcontractors as active on the site.
 - 4. Suppliers as appropriate to the agenda.
 - 5. Governmental representatives as appropriate.
 - 6. Others, as requested by CONTRACTOR, CITY or CITY ENGINEER.
- E. Suggested Agenda:
 - 1. Review, approval of minutes of previous meeting.
 - 2. Review of work progress since previous meeting.
 - 3. Field observations, problems, and conflicts.
 - 4. Problems, which impeded Construction Schedule.
 - 5. Review of off-site fabrication, delivery schedules.
 - 6. Corrective measures and procedures to regain projected schedule.
 - 7. Revisions to Construction Schedule.

8. Progress, schedule, during succeeding work period.
9. Coordination of schedules.
10. Community Public Relations.
11. Review submittal schedules; expedite as required.
12. Maintenance of quality standards.
13. Pending changes and substitutions.
14. Review proposed changes for:
 - a. Effect on Construction Schedule and on completion date.
 - b. Effect on other contracts of the Project.
15. Other business.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01311 – CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 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.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

Preliminary Construction Schedule.

Contractor's Construction Schedule.

Submittals Schedule.

Daily construction reports.

Material location reports.

Field condition reports.

- Special reports.B. Related Sections include the following:

Section 01152 – Applications for Payment

Section 01050 – Project Management

Section 01340 – Submittal Procedures

Section 01311 – Construction Photographs

Section 01400 – Quality Control

1.03 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.

Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.

Predecessor Activity: An activity that precedes another activity in the network.

Successor Activity: An activity that follows another activity in the network.

- B. 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.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.

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.

Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

- F. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- 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.

1.04 SUBMITTALS

- A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:

Scheduled date for first submittal.

Specification Section number and title.

Submittal category (action or informational).

Name of subcontractor.

Description of the Work covered.

Scheduled date for Engineer's final release or approval.

- B. Preliminary Construction Schedule: Submit three opaque copies.
 - 1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.
- C. Preliminary Network Diagram: Submit three opaque copies, large enough to show entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Submit three opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
- E. CPM Reports: Concurrent with CPM schedule, submit three 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.

Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.

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.

Total Float Report: List of all activities sorted in ascending order of total float.
- F. Daily Construction Reports: Submit two copies at monthly intervals.
- G. Material Location Reports: Submit two copies at monthly intervals.
- H. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- I. Special Reports: Submit two copies at time of unusual event.

1.05 COORDINATION

- A. 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

2.01 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. Include submittals required during the first 20 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.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
- C. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
 1. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following: The schedule shall clearly indicate the critical path and all activities associated with it. The dependencies shall be clearly delineated.
 2. All activities with a time duration exceeding five (5) days shall be shown as separate items.
 3. Include procurement process activities for the following long lead items and major items as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing,

- fabrication, and delivery.
4. Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 5. Where materials require more than one (1) week fabrication or order time, this order/fabrication time shall be shown.
- 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. City-Furnished Products: 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.
 2. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Use of premises restrictions.
 - b. Environmental control.
 3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - Subcontract awards.
 - Submittals.
 - Purchases.
 - Fabrication.
 - Sample testing.
 - Deliveries.
 - Installation.
 - Tests and inspections.
 - Adjusting.
 - Curing.
- 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.
- F. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- G. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.
1. Microsoft Project 2000 for Windows 2000 operating system

2.03 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 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.

2.04 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

List of subcontractors at Project site.

List of separate contractors at Project site.

Approximate count of personnel at Project site.

Equipment at Project site.

Material deliveries.

High and low temperatures and general weather conditions.

Accidents.

Meetings and significant decisions.

Unusual events (refer to special reports).

Stoppages, delays, shortages, and losses.

Emergency procedures.

Orders and requests of authorities having jurisdiction.

Change Orders received and implemented.

Construction Change Directives received and implemented.

Services connected and disconnected.

Equipment or system tests and startups.

Partial Completions and occupancies.

Substantial Completions authorized.

- B. Material Location Reports: At weekly 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.
- C. Field 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.

2.05 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, 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

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. 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.
- B. Distribution: Distribute copies of approved schedule to Engineer, City Representative, 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

SECTION 01340 – SUBMITTAL PROCEDURES**PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections include the following:
 - 1. Section 01152, Applications for Payment
 - 2. Section 01050, Project Management
 - 3. Section 01311, Construction Progress Documentation
 - 4. Section 01340, Construction Photographs
 - 5. Section 01400, Quality Control
 - 6. Section 01700, Contract Closeout
 - 7. Section 01720, Project Record Documents
 - 8. Divisions 02 through 16 Sections for specific requirements for submittals in those Sections.

1.03 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.04 SUBMITTAL PROCEDURES

- A. 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. 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. City reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer'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 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer 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 10 days for review of each resubmittal.
- D. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by City.
 3. Include the following information on label for processing and recording action taken:
 - Project name.
 - Date.
 - Name and address of Contractor.
 - Name and address of subcontractor.
 - Name and address of supplier.
 - Name of manufacturer.

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., 06100.01.A).
Number and title of appropriate Specification Section.
Drawing number and detail references, as appropriate.
Location(s) where product is to be installed, as appropriate.
General Contractor's stamp of approval must be on all submittals, indicating that the Contractor has reviewed and approved prior to submitting to the City.
- E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
- F. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
- G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will return submittals, without review, received from sources other than Contractor.
1. Transmittal Form: Provide locations on form for the following information:

Project name.
Date.
Destination (To:).
Source (From:).
Names of subcontractor, manufacturer, and supplier.
Category and type of submittal.
Submittal purpose and description.
Specification Section number and title.
Drawing number and detail references, as appropriate.
Transmittal number, numbered consecutively.
Remarks.
Signature of transmitter.
- H. 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 "Approved as submitted" or "Approved as noted".
- I. 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.

- J. Use for Construction: Use only final submittals with mark indicating "Approved as submitted" or "Approved as noted" by Engineer.

PART 2 PRODUCTS

2.01 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- 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 printed 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:
 - Manufacturer's written recommendations.
 - Manufacturer's product specifications.
 - Manufacturer's installation instructions.
 - Standard color charts.
 - Manufacturer's catalog cuts.
 - Wiring diagrams showing factory-installed wiring.
 - Printed performance curves.
 - Operational range diagrams.
 - Mill reports.
 - Standard product operation and maintenance manuals.
 - Compliance with specified referenced standards.
 - Testing by recognized testing agency.
 - Application of testing agency labels and seals.
 - Notation of coordination requirements.
 - 4. Submit Product Data before or concurrent with Samples.
 - 5. Number of Copies: Submit five copies of Product Data, unless otherwise indicated. Engineer will return two copies. Mark up and retain one returned copy as a Project Record Document.
- C. 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.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - Dimensions.
 - Identification of products.
 - Fabrication and installation drawings.
 - Roughing-in and setting diagrams.
 - Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - Shopwork manufacturing instructions.
 - Templates and patterns.
 - Schedules.
 - Design calculations.
 - Compliance with specified standards.
 - Notation of coordination requirements.
 - Notation of dimensions established by field measurement.
 - Relationship to adjoining construction clearly indicated.
 - Seal and signature of professional engineer if specified.
 - Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 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 (750 by 1000 mm).
 3. Number of Copies: Submit five opaque copies of each submittal. City will retain three copies; remainder will be returned.
- D. 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:
 - Generic description of Sample.
 - Product name and name of manufacturer.
 - Sample source.
 - Number and title of appropriate Specification Section.
 3. 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.
- 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.

Samples not incorporated into the Work, or otherwise designated as City's property, are the property of Contractor.

4. 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 full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. City will return submittal with options selected.
5. 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 three sets of Samples. City will retain two 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 sets of paired units that show approximate limits of variations.
- E. Product Schedule or List: 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.
 2. Number and name of room or space.
 3. Location within room or space.
 4. Number of Copies: Submit five copies of product schedule or list, unless otherwise indicated. City will return two copies.
 - a. Mark up and retain one returned copy as a Project Record Document.

- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation" for Construction Manager's action.
- G. Submittals Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- H. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- J. 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. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number of Copies: Submit four copies of subcontractor list, unless otherwise indicated. City will return two copies.
 - a. Mark up and retain one returned copy as a Project Record Document.

2.02 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. City will not return copies.
 - 2. Certificates and Certifications: Provide a notarized 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.
 - 3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- C. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

- D. Installer Certificates: Prepare 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.
- E. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- F. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- G. Material Test Reports: Prepare 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.
- H. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- I. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- J. Construction Photographs: Comply with requirements specified in Section 01380.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. 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 Engineer.
- B. 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.

3.02 ENGINEER'S ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer 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
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

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END OF SECTION

SECTION 01400 – QUALITY CONTROL

PART 1 GENERAL

1.01 DEFINITION

- A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.02 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.
- B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for furnishing products, materials, and equipment, which comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.03 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the ENGINEER will insure the OWNER that the quality of the work is in full accord with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable

cause for the ENGINEER to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.04 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
1. OWNER will appoint, employ, and pay for services of an independent firm to perform inspection and testing or will perform inspection and testing itself.
 2. The OWNER or independent firm will perform inspections, testings, and other services specified in individual specification sections and as required by the ENGINEER.
 3. Reports will be submitted to the ENGINEER in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 4. The CONTRACTOR shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 5. The CONTRACTOR shall notify ENGINEER 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.
 6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.
 7. For samples and tests required for CONTRACTOR'S use, the CONTRACTOR shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be included in the Contract Price.
 8. CONTRACTOR shall bear all costs should materials for testing are not ready for testing at time specified by CONTRACTOR for test.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION**3.01 INSTALLATION**

- A. Inspection: The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation, and reject damaged and defective items.
- B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

SECTION 01410 – TESTING LABORATORY SERVICES**PART 1 GENERAL****1.01 REQUIREMENTS INCLUDED**

- A. OWNER will employ and pay for the services of an Independent Testing laboratory to perform certain specified testing: (All other required testing services under the Contract Documents shall be provided by the CONTRACTOR):
1. CONTRACTOR shall cooperate with the laboratory to facilitate the execution of its required services.
 2. Employment of the laboratory by the OWNER for specific testing shall in no way relieve the CONTRACTOR's obligations to perform the work of the Contract as specified.
 3. OWNER shall pay only for initial testing. The cost of any retesting necessitated by failure of materials or methods shall be deducted from the CONTRACTOR's monthly payment request.
 4. The following tests will be provided by the OWNER.
 - 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
- B. CONTRACTOR shall pay for all other 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 National 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, 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.
 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 01505 – MOBILIZATION**PART 1 GENERAL**

1.01 GENERAL

- A. Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; temporary buildings, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include the following principal items:
1. Moving on to the site of all CONTRACTOR's equipment required for first month operations.
 2. Installing temporary construction power, wiring, and lighting facilities
 3. Developing construction water supply
 4. Providing on-site sanitary facilities and potable water facilities
 5. Arranging for and erection of CONTRACTOR's work, site access, and storage
 6. Having all OSHA required notices and establishment of safety programs
 7. Having the CONTRACTOR's superintendent at the job site full time
 8. Obtaining all required permits (including Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) permits as needed).
 8. Having all OSHA required notices and establishment of safety programs
 9. Having the CONTRACTOR's superintendent at the job site full time
 11. Submitting initial submittals
 12. Audio-Visual preconstruction record as described in Section 01010.
 13. Project identification and signs.

