

Project Manual

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 6. *Change Proposal* – A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both.
 7. *Claim*—A demand or assertion by the Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decisions by Engineer concerning the requirements of the Contract Documents or acceptability of Work under the Contract Documents; contesting Owner’s decision regarding a Change Proposal; seeking resolution of a contractual issue that Owner has declined to address; or seeking other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 8. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 9. *Contract Times*—The number of days or the dates stated in the Agreement by which Contractor shall: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work.

10. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
11. *Engineer*—The individual(s) or entity(ies) named as such in the Agreement.
12. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
13. *Final Completion*—The date on which all Work is complete in accordance with the Contract Documents, including but not limited to, any items identified in the punch list prepared in accordance with the General Conditions and the submission of all documents required by the General Conditions..
14. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
15. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
16. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
17. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
18. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
19. *PCBs*—Polychlorinated biphenyls.
20. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
21. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the bidding documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
22. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
23. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

24. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
25. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
26. *Substantial Completion*—The time at which the Work, or a specified part thereof, has progressed to the point where, in the opinion of Engineer, the Work, or a specified part thereof, is sufficiently complete, in accordance with the Contract Documents, so that the Work, or a specified part thereof, can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
27. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
28. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
29. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The following words and terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.
- B. *Defective*:
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).
- C. *Furnish, Install, Perform, Provide*:

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- D. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds:* Contractor shall deliver to Owner such bonds as Contractor may be required to furnish within ten (10) days of the date on which Contractor signs the Agreement. Contractor shall not be permitted to commence performance of Work until the bonds have been delivered even though the Contract Times may have commenced.
- B. *Evidence of Insurance:* Before any Work at the Site may commence, Contractor shall deliver to the Owner certificates of insurance and policy endorsements pages for all insurance policies that may be required of Contractor by the Contract Documents evidencing compliance with the Owner’s insurance requirement as required in [Article 5](#) and Exhibit A, Owner’s Insurance Requirements, to these General Conditions.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor a digital file or files containing the Drawings and Project Manual.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times for Substantial Completion and Final Completion shall be as indicated in the Contract Agreement. The Contract Times will commence upon issuance of a Notice to Proceed by the Owner.

2.04 *Commencement of Performance*

- A. Contractor may commence performance upon receipt of the Notice to Proceed and in accordance with any terms and dates contained therein.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Owner and Engineer:
1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, identifying the critical path for the Work, and including any Milestones specified in the Contract Documents;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.
- B. Contractor represents that Contractor's preliminary Progress Schedule has been prepared and is based upon Contractor's own knowledge, understanding, and judgment of conditions and hazards, known and anticipated, and does not rely on any representations by Owner.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, local utility representatives, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. Prior to or within three (3) days of the Notice to Proceed, the Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.
- C. The conference will be held at a location selected by Owner. The conference shall be attended by:
1. Contractor's Office Representative;
 2. Contractor's Resident Superintendent;
 3. Contractor's Safety Representative;
 4. Contractor's representative responsible for submitting and processing Shop Drawings and other Submittals to Engineer; and
 5. Any Subcontractors or Suppliers representatives whom Contractor may desire to invite or Engineer may request.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer and Owner (e.g. Microsoft Project).
 - 1. The Progress Schedule will be acceptable to Engineer and Owner if it provides an orderly progression of the Work to completion within the Contract Times.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

2.08 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract Documents, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or accessible digital format, either directly, or through access to a secure Project website.
- B. Contractor and all of Contractor's personnel shall maintain and save said electronic data in a format producible to Owner, if required for an audit as allowed by Paragraph 17.10 or otherwise. Said preservation requirement shall apply to all electronic transmittals allowed by this Paragraph 2.08, including all text and electronic mail messages.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their Subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or Subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.05.
3. Contractor shall not be liable to Owner or Design Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof. Should Contractor perform the Work after discovery of such a conflict without reporting the conflict or before receipt of a clarification or interpretation by Engineer, Contractor will be solely liable for any correction or other measures that may be required to overcome the conflict or bring the Work into compliance with the Contract Documents.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or,
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder. Owner shall have sole authority to accept the Work. Action of the Engineer shall not bind Owner to acceptance of the Work, or any part thereof, nor shall any act of the Engineer be relied upon by Contractor as an indicator of acceptance by the Owner.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 10.
- D. If the Work required by a Drawing or Specification identifies or requires a specific piece of equipment, such Drawing or Specification shall indicate the manufacturer's part number or reference data. If specific equipment is required, the Drawings or Specifications shall indicate the design dimensions and the minimum and maximum allowable operating tolerances for any such equipment, where applicable.

3.05 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.06 *Electronic Data*

- A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Owner shall provide any easements for ingress or egress necessary for access to the Site.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment for which the Site and any Owner-provided easements do not provide.

4.02 *Subsurface and Physical Conditions*

- A. Contractor accepts the responsibility to satisfy itself as to the soil conditions and nature and type of geological formations in and through which this Project will be constructed. Such information as may be obtained from the test borings and accompanying notations shown on the plans is

merely for the guidance of the Contractor and is not to be construed in any manner as a guarantee by the Owner that such conditions of sub-surface strata are infallible.

- B. Contractor waives any and all rights to make a claim against Owner relating to representations related to geotechnical data provided in the contract documents, plans and specifications. The locations of the test holes, if applicable, are shown in the Geotechnical Report. Logs of these test holes are included in the Geotechnical Report. Test hole information represents subsurface characteristics to the extent indicated and only for the point location of the test hole. Contractor shall make its own interpretation of the character and condition of the materials, which will be encountered. Contractor may, at its own expense, make additional surveys and investigations as it may deem necessary to determine conditions, which will affect performance of the Work.
- C. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and
 - 2. those drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.
- D. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” provided and contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer with respect to:
 - 1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

Contractor waives and expressly acknowledges that it does not possess and may not maintain any claims against Owner due to the inclusion or omission from the bid documents or the contract documents any data concerning geotechnical, hydrological or other similar data and studies that may be known to the Owner or its Engineer, regardless of whether such data was considered in the design.

4.03 *Differing Subsurface or Physical Conditions*

- A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:
 - 1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Times will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's time required for performance of the Work; subject, however, such condition must meet any one or more of the categories described in Paragraph 4.03.A.
2. Contractor shall not be entitled to any adjustment in the Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a bid, proposal, or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the extent, if any, of any adjustment in the Contract Times, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner nor Engineer shall be liable to Contractor for any increase in the Contract Price or any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or dispute resolution costs) sustained by Contractor on or in connection with the Project as a result of differing subsurface or physical conditions.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on

information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities, regardless of whether shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Times to the extent that it is attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the extent, if any, of any such adjustment in Contract Times, Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or

property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

- B. Contractor shall note the location of all reference points and controls on a set of red-lined drawings or exhibits to be maintained at all times on the jobsite or the location of Contractor's project management personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to Hazardous Environmental Conditions that have been identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer in writing within twenty-four (24) hours of the discovery of such condition. Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs and deduct all costs incurred from the contract balance or if no contract balance, may file a claim for costs.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or extent, if any, of any adjustment in Contract Times, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, Owner may issue a Work Directive or notify Contractor of its decision and Contractor may make a Claim as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then the Contractor may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

- G. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER AND ITS OFFICIALS, OFFICERS, DIRECTORS, PARTNERS, EMPLOYEES, AGENTS, CONSULTANTS, AND SUBCONTRACTORS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) ARISING OUT OF OR RELATING TO A HAZARDOUS ENVIRONMENTAL CONDITION CREATED BY CONTRACTOR OR BY ANYONE FOR WHOM CONTRACTOR IS RESPONSIBLE.
- H. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

4.07 *Hazardous Materials and Waste*

- A. Where hazardous materials are brought to or otherwise encountered at the site, Contractors shall take necessary precautions and exercise a standard of care sufficient to properly address the hazardous material or waste as may be required. Contractor shall properly containerize, label, and transport such hazardous materials and waste as may be required by Owner or any other governmental or regulatory body having jurisdiction or control over the handling, storage or disposal of such hazardous materials or waste. Upon request by Owner, Contractor shall furnish copies of all manifests or bills of lading identifying the generation and ultimate disposal of all materials that may be the subject of referenced regulations.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall be in accordance with Texas Government Code Chapters 2253 and 2269.
- B. All bonds shall be in the form prescribed by the Owner in the Contract Documents. All bonds signed by an agent must be accompanied by a certified copy of that agent's authority to act.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements above, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements above.

- D. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 15.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Insurance Rider that is Exhibit A to these General Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Exhibit A to these General Conditions, certificates of the insurance, policy endorsements page (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

5.04 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Insurance Rider to be listed as insureds or additional insureds (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights all other individuals or entities identified in the Insurance Rider to be listed as insured or additional insured (and the officers, directors, members, partners, employees, agents, consultants, and Subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. The Contractor shall prosecute the Work in a good and workmanlike manner, continuously and diligently in accordance with generally accepted standards for projects similar to the Project, using qualified, careful, and efficient workers, in conformity with the provisions of the Agreement and in strict compliance with the Contract Documents and with Laws and Regulations.
- B. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the

Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall perform the Work in strict accordance with the Contract Documents.

- C. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written consent of Owner. Such consent shall not be unreasonably withheld. Contractor shall not employ any superintendent on the Project, whether initially or as a replacement, against whom Owner may have reasonable objection. The superintendent shall fluently speak the English language. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer. Contractor shall notify the Engineer and Owner in writing of such request no less than 3 days prior to the requested work date for performance of Work on Saturday, Sunday, or any legal holiday.
- C. Regular working hours are weekdays, Monday through Friday, 7:00 a.m. to 5:00 p.m. Emergency work may be done outside regular working hours without prior consent of Owner pursuant to Paragraph 6.16.
- D. The following holidays are to be observed by Owner, and construction is not to be undertaken unless prior approval is received from the Owner in accordance with Section 6.02.B. If a holiday occurs on Saturday or Sunday, the holiday will be observed on the previous Friday or following Monday.
 - 1) New Year's Day
 - 2) Martin Luther King, Jr. Day
 - 3) New Braunfels Founders Day (Good Friday)
 - 4) Memorial Day
 - 5) Juneteenth
 - 6) Independence Day
 - 7) Labor Day
 - 8) Comal County Fair Day
 - 9) Thanksgiving Day
 - 10) Day after Thanksgiving Day
 - 11) Christmas Eve
 - 12) Christmas Day

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work, regardless whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:

- 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct

contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

- a) all variations of the proposed substitute item from that specified, and
- b) available engineering, sales, maintenance, repair, and replacement services; and

- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other Contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination. Use of an unapproved "or-equal" item will render such Work defective and will be subject to Article 13 provisions.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer may record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.
- G. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an

appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 6.05.E, by timely submittal of a Change Proposal.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection.
- B. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner.
- H. The Contractor shall submit a list of Subcontractors and/or Suppliers performing Work on this Project for acceptance by Owner.

6.07 *Patent Fees and Royalties*

- A. 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 of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER AND ENGINEER, AND THE OFFICIALS, OFFICERS, DIRECTORS, PARTNERS, EMPLOYEES, AGENTS, CONSULTANTS AND SUBCONTRACTORS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING

BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) ARISING OUT OF OR RELATING TO ANY INFRINGEMENT OF PATENT RIGHTS OR COPYRIGHTS INCIDENT TO THE USE IN THE PERFORMANCE OF THE WORK OR RESULTING FROM THE INCORPORATION IN THE WORK OF ANY INVENTION, DESIGN, PROCESS, PRODUCT, OR DEVICE NOT SPECIFIED IN THE CONTRACT DOCUMENTS.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of bids or proposal, or, if there are no bids or proposal, on the Effective Date of the Agreement. Contractor shall pay all charges of utility owners for connections for providing permanent service to the Work. The costs for any utility charges shall be a direct pass through cost to the Owner without markup by the Contractor.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) arising out of or relating to such Work. However, with the specific exception of compliance with all applicable building codes, Contractor has no responsibility or liability for determining whether the Work as described in the Contract Documents complies with applicable Laws and Regulations.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.
- B. Owner enjoys limited tax-exempt status as a municipality of the State of Texas. To enjoy the cost-savings benefits of its tax-exempt status, Owner will provide a Tax Exemption Certificate to Contractor for use on the Project. Contractor shall use that certificate to exempt any purchases made for the Work from taxes. All savings for the tax-exempt status will be passed on to Owner by the Contractor. Contractor agrees to bind all Subcontractors of any tier to the obligation to present and use the Tax Exemption Certificate and pass all savings to Owner.
- C. Owner is an exempt organization as defined by Chapter 11 of the Property Tax Code of Texas and is thereby exempt from payment of Sales Tax under Chapter 151, Limited Use Sales, Excise and Use Tax, Texas Tax Code, and Article 1066 (C), Local Sales and Use Tax Act, Revised Civil Statutes of Texas.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by dispute resolution proceeding or at law.
3. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, AND ITS OFFICIALS, OFFICERS, DIRECTORS, PARTNERS, EMPLOYEES, AGENTS, CONSULTANTS AND SUBCONTRACTORS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) ARISING OUT OF OR RELATING TO ANY CLAIM OR ACTION, LEGAL OR EQUITABLE, BROUGHT BY ANY SUCH OWNER OR OCCUPANT AGAINST OWNER, OR ANY OTHER PARTY INDEMNIFIED HEREUNDER TO THE EXTENT CAUSED BY OR BASED UPON CONTRACTOR'S PERFORMANCE OF THE WORK.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations. All waste material shall be promptly removed from the property and disposed of in an acceptable manner. Owner may, at its option, elect to receive excess spoil materials. Contractor shall, at the direction of Owner, haul all excess spoils material to a site that is acceptable to Owner. Contractor will not be entitled to an increase in Contract Price or Contract Times for the removal, disposal, and hauling of this material; all costs for removal, disposal, or relocation of excess spoil materials are included in the Contract Price.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Owner. Delivery of a complete set of record documents to Owner is a condition precedent to Final Completion.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with applicable Law and Regulations regarding safety and shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- E. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- B. Contractor shall maintain Safety Data Sheets (SDS), where applicable, for any chemical products. The SDS(s) shall be made available to Owner or Engineer upon request.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:
 - a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - b. the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - d. each Shop Drawing or Sample is coordinated with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample.
3. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the

Contract Times or Contract Price, unless such changes are included in a Change Order. Should Contractor seek and adjustment to the Contract Times due to the failure of Engineer to timely review submittals in accordance with the terms contained in the Contract Documents, Contractor must provide information required by and in accordance with Articles 10 and 12 of these General Conditions. Contractor expressly waives and acknowledges that it shall not be entitled to an adjustment of the Contract Price, delay damages, or any other type or category of monetary damages due to the Engineer's review.

4. Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall not result in such item becoming a Contract Document.
5. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 6.17.D.2.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of Shop Drawings, samples, or other items requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will strictly conform to the requirements of the Contract Documents and will be performed in a good and workmanlike manner, and will be free from defects. Work, materials, or equipment not conforming to these requirements may be considered defective.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in strict accordance with the Contract Documents:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.
- F. The Contractor warrants and guarantees for one (1) year from Final Completion, or for a longer period if expressly stated in the Contract Documents, the Work. This includes a Warranty and Guarantee against any and all defects. The Contractor must correct any and all defects in material or workmanship which may appear during the Warranty and Guarantee period, or any defects that occur within one (1) year of Final Completion even if discovered more than one (1) year after Final Completion, by repairing (or replacing with new items or new materials, if necessary) any such defect at no cost to the Owner, within a reasonable period of time, and to the Owner's satisfaction.

6.20 *Indemnification*

- A. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER AND ITS OFFICIALS, OFFICERS, DIRECTORS, PARTNERS, EMPLOYEES, AGENTS, AND CONSULTANTS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, EXPENSES, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO

ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS REGARDLESS OF WHETHER SUCH FEES, COSTS OR EXPENSES ARE INCURRED PRIOR TO OR DURING THE PENDENCY OF LITIGATION) ARISING OUT OF OR RELATING TO THE PERFORMANCE OF THE WORK. SUCH INDEMNITY OBLIGATIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO A CLAIM, COST, EXPENSE, LOSS, OR DAMAGE THAT IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE, OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY, INCLUDING THE LOSS OF USE RESULTING THEREFROM. ALL INDEMNITY OBLIGATIONS OF CONTRACTOR SHALL BE LIMITED TO THE EXTENT CAUSED BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, OR ANY INDIVIDUAL OR ENTITY DIRECTLY OR INDIRECTLY EMPLOYED BY, OR UNDER THE SUPERVISION OF, ANY OF THEM TO PERFORM ANY OF THE WORK OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE.

- B. In any and all claims against Owner or any of its officers, directors, members, partners, employees, agents, consultants, or Subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Design Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and acceptance of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract

Documents. Engineer's review and acceptance of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for, nor warrant, the adequacy of the design, performance criteria, or design criteria required by the Contract Documents, Plans, and Specifications, except for such portions of the design as may have been delegated to Contractor pursuant to this Paragraph 6.21.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the extent, if any, of any adjustment in the Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other Contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work and will only cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other Contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various Contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other Contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. For all Project and performance of Work matters, Owner will issue all communications to Contractor through Engineer. However, Owner may, at its discretion, issue communications related to the Project directly to Contractor. In all such direct communications, Owner will endeavor to copy Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer. Engineer shall not have the authority to bind the Owner as that authority lies with the Owner's representative designated in Paragraph 2.07 or the city council of the City of New Braunfels and the Board of New Braunfels Utilities, but Engineer may communicate on behalf of Owner in all Project matters. Where in these Contract Documents actions are designated to the Engineer for performance, to the extent said actions do not involve technical matters, the Owner may act for itself and shall not be bound to an action by Engineer as a condition precedent.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design

professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. Engineer may furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary or Special Conditions.

9.04 *Authorized Variations in Work*

- A. Owner and Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Contractor, subject to the provisions of Paragraph 10.05. Engineer will make a recommendation to Owner for payment of such Unit Price Work, but Owner shall make the final determination thereof.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Engineer's authority, responsibility, or actions as Owner's representative shall not give rise to any liability to Contractor. Contractor expressly waives any claims it has against Engineer for the performance of its responsibilities as Owner's representative.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto.
- C. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.
- D. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.05, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Contractor Change Requests*

- A. Whenever it determines the Work depicted in or required by the Contract Documents should be modified, altered or changed to address unforeseen conflicts, changed conditions, or if, in the Contractor's opinion and evaluation, the change would benefit and improve the Project or reduce costs to the Owner, the Contractor may submit a Change Order request to the Engineer in any format the Contractor deems appropriate. The Engineer will consider such change and issue a recommendation to the Owner. The Contractor shall not delay or prevent continuation of other Work during the pendency of a Change Order request submitted by Contractor. Contractor shall not be entitled to any adjustment of the Contract Times or Contract Price due the submission of a Change Order request.

10.05 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Paragraph:

- 1. Appeals by Contractor of Engineer's decisions regarding Change Proposals;
- 2. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

The parties agree the Owner is not obliged to submit a Claim as provided in this Article 10.05 to assert its rights under the Contract Documents.

- B. *Submittal of Claim :* The Contractor shall deliver its Claim directly to the Owner promptly, but in no event later than thirty (30) days after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within thirty (30) days of the decision under appeal. Contractor shall also furnish a copy to the Engineer, for its information only. The Contractor is responsible to substantiate the Claim.

- C. *Review and Resolution:* Owner shall review it thoroughly, giving full consideration to its merits. The parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

- D. *Mediation:*

- 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
- 2. If Owner and Contractor agree to mediation, then after sixty (60) days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process in writing, and

the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined in writing by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Denial of Claim:* If efforts to resolve a Claim are not successful, Owner may deny the Contractor's claim by giving written notice of denial to Contractor. If, after receipt of the written notice of denial, Contractor does not (1) take action on the Claim within ninety (90) days or (2) specifically reserves rights to pursue the Claim, subject to controlling Laws and Regulations, then Contractor shall be deemed to have expressly waived such Claim.
- F. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; then the agreement shall be memorialized in a writing signed by both parties and results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay applicable thereto.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. 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, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. The cost of utilities, fuel, and sanitary facilities at the Site.
 - f. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.
- B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
1. Payroll costs and other compensation of Contractor's employees, agents, and other personnel not included in Paragraph 11.01.A.1, whether at the Site or in Contractor's principal or branch office for general administration of the Work, all of which are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of 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.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. *Contingency Allowance:*

- 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- B. Prior to final payment, to the extent prior Change Orders have not been executed allocated contingency allowances, an appropriate Change Order will be issued to reflect actual amounts due Contractor on account of Work covered by allowances, and the balance of any unused contingency shall revert to Owner unless allocated differently elsewhere in the Contract Documents.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the bid or proposal price of a particular item of Unit Price Work amounts to 5% or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by the Contractor differs by more than 25% from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor has incurred additional expense and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim by Contractor for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and Owner in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by Contractor to the Engineer and Owner in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Such an adjustment in Contract Times shall be Contractor's sole and exclusive remedy for the delays described in this sub-Paragraph. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other Contractors performing other work as contemplated by Article 7, fires, floods, epidemics, pandemics, abnormal or severe weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times and Contractor's ability to demonstrate effect on Contractor's then established critical path. Such an adjustment in Contract Times shall be Contractor's sole and exclusive remedy for the delays described in this sub-Paragraph.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, pandemic, abnormal or severe weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times and Contractor's ability to demonstrate effect on Contractor's then established critical path. Such an adjustment in Contract Times shall be Contractor's sole and exclusive remedy for the delays described in this sub-Paragraph. The occurrence of flooding or other effects of storms or severe weather such as thunderstorms or ordinarily experienced rain events shall not trigger an adjustment of the Contract Times pursuant to this section. Rain events and other anticipated weather that may result in delays to Contractor's performance are addressed in the following paragraphs D and E.
- D. In order for the Owner to award a time extension under this clause, the following conditions must be satisfied:

1. The weather experienced at the Project site during the Contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the Project location during any given month; and
 2. The unusually severe weather must actually cause a delay to the completion of the Project.
- E. For the duration of the Contract, Contractor shall maintain in its daily reports an accurate and contemporaneous record of the occurrence of adverse weather and resultant impact to normally scheduled Work. Delay from adverse weather shall not qualify as an adverse weather delay unless Work on the overall Project's critical activities is prevented for fifty (50) percent or more of Contractor's scheduled work day. The number of actual adverse weather days shall be calculated monthly. If the number of actual adverse weather delay days in a month exceeds the number of days for that month as referenced in the Contract, the Owner upon notification by Contractor, will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and a modification shall be issued in accordance with the Contract Documents.
- F. Owner and Engineer shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- G. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
- H. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- I. Contractor must submit any Change Proposal seeking an adjustment in Contract Times under this Paragraph 12.03 within thirty (30) days of the commencement of the delaying, disrupting, or interfering event.
- J. Contractor expressly waives any right to an adjustment in Contract Price for any event of delay. Contractor's sole remedy for any delay shall be limited to an adjustment in Contract Times.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will

have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C;
 - 3. Materials Testing for Water and Sewer: sampling and testing of materials, laboratory inspection of materials and processes shall be performed at the expense of Contractor by a commercial testing laboratory designated by Owner. Contractor shall coordinate with and assist the Inspector in obtaining samples at the expense of Contractor; and
 - 4. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered at Contractor's expense for Engineer's observation and thereafter replaced at Contractor's expense.

- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price through a deductive Change Order. If the parties are unable to agree as to the amount thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Final Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or

2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer or Owner to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract

Documents, Owner may, after seven days' written notice to Contractor to cure such default, make demand on Contractor's surety to perform as required in the performance bond issued for the Work, utilize its own forces, or hire a supplemental or replacement contractor to correct or remedy any such deficiency. In electing to exercise any remedy allowed under this Paragraph, Owner is not required to terminate Contractor's rights of continued performance for the entirety of the Work but may eliminate such scope of work from Contractor as may be necessary to exercise its rights under this Paragraph 13.09.

- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment, machinery, and all materials stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and suspend Contractor's services related thereto. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other Contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If Contractor does not agree as to the amount of the adjustment, Contractor may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Owner and Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

- 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor must submit to the Engineer itemized Application for Payment for Work completed on a monthly basis in accordance with a schedule approved by Owner. Each Application for Payment must be consistent with the approved Schedule of Values. The form of Application for Payment must be AIA Document

G702, Application and Certificate for Payment, supported by AIA Document G703, Continuation Sheet (latest edition), or other such form as may be prescribed by Owner. The application shall be notarized, if required, and supported by all data substantiating Contractor's right to payment that Owner or Engineer require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, partial lien releases, waivers, or other documents, and shall reflect retainage. Contractor shall submit to the Engineer a separate Application for Payment for the City and NBU for each of their respective portions of the Project.

2. Such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Engineer, but not yet included in Change Orders. Applications for Payment shall not include requests for payment for portions of the Work for which Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom Contractor intends to pay.
3. Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to Owner to establish Owner's title to such materials and equipment or otherwise protect Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. Cost of materials stored off the construction site may be included in Contractor's request at the sole discretion of the Owner for progress payment, if the following submittals are made and conditions are met:
 - a. Contractor shall submit a written narrative giving location of stored materials, provisions for protection of same, and arrangements for transportation of materials to the job site.
 - b. Contractor shall submit separate bills of sale or invoices on all materials stored off site.
 - c. Contractor shall submit suitable written evidence that materials stored off site are covered by insurance protection adequate to cover Owner's interests.
 - d. Contractor shall store materials in facilities which are suitable to protect same from loss and deterioration. Materials shall be separated from other stored materials and shall be clearly labeled as to description, ownership and project destination. Access to stored materials shall be made convenient for inspection which will be made by Engineer's representative prior to the issue of each certificate of payment which includes payment for materials stored off site.
 - e. Payment for materials stored off site shall not affect warranty period for such materials, which period shall commence upon date of final completion of the Work.
4. Contractor warrants that title to all Work covered by an Application for Payment will pass to Owner no later than the time of payment. Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from Owner shall, to the best of Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or

encumbrances, in favor of Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

5. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
6. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents; and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;

- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Thirty (30) days after presentation of the Application for Payment to NBU or the City with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by NBU or the City, respectively, to Contractor. NBU and the City shall make payments to directly to Contractor for each of their respective portions of the Project.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work;
 - b. there are other items entitling Owner to a set-off against the amount recommended; or
 - c. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice with copy to Engineer stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. At that inspection, Owner and Engineer will review, supplement, and edit the initial punch list prepared by Contractor or prepare an additional punch list if Contractor has not yet provided a punch list. If Owner or Engineer does

not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefore.

- C. If Owner and Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate, notify Contractor in writing, stating the reasons therefore. If Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work, and follow the procedures of Paragraphs 14.04.A through E for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Engineer, and Contractor shall make an inspection of that part of the Work to determine its status of completion. If Owner or Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Contractor in writing giving the reasons therefor. If Owner or Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work.

4. No use or occupancy or separate operation of part of the Work will relieve Contractor of its insurance obligations under these Contract Documents.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled;
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all lien rights arising out of or liens filed in connection with the Work; and
 - e. a Full and Final Release and Affidavit of Bills Paid in the form attached hereto as Attachment No. 1, executed by Contractor.
3. In lieu of the releases or waivers of liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted), and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
 1. Contractor's failure 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 established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Owner or Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days' written notice of its intent to terminate the services of Contractor:
1. declare Contractor to be in default and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work and all materials, equipment, and tools maintained or stored at the Site, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient. Owner shall have the right with respect to Contractor and Contractor's surety to demand performance of said surety within ten (10) days following termination. Further, Owner shall have the right to determine or approve any replacement contractor desired by Surety to correct and complete the Work.
- D. If Owner proceeds as provided in Paragraph 15.02.C, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed nor shall Owner be required to publicly bid any completion work should Owner exercise its right to complete the Work on its own as completion work shall be deemed by the Owner, Contractor, Contractor's surety, and Engineer to qualify for an exemption to public bidding as found in the Texas Local Government Code chapter 252.
- E. Contractor's services will not be terminated pursuant to Paragraph 15.02.B if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

15.03 *Owner May Terminate for Convenience*

- A. Upon seven days' written notice to Contractor, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for:
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work;
 - 3. demobilization expenses; and
 - 4. overhead and profit on unperformed work.
- B. Contractor shall not be paid for any economic loss arising out of or resulting from such termination, except for those costs expressly identified above.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 60 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full;
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made; and

3. Reserved claims of Owner or Contractor under these Contract Documents, including Article 10.

B. *Final Resolution of Disputes*

1. For any disputes subject to this article, Owner and Contractor shall endeavor to resolve their Claims by mediation. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction in Comal County, Texas.
2. For any claim not resolved by mediation, the parties agree to submit such claims to the jurisdiction of the state court of Comal County, Texas, which is the exclusive venue for all claims arising out of this agreement, for final dispute resolution.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended;
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice; or
 3. delivered by electronic means with a corresponding confirmation of delivery or read receipt to the individual or to a member of the firm or to an officer of the corporation for whom it is intended.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto 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. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the State of Texas without regard to its conflict of laws principles.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

17.07 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officials, officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.
- B. Contractor waives claims against Owner for the following enumerated consequential damages arising out of or relating to this Contract. This waiver includes and is expressly limited to the following: damages incurred by Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, bonding capacity, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

17.08 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

17.09 *Prevailing Wage*

- A. Contractor shall comply with chapter 2258 of the Texas Government Code governing prevailing wage. Contractor shall provide and pay for labor in accordance with the prevailing wage in the locality and shall not pay less than the prevailing wage. Owner has not independently performed a wage determination in accordance with controlling state and federal statutes. Accordingly, Contractor must utilize the wage determinations and rates published by the U.S. Department of Labor pursuant to the Davis-Bacon Act.
- B. Certified payrolls demonstrating compliance with the prevailing wage requirements shall be maintained by Contractor and all Subcontractors performing the Work. Contractor is required to submit to Owner a copy of all certified payrolls for any pay period with each Pay Application. Failure to provide certified payrolls may be grounds for withholding of funds and default.