PART 2 PRODUCTS (Not Applicable)**PART 3 EXECUTION****END OF SECTION**

SECTION 01510 – TEMPORARY UTILITIES**PART 1 GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Types: The types of utility services required for general temporary use at the project site include the following:

- Water service (potable for certain uses)
- Storm sewer
- Sanitary sewer
- Electric power service
- Telephone service

- B. It shall be the CONTRACTOR's responsibility to provide equipment that is adequate for the performance of the WORK under this Contract within the time specified. All equipment shall be kept in satisfactory operating condition, shall be capable of safety and efficiently performing the required WORK, and shall be subject to inspection and approval by the OWNER's representative at any time within the duration of the Contract. All work hereunder shall conform to the applicable requirements of the OSHA Standards for Construction.

1.02 JOB CONDITIONS

- A. Scheduled Uses: The CONTRACTOR shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility or facility; at earliest feasible time, and when acceptable to OWNER and ENGINEER change over from use of temporary utility service to permanent service.

PART 2 PRODUCTS (Not Applicable)**PART 3 EXECUTION****3.01 INSTALLATION OF POWER DISTRIBUTION SYSTEM**

- A. Power: The CONTRACTOR shall provide all necessary power required for its operations under the Contract, and shall provide and maintain all temporary power lines required to perform the WORK in a safe and satisfactory manner.

- B. Potable Water: All drinking water on the site during construction shall be furnished by the CONTRACTOR and shall be bottled water or water furnished in acceptable metal dispensers. Notices shall be posted conspicuously throughout the site warning the CONTRACTOR's personnel that piped water may be contaminated.
- C. Water Connections: The CONTRACTOR shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the CONTRACTOR shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The CONTRACTOR shall pay all permit and water charges.
- D. Removal of Water Connections: Before final acceptance of the WORK on the project, all temporary connections and piping installed by the CONTRACTOR shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the ENGINEER and to the agency owning the affected utility.

3.04 INSTALLATION OF SANITARY FACILITIES

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of CONTRACTOR's employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wasted from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the ENGINEER and in accordance with all laws and regulations pertaining thereto.

3.05 INSTALLATION OF FIRE PROTECTION

- A. Fire Protection: The construction of the WORK shall be connected with the CONTRACTOR's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the WORK, and responsible persons shall be designated and instructed in the operation such fire apparatus so as to prevent or minimize the

hazard of fire. The CONTRACTOR's fire protection program shall conform to the requirements of Subpart F of the OSHA Standards for Construction.

3.06 INSTALLATION OF COMMUNICATIONS

- A. Telephone Services: The CONTRACTOR shall provide and maintain at all time during the progress of the WORK not less than one telephone in good working order, at its own field construction office, at or near the site of the WORK included in the Contract. Each such telephone shall be connected to an established exchange for toll service and with all other telephones utilized by the CONTRACTOR.
- B. Telephone Use: The CONTRACTOR shall permit the ENGINEER, the OWNER, or their authorized representatives or employees free and unlimited use of said telephone facilities for all calls that do not involve published toll charges. Calls originated by the ENGINEER, the OWNER, their authorized representatives or employees who involve toll or the CONTRACTOR at the rates charged by the telephone company shall bill message unit charge to the OWNER.

3.07 MEASUREMENT AND PAYMENT

- A. There shall be no special measurement or payment for the work under this section, it shall be included in the lump sum price for Mobilization.

END OF SECTION

SECTION 01520 – CONSTRUCTION AIDS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain required construction aids, remove on completion of work.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

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 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
 - 1. Refer to respective sections for particular requirements for each trade.
 - 2. Provide protective coverings for finished surfaces.
- B. Maintain facilities and equipment in first-class condition.

PART 3 EXECUTION

3.01 PREPARATION

- A. Consult with OWNER's Representative, review site conditions and factors which affect construction procedures and construction aids including adjacent properties and public facilities which may be affected by execution of the work.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 through 4 (as applicable).
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of OWNER and other Contractors employer at the site.

3.03 REMOVAL

- A. Completely remove temporary materials, equipment and services:
 - 1. When construction needs can be met by use of permanent construction.
 - 2. At completion of project.
- B. Clean, repair damage caused by installation or by use of temporary facilities.
 - 1. Remove foundations and underground installations for construction aids.
 - 2. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.
- C. Restore permanent facilities used for temporary purposes to specified condition.

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 01530 – 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 01550 – SITE ACCESS AND STORAGE**PART 1 GENERAL****1.01 HIGHWAY LIMITATIONS:**

- A. The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.

1.02 TEMPORARY CROSSINGS:

- A. General: Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300 feet shall be provided. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time.
- B. Temporary Bridges: Wherever necessary, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the CONTRACTOR shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the ENGINEER prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.
- C. Street Use: Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the ENGINEER and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated.

Toe boards shall be provided to retain excavated material if required by the ENGINEER or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.

- D. Traffic Control: For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of Broward County and the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).

The CONTRACTOR shall take all necessary precautions for the protection of the WORK and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the Florida Department of Transportation.

The CONTRACTOR shall submit 3 copies of a traffic control plan to the ENGINEER for approval a minimum of 2 weeks prior to construction. The ENGINEER reserves the right to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes shall supersede these plans and be done solely at the CONTRACTOR's expense.

The CONTRACTOR shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

- E. Temporary Driveway Closure: The CONTRACTOR shall notify the OWNER or occupant (if not OWNER-occupied) of the closure of the driveways to be closed more than one eight-hour work day at least 3 working days prior to the closure. The CONTRACTOR shall minimize the inconvenience and minimize the time period that the driveways will be closed. The CONTRACTOR shall fully explain to the OWNER/occupant how long the work will take and when closure is to start. Total closure time shall not exceed 5 days.

1.03 CONTRACTOR'S WORK AND STORAGE AREA:

- A. The CONTRACTOR shall designate and arrange for the use of a portion of the property, adjacent to the WORK for its exclusive use during the term of the Contract as a storage and shop area for its construction operations relative to this Contract.
- B. The CONTRACTOR shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK.
- C. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
 - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.
 - 2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
 - 3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
 - 4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the site.
 - 5. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
 - 6. All hazardous materials which are delivered in containers shall be stored in the original containers until use. Hazardous materials which are delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.04 PARKING:

- A. The CONTRACTOR shall:
 - 1. Provide temporary parking areas for ENGINEER and OWNER's use.
 - 2. The CONTRACTOR shall direct its employees to park in designated areas secured by the CONTRACTOR.

3. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

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 of Mobilization and of all other work.

END OF SECTION

SECTION 01560 – TEMPORARY CONTROLS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide and maintain methods, equipment, and temporary construction, as necessary, to provide controls over environmental conditions at the construction site and related area under CONTRACTOR's control; remove physical evidence of temporary facilities at completion of work.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 NOISE CONTROL

- A. Provide all necessary requirements for noise control during the construction period.
 - 1. Noise procedures shall conform to all applicable OSHA requirements and local ordinances having jurisdiction on the work.
 - 2. Noise levels during nighttime hours shall not exceed 55 db measured at the property line of a residence.

1.04 DUST CONTROL

- A. Provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.08 DEBRIS CONTROL

- A. Maintain all areas under CONTRACTOR's control free of extraneous debris.
- B. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking area, or along access roads and haul routes.
 - 1. Provide containers for deposit of debris as specified in Section 01710 - Cleaning.

2. Prohibit overloading of trucks to prevent spillage on access and haul routes.
 - a. Provide periodic inspection of traffic areas to enforce requirements.
- C. Schedule periodic collections and disposal of debris as specified in Section 01710 - Cleaning.
 1. Provide additional collections and disposal of debris whenever the periodic schedule is to prevent accumulation.

1.09 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids.
 1. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 1. Prevent toxic concentrations of chemicals.
 2. Prevent harmful dispersal of pollutants into the atmosphere.

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 of all other work.

END OF SECTION

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.

1.06 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

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 01600 – MATERIAL AND EQUIPMENT**PART 1 GENERAL****1.01 REQUIREMENTS INCLUDED**

- A. Material and equipment incorporated into the work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the OWNER's Representative.
 - 3. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to OWNER's Representative. Maintain one set of complete instructions at the job site during installation and until completion.

- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with OWNER's Representative for further instructions.
 - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site. Products shall be delivered to the job site on an "as needed" basis.
 - 1. Deliver products in undamaged condition, in manufacturers' original containers or packaging, with identifying labels intact with legible markings.
 - 2. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
 - 3. Pipe and materials shall not be strung out along installation routes for longer than two (2) weeks prior to installation.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.
- C. Coordinate deliveries to avoid conflict with Work and conditions at site:
 - 1. Work of other contractors, or OWNER.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER's use of premises.
- D. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
- E. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

- F. Immediately on delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.
- G. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.
- H. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- I. Handle products by methods to prevent bending or overstressing.
- J. Lift heavy components only at designated lifting points.

1.05 STORAGE

- A. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weather-tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 - 3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.
- B. Exterior Storage
 - 1. Provide substantial platforms, blocking or skids to support fabricating products above ground, prevent soiling or staining.
 - a. Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
 - 2. Store loose granular materials on solid surface such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.

- a. Provide surface drainage to prevent flow or ponding of rainwater.
- b. Prevent mixing of refuse or chemically injurious materials or liquids.

1.06 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 1. State of storage facilities is adequate to provide required conditions.
 2. Required environmental conditions are maintained on continuing basis.
 3. Surfaces of products exposed to elements are not adversely affected.
 - a. Any weathering of products, coatings and finishes is not acceptable under requirements of Contract Documents.
- B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.

1.07 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Provide coverings to protect finished surfaces from damage.
 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
 2. Protect finished floors and stairs from dirt and damage.
 - a. In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.
 - b. For movement of heavy products, lay planking or similar materials in place.
 - c. Cover wall and floor surfaces in the vicinity of construction personnel activities and all finished surfaces used by construction personnel.
- D. Waterproofed surfaces
 1. Prohibit use of surfaces for traffic of any kind, and for storage of any products.

2. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.
 - a. Install recommended protection; remove on completion of that activity.
 - b. Restrict use of adjacent unprotected areas.
- E. Lawns and landscaping
 1. Prohibit traffic of any kind across planted lawn and landscaped areas.
- F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.

1.08 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Limitations on substitutions.
 1. During bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this section.
 2. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by Subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
 3. Substitute products shall not be ordered or installed without written acceptance.
 4. Only one (1) request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
- B. Products List
 1. Within 15 days after Contract Date submit to ENGINEER a complete list of major products proposed to be used, with the name of the manufacturer and the installing Subcontractor.
- C. Contractors Options
 1. For products specified only by reference standard, select any product meeting that standard.
 2. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named or approved equal, which complies with the Specifications.

3. For products specified by naming one or more products or manufacturers and "or approved equal," CONTRACTOR must submit a request as for substitutions for any product or manufacturer not specifically named.

D. Substitutions

1. For a period of 15 days after Contract Date, ENGINEER will consider written request from CONTRACTOR for substitution of products.
2. Identify product by specification Section and Article Numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
3. List similar projects using product, dates of installation, and names of ENGINEER and OWNER.
4. List availability of maintenance services and replacement materials.
5. Submit a separate request for each product, supported with complete data, with drawings and samples as appropriate, including:
 - a. Comparison of the qualities and performance of the proposed substitution with that specified.
 - b. Changes required in other elements of the work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost data comparing the proposed substitution with the product specified.
 - e. Any required license fees or royalties.
 - f. Availability of maintenance services, and source of replacement materials.
6. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the CONTRACTOR.
7. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the ENGINEER's decision shall be final.
8. The ENGINEER may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute.
9. The OWNER may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

10. Acceptance by the ENGINEER of a substitute item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
11. The CONTRACTOR shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the CONTRACTOR work, the work of its Subcontractors and of other Contractors, and shall effect such changes without cost to the OWNER.

E. Contractors Representation:

1. A request for a substitution constitutes a representation that CONTRACTOR:
 - a. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
 - b. Will provide the same guarantees or bonds for the substitution as for the product specified.
 - c. Will coordinate the installation of an accepted substitution into the work, and make such other changes as may be required to make the work complete in all respects.
 - d. Waives all claims for additional costs, under CONTRACTOR'S responsibility, which may subsequently become apparent.

F. Submittal Procedures

1. Submit three (3) copies of request for substitution.
2. ENGINEER will review requests for substitutions with reasonable promptness, and notify CONTRACTOR, in writing, of the decision to accept or reject the requested substitution.
3. During the bidding period, ENGINEER will record acceptable substitutions in Addenda.
4. After award of Contract, ENGINEER will notify CONTRACTOR, in writing, of decision to accept or reject requested substitutions in Addenda.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01700 – CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 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.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Section 01152, Applications for Payment
 - 4. Divisions 02 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.03 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Submit list of all subcontractors including names, addresses (with zip code) and telephone numbers and dollar amount of work performed.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Prepare and submit Project Record Documents, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.

5. Complete final cleaning requirements, including touchup painting.
 6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
 2. Submit final releases of lien from all subcontractors and suppliers
 3. Submit pest-control final inspection report and warranty.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Final payment will only be made after ALL unconditional release of liens from all subcontractors and suppliers are received by the City.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items

needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order.
2. Include the following information at the top of each page:
 - a. Project number.
 - b. Project name
 - c. Date.
 - d. Name of Contractor.
 - e. Page number.

1.06 WARRANTIES

- A. **Submittal Time:** Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. **Partial Occupancy:** Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by City during construction period by separate agreement with Contractor.
- C. **Submit Certificate of Occupancy to the City Engineer.**

PART 2 PRODUCTS

3.01 MATERIALS

- A. **Cleaning Agents:** Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.01 FINAL CLEANING

- A. **General:** Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. **Cleaning:** Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Sweep concrete floors broom clean.
 - g. Remove labels that are not permanent.
 - h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - i. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - j. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

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.

- D. The OWNER's Representative reserves the right to direct the CONTRACTOR to remove waste materials
- E. 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 02050 - DEMOLITION**PART 1 GENERAL**

1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and services to complete the site demolition work, as indicated on the drawings, as specified herein or both.

1.2 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies
- B. Building Codes

1.3 JOB CONDITIONS

A. Protection:

Erect barriers, fences, guardrails, enclosures, and shoring to protect personnel, structures, and utilities remaining intact.

Protect designated trees and plants from damages during construction activities.

Protect existing objects and vegetation designated to remain, and, in the event of damage, immediately make all repairs, replacements and dressings to damaged plants necessary to the approval of the Landscape Architect and the City.

B. Maintaining Traffic:

1. Conduct operations to avoid interference with roads, streets, driveways, sidewalks, and adjacent facilities. Contractor shall maintain access to all properties adjacent to and / or affected by the work, including vehicular, pedestrian, and service movements. Contractor shall submit a Maintenance of Traffic Plan to the City of Fort Lauderdale Engineering Division, and to FDOT for approval as a requirement for Notice to Proceed.
2. Provide alternate routes around closed or obstructed traffic ways as required by governing agencies and per the approved M.O.T.

C. Dust Control:

1. Prevent dust from demolition operations from being a nuisance to adjacent property owners. Methods used for dust control are subject to approval by the Architect prior to use.

- D. Burning:
 - 1. Burning will not be permitted
 - 2. No explosives.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that structures to be demolished are discontinued in use and ready for removal.
- B. Do not commence work until conditions and requirements of applicable public agencies are complied with.

3.2 PREPARATION

- A. Notification:
 - 1. Notify the Owner in writing at least three full working days prior to commencing demolition.

3.3 CLARIFICATION

- A. The drawings do not purport to show all objects existing on the site.
- B. Before commencing the work, verify with the Landscape Architect objects to be removed and objects to be preserved.

3.4 SCHEDULING

- A. Schedule work with necessary consideration for other activities on the site.
- B. Avoid interference with the use of, and passage to and from, adjacent facilities.

3.5 DISCONNECTION OF UTILITIES

- A. Before commencing site operations, disconnect or arrange for the disconnection of utility services designated to be removed, performing such work in accordance with the requirements of the utility company or agency involved.

3.6 PROTECTION OF EXISTING LANDSCAPE AND IRRIGATION

- A. Protect trees to be relocated and irrigation equipment in place during demolition, as designated on the plans.

3.7 PROTECTION OF UTILITIES

- A. Preserve in operating condition active utilities adjacent to or traversing the site and/or designated to remain.

3.8 DEMOLITION OF SITE STRUCTURES

- A. Demolish site structure or site feature items designated to be removed or which are required to be removed to perform the work.
- B. Demolition of surfaces and objects to be removed and reconstructed shall be performed in such a manner as to achieve clean, straight, and true edges of adjacent surfaces to remain, without damage to the adjacent surface or object.

3.9 OTHER DEMOLITION

- A. Removal of Debris
 - 1. Removal of all debris from the site shall be in accordance with applicable City Codes.

END OF SECTION

SECTION 02110 – CLEARING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the clearing work,
- B. Under this section, the CONTRACTOR shall do all clearing, grubbing, root-raking, and necessary clean-up operations in connection with the construction of the work and its related site work.
- C. The work shall consist of the removal and disposal of trees, stumps, roots, limbs, brush, fences, asphalt, etc. from all project areas as designated on the drawings as specified herein, and as directed by the ENGINEER on the site.
- D. The CONTRACTOR shall remove all refuse, asphalt pavement, concrete pavement, glass, metal, stone, plaster, lumber, paper materials, and any and all trash found in clearing and adjacent areas as directed by the ENGINEER.
- E. The CONTRACTOR shall furnish all services, labor, transportation, materials, and equipment necessary for the performance of these operations. All clearing and cleanup operations shall be accomplished to the complete satisfaction of the ENGINEER.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 TREE REMOVAL AND TREE PRESERVATION

- A. No trees shall be removed if located outside of the right-of-way and dedicated easement.
- B. Within the rights-of-way and easements, no trees with a trunk diameter of 3" or greater at 4-1/2" above grade shall be removed without the approval of the ENGINEER with the exception of Australian Pines, Meleleuca or Florida Holly. Trees shall be evaluated on an individual basis in accordance with following:

- a. Type and size of tree.
 - b. Proximity to proposed and/or existing utility lines and/or exfiltration trench.
 - c. Change in adjacent grades for swale excavation.
 - d. Proximity to proposed sidewalk.
 - e. Proximity to proposed edge of roadway.
 - f. Living condition of the tree.
- C. If trees are determined to remain, Biobarrier shall be installed in accordance with the Biobarrier detail as shown on the Landscape Plans.