17.10 *Right to Audit*

- A. Whenever Owner enters into any type of contractual arrangement with Contractor, then Contractor's "records" shall upon reasonable notice be open to inspection and subject to audit or reproduction during normal business working hours. Owner's representative, or an outside representative engaged by Owner, may perform such audits. Contractor shall maintain all records relating to this Agreement for four (4) years from the date of final payment under this Agreement.
- B. Owner shall have the exclusive right to examine the records of Contractor. The term "records" as referred to herein shall include any and all information, materials and data of every kind and character, including without limitation books, papers, documents, contracts, schedules, commitments, arrangements, notes, daily diaries, reports, drawings, receipts, vouchers and memoranda, and any and all other agreements, sources of information and matters that may, in the Owner's judgment, have any bearing on or pertain to any matters, rights, duties or obligations under or covered by any contract document. Such records shall include (hard copy, as well as computer-readable data if it can be made available), written policies and procedures, time sheets, payroll registers, cancelled checks, personnel file data, correspondence (including letters and emails), general ledger entries, and any other record in Contractor's possession which may have a bearing on matters of interest to Owner in connection with Contractor's dealings with Owner (all of the foregoing are hereinafter referred to as "records"). In addition, Contractor shall permit interviews of employees as well as agents, representatives, vendors, subcontractors and other third parties paid by Contractor to the extent necessary to adequately permit evaluation and verification of the following:
 - 1. Contractor's compliance with contract requirements;
 - 2. Contractor's compliance with Owner's business ethics policies; and
 - 3. If necessary, the extent of the Work performed by Contractor at the time of contract termination.
- C. Contractor shall require all payees (examples of payees include subcontractors, insurance agents, material suppliers, etc.) to comply with the provisions of this Paragraph 17.10 by securing the requirements hereof in a written agreement between Contractor and payee. Such requirements include a flow-down right of audit provision in contracts with payees that also apply to subcontractors and sub-subcontractors, material suppliers, etc. Contractor shall cooperate fully and shall require Related Parties and all of Contractor's subcontractors to cooperate fully in furnishing or in making available to Owner from time to time whenever requested, in an expeditious manner, any and all such information, materials, and data.
- D. Owner's authorized representative or designee shall have reasonable access to Contractor's facilities, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Agreement, and shall be provided adequate and appropriate work space in order to conduct audits in compliance with this Paragraph 17.10.
- E. If an audit inspection or examination in accordance with this Paragraph 17.10 discloses overpricing or overcharges of any nature by Contractor to Owner in excess of one-half of one percent (.5%) of the total contract billings, then the reasonable actual cost of Owner's audit shall be reimbursed to Owner by Contractor. Any adjustments or payments, which must be made as a result of any such audit or inspection of the Contractor's invoices or records, shall be

made within a reasonable amount of time (not to exceed ninety (90) days) from presentation of Owner's findings to Contractor.

17.11 *Trust Funds*

- A. This Project is subject to the Texas Trust Fund Statute, chapter 162 of the Texas Property Code, and the Parties acknowledge that the payment obligations contained herein for Contractor to receive funds from Owner and then use those funds to pay such Subcontractors, Suppliers, Vendors, Consultants, and the like, are subject to the Trust Fund Statute and Owner's audit rights outlined in this Article 17.

17.12 *Severability*

- A. If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

17.13 *Amendments*

- A. The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

17.14 *Assignment*

- A. Contractor shall not, without the written consent of Owner assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents, other than to an affiliate. An assignment to an affiliate shall not relieve the assignor of its obligations under this Agreement.

17.15 *Confidential Information*

- A. Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (a) the transmitting party identifies as either confidential or proprietary; (b) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (c) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.
- B. A party receiving Confidential Information may disclose the Confidential Information as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. A party receiving Confidential Information may also disclose the Confidential Information to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of Confidential Information as set forth in this Contract.

17.16 *Texas Public Information Act*

- A. Contractor recognizes that this Project is publicly owned, and Owner is subject to the disclosure requirements of the Texas Public Information Act (the “PIA”). As part of its obligations within the Contract Documents, Contractor agrees, at no additional cost to Owner, to cooperate with Owner for any particular needs or obligations arising out of Owner’s obligations under the PIA. This acknowledgement and obligation are in addition to and complimentary to Owner’s audit rights in Paragraph 17.10.
- B. This provision applies if the Agreement has a stated expenditure of at least \$1 million in public funds for the purchase of goods or services by Owner or results in the expenditure of at least \$1 million in public funds for the purchase of goods or services by Owner in its fiscal year.
- C. Contractor must (1) preserve all contracting information related to the Agreement as provided by the records retention requirements applicable to Owner for the duration of the Agreement; (2) promptly provide to Owner any contracting information related to the Agreement that is in the custody or possession of Contractor on request of Owner; and (3) on completion of the Agreement, either:
 - 1. provide at no cost to Owner all contracting information related to the Agreement that is in the custody or possession of the Contractor; or
 - 2. preserve the contracting information related to the Agreement as provided by the records retention requirements applicable to Owner.
- D. The requirements of Subchapter J, Chapter 552, Texas Government Code, may apply to this Agreement and Contractor agrees that the Agreement can be terminated if Contractor knowingly or intentionally fails to comply with a requirement of that subchapter.

17.17 *Conflicts*

- A. Notwithstanding anything herein to the contrary, if the Technical Specifications conflict with the Standard General Conditions, the Standard General Conditions control.

END OF SECTION

SECTION 7 – SUPPLEMENTARY CONDITIONS

Refer to the appropriate Exhibit within the solicitation for Supplemental Conditions.

END OF SECTION

SECTION 8 – SPECIAL PROVISIONS

Refer to the appropriate Exhibit within the solicitation for Special Provisions

END OF SECTION

ARTICLE 1 – GENERAL

09.01.01 SPECIFICATION TERMINOLOGY

- A. “Certified” used in context with materials and equipment means the material and equipment has been tested and found by a nationally recognized testing laboratory to meet specification requirements, or nationally recognized standards if requirements are not specified, and is safe for use in the specified manner. Production of the equipment must be periodically inspected by nationally recognized testing laboratory and equipment must bear a label, tag, or other record of certification.
- B. “Certified” used in context with labor performance or ability to install materials and equipment means that the abilities of the proposed installer have been tested by a representative of the specified testing agency authorized to issue certificates of competency and has met the prescribed standards for certification.

“Certified” used in context with test reports, payment requests or other statements of fact means that the statements made on the document are a true statement as attested to by the certifying entity.
- C. “Furnish” means to supply, deliver and unload materials and equipment at the project site ready to install.
- D. “Indicated” means graphic representation, notes, or schedules on drawings, or other requirements in Contract Documents. Words such as “shown”, “noted”, “scheduled”, are used to help locate the reference. No limitation on the location is intended unless specifically noted.
- E. “Install” means the operations at the project site including unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, training and similar operations required to prepare the materials and equipment for use, verify conformance with Contract Documents and prepare for acceptance and operation by the Owner.
- F. “Installer” means an entity engaged by Contractor, either as an employee, Subcontractor, or sub-Subcontractor to install materials and/or equipment. Installers are to have successfully completed a minimum of five projects similar in size and scope to this project, have a minimum of five years of experience in the installation of similar materials and equipment, and comply with the requirements of the authority having jurisdiction.
- G. “Labeled” means equipment that embodies a valid label, symbol, or other identifying mark of a nationally recognized testing laboratory such as Underwriters Laboratories, Inc. and production is periodically inspected in accordance with nationally recognized standards or tests to determine safe use in a specified manner.
- H. “Listed” means equipment is included in a list published by a nationally recognized laboratory which makes periodic inspection of production of such equipment and states that such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner.
- I. “Manufacturer” means an entity engaged by Contractor, as a Subcontractor, or sub-

Subcontractor to furnish materials and/or equipment. Manufacturers are to have a minimum of five years experience in the manufacture of materials and equipment similar in size, capacity and scope to the specified materials and equipment.

- J. “Perform” means to complete the operations necessary to comply with the Contract Documents.
- K. “Project site” means the space available to perform the work, either exclusively or in conjunction with others performing construction at the project site.
- L. “Provide” means to furnish and install materials and equipment.
- M. “Regulation” means laws, statutes, ordinances, and lawful orders issued by authorities having jurisdiction, as well as, rules, conventions, and agreements within the construction industry that control performance of work, whether they are lawfully imposed by authorities having jurisdiction or not.
- N. “Specified” means written representations in the bid documents or the technical specifications.
- O. “Testing laboratory” means an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report and interpret the results of those inspections or tests.

09.01.02 SPECIFICATION SENTENCE STRUCTURE

- A. Specifications are written in modified brief style. Requirements apply to all work of the same kind, class, and type even though the word “all” is not stated.
- B. Simple imperative sentence structure is used which places a verb as the first word in the sentence. It is understood that the words “furnish”, “install”, “provide”, or similar words include the meaning of the phrase “The Contractor shall...” before these words.
- C. It is understood that the words “directed”, “designated”, “requested”, “authorized”, “approved”, “selected”, or similar words include the meaning of the phrase “by the Engineer” after these words unless otherwise stated. Use of these words does not extend the Engineer’s responsibility for construction supervision or responsibilities beyond those defined in the General Conditions.
- D. “At no additional cost to Owner”, “With no extra compensation to Contractor”, “At Contractor’s own expense”, or similar words mean that the Contractor will perform or provide specified operation of work without any increase in the Contract Amount. It is understood that the cost for performing all work is included in the amount bid and will be performed at no additional cost to the Owner unless specifically stated otherwise.

09.01.03 DOCUMENT ORGANIZATION

- A. Organization of Contract Documents is not intended to control or to lessen the responsibility of the Contractor when dividing work among Subcontractors, or to establish the extent of work to be performed by any trade, Subcontractor or vendor. Specification or details do not need to be indicated or specified in each specification or drawing. Items shown in the contract documents are applicable regardless of location in the Contract Documents.

- B. Standard paragraph titles and other identifications of subject matter in the specifications are intended to aid in locating and recognizing various requirements of the specifications. Titles do not define, limit, or otherwise restrict specification text.
- C. Capitalizing words in the text does not mean that these words convey special or unique meanings or have precedence over other parts of the Contract Documents. Specification text governs over titling and it is understood that the specification is to be interpreted as a whole.
- D. Drawings and specifications do not indicate or describe all of the work required to complete the project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Engineer. Provide any work, materials or equipment required for a complete and functional system even if they are not detailed or specified.

09.01.04 INTERPRETATIONS OF DOCUMENTS

- A. Comply with the most stringent requirements where compliance with two (2) or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, unless Contract Documents indicate otherwise.
 - 1. Quantity or quality level shown or indicated shall be minimum to be provided or performed in every instance.
 - 2. Actual installation may comply exactly with minimum quality indicated, or it may exceed that minimum within reasonable limits.
 - 3. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for context of requirements.
 - 4. Refer instances of uncertainty to the Owner for a decision before proceeding.
- B. Provide materials and equipment comparable in quality to similar materials and equipment incorporated in the project or as required to meet the minimum requirements of the application if the materials and equipment are shown in the drawings but are not included in the specifications.

09.01.05 REFERENCE STANDARDS

- A. Comply with applicable construction industry standards as if bound or copied directly into the Contract Documents regardless of lack of reference in the Contract Documents. Apply provisions of the Contract Documents where Contract Documents include more stringent requirements than the referenced standards.
 - 1. Standards referenced directly in the Contract Documents take precedence over standards that are not referenced but recognized in the construction industry as applicable.
 - 2. Comply with standards not referenced but recognized in the construction industry as applicable for performance of the work except as otherwise limited by the Contract Documents. The Engineer determines whether code or standard is applicable, or which of several are applicable.
- B. Consider a referenced standard to be the latest edition with supplements or amendments

when a standard is referred to in an individual specification section but is not listed by title and date.

- C. Trade association names and titles of general standards are frequently abbreviated. Acronyms or abbreviations used in the Contract Documents mean the recognized name of trade association, standards generating organization, authority having jurisdiction, or other entity applicable in the context of the Contract Documents. Refer to “Encyclopedia of Associations,” published by Gale Research Company.
- D. Make copies of reference standards available as requested by Engineer.

09.01.06 SUBSTITUTIONS AND EQUAL PRODUCTS

Provide materials and equipment manufactured by the entities specifically listed in each technical specification section. Contractor must submit a written request to Engineer for substitution of materials and equipment of manufacturers not specifically listed or for materials and equipment that does not strictly comply with the Contract Documents.

09.01.07 SUBSTITUTIONS AND EQUAL PRODUCTS

Contractor may provide “equal” products manufactured by manufacturers other than those specifically listed in the technical specification section unless it is specifically stated that only the materials and equipment of the specified manufacturers shall be provided. Provide a request for approval of proposed equals per Section 15 SUBMITTALS for any materials or equipment not specifically listed. Submit a Contractor’s Modification Request for substitution of materials and equipment of other manufacturers or for materials and equipment that does not strictly comply with the Contract Documents. A Work Change Directive will be issued if the contract modification is approved.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. General use of the Project Site including properties inside and outside of the limits of construction, work affecting roads, ramps, streets and driveways and notification to adjacent occupants.