3.02 MEASUREMENT AND PAYMENT

- A. Measurement and payment for this item will be made as lump sum per Section 01025.

END OF SECTION

SECTION 02577 – PAVEMENT MARKINGS AND CAR STOPS**PART 3 EXECUTION****3.01 TRAFFIC AND LANE MARKINGS**

- A. Sweep dust and loose material from the sealed surface.
- B. Apply paint striping as indicated on the drawings, with suitable mechanical equipment to produce uniform straight edges.
 - 1. Apply in not less than (2) two coats as per manufacturer's recommended rates of applications.
- C. Protect pavement markings until completely dry in accordance with manufacturers recommendations.

3.02 MEASUREMENT AND PAYMENT

- A. Measurement and payment will be based on the actual quantities installed as more specifically discussed and described in SECTION 01025 for MEASUREMENT AND PAYMENT.

END OF SECTION

DIVISION 3 - CONCRETE
SECTION 03010 – CONCRETE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the concrete work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- B. Including but not necessarily limited to the following:
 - 1. Form work, shoring, bracing and anchorage.
 - 2. Concrete reinforcement and accessories.
 - 3. Cast-in-place concrete.
 - 4. Plugging abandoned pipelines and/or structures in place.

1.03 RELATED WORK

- D. Section 03300 - Cast-in-Place Concrete.
- E. All applicable sections of Division 1, 2, 3 and 4.

1.04 QUALITY ASSURANCE

- A. All work shall be in accordance with ACI 301, latest edition, a copy of which shall be maintained on site.
- B. Requirements of Regulatory Agencies: perform work in accordance with local building and other applicable codes.
- C. Installation: Performed only by skilled workmen with satisfactory record of performance on completed projects of comparable size and quality.
- D. Inspection and Testing:
 - 1. Test Cylinders - As per ASTM C-39.

- a. Minimum of three (3) concrete test cylinder shall be taken for every 75 or less cubic yards of concrete placed each day.
 - b. Minimum of one (1) slump test shall be taken during any cold weather concreting, and be cured on job site under same conditions as the concrete it represents.
2. Slump Test - As per ASTM C-143.
 - a. Minimum of one (1) slump test shall be taken for each set of test cylinders taken.

1.05 SUBMITTALS

- A. Test Reports: Reports of concrete compression, yield, air content and slump tests.
- B. Certificates:
 1. Manufacturer's certification that materials meet specification requirements.
 2. Material content per cubic yards of each class of concrete furnished.
 - a. Dry weights of cement.
 - b. Saturated surface-dried weights of fine and course aggregate.
 - c. Quantities, type and name of all mixtures.
 - d. Weight of water.
 3. Ready-mix delivery tickets as per ASTM C-94.
- C. Shop Drawings:
 1. Show sizes and dimensions for fabrication and placing of reinforcing steel and bar supports.
 2. Indicate reinforcement sizes, spaces, locations and quantities or reinforcing steel, and wire fabric, bending and cutting schedules, splicing and supporting and spacing devices.
 3. Indicate formwork dimensioning, materials, arrangement of joints and ties.
 4. Shop drawings shall be prepared under seal of a Professional Structural Engineer, registered in the State of Florida.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
- B. Handle and store materials to prevent contamination.

1.07 JOB CONDITIONS

- A. Allowable concrete temperatures:
 - 1. Hot weather: Maximum 90 degrees F as per ASTM C-94.
- B. Do not place concrete during rain, unless protection is provided.

PART 2 PRODUCTS

2.01 FORM MATERIALS

- A. Materials shall conform to ACI 301, latest edition.
- B. Plywood forms: Douglas Fir Species, solid one side, form grade, sound undamaged sheets.
- C. Lumber: Southern Pine Species, No. 2 Grade, with grade stamp clearly visible.
- D. Form Ties: Removable, snap-off metal, of fixed and adjustable length, cone ends.
- E. Tubular Column Type: Round, spirally wound laminated fiber material, clearly visible.

2.02 REINFORCING STEEL

- A. Reinforcing steel shall conform to ASTM A615, 60 ksi yield grade billet steel reformed bars; uncoated finish.
- B. Welded steel wire fabric shall conform to ANSI/ASTM A185, plain type; coiled rolls, uncoated finish.

2.03 CONCRETE MATERIALS

- A. Cement: shall conform to ASTM C150, normal Type II Portland, gray color.
- B. Fine and coarse aggregate shall conform to ASTM C33.
- C. Water: clean and not detrimental to concrete.

2.04 ADMIXTURES

- A. Air Entraining: ASTM C-260
- B. Chemical: Type (as required) ASTM C-494.
- C. Fly Ash and Pozzolans: ASTM C-618
- D. Color - Conditioned Concrete: ASTM C-494 and ASTM C-979

2.05 ACCESSORIES

- A. Non-shrink grout: pre-mixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 3500 psi.
- B. Construction joints: locate and install construction joints, which are not shown on drawings, so as not to impair strength and appearance of the structure, as acceptable to the ENGINEER. Place construction joints perpendicular to the main reinforcement, continue reinforcement across construction joints.
- C. Expansion joints: shall be a minimum of 3/4-inch thick asphalt impregnated fiberboard as per ASTM D-1751.
- D. Form release agent shall be a colorless material, which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.
- E. Water shall be clear and potable.

2.06 CURING MATERIALS

- A. Water shall be clean and potable.
- B. Absorptive mat shall be burlap fabric of 9 oz./sq. yd. clean, roll goods complying with AASHTO M182, Class 3.
- C. Membrane curing compound shall conform to ASTM C309.
- D. Clear Sealer: "Clear Bond" as manufactured by Guardian Chemical Co., Dayton Day-Chem Cure-W (J-9-A) or approved equal.
- E. Color curing compound shall be liquid membrane-forming conforming to ASTM C 309 two- component Lithochrome Colorwax by L.M. Scofield Company, or approved equal, color to match admixture for color-conditioned concrete.

2.07 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94.
- B. Concrete:
 - 1. Compressive strength (28 days): 3000 psi.
 - 2. Slump: 4(+) 1 inch.
- C. Concrete / Flowable fill for grouting and plugging:
 - Compressive strength (28 days) 2000 psi.
 - Slump: as required to grout and plug.

PART 3 EXECUTION

3.01 FORMWORK ERECTION

- A. Verify lines, levels, and measurement before proceeding with formwork.
- B. Hand trimmed sides and bottom of earth forms; remove loose dirt.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces receive special finishes or applied coatings, which may be affected by agent.
- E. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors and other inserts.

3.02 REINFORCING

- A. Place, support and secure reinforcement against displacement.

3.03 PLACING CONCRETE

- A. Color Conditioned concrete, when batching, shall not be less than one-third of the capacity of the mixing drum (a minimum of four yards for a ten yard mixer) and will be in full cubic yard increments.
- B. Notify ENGINEER minimum 24-hours prior to commencement of concreting operations.
- C. Scratch, float, trowel, broom or belt finish surfaces, as scheduled or indicated on the Drawings.

3.04 FINISHES FOR EXPOSED SURFACES

- A. Provide exposed surfaces with finishes as called for on the Drawings.

3.05 CONCRETE CURING

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water, if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming with ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturers recommendations.

3.06 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with concrete work shall be included in the bid price of any item in the bid schedule for which concrete products, materials, or appurtenances are required.

END OF SECTION

Product Data Sheet
Edition 5.5.2011
Sika Armatec 110 EpoCem

Sika Armatec® 110 EpoCem®

Bonding Agent and Reinforcement Protection

Description	Sika Armatec 110 EpoCem is a 3-component, solvent-free, moisture-tolerant, epoxy-modified, cementitious product specifically formulated as a bonding agent and an anti-corrosion coating.
Where to Use	<ul style="list-style-type: none"> ■ As an anti-corrosion coating for reinforcing steel in concrete restoration. ■ As added protection to reinforcing steel in areas of thin concrete cover. ■ As a bonding agent for repairs to concrete and steel. ■ As a bonding agent for placing fresh, plastic concrete to existing hardened concrete.
Advantages	<ul style="list-style-type: none"> ■ Excellent adhesion to concrete and steel. ■ Acts as an effective barrier against penetration of water and chlorides. ■ Long open time - up to 16 hours. ■ Not a vapor barrier. ■ Can be used exterior on-grade. ■ Contains corrosion inhibitors. ■ Excellent bonding bridge for cement or epoxy based repair mortars. ■ High strength, unaffected by moisture when cured. ■ Spray, brush or roller application. ■ Non-flammable, solvent free.
Coverage	<p>Bonding agent: minimum (theoretical) on smooth, even substrate 80 sq. ft./gal. (=20 mils thickness). Coverage will vary depending on substrate profile and porosity.</p> <p>Reinforcement Protection: 40 sq. ft./gal. (=20 mils thickness) (2 coat application).</p>
Packaging	<p>3.5 gal. unit. (47.6 fl. oz. Comp. A + 122.1 fl. oz. Comp. B + 46.82 lb. Comp. C) Comp. A + B in carton, Comp. C in multi-wall bag.</p> <p>1.65 gal. unit. (22.7 fl. oz. A + 57.6 fl. oz. B + 4 bags @ 5.5 lb.) Factory-proportioned units in a pail.</p>

Typical Data (Material and curing conditions @ 73°F and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	1 year in original, unopened packaging.		
Storage	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F (18°-24°C) before using. If components A and B are frozen, discard. Protect Component C from humidity.		
Color	Concrete gray		
Density (Mixed)	125 lb./cu. ft. (2.0 kg.)		
Pot Life	Approximately 90 minutes		
Compressive Strength (ASTM C-109)	3 days	4500 psi	(31.0 MPa)
	7 days	6500 psi	(44.8 MPa)
	28 days	8500 psi	(58.6 MPa)
Flexural Strength (ASTM C-348)	28 days	1250 psi	(8.6 MPa)
Splitting Tensile Strength (ASTM C-496)	28 days	600 psi	(4.1 MPa)

Important Data for Sika Armatec 110 as a Corrosion Protective Coating

Water	Water Permeability at 10 bar (145 psi)	8.92 x 10 ⁻¹⁵ ft./sec.
	Control	7.32 x 10 ⁻¹⁰ ft./sec.
	Water vapor diffusion coefficient μ H ₂ O	110

Carbon Dioxide Carbon dioxide diffusion coefficient μ CO₂ 14000

TEST DATA: Time-to-Corrosion Study

- Sika Armatec 110 more than tripled the time to corrosion
- Reduced corrosion rate by over 40%

Important Data for Sika Armatec 110 as a Bonding Agent

Bond Strength (ASTM C882)	14 days moist cure, plastic concrete to hardened concrete:	
	Wet on Wet	2800 psi (19.3 MPa)
	24 hr. Open Time	2600 psi (17.9 MPa)

Bond of Steel Reinforcement to Concrete (Pullout Test):

Sika Armatec 110 Coated	625 psi	(4.3 MPa)
Epoxy Coated	508 psi	(3.5 MPa)
Plain Reinforcement	573 psi	(3.95 MPa)

Construction



How to Use

Surface Preparation	<p>Cementitious substrates: Should be cleaned and prepared to achieve a laitance and contaminant-free surface prepared in accordance with the requirements specified by the overlay or repair material by blast cleaning or equivalent mechanical means. Substrate must be saturated surface dry (SSD) with no standing water.</p> <p>Steel: Should be cleaned and prepared thoroughly by blast cleaning.</p>								
Mixing	Shake contents of both Component 'A' and Component 'B'. Empty entire contents of both Component 'A' and Component 'B' into a clean, dry mixing pail. Mix thoroughly for 30 seconds with a Sika paddle on a low speed (400-600 rpm) drill. Slowly add the entire contents of Component 'C' while continuing to mix for 3 minutes until blend is uniform and free of lumps. Mix only that quantity that can be applied within its pot life.								
Application	<p>As a bonding agent - Apply by stiff-bristle brush or broom. Spray apply with Goldblatt Pattern Pistol or equal equipment. For best results, work the bonding slurry well into the substrate to ensure complete coverage of all surface irregularities. Apply the freshly mixed patching mortar or concrete wet on wet, or up to the maximum recommended open time, onto the bonding slurry.</p> <p>Maximum recommended open time between application of Armatec 110 and patching mortar or concrete:</p> <table border="0"> <tr> <td>80°-95°F (26°-35°C)</td> <td>6 hours</td> </tr> <tr> <td>65°-79°F (18°-26°C)</td> <td>12 hours</td> </tr> <tr> <td>50°-64°F (10°-17°C)</td> <td>16 hours</td> </tr> <tr> <td>40°-49°F (4°-9°C)</td> <td>wet-on-wet</td> </tr> </table> <p>For corrosion protection only - Apply by stiff-bristle brush or spray at 80 sq. ft./gal. (20 mils). Take special care to properly coat the underside of the totally exposed steel. Allow coating to dry 2-3 hours @ 73°F, then apply a second coat at the same coverage. Allow to dry again before the repair mortar or concrete is applied. Pour or place repair within 7 days.</p>	80°-95°F (26°-35°C)	6 hours	65°-79°F (18°-26°C)	12 hours	50°-64°F (10°-17°C)	16 hours	40°-49°F (4°-9°C)	wet-on-wet
80°-95°F (26°-35°C)	6 hours								
65°-79°F (18°-26°C)	12 hours								
50°-64°F (10°-17°C)	16 hours								
40°-49°F (4°-9°C)	wet-on-wet								
Limitations	<ul style="list-style-type: none"> ■ Substrate and ambient temperature: Minimum 40°F (5°C). ■ Maximum 95°F (35°C). ■ Minimum thickness: As a bonding agent 20 mils. ■ For reinforcement protection 40 mils. ■ (2 coats, 20 mils each). ■ Not recommended for use with expansive grouts. ■ Use of semi-dry mortars onto Sika Armatec 110 EpoCem must be applied "wet on wet". ■ When used in overhead applications with hand placed patching mortars, use "wet on wet" for maximum mortar build thickness. ■ Substrate profile as specified by the overlay or repair material is still required. ■ As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur Hi-Mod 32. 								
Caution	<p>Part A & B: IRRITANT; SENSITIZER - Can cause skin sensitization after prolonged or repeated contact. Skin and eye irritant. High concentrations of vapor may cause respiratory irritation. Avoid skin contact. Use only with adequate ventilation. Use of safety goggles and chemical resistant gloves is recommended.</p> <p>Part C: IRRITANT; SUSPECT CARCINOGEN - Contains crystalline silica, quartz (sand); cement. Skin and eye irritant. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC list crystalline silica as having sufficient evidence of carcinogenicity to laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety gloves is recommended. In case of high dust concentrations or exceedance of PELs, use an appropriate NIOSH approved respirator.</p>								
First Aid	In case of eye contact, wash immediately with soap and water for 15 minutes; immediately consult a physician. In case of skin contact, wash with soap and water; consult a physician for irritation. For respiratory problems, remove person to fresh air and institute artificial respiration if necessary; consult a physician. In case of ingestion, immediately consult a physician. Wash clothing before reuse.								
Clean-Up	In case of spills or leaks, wear suitable protective equipment, contain spill, collect with absorbent material, and transfer to a suitable container. Ventilate area. Avoid contact. Dispose of in accordance with current, applicable local, state, and federal regulations.								

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CORROSION



Product Data Sheet

Edition 3.28.2012

Sika MonoTop 611

Sika MonoTop® 611

One-component, polymer-modified, silica fume enhanced, cementitious pump and pour mortar

Description	Sika MonoTop 611 is a 1-component silica fume-enhanced, polymer-modified, portland-cement, mortar.
Where to Use	<ul style="list-style-type: none"> ■ On grade, above, and below grade on concrete and mortar. ■ On horizontal, vertical and overhead surfaces. ■ As a structural repair material for parking facilities, industrial plants, walkways, bridges, tunnels, and dams. ■ Free-flowing repair mortar for hard-to-reach areas. ■ Filler for voids and cavities. ■ For underwater application in conjunction with Sikament 100SC. Consult Technical Service for dosage information. Independent test data is available however on site testing is recommended to confirm performance under actual field conditions.
Advantages	<ul style="list-style-type: none"> ■ Superior abrasion resistance over conventional portland cement mortar. ■ High bond strength. ■ Compatible with coefficient of thermal expansion of concrete. ■ Increased resistance to deicing salts. ■ High early strengths. ■ Simple-to-use labor-saving system. ■ Easily mixed. ■ High compressive and flexural strengths. ■ Good freeze/thaw resistance. ■ Easily applied to clean, sound substrate. ■ Not a vapor barrier. ■ Not flammable, non-toxic.

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	1 year in original, unopened packaging.
Storage Conditions	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.
Color	Concrete gray when mixed.
Mixing Ratio	Mix with clean potable water at rate of 1 gallon per bag. Start with 4/5 gallon and temper slowly to consistency required with remainder of gallon.
Application Time	Approximately 30 min. after mixing with water. Mortar remains plastic for a longer period, but will have less adhesion after this period of time. Application time is dependent on temperature and relative humidity.
Flexural Strength (ASTM C-293)	28 days 720 psi (5.0 MPa)
Splitting Tensile Strength (ASTM C-496)	28 days 500 psi (3.4 MPa)
Bond Strength* (ASTM C-882 modified)	28 days 2,200 psi (15.2 MPa)
Compressive Strength (ASTM C-109)	
1 day	3,000 psi (20.7 MPa)
7 days	5,500 psi (37.9 MPa)
28 days	6,500 psi (44.8 MPa)
Chloride ion permeability (AASHTO T-277)	< 600 coulombs

* Mortar scrubbed into substrate.

Yield	Approximately 0.42 cu. ft./unit. Approximately 0.67 cu. ft./unit (50 lbs. of MT 611+42 lbs. 3/8" pea gravel)
Packaging	50-lb. multi-wall bag.
How to Use	
Substrate	Concrete, mortar, and masonry products

Construction



Surface Preparation	<p>Concrete/Mortar: Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1/2 inch in depth. Preparation work should be done by high pressure water blast, scabber, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of $\pm 1/16$ in. (CSP-5). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.</p> <p>Reinforcing Steel: Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water after mechanical cleaning. For priming of reinforcing steel use Sika Armatec 110 EpoCem (consult Technical Data Sheet).</p>									
Priming	For priming of reinforcing steel use Sika Armatec 110 EpoCem (consult Technical Data Sheet).									
Mixing	<p>Sika MonoTop mortar: Place 4/5 of 1 gallon water in mixing container. Add Sika MonoTop while continuing to mix. Add additional water up to 1 gallon total. Mix to a uniform consistency, maximum 3 minutes. Mechanically mix with a low-speed drill (400-600 rpm) and paddle or in appropriate-size mortar mixer.</p> <p>Sika MonoTop concrete: For applications greater than 1 inch in depth, add 3/8-inch coarse aggregate (42-lb./unit) to Sika MonoTop to produce Sika MonoTop concrete. Trial mix designs should be conducted to simulate job conditions. The aggregate must be non-reactive (reference ASTM C1260, C227 and C289), clean, well-graded, saturated surface dry, have low absorption, high density, and comply with ASTM C33 size number 8 per Table 2. Mix as above. Introduce aggregate at desired quantity. Mix to uniform consistency, maximum 3 minutes.</p>									
Application & Finish	Form and pour or pump applications: Pre-wet surface to SSD. Vibrate form while pouring or pumping. Pump with a variable pressure pump. Continue pumping until a 3 to 5 psi increase in normal line pressure is evident then STOP pumping. Form should not deflect. Vent to be capped when steady flow is evident, and forms stripped when appropriate.									
Curing	As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water based* compatible curing compound. Curing compounds adversely affect the adhesion of following layers of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. Protect newly applied material from direct sunlight, wind, rain and frost. *Pretesting of curing compound is recommended.									
Limitations	<ul style="list-style-type: none"> ■ Application thickness: <table border="1"> <thead> <tr> <th></th> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Neat</td> <td>1/2 inch (13 mm)</td> <td>1 inch (25 mm)</td> </tr> <tr> <td>Extended</td> <td>1 inch (25 mm)</td> <td>6 inches (150 mm)</td> </tr> </tbody> </table> ■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application. ■ Addition of coarse aggregates may result in variations of the physical properties of the mortar. ■ Do not use a solvent-based curing compound. ■ Product is not designed for unconfined placements or overlays (use SikaTop 111 PLUS). ■ As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur Hi-Mod 32. 		Minimum	Maximum	Neat	1/2 inch (13 mm)	1 inch (25 mm)	Extended	1 inch (25 mm)	6 inches (150 mm)
	Minimum	Maximum								
Neat	1/2 inch (13 mm)	1 inch (25 mm)								
Extended	1 inch (25 mm)	6 inches (150 mm)								
Caution	Irritant - Suspect carcinogen - Contains portland cement and sand (crystalline silica). Skin and eye irritant. Avoid contact. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC lists crystalline silica as having sufficient evidence of carcinogenicity in laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety goggles and chemical resistant gloves is recommended. If PELs are exceeded, an appropriate, NIOSH approved respirator is required. Remove contaminated clothing.									
First Aid	In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes, and contact a physician. For respiratory problems, remove person to fresh air.									
Clean Up	In case of spillage, scoop or vacuum into appropriate container, and dispose of in accordance with current, applicable local, state and federal regulations. Keep container tightly closed and in an upright position to prevent spillage and leakage. Mixed components: Uncured material can be removed with water. Cured material can only be removed mechanically.									