1.02 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.

1.03 LIMITS OF CONSTRUCTION

- A. Confine access, operations, and storage areas to limits of construction as shown on the Plans provided by Owner as stipulated in Section 6 – General Conditions; trespassing on abutting lands or other lands in the area is not allowed.
- B. Contractor may make arrangements, at Contractor's cost, for temporary use of private properties, in which case Contractor and Contractor's surety shall indemnify and hold harmless the Owner against claims or demands arising from such use of properties outside of the limits of construction.
 - 1. Improvements to private properties made for the Contractor's use must be removed upon completion of the Work.
 - 2. No fill material may be placed in temporary work areas or on adjacent private properties without the written permission of the Engineer.
- C. Restrict total length which materials may be distributed along the route of the construction at any one time to 1,000 linear feet unless otherwise approved by Engineer.

1.04 PROPERTIES OUTSIDE OF LIMITS OF CONSTRUCTION

- A. Altering the condition of properties adjacent to and along the limits of construction will not be permitted unless authorized by the Engineer and property owner(s).
- B. Means, methods, techniques, sequences, or procedures which will result in damage to properties or improvements in the vicinity outside of the limits of construction will not be permitted.
- C. Any damage to properties outside of the limits of construction shall be repaired or replaced to the satisfaction of the Engineer at no cost to the Owner.
- D. Contractor shall protect or replace all property corners, monuments or other demarcations disturbed, damaged or lost as a result of his activities. The replacement of these devices shall be properly documented to the satisfaction of the Engineer by a Registered Public Land Surveyor with copies delivered to the Engineer.

1.05 USE OF SITE

- A. Obtain approvals of governing authorities prior to impeding or closing public roads or streets.

Do not close consecutive intersections simultaneously.

- B. Notify Engineer 48 hours prior to closing a street or a street crossing. Permits for street closures are required in advance and are the responsibility of the Contractor.
- C. Maintain access for emergency vehicles including access to fire hydrants.
- D. Avoid obstructing drainage ditches or inlets; when obstruction is unavoidable due to requirements of the Work, provide grading and temporary drainage structures to maintain unimpeded flow.
- E. Locate and protect private lawn sprinkler systems which may exist on rights-of-ways within the Project Site. Repair or replace damaged systems to condition equal to or better than that existing at start of the Work.
- F. When required by the Work, cutting, patching, and fitting of Work to existing facilities, accommodating installation or connection of Work with existing facilities, or uncovering Work for access, inspection, or testing shall be performed in accordance with the Technical Specifications.
- G. Fires are not permitted on the Project Site.

1.06 NOTIFICATION TO ADJACENT OCCUPANTS

- A. Notify individual occupants in areas to be affected by the Work of the proposed construction and time schedule. Notification shall be provided two (2) weeks, 72 hours, and 24 hours prior to work being performed within 200 feet of the homes or businesses.
- B. Include in notification names and telephone numbers of two representatives for resident contact, who will be available on 24-hour call. Include precautions which will be taken to protect private property and identify potential access or utility inconvenience or disruption.
- C. Submit proposed notification to Engineer for approval.

1.07 EXCAVATION IN STREETS AND DRIVEWAYS

- A. Avoid hindering or needlessly inconveniencing public travel on a street or any intersecting alley or street for more than two blocks at any one time, except by permission of the Engineer.
- B. Obtain the Engineer's approval when the nature of the Work requires closing of an entire street. Permits required for street closure are the Contractor's responsibility. Avoid unnecessary inconvenience to abutting property owners.
- C. Remove surplus materials and debris and open 1,000 feet or less for public use as work in that block is complete.
- D. Acceptance of any portion of the Work will not be based on return of street to public use.
- E. Avoid obstructing driveways or entrances to private property.
- F. Provide temporary crossing or complete the excavation and backfill in one continuous

operation to minimize the duration of obstruction when excavation is required across drives or entrances.

- G. Provide barricades and signs in accordance with the Technical Specifications.

1.08 CLEAN-UP

- A. Maintain Project Site in a neat and orderly manner.
- B. Perform daily clean-up in and around construction zone of dirt, debris, scrap materials, other disposable items.
- C. Leave streets, driveways, and sidewalks broom-clean or its equivalent at the end of each work day.
- D. Promptly remove barriers, signs, and components of other control systems that are no longer being utilized.
- E. Dispose of waste and excess materials in accordance with requirements of the Technical Specifications.

1.09 RESTORATION

- A. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities is indicated on the Plans.
- B. Repair/Replace removed or damaged pavement and removed or damaged curbs, gutters, and headers in accordance the Technical Specifications with like materials to match existing style, lines, grades, etc., unless otherwise directed by Engineer.
- C. Repair turf areas which become damaged by Contractor's operations at no additional cost to Owner. Match turf type/variety with materials that match replaced turf variety.
- D. Level with topsoil conforming to the Technical Specifications and approved by the Engineer.
- E. Provide sodding in areas of residential land use over the surface of ground disturbed during construction and not paved, or not designated to be paved, in accordance with the Technical Specifications.
- F. Use only block sodding; do not use spot sodding or sprigging.
- G. Provide hydromulch seeding for vegetative cover and erosion control until permanent turf grass or other planting is installed under the landscape scope of work in areas of commercial, industrial or undeveloped land use over the surface of ground disturbed during construction and not paved, or not designated to be paved, in accordance with the Technical Specifications.
- H. Water and level newly sodded areas with adjoining turf using steel wheel rollers appropriate for sodding until the end of the 90 Day Establishment period and the landscape receives final acceptance.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for measurement and payment of Work.
- B. Conditions for nonconformance assessment and nonpayment for rejected products.
- C. Reference Standards:
 - 1. Concrete Reinforcing Steel Institute (CRSI)
 - 2. American Institute of Steel Construction (AISC)
 - 3. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, adopted June 2004 by the Texas Department of Transportation (TxDOT)
 - 4. City of San Antonio Standard Specifications for Construction (as amended and revised)

1.02 AUTHORITY

- A. Units and methods delineated in this Section are intended to complement the criteria of the Technical Specifications and Section 5 – Bid Form.
- B. Measurements and quantities submitted by the Contractor will be verified by the Owner.
- C. Contractor shall provide necessary equipment, workers, and survey personnel as required by Owner to verify quantities.

1.03 UNIT QUANTITIES SPECIFIED

- A. Quantity and measurement estimates stated in Section 5 – Bid Form are for contract purposes only. Quantities and measurements supplied or placed in the Work, authorized and verified by Owner shall determine payment as stated in the General Conditions.
- B. If the actual Work requires greater or lesser quantities than those quantities indicated in Section 5 – Bid Form, provide the required quantities at the unit prices contracted except as otherwise stated in the General Conditions or in executed Change Order.

1.04 MEASUREMENT OF QUANTITIES

- A. Measurement by Weight: Reinforcing steel, rolled or formed steel or other metal shapes will be measured by CRSI or AISC Manual of Steel Construction weights. Welded assemblies will be measured by CRSI or AISC Manual of Steel Construction or scale weights.
- B. Measurement by Volume:
 - 1. Stockpiles: Measured by cubic dimension using mean length, width, and height or thickness.
 - 2. Excavation and Embankment Materials: Measured by cubic dimension using the average end area method.
- C. Measurement by Area: Measured by square dimension using mean length and width or radius.
- D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- E. Stipulated Price Measurement: By unit designated in the agreement.

- F. Other: Items measured by weight, volume, area, or lineal means or combination, as appropriate, as a completed item or unit of the Work.

1.05 PAYMENT

- A. Payment includes full compensation for all required supervision, labor, products, tools, equipment, plant, transportation, services, and incidentals; and erection, application or installation of an item of the Work; and Contractor's overhead and profit. The price bid shall include the total cost for required Work. Claims for payment as Unit Price Work not specifically covered in Section 5 – Bid Form will not be accepted.
- B. Progress Payments for Unit Price Work will be based on the Engineer's observations and evaluations of quantities incorporated in the Work multiplied by the unit price.
- C. Progress Payments for Lump Sum Work will be based on the Engineer's observations and evaluations of the percentage of quantities included in the schedule of values incorporated in the Work.
- D. Final Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities determined by Engineer multiplied by the unit price for Work which is incorporated in or made necessary by the Work.
- E. Requests for payment must have the format and information indicated on the form provided by the Engineer during the pre-construction meeting.
- F. The procedure for monthly payments is:
 - 1. Contractor submits draft pay estimates for each division of the Work (roadway, landscape, electrical/communications, water/wastewater) along with current as-built plans, current progress photographs, and updated progress & billing schedules to the Inspector on or before the 1st day of the month with invoices for Stored Materials.
 - 2. The Inspector will verify quantities and Stored Materials and initial the draft pay estimate.
 - 3. Contractor will submit a signed and notarized pay estimates for each division of the Work to the Engineer on or before the 10th day of the month, including all invoices for Stored Materials and the Partial Waiver of Lien.
 - 4. Upon verifying the accuracy and completeness of the pay estimates, the Inspector will sign the pay estimate and submit it to the Engineer for approval.
- G. Contractor must submit two (2) signed originals of the pay estimate to Engineer. Photocopied signatures are not acceptable.
- H. Owner will observe twelve holidays during any given fiscal year (Oct. 1 to Sept. 30). These may include: New Year's Day, Martin Luther King Jr., Presidents Day, New Braunfels Founders Day, Memorial Day, Independence Day, Labor Day, Comal County Fair Day, Thanksgiving and the day after Thanksgiving, Christmas Eve, and Christmas Day.

1.06 NONCONFORMANCE ASSESSMENT

- A. Remove and replace the Work, or portions of the Work, not conforming to the Contract Documents.

- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:
 - 1. The nonconforming Work will remain as is, but the unit price will be adjusted to a lower price at the discretion of the Engineer.
 - 2. The nonconforming Work will be modified as authorized by the Engineer, and the unit price will be adjusted to a lower price at the discretion of the Engineer, if the modified Work is deemed to be less suitable than originally specified.
- C. Individual Technical Specifications may modify these options or may identify a specific formula or percentage price reduction.
- D. The authority of the Engineer to assess the nonconforming Work and identify payment adjustment is final.

1.07 NONPAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable to Engineer.
 - 2. Products determined as nonconforming before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work, unless specified otherwise.
 - 6. Loading, hauling, and disposing of rejected products.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for processing Change Orders, including:
 - 1. Assignment of a responsible individual for approval and communication of changes in the Work;
 - 2. Documentation of change in Contract Price and Contract Time;
 - 3. Change procedures, using proposals and construction contract modifications, Work Change Directive, Stipulated Price Change Order, Unit Price Change Order, Time and Materials Change Order;
 - 4. Execution of Change Orders;
 - 5. Correlation of Contractor Submittals.
- B. References to Technical Specifications:
 - 1. Section 15 – Submittals
 - 2. Section 27 – Project Record Documents
- C. Other References:
 - 1. *Rental Rate Blue Book for Construction Equipment* (Data Quest Blue Book). Rental Rate is defined as the full unadjusted base rental rate for the appropriate item of construction equipment.

1.02 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.

1.03 RESPONSIBLE INDIVIDUAL

- A. A Contractor shall provide a letter indicating the name and address of the individual authorized to execute change documents, and who shall also be responsible for informing others in Contractor's employ and Subcontractors of changes to the Work. The information shall be provided at the Preconstruction Conference.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Provide full information required for identification and evaluation of proposed changes, and to substantiate costs of proposed changes in the Work.
- B. Contractor shall document each Proposal for Change in cost or time with sufficient data to allow for its evaluation.
- C. Proposal for Change shall include, as a minimum, the following information as applicable:
 - 1. Original Quantities of items in Section 5 – Bid Form with additions, reductions, deletions, and substitutions.
 - 2. When Work items were not included in the Bid Form, Contractor shall provide unit prices for the new items, with supporting information as required by the Engineer.
 - 3. Justification for any change in Contract Time.
 - 4. Additional data upon request.
- D. For changes in the Work performed on a time-and-material basis, the following additional

information may be required:

1. Quantities and description of products and equipment.
 2. Taxes, insurance and bonds.
 3. Overhead and profit as noted in Article 10 of the General Conditions - "Changes in the Work."
 4. Dates and times work was performed, and by whom.
 5. Time records and certified copies of applicable payrolls.
 6. Invoices and receipts for products, rented equipment, and subcontracts, similarly documented.
- E. Rented equipment will be paid to the Contractor by actual invoice cost for the duration of time required to complete the extra work. If the extra work comprises only a portion of the rental invoice where the equipment would otherwise be on the site, the Contractor shall compute the hourly equipment rate by dividing the actual monthly invoice by 176. (One day equals 8 hours and one week equals 40 hours.) Operating costs shall not exceed the estimated operating costs given for the item of equipment in the Blue Book.
- F. For changes in the work performed on a time-and-materials basis using Contractor owned equipment, compute rates with the Blue Book as follows:
1. Multiply the appropriate Rental Rate by an adjustment factor of 70 percent plus the full rate shown for operating costs. The Rental Rate utilized shall be the lowest cost combination of hourly, daily, weekly or monthly rates. Use 150 percent of the Rental Rate for double shifts (one extra shift per day) and 200 percent of the Rental Rate for more than two shifts per day. No other rate adjustments shall apply.
 2. Standby rates shall be 50 percent of the appropriate Rental Rate shown in the Blue Book. Operating costs will not be allowed.

1.05 CHANGE PROCEDURES

- A. Changes to Contract Price or Contract Time can only be made by issuance of a Change Order. Issuance of a Work Change Directive of changes will be formalized into Change Orders. All such changes will be in accordance with the requirements of Article 10 of the General Conditions.
- B. The Owner will advise Contractor of Minor Changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by Article 10 of the General Conditions "Changes in the Work," by issuing supplemental instructions.
- C. Contractor may request clarification of Plans, Technical Specifications or Contract Documents or other information. Response by the Owner to a Request for Information does not authorize the Contractor to perform tasks outside the scope of the Work. All changes must be authorized as described in this Section.

1.06 PROPOSALS FOR CHANGE AND CONTRACT MODIFICATION

- A. The Owner may issue a Request for Proposal, which includes a detailed description of a proposed change with supplementary or revised Plans and Technical Specifications. The Engineer may also request a proposal in the response to a Request for Information. Contractor will prepare and submit its Proposal for Change within 7 days or as specified in the request.
- B. The Contractor may propose an unsolicited change by submitting a Proposal for Change to the Owner describing the proposed change and its full effect on the Work, with a statement describing the reason for the change and the effect on the Contract Price and Contract Time including full documentation.