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SECTION 03100 – CONCRETE FORMWORK**PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Formwork for Cast-In-Place Concrete, with shoring, bracing, and anchorage.
- B. Openings for other affected work.
- C. Form accessories.
- D. Stripping forms.

1.03 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03200 - Concrete Reinforcement.
- C. Section 03300 - Cast-In-Place Concrete.

1.04 SYSTEM DESCRIPTION

- A. Design, engineer and construct formwork, shoring and bracing to meet design code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.

1.05 QUALITY ASSURANCE

- A. Construct and erect concrete formwork in accordance with ACI 301 and 347.

1.06 SUBMITTALS

- A. Indicate pertinent dimensions, materials, and arrangement of joints and ties.
- B. Prepare shop drawings under seal of Professional Structural Engineer registered in the State of Florida.

- C. Manufacturers certification that materials meet specification requirements.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle materials in accordance with manufacturers recommendations.
- B. Deliver form materials in manufacturer's packaging with installation instructions.
- C. Store off ground in ventilated and protected area to prevent deterioration from moisture or damage.
- D. Remove packaging from void forms.

PART 2 PRODUCTS

2.01 FORM MATERIALS

- A. Plywood: Douglas Fir Species; medium density overlaid one side grade; sound, undamaged sheets with straight edges.
- B. Lumber: Southern Pine Species; No. 2 grade; with grade stamp clearly visible.
- C. Tubular Column: Round, of spirally wound laminated fiber type; surface treated with release agent; of size required.

2.02 FORMWORK ACCESSORIES

- A. Form Ties: Snap-off metal of adjustable length; cone type; 1 1/2 inch break back dimension; free of defects that will leave holes no larger than 1-1/4 inches diameter in concrete surface.
- B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture, or impair natural bonding in color characteristics of coating intended for use on concrete.
- C. Fillets for Chamfered Corners: Wood strips or rigid PVC plastic in maximum possible lengths.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; or strength and character to maintain formwork in place while placing concrete.

PART 3 EXECUTION**3.01 INSPECTION**

- A. Verify lines, levels, and measurements before proceeding with formwork.

3.02 PREPARATION

- A. Hand-trim sides and bottoms of earth forms; remove loose dirt prior to placing concrete.
- B. Minimize form joints. Symmetrically align joints and make weathertight to prevent leakage of mortar.
- C. Arrange and assemble formwork to permit dismantling, stripping, so that concrete is not damaged during its removal.
- D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.03 ERECTION

- A. Provide bracing to ensure stability of formwork. Strengthen formwork liable to be overstressed by construction loads.
- B. Camber slabs and beams to achieve ACI 301 tolerances.
- C. Provide temporary ports in formwork to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain. Close ports with tight fitting panels, flush with inside face of forms, neatly lifted so that joints will be apparent in exposed concrete surfaces.
- D. Provide expansion strips on external corners of beams and columns, where exposed.
- E. Install void forms. Protect from moisture before concrete placement. Protect from crushing during concrete placement.
- F. Construct formwork to maintain tolerances in accordance with ACI 301.

3.04 APPLICATION OF FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's instructions. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.

- B. Do not apply form release agent where concrete surfaces are scheduled to receive special finishes or applied coverings, which may be affected by agent. Soak contact surfaces of untreated forms with clean water. Keep surfaces wet prior to placing concrete.

3.05 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for work embedded in or passing through concrete.
- B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Install accessories in accordance with manufacturer's instructions, level and plumb. Ensure items are not disturbed during concrete placement.

3.06 FORM REMOVAL

- A. Notify ENGINEER prior to removing formwork.
- B. Do not remove forms and shoring until concrete has sufficient strength to support its own weight, and construction and design loads which may be imposed upon it. Remove load-supporting forms when concrete has attained 75 percent of required 28-day compressive strength, provided construction is reshored.
- C. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F for 24-hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- D. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28-days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location of members.
- E. Reshore structural members due to design requirements or construction conditions to permit successive construction.
- F. Remove formwork progressively so no unbalanced loads are imposed on structure.
- G. Do not damage concrete surfaces during form removal.
- H. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.

- I. Remove formwork in same sequence as concrete placement to achieve similar concrete surface coloration.

3.07 CLEANING

- A. Clean forms to remove foreign matter as erection proceeds.
- B. Ensure that water and debris drain to exterior through clean-out ports.

3.08 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with concrete formwork shall be included in the bid price of any item in the bid schedule for which concrete formwork is required.

END OF SECTION

SECTION 03200 – CONCRETE REINFORCEMENT**PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Reinforcing steel bars, welded steel wire fabric, fabricated steel bar or rod mats for cast-in-place concrete.
- B. Support chairs, bolsters, bar supports, spaces, for supporting reinforcement.

1.03 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03100 - Concrete Formwork.
- C. Section 03300 - Cast-In-Place Concrete.

1.04 QUALITY ASSURANCE

- A. Perform concrete reinforcement work in accordance with CRSI Manual and Standard Practice, and Documents 63 and 65.
- B. Conform to ACI 301.

1.05 SUBMITTALS

- A. Indicate sizes, spacings, locations and quantities of reinforcing steel, bending and cutting schedules, splicing, stirrup spacing, supporting and spacing devices.
- B. Prepare shop drawings under seal of Professional Structural ENGINEER registered in the State of Florida.
- C. Submit mill test certificates and supplied concrete reinforcing, indicating physical and chemical analysis.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Reinforcing Steel: ASTM A615, 60-ksi-yield grade billet-steel, deformed bars, uncoated finish.
- B. Welded Steel Wire Fabric: ANSI/ASTM A185 plain type; in coiled rolls; uncoated finish.
- C. Stirrup Steel: ANSI/ASTM A82.

2.02 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gauge annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete, including load bearing pad on bottom to prevent vapor barrier puncture.
- C. Chairs, Bolsters, Bar Supports, Spacers Adjacent to Architectural Concrete Surfaces: Plastic coated or stainless steel type; sized and shaped as required.

2.03 FABRICATION

- A. Fabricate in accordance with ACI 315, providing concrete cover specified in Section 03300.
- B. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.

PART 3 EXECUTION**3.01 INSTALLATION**

- A. Before placing concrete, clean reinforcement of foreign particles or coatings.
- B. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.
- C. Do not dispose or damage vapor barrier required by Section 03300.

3.02 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with concrete reinforcement work shall be included in the bid price of any item in the bid schedule for which concrete reinforcement is required.

END OF SECTION

SECTION 03300 – CAST-IN-PLACE CONCRETE**PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the Cast-In-Place Concrete Work, as indicated on the drawings, as specified herein or both except as for items specifically indicated as "NIC ITEMS".
- B. Including but not necessarily limited to the following:
 - 1. Cast-In-Place concrete walls, footings, foundation walls, paving, walks, slabs, formwork, reinforcing and all other components as indicated on the Drawings.

1.03 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03100 - Concrete Form work.
- C. Section 03200 - Concrete Reinforcement.
- D. Section 03370 - Concrete Curing.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Minimum of five years experience on 5 comparable concrete projects.
- B. Requirements of Regulatory Agencies: Perform work in accordance with local building codes.
- C. Allowable Tolerances: Flat work true to plane 1/8 inch in 10 feet.
- D. Slump tests as per ASTM C-143, and test cylinders as per ASTM C-39.

1.05 TESTS

- A. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of work.
- B. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
- C. Tests of cement and aggregates will be performed to ensure conformance with requirements stated herein.
- D. Three (3) concrete test cylinders will be taken for every 75 cu. yds. or less of each class of concrete placed each day.
- E. One (1) slump test will be taken for each set of test cylinders taken.
- F. All testing shall be at the expense of the CONTRACTOR.

1.06 SUBMITTALS

- A. Provide product data for specified products.
- B. Test Reports: Reports of concrete compression, yield, air content, and slump tests.
- C. Certificates:
 - 1. Manufacturer's certification that materials meet specification requirements.
 - 2. Material content per cubic yard of each class of concrete furnished.
 - a. Dry weights of cement.
 - b. Saturated surface-dried weights of fine and coarse aggregate.
 - c. Quantities, type and name of admixtures.
 - d. Weight of water.
 - 3. Ready-mix delivery tickets, ASTM C-94.
- D. Shop Drawings:
 - 1. Show sizes and dimensions for fabrication and placing of reinforcing steel and bar supports.
 - 2. Indicate bar schedules, stirrup spacing, and diagrams of bend bars.
 - 3. Detail items of form systems affecting appearance of architectural concrete surfaces such as joints, tie holes, liners, patterns and textures. Show items in relation to entire form system.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
- B. Handle and store materials to prevent contamination.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Allowable concrete temperatures:
 - Hot Weather: Maximum 90° F as per after C-94.
- B. Do not place concrete during rain, unless protection is provided.

PART 2 PRODUCTS

2.01 MATERIALS & MANUFACTURERS

- A. Concrete Ready-Mix concrete ASTM C-94.
 - 1. Cement:
 - a. ASTM C 150, Type II
 - 2. Admixtures:
 - a. Air entraining: ASTM C-260
 - b. Chemical: Type (as required) ASTM C-494.
 - c. Fly ash and pozzolans: ASTM C-618
 - d. Vapor Barrier: 6-mil thick film of type recommended for below grade application.
 - 3. Coarse aggregate: Not less than 50% clean, hard, crushed stone conforming to requirements of Table 2, size number 467 ASTM C-33.
 - 4. Slump 4 in. maximum; plus tolerance 0, minus tolerance 1 in.
 - 5. Air content: 5% + 1%.
 - 6. Mix proportioning:
 - a. In accordance with ASTM C-94.
 - b. 28 day compressive strength of moist cured laboratory samples 3,000 PSI.

- c. Use set retarding admixtures during hot weather only when approved by ENGINEER.
 - d. Minimum cement contents 5 sacks/cubic yards.
 - e. Add air-entraining agent to concrete work exposed to exterior.
 7. Curing Material: Liquid membrane, ASTM C-309, Type 1.
 8. Mixes:
 - a. ASTM C-94.
 - b. Mix concrete only in quantities for immediate use.
 - c. Do not retemper or use set concrete.
- B. Bars.
 1. Deformed billet steel: ASTM A 615, Grade 60.
- C. Wire Fabric:
 1. Welded Wire Fabric Steel: ASTM A 185
- D. Tie Wire: FS QQ-W-461-G, annealed steel, black 16 ga. minimum.
- E. Bar supports: Conform to "Bar Support Specification," CRSI Manual of Standard Practice.
- F. Forms:
 1. Conform with ACI 347, Chapter 3, Material and Form Work.
 2. Lumber:
 - a. Softwood framing lumber: Kiln dried, PS-20.
 - b. Boards less than 1 1/2 in. thick and 2 in. wide, used for basic forms and form liners: Kiln dried.
 - c. Grade marked by grading rules agency approved by American Lumber Standards Committee.
 - d. Light framing or studs for board or plywood forms, 2 in. to 4 in. width and thickness Construction Standard grade.
 - e. Boards for basic forms Construction Standard grade.
 - f. Board surface: Smooth.

3. Plywood:
 - a. Exterior type softwood plywood, PS 1-66.
 - b. Each panel stamped or branded indicating veneer grades, species, type and identification.
 - c. Wood faced plywood for architectural concrete surfaces.
 - 1) Panel veneer grades: B - C.
 - 2) Mill-oiled sides and mill-sealed edges of panels.
 4. Ties:
 - a. Materials: Stainless Steel.
 - b. Type: Snap Ties.
 - c. Depth of breakback: 1 in.
 - d. Maximum diameter 1/4 in.
 5. Form coatings:
 - a. Non-staining type.
 - b. Agent: Pine oil derivative.
- G. Water: Clean and potable.

PART 3 EXECUTION

3.01 FORMWORK

- A. Conform to ACI 347, Chapter 2, Construction; and Article 4.2, architectural Concrete.
- B. Framing, Bracing and Plywood Form Liners: APA Form V 345-72.
- C. Provide temporary openings in framework for concrete placement.
- D. Fill voids of plywood joints with sealant and tool smooth.
- E. CONTRACTOR is responsible for the design, construction, removal and complete safety of formwork and shoring.

- F. Form construction shall be provided to shape, lines dimensions of members shown; substantial, tight enough to prevent leakage, and properly braced or tied to maintain position and size, form sides and bottoms of members unless specifically excepted.

3.02 REINFORCING

- A. Fabrication shall be provided to latest ACI Manual of Practice ACI-315.
- B. Reinforcing free from excessive rust, scale or coating reducing bond. Bars bent cold in fabrication plant. Chairs, support bars, and other accessories furnished to carry and provide coverage as required by ACI Manual.
- C. Unless otherwise indicated the minimum coverage is 3 in. for footings (slabs to have 3/4 in. minimum). Call any "crowding" of reinforcement to ENGINEERs attention during placing.
- D. Splices shall be Mesh 6 in. lap, bars 30 diameter minimum.
- E. Conduit or pipes embedded in concrete must have specific approval and be located to avoid cracking or reduction in strength. Provide extra strong pipe sleeves where pipes are allowed to pierce concrete beams or walls.
- F. Placement:
 - 1. Bar supports: CRSI 65.
 - 2. Reinforcing bars: CRSI 63.
- G. Steel Adjustment:
 - 1. Move within allowable tolerances to avoid interference with other reinforcing steel, conduits, expansion joints, or embedded items.
 - 2. Do not move bars beyond allowable tolerances without concurrence of ENGINEER.
 - 3. Do not heat, bend or cut bars without concurrence of ENGINEER.
- H. Splices:
 - 1. Lap splices: Tie securely with wire to prevent displacement of splices during placement of concrete.
 - 2. Splice devices: Install in accordance with manufacturer's written instructions.
 - 3. Welding: Perform in accordance with AWS Standards.

4. Do not splice bars except at locations shown on drawings without concurrence of ENGINEER.
- I. Wire Fabric:
 1. Install in longest practicable length.
 2. Lap adjoining pieces one full mesh minimum, and lay splices with 16-gage wire.
 3. Offset end laps in adjacent widths to prevent continuous laps.
 - J. Cleaning: Remove dirt, grease, oil, loose mill scale, excessive rust, and foreign matter that will reduce bond with concrete.
 - K. Protection During Concreting: Keep reinforcing steel in proper position during concrete placement.

3.03 JOINTS

- A. Construction pours shall be continuous pours except where joints are indicated. No additional joints except by special acceptance in writing by the ENGINEER. Allow no construction or interrupted pour joints in any exposed surface, unless treated as part of design.
 1. Where indicated and as detailed, provide saw cut type construction joints of sizes as called for on the drawings.
- B. Expansion joints shall be constructed as shown on drawings.
 1. Expansion material shall be 1/2" continuous full depth strips set 1/2" below finish surface with 1/2" x 1/2" joint sealant filler above.

3.04 BUILT-IN ANCHORING DEVICES, FIXTURES, PIPE SLEEVES AND OTHER INSERTS

- A. Build-in and coordinate as required and called for on the drawings all items to be constructed into concrete such as anchoring devices, fixtures, piping, sleeves and other inserts and items as required for a complete installation.

3.05 INSPECTION

- A. Assure the excavation and formwork are completed, with smooth rubbed finish and that excess water is removed.
- B. Check that reinforcement is secured in place.

- C. Verify that expansion joint material, anchors, and other embedded items are secured in position.
- D. Verify anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause hardship in placing concrete.

3.06 CONCRETE QUALITY

- A. Design of mix shall be a laboratory designed mix to satisfy the following requirements and shall be approved by the ENGINEER.
 - 1. Ready mixed concrete as per ASTM C-94 with 28 day strength 3,000 PSI minimum, for all standard grey concrete work.
 - 2. Proportion the concrete to work readily into forms and around reinforcement, without excessive manipulation, segregation or water gain. Approved additives may be used to achieve the above results.
 - 3. Slump shall be maximum 3 in. for footings, and for all other concrete shall be 3 in. to 5 in.
 - 4. Submit for approval representative test results by independent laboratory to substantiate proposed mix design.

3.07 PREPARATION FOR POURS

- A. Notify the OWNER's Representative, ENGINEER and other inspectors at least 36 hours prior to inspection.
- B. Equipment forms, and reinforcing shall be clean and wet down, reinforcing firmly secured in place, runways set up and not resting on or displaying reinforcing.
- C. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Apply bonding agent in accordance with manufacturer's instruction.
- D. At locations where new concrete is dowelled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.

3.08 PLACING

- A. Mixing and conveying shall be as per ASTM C-94 and as follows:
 - 1. Maximum elapsed time from addition of water to placing in forms -60 minutes, (total mixing time).

2. Concrete handled and placed by methods, which keep concrete plastic, prevent separation of materials, and do not displace reinforcement.
- B. Deposit as close as possible to final position to avoid segregation of materials. Restrict drop to 3 foot maximum (less for exposed concrete), using tremie if necessary.
 1. Compact by mechanical vibration to thoroughly work around reinforcing and eliminate honeycomb.
 - C. Place concrete in accordance with ACI 301.
 - D. Hot Weather Placement: ACI 301.
 - E. Cold Weather Placement: ACI 301.
 - F. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during concrete placement.
 - H. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.
 - I. Saw cut control joints at an optimum time after finishing. Use 3/16 inch thick blade, cutting 1/3 depth of slab thickness.
 - J. Separate exterior slabs on fill from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface.
 - K. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify ENGINEER upon discovery.

3.09 CONCRETE CURING

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water, if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming to ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturers recommendations.

3.10 CONCRETE FINISHING

- A. Unexposed concrete work shall be patched and repaired immediately after removal of forms.
 - 1. Cut off metal ties a minimum of 1 in. back from surface of concrete.
 - 2. Moderate honeycomb cut out and prepared for patching. Severe honeycomb with exposed steel reinforcing is to be removed or "united" at the discretion of the ENGINEER.
 - 3. Wet areas for patching and pack carefully with rich mortar rubbed to match surface.
- B. Provide concrete surfaces to be left exposed, walls, columns, beams, with smooth rubbed finish.
- C. Provide Class B tolerances to floor slabs and toppings according to ACI 301.
- D. Pitch to drains 1/4 inch per foot.
- E. Exposed concrete work shall be patched and repaired as accepted by ENGINEER after consultation. Patching and rubbing will be kept to a minimum if possible, but when necessary will be done with great care to obtain maximum degree of matching in color and texture to adjacent finished concrete surfaces.
- F. Monolithic finish using care to obtain a level surface; floors out of level or with variation greater than 1/8 in. in 10 feet shall be corrected.
- G. All finishes shall be as called for on the drawings.