1.07 WORK CHANGE DIRECTIVE

- A. Engineer may issue a signed Work Change Directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. The document will describe changes in the Work and will designate a method of determining any change in Contract Price or Contract Time.
- C. Contractor shall proceed promptly to execute the changes in the Work in accordance with the Work Change Directive.

1.08 STIPULATED PRICE CHANGE ORDER

- A. Stipulated Price Change Order will be based on an accepted Proposal for Change including the Contractor's lump sum price quotation.

1.09 UNIT PRICE CHANGE ORDER

- A. Where Unit Prices for the affected items of the Work are included in the Bid Form, the Unit Price Change Order will be based on unit prices as originally bid, subject to provisions of the General Conditions.
- B. Where unit prices of the Work are not pre-determined in the Bid Form, Work Change Directive or accepted Proposal for Change will specify the unit prices to be used.

1.10 TIME-AND-MATERIAL CHANGE ORDER

- A. Contractor shall provide an itemized account and supporting data after completion of change, within time limits indicated for claims in Article 12 of the General Conditions.
- B. Owner will determine the change allowable in Contract Price and Contract Time as provided in Article 12 of the General Conditions.
- C. Contractor shall maintain detailed records of work done on time-and-material basis as specified in this Section, 1.04 "Documentation of Change in Contract Price and Contract Time".
- D. Contractor shall provide full information required for evaluation of changes, and shall substantiate costs for changes in the Work.

1.11 EXECUTION OF CHANGE DOCUMENTATION

- A. Owner will issue Change Orders, Work Change Directives, or accepted Proposals for Change for signatures of parties named in the Owner-Contractor Agreement.

1.12 CORRELATION OF CONTRACTOR SUBMITTALS

- A. For Stipulated Price Contracts, Contractor shall promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.

- B. For Unit Price Contracts, the next monthly Application for Payment of the Work after acceptance of a Change Order will be revised to include any new items not previously included and the appropriate unit rates.
- C. Contractor shall promptly revise progress schedules to reflect any change in Contract Time, and shall revise schedules to adjust time for other items of work affected by the change, and resubmit for review.
- D. Contractor shall promptly enter changes to the on-site and record copies of the Plans, Technical Specifications or Contract Documents as required in Section 27 – Project Record Documents.

END OF SECTION

Section 13

Geotechnical Data

Subsurface explorations for this project were performed by Terracon Consultants, Inc. Copies of the report are included with the Bid Documents in the Technical Specifications. These reports are part of the Contract Documents and the technical data contained therein upon which Contractor is entitled to rely as provided in Paragraph 4.02.A.1. of the General Conditions are incorporated therein by reference. Contractor is not entitled to rely upon other information and data utilized by Design Engineer and Design Engineer's Consultants in the preparation of Drawings and Specifications. The Contractor shall be familiar with the subsurface materials and conditions on the Project and shall be knowledgeable of how they will affect the Work. Bidders may make their own subsurface investigations.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Section includes general coordination including Preconstruction Conference, Site Mobilization Conference, and Progress Meetings.

1.02 RELATED DOCUMENTS

- A. Coordination is required throughout the documents. Refer to all of the Contract Documents and coordinate as necessary.

1.03 ENGINEER AND REPRESENTATIVES

- A. The Owner may act directly or through designated representatives as defined in the General Conditions and as identified by name at the Preconstruction Conference.

1.04 CONTRACTOR COORDINATION

- A. Coordinate scheduling, submittals, and work of the various Technical Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordinate completion and clean up of the Work for Substantial Completion and for portions of the Work designated for Owner's partial occupancy.
- C. Coordinate access to Project Site for correction of nonconforming work to minimize disruption of Owner's activities where Owner is in partial occupancy.

1.05 PRECONSTRUCTION CONFERENCE

- A. Engineer will schedule a Preconstruction Conference.
- B. Attendance Required: Owner's representatives, Consultants, Contractor, utility representatives and major Subcontractors.
- C. Agenda:
 - 1. Distribution of Contract Documents.
 - 2. Designation of personnel representing the parties to the Contract, and the Consultant.
 - 3. Review of insurance.
 - 4. Discussion of formats proposed by the Contractor for Schedule of Values, and Construction Schedule.
 - 5. Discussion of required Submittals, including, but not limited to, Work Plans, Traffic Control Plans, Safety Programs, Construction Photographs.
 - 6. Procedures and processing of Shop Drawings and other submittals, substitutions, Applications for Payment, Requests for Information, Request for Proposal, Change Orders, and Contract closeout.
 - 7. Scheduling of the Work and coordination with other Contractors.
 - 8. Review of Subcontractors.
 - 9. Appropriate agenda items listed in this Section, 1.06 "Site Mobilization Conference", when Preconstruction Conference and Site Mobilization Conference are combined.

10. Procedures for testing.
11. Procedures for maintaining Project Record Documents.
12. Designation of the individual authorized to execute change documents and their responsibilities.
13. Discussion of requirements of a Trench Safety Program.

1.06 SITE MOBILIZATION CONFERENCE (Preconstruction)

- A. When required, Engineer will schedule a Site Mobilization Conference at the Project Site prior to Contractor occupancy.
- B. Attendance Required: Owner, Contractor's Superintendent, and major Subcontractors.
- C. Agenda:
 1. Use of premises by Owner and Contractor
 2. Safety and first aid procedures
 3. Construction controls provided by Owner
 4. Temporary utilities
 5. Survey and layout
 6. Security and housekeeping procedures

1.07 PROGRESS MEETINGS

- A. Progress Meetings shall be held at Project Site or other location as designated by the Engineer. Meeting shall be held at monthly intervals, or more frequent intervals if directed by Owner.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Engineer representatives, and Consultants as appropriate to agenda topics for each meeting.
- C. Contractor will make arrangements for meetings, and recording minutes.
- D. Contractor will prepare the agenda and preside at meetings.
- E. Contractor shall provide required information and be prepared to discuss each agenda item.
- F. Agenda:
 1. Review minutes of previous meeting.
 2. Review of Construction Schedule, Applications for Payment, payroll and compliance submittals.
 3. Field observations, problems, and decisions.
 4. Identification of problems which impede planned progress.
 5. Review of Submittal Schedule and status of submittals.
 6. Review status of Requests for Information, Requests for Proposal.
 7. Review status of Change Orders.
 8. Review of off-site fabrication and delivery schedules.
 9. Maintenance of updates to Construction Schedule.
 10. Corrective measures to regain projected schedules.
 11. Planned progress during succeeding work period.
 12. Coordination of projected progress.
 13. Maintenance of quality and work standards.
 14. Effect of proposed changes on Construction Schedule and coordination.

15. Other items relating to the Work.

END OF SECTION

1.00 GENERAL

This Section contains general lists of Submittals and Technical Specifications that may be required for the Work. When Submittals are required elsewhere in these Technical Specifications, refer to this Section for Submittal requirements and procedures.

1.01 SECTION INCLUDES

- A. Submittal procedures for:
 - 1. Schedule of Values
 - 2. Construction Schedules
 - 3. Shop Drawings, Product Data, and Samples
 - 4. Operations and Maintenance Data
 - 5. Manufacturer's Certificates
 - 6. Construction Photographs
 - 7. Project Record Documents
 - 8. Design Mixes
- B. References to the following Technical Specifications:
 - 1. Section 11 - Measurement and Payment
 - 2. Section 14 – Coordination and Meetings
 - 3. Section 18 – Construction Photographs
 - 4. Section 26 – Product Options & Substitutions
 - 5. Section 27 – Project Record Documents

1.02 SUBMITTAL PROCEDURES

- A. Scheduling and Handling
 - 1. Schedule Submittals well in advance of the need for material or equipment for construction. Allow time to make delivery of material or equipment after Submittal is approved.
 - 2. Develop a Submittal Schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. The Engineer will review and return submittals to the Contractor as expeditiously as possible but the amount of time required for review will vary depending on the complexity and quantity of data submitted. In no case will a Submittal Schedule be acceptable which allows less than 30 days for initial review by the Engineer. This time for review shall in no way be justification for delays or additional compensation to the Contractor.
 - 3. The Engineer's review of submittals covers conformity to the Plans, Technical Specifications, and dimensions which affect the layout. The Contractor is responsible for quantity determination. The Contractor is responsible for any errors, omissions or deviations from the Contract requirements; review of submittals in no way relieves the Contractor from his obligation to furnish required items according to the Plans and Technical Specifications.
 - 4. Submit three (3) copies of documents unless otherwise specified in this Section or by individual Technical Specifications.
 - 5. Revise and resubmit submittals as required. Identify all changes made since previous submittal.
 - 6. The Contractor shall assume the risk for material or equipment which is fabricated or delivered prior to approval. No material or equipment shall be incorporated into the Work or included in Applications for Payment until approval has been obtained in the specified manner.

- B. Transmittal Form and Numbering
 - 1. Transmit each submittal to the Engineer with a transmittal form.
 - 2. Sequentially number each transmittal form beginning with the number 1. Re-Submittals shall use the original number with an alphabetic suffix (i.e., 2A for first Re-Submittal of Submittal 2 or 15C for third Re-Submittal of Submittal 15). Each submittal shall only contain one type of work, material, or equipment. Mixed submittals will not be accepted.
 - 3. Identify variations from requirements of Contract Documents and identify product or system limitations.
- C. Contractor's Certification
 - 1. Each submittal shall contain a statement or stamp signed by the Contractor, certifying that the items have been reviewed in detail and are correct and in accordance with Contract Documents, except as noted by any requested variance.

1.03 SCHEDULE OF VALUES

- A. Submit a Schedule of Values at least ten (10) days prior to the first Application for Payment. A Schedule of Values shall be provided for each of the items indicated as Lump Sum (LS) in the Bid Form for which the Contractor requests payment.
- B. Schedule of Values shall be typewritten on plain bond, white paper. Use the Table of Contents of this Project Manual as a format for listing costs of Work by Section.
- C. For Unit Price Contracts, items should include a proportional share of Contractor's overhead and profit, such that the total of all items listed in the Schedule of Values equals the Contract amount. For Stipulated Price Contracts, Mobilization, Bonds, and Insurance may be listed as separate items in the Schedule of Values.
- D. For Lump Sum equipment items, where Submittals for Testing, Adjusting, and Balancing Reports in conjunction with Operation and Maintenance Data are required, include a separate item for equipment Operation and Maintenance Data Submittals and a separate item for Submittals of equipment Testing, Adjusting, and Balancing Reports, each valued at five (5) percent of the Lump Sum.
- E. Revise the Schedule of Values and resubmit for items affected by contract modifications, Change Orders, and Work Change Directives. Submit revised Schedule of Values ten (10) days prior to the first Application for Payment after the changes are approved by the Owner.

1.04 CONSTRUCTION SCHEDULES

- A. Submit Construction Schedules for the Work in accordance with the requirements of this Section. The Construction Schedule Submittal shall be, at a minimum, a bar chart, (computer generated or prepared manually) and a narrative report.
- B. During the Preconstruction Meeting, the Contractor shall provide a sample of the format to be used for the Construction Schedule Submittal. The format is subject to approval by the Engineer. Review of the Submittal will be provided within 7 days of the Submittal of the sample.
- C. Within 7 days of the receipt of approval of the Contractor's format, or 14 days of the Notice to Proceed, whichever is later, the Contractor shall submit a proposed Construction Schedule

for review. The Construction Schedule Submittal shall meet the following requirements:

1. The Construction Schedule shall usually include a minimum of 20 activities. Fewer activities may be accepted, if approved by the Owner.
 2. For Projects with work at different physical locations, each location should be indicated separately within the Construction Schedule.
 3. For projects with multiple crafts or significant Subcontractor components, these elements should be indicated separately within the Construction Schedule.
 4. For Projects with multiple types of tasks within the scope, these types of work should be indicated separately within the Construction Schedule.
 5. For Projects with significant major equipment items or materials worth over 25 percent of the Total Contract Price, the Construction Schedule shall indicate dates when these items are to be purchased, when they are to be delivered, and when installed.
 6. For Projects where operating plants are involved, each period of work which will require the shutdown of any process or operation shall be identified in the Construction Schedule and must be agreed to by the Owner prior to starting work in the area.
 7. A Billing Schedule (tabulation of the estimated monthly billings) for the Work shall be prepared and submitted by the Contractor with the submission of the bid and with every monthly pay application. The billing items indicated on the Billing Schedule shall follow the work items indicated on the Construction Schedule and include a monthly total in addition to the cumulative total. These monthly forecasts are only for planning purposes of the Owner. Monthly payments for actual work completed will be made by the Owner in accordance with Article 11 of the General Conditions.
- D. The Contractor must receive approval of the Owner for the Construction Schedule and Billing Schedule prior to each monthly Application for Payment. No payment will be made until these are accepted.
- E. Upon written request from the Owner, the Contractor shall revise and submit for approval all or any part of the Construction Schedule to reflect changed conditions in the Work or deviations made from the original plan and schedule.
- F. The Contractor's Construction Schedule shall thereafter be updated with the Actual Start and Actual Finish Dates, Percent Complete, and Remaining Duration of each Activity and submitted monthly. The date to be used in updating the monthly Construction Schedule shall be the same Date as is used in the monthly Application for Payment. This monthly update of the Construction Schedule shall be required before the monthly Application for Payment will be processed for payment.
- G. The narrative Construction Schedule Report shall include a description of changes made to the Construction Schedule; Activities Added to the Construction Schedule; Activities Deleted from the Construction Schedule; any other changes made to the Construction Schedule other than the addition of Actual Start Dates and Actual Finish Dates and Remaining Durations.

1.05 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. Shop Drawings
1. Submit Shop Drawings for review as required by the Contract Documents.
 2. Contractor's Certification, as described in this Section, 1.02 "Submittal Procedures" shall be placed on each Shop Drawing.
 3. The Shop Drawing shall accurately and distinctly present the following:
 - a. Field and erection dimensions clearly identified as such.