3.11 SEPARATE FLOOR TOPPINGS

- A. Prior to placing, roughen concrete base course and remove foreign materials. Broom and vacuum clean.
- B. Place dividers, edge strips, reinforcing and other items to be cast in.
- C. Apply bonding agent on base course in accordance with manufacturer's instructions. Apply sand and cement slurry coat on base course immediately prior to placing toppings.
- D. Place concrete floor toppings to required lines and levels.

3.12 PATCHING

- A. Notify ENGINEER immediately upon removal of forms.
- B. Patch imperfections.

3.13 DEFECTIVE CONCRETE

- A. Modify or replace concrete not conforming to required levels and lines, details, and elevations.
- B. Repair or replace concrete not properly placed or of the specified type.

3.14 FIELD QUALITY CONCRETE

- A. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.15 PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. During curing period, protect concrete from damaging mechanical disturbances, water flow, loading, shocking, and vibration.

3.16 APPLICATION OF BOND COAT FOR CONCRETE LEVELING COAT FOR PAVERS AND TEXTURED SURFACES

- A. Provide installation as per manufacturer's standard printed specifications, instructions and recommendations.

3.17 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All cast in place concrete shall be included in the bid price of the relevant item in the bid schedule.

END OF SECTION

SECTION 03370 – CONCRETE CURING**PART 1 GENERAL**

1.01 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Maintenance of conditions for proper concrete curing.

1.03 RELATED WORK

- B. Section 03010 - Concrete
- C. Section 03300 - Cast-in-Place Concrete

1.04 QUALITY ASSURANCE

- A. Conform to requirements of ACI 301.

1.05 REFERENCES

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

1.06 SUBMITTALS

- A. Provide product data for specified products.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperature at 70 degrees F. for three (3) days.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Water: Clean and not detrimental to concrete.
- B. Absorptive Mat: Burlap fabric of 9 oz./sq. yd. clean, roll goods.
- C. Curing Compound: As per ASTM C309.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify concrete surfaces are ready for curing.

3.02 CURING COMPOUND

- A. Apply curing compound in two (2) coats with second coat at right angles to first.
- B. Apply in accordance with manufacturer's instructions.

3.03 SPRAYING

- A. Spray water over slab areas; maintain wet for three (3) days.

3.04 ABSORPTIVE MAT

- A. Saturate burlap side of burlap fabric mat. Place over slab areas, burlap side down; lap edges and ends 12 inches. Maintain in place for seven (7) days.

3.05 CONCRETE CURING

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water, if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming with ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturers recommendations.
- C. Cure concrete as scheduled or indicated.
- D. Remove absorptive mat after curing.

3.06 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with concrete curing shall be included in the bid price of any item in the bid schedule for which concrete curing is required.

END OF SECTION

DIVISION 4 - MASONRY

SECTION 04100 - MORTAR

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Mortar and grout for unit masonry, and stucco.

1.03 RELATED WORK

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 04110 - Cement Stucco.
- C. Section 04200 - Unit Masonry System.

1.04 SUBMITTALS

- A. Submit manufacturers certifications that product used meets the specifications.
- B. Include design mix, environmental conditions, and admixture limitations.
- C. Submit manufacturer's installation instructions.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air temperature to minimum 50 degrees F. prior to, during and 48-hours after completion of masonry work.

PART 2 PRODUCTS

2.01 MATERIALS

PROJECT 12010
ANNUAL BRIDGE REPAIR, MAINTENANCE AND PAINTING

- A. Portland Cement: ASTM C150, normal - Type 1.
- B. Masonry Cement: ASTM C98, for general use.
- C. Mortar Aggregate: ASTM 144, standard masonry type; clean, dry protected against dampness and foreign matter.
- D. Grout Course Aggregate: Maximum 3/8 inch.
- E. Grout Fine Aggregate: Mason's sand.
- F. Hydrated Lime: ASTM C207, Type S.
- G. Quicklime: ASTM C5, non-hydraulic type.
- H. Premix Mortar: ASTM C387, using grey cement.
- I. Water: clean and potable.

2.02 MIXES

- A. Mortar for Load Bearing Walls and Partitions: ASTM C270, Type M, 2500 PSI.
- B. Mortar for Non-load Bearing Walls and Partitions: ASTM C270, Type 2500 PSI.
- C. Mortar for Reinforced Masonry: ASTM C476, Type PM.
- D. Pointing Mortar: ASTM C270, Type M.
- E. Pointing Mortar: One Part Portland cement, 1/8 part hydrated lime, and two parts graded (80 mesh) aggregate, proportioned by volume. Add aluminum tristerate calcium, stearate, or ammonium sterate equal to two percent (2%) of Portland cement weight (for exposed surfaces).

2.03 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.
- B. If water is lost by evaporation, retemper within two (2) hours of mixing. Do not retemper mortar after two (2) hours of mixing.

PART 3 EXECUTION**3.01 INSTALLATION**

- A. After inspection of concrete grout spaces by ENGINEER, plug cleanout holes in masonry units. Brace against wet grout pressure.
- B. Install mortar and grout in accordance with Section 04200 and Section 03300.
- C. Work grout into cores and cavities to eliminate voids.
- D. Do not displace reinforcing steel placing grout.
- E. Clean concrete grout spaces of excess mortar and debris.

3.02 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with mortar products and work shall be included in the bid price of the applicable item in the bid schedule.

END OF SECTION

SECTION 04110 – CEMENT STUCCO**PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this Section.

1.02 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the site Cement Stucco work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEM".

1.03 RELATED WORK

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 04100 - Mortar.
- C. Section 04200 - Unit Masonry System.

1.04 REFERENCES & QUALITY ASSURANCE

- A. Standards: Materials, installation, workmanship: As per following applicable standards.
 - 1. Portland Cement Association "Plasterer's Manual."
 - 2. American National Standards Institute, "ANSI A-42.2 Specifications for Portland Cement Stucco".

1.05 DELIVERY, STORAGE AND HANDLING

- A. Materials: Delivered to project site in manufacturer's original unopened containers, or bundles, with brand name, type, size, amount clearly marked.
Materials: Stored and handled under cover, off ground surface to prevent damages.

1.06 SUBMITTALS

- A. Submit manufacturers certifications that product used meets the specifications.

- B. Submit manufacturer's installation instructions

PART 2 PRODUCTS

2.01 STUCCO MATERIALS & MANUFACTURERS

- A. Standard grey Portland Cement: As per ASTM C-150 (domestic).
- B. Standard grey masonry cement: As per ASTM C-91, (domestic).
- C. Hydrated Lime: As per ASTM C-206, Type S.
- D. Silica Sand: As per ASTM C-5, ASTM C-33, (as applicable).
- E. Bonding agent for concrete surfaces: Water-based emulsion type best suited for specific surface, as recommended by manufacturer, Portland Cement Association.
- F. Water: Potable, shall contain no impurities that affect performance of Stucco.

PART 3 EXECUTION

3.01 GENERAL INSTALLATION & WORKMANSHIP

- A. Application of Cement Stucco: Provided as per applicable standards specified herein before and manufacturer's standard printed specifications, instructions and recommendations.
 - 1. Do not retemper or use partially set cement stucco mix. Clean mixer or mixing box before loading new batch.
 - 2. Mechanical mixing: Provided as per recommended practice by Portland Cement Association and manufacturer.
 - 3. Mill mixed cement stucco: Used as per manufacturer's printed direction and recommendations.
 - 4. Hand, machine application of cement stucco: Provided as per recommended practice by Portland Cement Association, manufacturer.
 - 5. Application of cement stucco directly to concrete surfaces: Provided as per recommended practice by Portland Cement Association, manufacturer.

- a. Examine concrete surfaces to insure good bond of stucco before starting any work. If evidence of poor bond exists, obtain good bond by use of bonding agent as per manufacturer's instructions.
 - b. Stucco applied directly over concrete surfaces: Treated with bonding agent, applied as per manufacturer's written instructions.
6. Parts for cement stucco mix: By volume unless otherwise noted or directed.
 7. Prepare trial mixes, sample panels as specified, indicated or directed by ENGINEER to check workability, adhesion, non-sagging properties, texture, finish, color matching as specified, as accepted by OWNER.
 8. Cement Stucco work: As per recommendations of Portland Cement Association as specified herein and manufacturer's standard specifications.
 9. Commencement of work: Considered as acceptance of surfaces, conditions of work.
 10. Stucco work shall be "moist-cured" for not less than 48 hours as per P.C.A. Curing Standards.
 11. In cold weather make provisions for maintaining temperature of 50 degrees F during application, for minimum of 48 hours thereafter, (if applicable).

B. Alignments:

1. Alignment of all finished cement stucco surfaces: Without breaks, in one plane, regardless of substrate material, construction type or thickness.

3.02 CUTTING & PATCHING

- A. Do cutting, patching, repairing, pointing up of cement stucco work, after other work is in place. Cut out injured portions, cracks, other defects; repair in satisfactory manner. Point around fixtures, outlet boxes, switches, receptacle boxes, other appliances abutting or extending into cement stucco surfaces.

3.03 PROTECTION

- A. Finished Work: Protected against damages, drying out prematurely. Protect work from being damaged or stained by other trades. Repair, or replace damaged, defective or soiled work at no additional cost, satisfactory to ENGINEER.
 1. Provide, maintain protection of materials or installed items adjacent to work of this Section. Be responsible for damages to adjacent materials. Damaged Materials: Repaired or replaced at no additional costs as a result of work under this Section.

3.04 CLEANING

- A. Promptly clean surfaces spattered with cement stucco materials. Upon completion of stucco work, remove materials and equipment from site and leave work in clean and satisfactory condition.

3.05 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment is provided for work covered by this Section. All costs in connection with cement stucco products and work shall be included in the bid price of the applicable item in the bid schedule.

END OF SECTION