- b. Arrangement and section views.
 - c. Relation to adjacent materials or structure including complete
 - d. Information for making connections between work under this Contract and work under other contracts.
 - e. Kinds of materials and finishes.
 - f. Parts list and descriptions.
 - g. Assembly Shop Drawings of equipment components and accessories showing their respective positions and relationships to the complete equipment package.
 - h. Where necessary for clarity, identify details by reference to sheet numbers and detail numbers, schedule or room numbers as shown on the Plans.
- 4. Shop Drawing Drawings shall be to scale, and shall be a true representation of the specific equipment or item to be furnished.
- B. Product Data
 - 1. Submit Product Data for review when required in individual Technical Specifications.
 - 2. Contractor's Certification, as described in this Section, 1.02 "Submittal Procedures" shall be placed on each data item submitted.
 - 3. Mark each copy to identify applicable products, models, options to be used in this Project. Supplement manufacturers' standard data to provide information unique to this Project, where required by the Technical Specification.
 - 4. For products specified only by reference standard, submit manufacturer, trade name, model or catalog designation, and applicable reference standard.
 - 5. For Approved Products, those designated in the Technical Specifications followed by the words "or approved equal", submit manufacturer, trade name, model or catalog designation, and applicable reference standard.
 - 6. For products that are neither Pre-Approved, Approved, specified only by reference standard, nor proposed as alternates, submit product description, trade name, manufacturer, and supplier. Contractor shall provide additional information upon written request by Engineer.
- C. Samples
 - 1. Submit samples for review as required by the Technical Specification.
 - 2. Contractor's Certification, as described in this Section, 1.02 "Submittal Procedures", shall be placed on each sample or a firmly attached sheet of paper.
 - 3. Submit the number of samples specified in the Technical Specification; one of which will be retained by the Engineer.
 - 4. Reviewed samples which may be used in the Work are identified in the Technical Specifications.

1.06 OPERATIONS AND MAINTENANCE DATA

- A. When specified in Technical Specification, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, operation, adjusting, finishing, and maintenance.
- B. Contractor's Certification, as described in this Section. 1.02 "Submittal Procedures," shall be placed on front page of each document.
- C. Identify conflicts between manufacturers' instructions and Contract Documents.

1.07 MANUFACTURER'S CERTIFICATES

- A. When specified in Technical Specification, submit manufacturers' certificate of compliance for review by Engineer.
- B. Contractor's Certification, as described in this Section, 1.02 "Submittal Procedures", shall be placed on front page of the certificate.
- C. Submit supporting reference data, affidavits, and certifications as appropriate.
- D. Manufacturer's Certificates may be recent or previous test results on material or product, but must be acceptable to Engineer.

1.08 CONSTRUCTION PHOTOGRAPHS

- A. Submit photographs in accordance with Section 18 – Construction Photographs.
 - 1. Provide index sheet of photos formatted for 8½ x 11-inch with left edge binding margin for three hole punch. Provide notation of the vantage point marked for location and direction of shot on a key plan of the Project Site. The photos may be submitted digitally on a USB. One (1) copy shall be retained by the Contractor in the field office at the Project Site and available at all times for reference.
- B. PRECONSTRUCTION PHOTOGRAPHS:
 - 1. Prior to the commencement of any construction, take digital color photographs on the entire route of the project in accordance with Section 18.
- C. PROGRESS PHOTOGRAPHS
 - 1. Take photographs at intervals, coinciding with the cutoff date associated with each Application for Payment and submit on USB with monthly Application for Payment in accordance with Section 18.
- C. POST CONSTRUCTION PHOTOGRAPHS
 - 1. Following the completion of the Work, take photographs from vantage points and direction of shots corresponding to progress photographs.
 - 2. On completion of construction, provide photographs of any public or private property which has been repaired or restored and any damage which is or may be the subject of complaints.

1.09 PROJECT RECORD DOCUMENTS

A Submit Project Record Documents in accordance with Section 27 – Project Record Documents.

1.10 DESIGN MIXES

- A. When specified, submit design mixes for review.
- B. Contractor's Certification, as described in this Section, 1.02 "Submittal Procedures", shall be placed on front page of each design mix.

- C. Mark each design mix to identify proportions, gradations, and additives for each class and type of design mix submitted. Include applicable test results on samples for each mix.
- D. Maintain a copy of approved design mixes at mixing plant.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Temporary facilities and the necessary controls for the Work including utilities, telephone, sanitary facilities, field office, storage sheds and building, safety requirements, first aid equipment, fire protection, security measures, protection of the Work and property, access roads and parking, environmental controls, disposal of trash, debris, and excavated material, pest and rodent control, water runoff and erosion control.
- B. References to Technical Specifications:
 - Section 15 – Submittals
 - Section 21 – Materials & Equipment
 - Section 24 – Surveying
 - Section 25 – Tree & Plant Protection
- C. Referenced Standards:
 - Occupational Safety and Health Administration (OSHA)
 - National Fire Protection Association (NFPA)
 - Code of Ordinances, City of New Braunfels, Texas
 - NBU Standard Specifications found within the *Water Connection Policy*
 - Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, adopted June 2004 by the Texas Department of Transportation (TxDOT)
 - City of San Antonio Standard Specifications for Construction (COSA)
- D. Definitions:
 - 1. Underground Structures - sewer, water, gas, and other piping, and manholes, chambers, electrical and signal conduits, tunnels, and other existing subsurface installations located within or adjacent to the limits of the Work.
 - 2. Surface Structures - existing buildings, structures and other constructed installations above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks, guard cables, fencing, and other facilities that are visible above the ground surface.

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

1.03 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.

1.04 CONTRACTOR'S RESPONSIBILITY

- B. The facilities and controls specified in this Section are considered minimum for the Work. The Contractor may provide additional facilities and controls for the proper execution of the Work and to meet Contractor's responsibilities for protection of persons and property.

- C. Comply with applicable requirements specified in other Technical Specifications. Maintain and operate temporary facilities and systems to assure continuous service. Modify and extend systems as Work progress requires. Completely remove temporary materials and equipment when their use is no longer required. Restore existing facilities used for temporary services to specified or to original condition.

1.05 TEMPORARY UTILITIES

A. Temporary Service

Make arrangements with utility service companies for temporary services. Abide by rules and regulations of the utility service companies or authorities having jurisdiction. Be responsible for utility service costs until the Work is Substantially Complete. Included are fuel, power, light, heat, and other utility services necessary for execution, completion, testing, and initial operation of the Work.

B. Water

Provide water required for and in connection with Work to be performed and for specified tests of piping, equipment, devices, or for other use as required for proper completion of the Work. For water to be drawn from public fire hydrants, obtain special permit or license and meter from the proper City officials. A deposit based on rates established by latest ordinance will be required. Install backflow preventer on fire hydrant supply. Provide and maintain an adequate supply of potable water for domestic consumption by Contractor personnel.

C. Electricity and Lighting

Provide electric power service as required for the Work, including testing of Work. Provide power for lighting, operation of the Contractor's equipment, or for any other use by Contractor. Electric power service includes temporary power service or generator to maintain plant operations during any scheduled shutdown. Minimum lighting level shall be 5 foot-candles for open areas; 10 foot-candles for stairs and shops.

D. Temporary Heat and Ventilation

Provide temporary heat as necessary for protection or completion of the Work. Provide temporary heat and ventilation to assure safe working conditions; maintain enclosed areas at a minimum of 50 degrees F.

E. Telephone

Provide emergency telephone service at the Project Site for use by Contractor personnel and others performing work or furnishing services.

F. Sanitary Facilities

Provide and maintain sanitary facilities for persons on the Project Site, in compliance with federal, state, and local regulations. Locate toilets on the Project Site near the work and secluded from view insofar as possible. Keep toilets clean and supplied throughout the course of the Work.

Enforce the use of sanitary facilities by construction personnel at the Project Site. Such facilities shall be enclosed. Pit-type toilets will not be permitted. No discharge will be allowed from these facilities. Collect and store sewage and waste so as not to cause a nuisance or health problem; have sewage and waste hauled off-site and properly disposed in accordance with local regulations.

1.06 FIELD OFFICE

- A. Provision of a Field Office is not required unless otherwise stated. The Contractor shall confirm location of office and other temporary facilities with Owner's Representative at Pre-Construction Meeting prior to delivery and set up.

1.07 STORAGE OF MATERIALS

- A. Provide for storage of materials under the provisions of Section 21 – Materials & Equipment.

1.08 SAFETY REQUIREMENTS

- A. Contractor shall prepare, submit and follow a Safety Program that complies with federal, state, and local safety codes, statutes, and practices. Include in the Safety Program documented response to excavation, embankment, and trench safety requirements.
- B. Conduct operations in strict accord with applicable federal, state and local safety codes and statutes and with good construction practice. The Contractor is fully responsible and obligated to establish and maintain procedures for safety of all work, personnel and equipment involved in the Work.
- C. Observe and comply with Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by Secretary of Labor under Section 107 of Contract Work Hours and Standards Act, published in OSHA Standards – 29 CFR, Part 1926, and adopted by Secretary of Labor under the Williams-Steiger Occupational Safety and Health Act of 1970, and to any other legislation enacted for safety and health of Contractor employees. Such safety and health standards apply to Subcontractors and their employees as well as to the Contractor and its employees.
- D. Observance of and compliance with the regulations shall be solely and without qualification the responsibility of the Contractor without reliance or superintendence of or direction by the Engineer or the Engineer's representative. Immediately advise the Engineer of investigation or inspection by Federal Safety and Health Inspectors of the Contractor or Subcontractor's work or place of work on the Project Site under this Contract, and after such investigation or inspection, advise the Engineer of the results. Submit one copy of accident reports to Engineer within ten (10) days of occurrence.
- E. Protect areas occupied by workmen using the best available devices for detection of lethal and combustible gases. Test such devices frequently to assure their functional capability. Constantly observe infiltration of liquids into the Work area for visual or odor evidence of contamination. Take immediate and appropriate steps to seal off entry of contaminated liquids to the Work area.
- F. Safety measures, including but not limited to safety personnel, first-aid equipment, ventilating equipment and safety equipment, in the Plans and Technical Specifications are obligations of the Contractor.
- G. Maintain required coordination with the New Braunfels Police and Fire Departments during the entire period covered by the Contract.

1.09 FIRST AID EQUIPMENT

- A. Provide a first aid kit throughout the construction period. List telephone numbers for physicians, hospitals, and ambulance services in each first aid kit.

- B. Have at least one person thoroughly trained in first aid procedures present on the Project Site whenever work is in progress.

1.10 FIRE PROTECTION

- A. Fire Protection Standards.
Conform to specified fire protection and prevention requirements as well as those that may be established by Federal, State, or local governmental agencies. Comply with all applicable provisions of NFPA Standard No. 241, Safeguarding Building Construction and Demolition Operations. Provide portable fire extinguishers, rated not less than 2A or 5B in accordance with NFPA Standard No. 10, Portable Fire Extinguishers, for each temporary building, and for every 3000 square feet of floor area of facilities under construction. Locate portable fire extinguishers within 50 feet maximum from any point on the Project Site.
- B. Fire Prevention and Safety Measures.
Prohibit smoking in hazardous areas. Post suitable warning signs in areas that are continuously or intermittently hazardous. Use metal safety containers for storage and handling of flammable and combustible liquids. Do not store flammable or combustible liquids in or near stairways or exits. Maintain clear exits from all points within a structure.

1.11 SECURITY MEASURES

- A. Protect all materials, equipment, and property associated with the Work from loss, theft, damage, and vandalism. Contractor's duty to protect property includes Owner's property.
- B. If existing fencing or barriers are breached or removed for purposes of construction, provide and maintain temporary security fencing equal to existing.

1.12 PROTECTION OF PUBLIC UTILITIES

- A. Prevent damage to existing public utilities during construction. These utilities are shown on the Plans at their approximate locations. Give owners of these utilities at least 48 hours notice before commencing Work in the area, for locating the utilities during construction, and for making adjustments or relocation of the utilities when they conflict with the proposed Work.

1.13 PROTECTION OF PEOPLE AND PROPERTY

- A. Preventive Actions.
Take precautions, provide programs, and take actions necessary to protect the Work and public and private property from damage. Take action to prevent damage, injury or loss, including, but not limited to, the following:
 - a. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with progress of the Work or the Work of any other Contractor, any utility service company, or the Owner's operations.
 - b. Provide suitable storage for materials that are subject to damage by exposure to weather, theft, breakage, or otherwise.
 - c. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
 - d. Frequently clean up refuse, rubbish, scrap materials, and debris caused by construction operations, keeping the Work safe and orderly.

- e. Provide safe barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways, and other hazardous areas. Obtain written consent from proper parties before entering or occupying with workers, tools, materials or equipment, privately owned land except on easements provided for construction. Assume full responsibility for the preservation of public and private property on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect, or misconduct in execution of the Work by the Contractor, it shall be restored by the Contractor to a condition equal to or better than that existing before the damage was done.
- B. Barricades and Warning Signals.
Where Work is performed on or adjacent to any roadway, right-of-way, or public place, furnish and erect barricades, fences, lights, warning signs, and danger signals; provide watchmen; and take other precautionary measures for the protection of persons or property and protection of the Work.
- C. Preserving Control Points
Maintain permanent benchmarks, monumentation, and other reference points. Unless otherwise directed in writing, replace at no cost to the Owner those that are damaged or destroyed in accordance with Section 24 – Surveying.
- D. Tree and Plant Protection.
Protect trees, shrubs, lawns, outside of grading limits and within the grading limits as designated on the Plans, and in accordance with requirements of Section 25 – Tree & Plant Protection.
- E. Protection of Underground and Surface Structures
Known underground structures, including water, sewer, electric, and telephone services are shown on the Plans in accordance with the best information available, but is not guaranteed to be correct or complete. Contractor is responsible for making Locate Calls. Explore ahead of trenching and excavation work and uncover obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption of utility services. Restore to original condition damages to underground structure at no additional cost to the Owner.

Immediately notify the agency or company owning any existing utility which is damaged, broken, or disturbed. Obtain approval from the Engineer and agency for any repairs or relocations, either temporary or permanent. Necessary changes in location of the Work may be made by the Engineer to avoid unanticipated underground structures. If permanent relocation of an underground structure or other subsurface installations is required and not otherwise provided for in the Contract Documents, the Engineer will direct Contractor in writing to perform the Work, which shall be paid for under the provisions for changes in the Contract Price as described in Section 6 – General Conditions.

Support in place and protect from direct or indirect injury to underground and surface structures located within or adjacent to the limits of the Work. Install such supports carefully and as required by the party owning or controlling such structure. Before installing structure supports, Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the owner of the structure. Avoid moving or in any way changing the property of public utilities or private service corporations without prior written consent of a responsible official of that service or public utility. Representatives of these utilities reserve the right to enter within the limits of this project for the purpose of maintaining their properties, or of making such changes or repairs to their property that may be considered necessary by performance of this Contract.

Notify the owners and/or operators of utilities and pipelines of the nature of construction operations

to be performed and the date or dates on which those operations will be performed. When construction operations are required in the immediate vicinity of existing structures, pipelines, or utilities, give a minimum of five (5) working days advance notice. Probe and flag the location of underground utilities prior to commencement of excavation. Keep flags in place until construction operations reach and uncover the utility.

Assume risks attending the presence or proximity of underground and surface structures within or adjacent to the limits to the Work including but not limited to damage and expense for direct or indirect injury caused by the Work to any structure. Immediately repair damage caused, to the satisfaction of the owner of the damaged structure.

1.14 PROTECTION OF THE WORK

Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of the Work. Control traffic to prevent damage to equipment, materials, and surfaces.

1.15 ROADS AND PARKING

- A. Prevent interference with traffic and Owner operations on existing roads.
- B. Minimize use of existing streets and driveways by construction traffic. Contractor shall video adjacent neighborhood streets prior to construction as directed by Owner for purposes of recording existing conditions.
- C. Control traffic to prevent damage to equipment, materials, and surfaces.
- D. Construct and maintain temporary detours, ramps, and roads to provide for normal public traffic flow when use of public roads or streets is closed by necessities of the Work.
- E. Provide mats or other means to prevent overloading or damage to existing roadways from tracked equipment or exceptionally large or heavy trucks or equipment
- F. Designate temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking. Locate as approved by Engineer.
- G. Do not allow heavy vehicles or construction equipment unnecessarily in existing parking areas.

1.16 ENVIRONMENTAL CONTROLS

- A. Provide and maintain methods, equipment, and temporary construction as necessary for controls over environmental conditions at the construction site and adjacent areas.
- B. Comply with statutes, regulations, and ordinances which relate to the proposed Work for the prevention of environmental pollution and preservation of natural resources, including but not limited to the National Environmental Policy Act of 1969, PL 91-190, Executive Order 11514.
 - 1. Provide, install and maintain storm water runoff control including but not limited to temporary entrance, silt fencing, etc. as specified in Contract Documents.

- C. Recognize and adhere to the environmental requirements of the Project. Disturbed areas shall be strictly limited to boundaries established by the Contract Documents. Burning of rubbish, debris or waste materials is not permitted.

1.17 POLLUTION CONTROL

- A. Provide methods, means, and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious substances from construction operations.
- B. Provide equipment and personnel to perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids. 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 receiving streams or storm water conveyance systems in conformance with TPDES requirements and Section 01566 – Source Controls for Erosion & Sedimentation.
- D. Provide systems for control of atmospheric pollutants. Prevent toxic concentrations of chemicals. Prevent harmful dispersal of pollutants into the atmosphere.
- E. Use equipment during construction that conforms to current federal, state, and local laws and regulations.

1.18 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as necessary to prevent infestation of Project Site.
- B. Employ methods and use materials which will not adversely affect conditions at the Project Site or adjoining properties.

1.19 NOISE CONTROL

- A. Provide vehicles, equipment, and construction activities that minimize noise to the greatest degree practicable. Noise levels shall conform to OSHA Standards - 29 CFR and in no case will noise levels be permitted which create a nuisance in the surrounding neighborhoods.
- B. Conduct construction operations during daylight hours from 7:00 a.m. to 5:00 p.m. except as approved by Engineer.
- C. Comply with Chapter 82-9, Codes of Ordinances, City of New Braunfels, Texas.

1.20 DUST CONTROL

- A. Control objectionable dust caused by operation of vehicles and equipment.

1.21 WATER RUNOFF AND EROSION CONTROL

- A. Provide methods to control surface water, runoff, subsurface water, and water pumped from excavations and structures to prevent damage to the Work, the Project Site, or adjoining properties.

- B. Inspect earthwork periodically to detect any evidence of the start of erosion. Apply corrective measures as required to control erosion.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Description of the required documentation to be prepared and signed by the Contractor before conducting construction operations, in accordance with the terms and conditions of the Texas Pollutant Discharge Elimination System (TPDES) General Permit (most current version) as issued by the Texas Commission on Environmental Quality under the provisions of Section 402 of the Clean Water Act and Section 26.040 of the Texas Water Code.
- B. Contractor's responsibility for implementation, maintenance, and inspection of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal, offsite vehicle tracking, and other practices shown on the Plans or specified elsewhere in this or other Technical Specifications.
- C. References to Technical Specifications:
 - 1. Section 15 – Submittals
 - 2. Section 14 – Coordination & Meetings
 - 3. Section 29 – Contract Closeout
- D. Referenced Standards:
 - 1. Texas Commission on Environmental Quality (TCEQ)
 - 2. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, adopted June 2004 by the Texas Department of Transportation (TxDOT)

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

1.03 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.

2.0 EXECUTION

2.01 REQUIRED NOTICES

- A. The Contractor shall complete, sign, and date the Contractor's Notice of Intent (NOI) (attached). The signed copy of the Contractor's NOI shall be returned to the Owner. The Owner will complete the Owner's Notice of Intent (attached) and will submit both notices to the TCEQ. Submission of the NOI is required by both the Owner and the Contractor before construction operations start.
- B. Upon completion of construction and acceptance of the Work by the Owner, the Contractor shall complete, sign, and date the Contractor's Notice of Termination (NOT) (attached).

2.02 CERTIFICATION REQUIREMENTS

- A. On the Operator's Information form attached in Appendix A, the Contractor shall complete name, address, and telephone number for the Contractor; the names of persons or firms responsible for maintenance and inspection of erosion and sediment control measures and all Subcontractors.
- B. The Owner will complete and sign the Owner's Certification and provide a copy to the Contractor for inclusion with other project certification forms.
- C. The Contractor and Subcontractors named in the Contractor's Information form shall read, sign, and date the Contractor's/Subcontractor's Certification form.
- D. The persons or firms responsible for maintenance and inspection of erosion and sediment control measures shall read, sign, and date the Contractor's Inspection and Maintenance Certification form provided by Owner during the Preconstruction Meeting.
- E. The Contractor's Information form and all certification forms shall be submitted to the Owner before beginning construction.
- F. Contractor shall review implementation of the SWPPP in a meeting with the Owner prior to start of construction in accordance with Section 14 – Coordination & Meetings.

2.03 RETENTION OF RECORDS

- A. The Contractor shall keep a copy of the SWPPP at the Project Site or at the Contractor's office from the date that it became effective to the date the Work is accepted by the Owner.
- B. At Contract Closeout, the Contractor shall submit to the Owner all TPDES forms and certifications, as well as a copy of the SWPPP, in accordance with Section 29 – Contract Closeout. The SWPPP records and data will be retained by Owner for a period of 3 years from the date the Work is accepted by the Owner.

2.04 POSTING OF NOTICES

- A. The following notices shall be posted from the date that this SWPPP goes into effect until the date the Work is accepted by the Owner:
 - 1. Copies of the Notices of Intent submitted by the Owner and Contractor and a brief Description of Construction Activity being conducted at the Project Site, as given in Article 1 of the SWPPP, shall be posted at the Project Site or at Contractor's office in a prominent place for public viewing.
 - 2. Notice to drivers of equipment and vehicles, instructing them to stop, check, and clean tires of debris and mud before driving onto traffic lanes. Post such notices at every stabilized construction exit area.
 - 3. In an easily visible location on Project Site, post a notice of waste disposal procedures.
 - 4. Notice of hazardous material handling and emergency procedures shall be posted with the NOI on Project Site. Keep copies of Material Safety Data Sheets at a location on Project Site that is known to all personnel.
 - 5. Keep a copy of each signed certification at the Project Site or at Contractor's office.

END OF SECTION

Completing the Notice of Intent for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)

A. Construction Site Operator Information

Check boxes and Customer Reference Number

These boxes designate the operator's status as a TCEQ "customer"—in other words, an individual or business that is involved in an activity that we regulate. We assign each customer a number that begins with "CN," followed by nine digits. ***This is not a permit number, registration number, or license number.*** In the remainder of this section, we will use "this customer" to mean the operator for Part A of the form.

- If this customer has not been assigned a Customer Reference Number or if this number is unknown, check "New" and leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number and:
 - Check "No Change" if all the remaining customer information is the same as previously reported. However, you must still complete most blanks in this form for this notice of intent to be valid.
 - If this customer's information has changed since the last time it was reported to the TCEQ, check neither box and complete the remainder of this notice of intent.
- ***Do not enter a permit number, registration number, or license number in place of the Customer Reference Number.***

Name

Enter the legal name of this customer as authorized to do business in Texas. Include any abbreviations (LLC, Inc., etc.).

Mailing Address

Enter a central and general mailing address for this customer to receive mail from the TCEQ. For example, if this customer is a large company, this address might be the corporate or regional headquarters. On the other hand, for a smaller business, this address could be the same as the site address.

If this is a street address, please follow US Postal Service standards. In brief, these standards require this information in this order:

- the "house" number—for example, the 1401 in 1401 Main St
- if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- the street name (if a numbered street, do not spell out the number—for example, 6th St, not Sixth St)
- an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy, Cr, Ct, Ln
- if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- if there is a room number, suite number, or company mail code

City, State, and ZIP Code

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Country Mailing Information

If this address is ***outside*** the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal Service features here. If this address is ***inside*** the United States, leave these spaces blank.

Phone Number and Extension

This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

Fax Number

This number should correspond to this customer's mailing address given earlier. Enter the area code and fax number here.

E-mail Address

As with the mailing address, this should be a general address that is appropriate for e-mail to this customer's central or regional headquarters, if applicable.

If "No Change" was checked for this customer, you may skip the rest of the fields in this part of the form and continue to the next part of the NOI.

Type of Operator

Check ***only one*** box.

Check ...	If this customer...
Individual	is a person and has not established a business to do whatever causes them to be regulated by us.
Sole Proprietorship—D.B.A.	is a business that is owned by only one person and has not been incorporated. This business may: • be under the person's name • have its own name ("doing business as," or d.b.a.) • have any number of employees
Partnership	is a business that is established as a partnership as defined by the Texas Secretary of State's Office.
Corporation	meets all of these conditions: • is a legally incorporated entity under the laws of any state or country • is recognized as a corporation by the Texas Secretary of State • has proper operating authority to operate in Texas.
Federal, state, county, or city government (as appropriate)	is either an agency of one of these levels of government or the governmental body itself (if a utility district, water district, tribal government, college district, council of governments, or river authority, check "Other" and write in the specific type of government.)
Other	fits none of the above descriptions. Enter a short description of the type of customer in the blank provided.

Independent Operator?

Check "No" if this customer is a subsidiary or part of a larger company. Otherwise, check "Yes."

Number of Employees

Check one box to show the number of employees for this customer's entire company, at all locations. ***This is not necessarily the number of employees at the site named in this NOI.***

Federal Tax ID

All businesses, except for some small sole proprietors, should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Individuals and sole proprietors do not need to provide a federal tax ID.

State Franchise Tax ID

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

DUNS Number

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

B. Billing Address

We will mail the annual fee invoice for this site to the address entered in this section.

Name

Enter the legal name of the person or business to which we should mail this site's fee invoice each year.

Mailing Address

Enter the specific mailing address to which we should mail this site's fee invoice each year. If this is a street address, please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions.

City, State, and ZIP Code

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Country Mailing Information

If this address is ***outside*** the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal

Service features here. If this address is **inside** the United States, leave these spaces blank.

C. Project / Site Information

Check boxes and Regulated Entity Reference Number

These boxes designate this site's status as a TCEQ "regulated entity"—in other words, a location where an activity that we regulate occurs. We assign each regulated entity a number that begins with "RN," followed by nine digits. **This is not a permit number, registration number, or license number.**

- If this site has not been assigned a Regulated Entity Reference Number or if this number is unknown, check "New" and leave the space for the Regulated Entity Reference Number blank.
- If this site has already been assigned this number, enter the Regulated Entity Reference Number and:
 - Check "No Change" if all the remaining information is the same as previously reported. However, even if there has been no change, you must complete this section at least through "E-mail Address" for this NOI to be valid.
 - If this site's information has changed since the last time it was reported to the TCEQ, check neither box and complete the remainder of this notice of intent.
- **Do not enter a permit number, registration number, or license number in place of the Regulated Entity Reference Number.**

Name

Enter the name by which you want this site to be known to the TCEQ.

Mailing Address

Enter the specific mailing address for this site. If this is a street address, please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions. If the project / site's mailing address is the same as what is provided in Section A, you may enter "Same as Section A".

City, State, and ZIP Code

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Physical Address

Enter the physical address of the site itself. TCEQ staff should be able to use this address to find the site. Please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions. If the project / site does not have a physical address, enter "No Address".

City, County, and ZIP Code

Enter the name of the city, the county, and the ZIP Code. (Enter the full ZIP+4 if you know it.) This information must be provided even if you have entered "No Address" in the previous field.

Location Access Description

Enter a physical description of the location of the site based on highway intersections and/or permanent landmarks.

Latitude and Longitude

Enter the latitude and longitude of the site in **either** degrees, minutes, and seconds **or** decimal form.

For help obtaining the latitude and longitude, go to:

<http://www.tnrc.state.tx.us/gis/drgview.html>

Standard Industrial Classification (SIC) Code and Activity Description

Provide the SIC code that best describes the construction activity being conducted at the site.

For help with SIC codes, go to:

<http://www.osha.gov/oshstats/sicser.html>

In addition to the SIC code, you must also provide a description of the construction activity being conducted at the site. This may include such descriptions as: "Apartment Building Construction" or "Shopping Center Construction."

Storm Water Pollution Prevention Plan

This plan identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter storm water, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. **You must develop this plan before you complete this NOI.** This plan must be available for a TCEQ investigator to review on request. Specific requirements for the development of the plan

can be found in the *Texas Pollutant Discharge Elimination System Construction General Permit (TXR150000)*.

Estimated Area of Land Disturbed

Provide the approximate number of acres that the construction site will disturb. It is appropriate to enter a value less than 5, only if the project is part of a larger common plan that disturbs five or more acres. If the acreage is less than 1, enter 1. "Disturb" means any clearing, grading, excavating, or other similar activities.

Is the site located on Indian Country Lands?

Check "Yes" only if the site is on a reservation or other areas designated by the federal government as Indian Country Lands. If not, check "No."

Destination of Storm Water Discharge

The storm water from your site eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. The discharge may initially be into a municipal separate storm sewer system (MS4). Check the appropriate boxes for whether storm water is discharged into an MS4. If you checked "Yes" to "An MS4?", then enter the name of the entity that operates the storm sewer—often a city, town, or utility district, but possibly another form of government.

You must also provide the name of the water body that receives the discharge from the construction site (a local stream or lake). Storm water may be discharged directly to a receiving stream or via a storm sewer system. If known, please include the segment number if the discharge is to a classified water body.

For a map that includes segment numbers, go to:

<http://www.tnrc.state.tx.us/water/quality/data/index.html>

D. Contact

Give all the relevant information for the person whom TCEQ can contact if there are questions about any of the information on this form—perhaps the same person who completed the form.

E. Payment Information

Provide the number and account holder name from the check or money order used to pay the \$100 application fee.

F. Certification

The operator must sign and date this statement to validate this NOI. Be sure to enter the full legal name of the person signing the form and the relevant title—for example, "Operator," "Vice-President," or "Partner." Use the "Prefix" blank for such titles as Dr., Mr., or Ms., as desired. Use the "Suffix" blank for such designations as Ph.D., Jr., Sr., III, or J.D., if applicable.

For a corporation, the application shall be signed by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this application, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrator of the United States Environmental Protection Agency).

Questions?

If you have questions about any of the information on this form, contact our Storm Water Program at 512/239-4671 or look for "Storm Water" on our Web site:

www.tceq.state.tx.us

Completing the Notice of Termination for Storm Water Discharges
Associated with Construction Activity
under the TPDES Construction General Permit (TXR150000)

Who May File a Notice of Termination (NOT) Form

Permittees disturbing 5 acres or more (or part of a larger common plan of development or sale disturbing 5 acres or more) who are presently covered under the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit must submit a Notice of Termination (NOT) when final stabilization has been achieved on all portions of the site that is the responsibility of the permittee; or another permitted operator has assumed control over all areas of the site that have not been finally stabilized and all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

Final Stabilization occurs when either of the following conditions are met:

- (a) All soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
- (b) For individual lots in a residential construction site by either:
 - (1) the homebuilder completing final stabilization as specified in condition (a) above; or
 - (2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.
- (c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

A. TPDES Permit Number

Provide the TPDES permit number assigned to the operator of the construction site.

B. Construction Site Operator Information

Customer Reference Number

This number designates the operator's status as a TCEQ "customer"—in other words, an individual or business that is involved in an activity that we regulate. We assign each customer a number that begins with "CN," followed by nine digits. ***This is not a permit number, registration number, or license number.*** In the remainder of this section, we will use "this customer" to mean the operator for Part B of the form.

- If this customer has not been assigned a Customer Reference Number, leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number.
- ***Do not enter a permit number, registration number, or license number in place of the Customer Reference Number.***

Name

Enter the legal name of this customer as authorized to do business in Texas. Include any abbreviations (LLC, Inc., etc.).

Mailing Address

Enter a central and general mailing address for this customer to receive mail from the TCEQ. For example, if this customer is a large company, this address might be the corporate or regional headquarters. On the other hand, for a smaller business, this address could be the same as the site address.

If this is a street address, please follow US Postal Service standards. In brief, these standards require this information in this order:

- the "house" number—for example, the 1401 in 1401 Main St
- if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- the street name (if a numbered street, do not spell out the number—for example, 6th St, not Sixth St)
- an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy, Cr, Ct, Ln
- if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- if there is a room number, suite number, or company mail code

City, State, and ZIP Code

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Country Mailing Information

If this address is **outside** the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal Service features here. If this address is **inside** the United States, leave these spaces blank.

Phone Number and Extension

This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

Fax Number

This number should correspond to this customer's mailing address given earlier. Enter the area code and fax number here.

E-mail Address

As with the mailing address, this should be a general address that is appropriate for e-mail to this customer's central or regional headquarters, if applicable.

C. Project / Site Information

Regulated Entity Reference Number

This number designates this site's status as a TCEQ "regulated entity"—in other words, a location where an activity that we regulate occurs. We assign each regulated entity a number that begins with "RN," followed by nine digits. ***This is not a permit number, registration number, or license number.***

- If this site has not been assigned a Regulated Entity Reference Number, leave the space for the Regulated Entity Reference Number blank.
- If this site has already been assigned this number, enter the Regulated Entity Reference Number.
- ***Do not enter a permit number, registration number, or license number in place of the Regulated Entity Reference Number.***

Name

Enter the name by which you want this site to be known to the TCEQ.

Physical Address

Enter the physical address of the site itself. TCEQ staff should be able to use this address to find the site.

Location Description

Enter a physical description of the location of the site based on highway intersections and/or permanent landmarks.

City, County, and ZIP Code

Enter the name of the city, the county, and the ZIP Code. (Enter the full ZIP+4 if you know it.)

D. Contact

Give all the relevant information for the person whom TCEQ can contact if there are questions about any of the information on this form—perhaps the same person who completed the form.

E. Certification

The operator must sign and date this statement to validate this NOI. Be sure to enter the full legal name of the person signing the form and the relevant title—for example, "Operator," "Operator's attorney," or "Senior Site Manager." Use the "Prefix" blank for such titles as Dr., Mr., or Ms., as desired. Use the "Suffix" blank for such designations as Ph.D., Jr., Sr., III, or J.D., if applicable.

For a corporation, the application shall be signed by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this application, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrator of the United States Environmental Protection Agency).

Questions?

If you have questions about any of the information on this form, contact our Storm Water Program at 512/239-4671 or look for "Storm Water" on our Web site:

www.tceq.state.tx.us

Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)

For help completing this application, read the TXR150000 NOI Instructions ([TCEQ-20023-Instructions](#)).

TCEQ Office Use Only

TPDES Permit Number: TXR15|_|_|_|_| - NO

GIN Number:

__	__	__	__	__	__	__
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A. TPDES Permit Number: TXR15_____

B. Construction Site Operator

Customer Reference Number: CN _____

Name: _____

Mailing Address: _____

City: _____ State: -- _____ Zip Code: _____

Country Mailing Information (if outside USA) Territory: _____ Country Code: _____ Postal Code: _____

Phone Number: _____ Extension: _____ Fax Number: _____

E-mail Address: _____

C. Project / Site Information

Regulated Entity Reference Number: RN_____

Name: _____

Physical Address: _____

Location Access Description: _____

City: _____ County: -- _____ Zip Code: _____

D. Contact - If the TCEQ needs additional information regarding this termination, who should be contacted?

Name: _____ Title: _____

Phone Number: _____ Extension: _____ Fax Number: _____

E-mail Address: _____

E. Certification

I certify under penalty of law that authorization under the TPDES Construction General Permit (TXR150000) is no longer necessary based on the provisions of the general permit. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under the general permit TXR150000, and that discharging pollutants in storm water associated with construction activity to waters of the U.S. is unlawful under the Clean Water Act where the discharge is not authorized by a TPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Construction Site Operator Representative:

Prefix: _____ First: _____ Middle: _____

Last: _____ Suffix: _____

Title: _____

Signature: _____ Date: _____

If you have questions on how to fill out this form or about the storm water program, please contact us at (512) 239-4671.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at (512) 239-3282.

The completed NOT must be mailed to the following address:

**Texas Commission on Environmental Quality
Storm Water & General Permits Team; MC - 228
P.O. Box 13087
Austin, Texas 78711-3087**

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for construction photographs and submittals.
- B. References to Specifications:
 - 1. Section 11 – Measurement and Payment
 - 2. Section 15 – Submittals
 - 2. Section 27 – Project Record Documents

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Construction Photographs under this Section. Include cost in Bid Items for installed Work.

1.03 SUBMITTALS

- A. Make Submittals required by this and related Sections under the provisions of Section 15 – Submittals.
- B. Provide index sheet of photos formatted for 8½ x 11-inch with left edge binding margin for three hole punch. Provide notation of the vantage point marked for location and direction of shot on a key plan of the Project Site. The photos may be submitted digitally on a CD or DVD formatted for 3"x5" prints. One (1) print shall be retained by the Contractor in the field office at the Project Site and available at all times for reference.
- C. When requested by the Engineer, the Contractor shall submit extra prints of photographs, for distribution directly to designated parties who will pay the costs for the extra prints directly to the photographer.
- D. When required by individual Sections, submit photographs taken prior to start of the Work to show original Project Site conditions.
- E. When required by Contract Documents, submit photographs with Application for Payment.
- F. When required by individual Sections, submit photographs taken following completion of the Work to show the condition in which the Project Site will be left.
- G. With each submittal, include photographic negatives in protective envelopes, identified by Project Name, Contractor, and date photographs were taken.

1.04 QUALITY ASSURANCE

- A. Contractor shall be responsible for the timely execution of the photographs, their vantage point, direction of shot, and quality.

2.0 PRODUCTS

2.01 PHOTOGRAPHS

- A. Photographs shall be digital quality and shall be submitted on a CD.
- B. The photographs shall show on a non-elective chalkboard or white board, readable in the photograph:
 - 1. Job number.
 - 2. Date and time photographs were taken.
 - 3. Location of the photograph, address number and street, along with the project number.
- C. Indicate the condition of the following:
 - 1. Medians, curbs, and rights-of-way.
 - 2. Yards (near side and far side of street).
 - 3. Flatwork (including roadway and pedestrian installations).
 - 4. Landscape features (shrubs, fence, trees, etc.)
 - 5. Particular features (benches, signs, fence, etc.).
 - 6. Provide notation of vantage point marked for location and direction of shot on a key plan of the Project Site.
- D. Sufficient number of photographs shall be taken to show the existence or nonexistence of cracked concrete, existing installations, and the condition of trees, shrubs and grass.
- E. Identify each photograph with an applied label or digital file designation with the following information:
 - 1. Name of the Project.
 - 2. Name and address of the photographer (if a professional photographer is used).
 - 3. Name of the Contractor.
 - 4. Date the photograph was taken.
 - 5. Photographs to be in plastic pockets and bound in three-ring notebook for easy access and viewing.

3.0 EXECUTION

3.01 PRECONSTRUCTION PHOTOGRAPHS

- A. Prior to the commencement of the Work, take photographs of the entire route of the Project Site.

3.02 PROGRESS PHOTOGRAPHS

- A. Take photographs at intervals, coinciding with the cutoff date associated with each Application for Payment and submit on CD with monthly Application for Payment.
- B. Select the vantage points for each shot each month to best show the status of construction and progress since the last photographs were taken. Take not less than two (2) shots from the same vantage point creating a time-lapsed sequence.
- C. Follow direction when given by the Project Manager in selecting vantage points.

3.03 POST-CONSTRUCTION PHOTOGRAPHS

- A. Following the completion of the Work, take photographs from vantage points and direction of shots corresponding to progress photographs.
- B. On completion of construction, provide photographs of any public or private property which has been repaired or restored and any damage which is or may be the subject of complaints.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation and manufacturer's field services and reports.
- B. References to Technical Specifications:
 - 1. Section 15 – Submittals

1.02 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce the Work of specified quality at no additional cost to the Owner.
- B. Comply fully with manufacturers' installation instructions, including each step in sequence.
- C. Request clarification from Engineer before proceeding should manufacturers' instructions conflict with Contract Documents.
- D. Comply with specified Standards as minimum requirements for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce the specified level of workmanship.
- F. Obtain copies of Standards and maintain at Project Site when required by individual Technical Specifications.

1.04 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual Technical Specifications, provide material or product suppliers' or manufacturers' technical representative to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, operator training, test, adjust, and balance of equipment as applicable, and to initiate operation, as required. Conform to minimum time requirements for start-up operations and operator training if defined in Technical Specifications.
- B. At the Engineer's request, submit qualifications of manufacturer's representative to Engineer fifteen (15) days in advance of required representative's services. The representative shall be subject to approval of Engineer.
- C. Manufacturer's representative shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions. Submit report within one (1) day of observation to Engineer for review.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Mobilization of construction equipment and facilities onto the Work.
- B. Referenced Standards:
 - 1. Texas Manual on Uniform Traffic Control Devices (Texas MUTCD)
 - 2. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, adopted June 2004 by the Texas Department of Transportation (TxDOT)

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this work is a component.
- B. Payment is subject to the receipt and approval by Engineer of the following items, as applicable:
 - 1. Schedule of Values (Section 15 – Submittals)
 - 2. Construction Schedule (Section 15 – Submittals)
 - 3. Pre-construction Photographs (Section 18 – Construction Photographs)
 - 4. Installation and acceptance of Project Identification Sign(s) (Section 22).
- C. Mobilization payments will be subject to Retainage as stipulated in the Owner-Contractor Agreement.

2.0 PRODUCTS

2.01 PROJECT IDENTIFICATION SIGNS

- A. Provide specified number of Project identification Sign(s) per Section 22. The name, address and contact information of the general contractor for the project shall be shown on the sign.

3.0 EXECUTION

3.01 PLACEMENT OF PROJECT IDENTIFICATION SIGNS

- A. Place a Project Identification Sign as described in Section 22 visible to passing traffic or as directed by Engineer.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for transportation, delivery, handling, and storage of materials and equipment.

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this work is a component.

1.03 PRODUCTS

- A. Products: Means material, equipment, or systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components designated for reuse.
- B. Do not reuse materials and equipment, designated to be removed, except as specified by the Contract Documents.
- C. Provide equipment and components from the fewest number of manufacturers as is practical, in order to simplify spare parts inventory and to allow for maximum interchangeability of components. For multiple components of the same size, type or application, use the same make and model of component throughout the Work.

1.04 TRANSPORTATION

- A. Make arrangements for transportation, delivery, and handling of equipment and materials required for timely completion of the Work.
- B. Transport and handle products in accordance with instructions.
- C. Consign and address shipping documents to the proper party giving name of Project, street number, and City. Shipments shall be delivered to the Contractor.

1.05 DELIVERY

- A. Arrange deliveries of products to accommodate the Construction Schedule and in ample time to facilitate inspection prior to installation. Avoid deliveries that cause lengthy storage or burden of limited storage space.
- B. Coordinate deliveries to avoid conflict with Work and conditions at the Project Site and to accommodate the following:
 - 1. Work of other Contractors or the Owner.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. Owner's use of premises.
- C. Have products delivered to the Project Site in manufacturer's original, unopened, labeled containers.

- D. Immediately upon delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact; labels are legible.
 - 4. Products are properly protected and undamaged.

1.06 PRODUCT HANDLING

- A. Coordinate the off-loading of materials and equipment delivered to the Project Site. If necessary to move stored materials and equipment during construction, Contractor shall relocate materials and equipment at no additional cost to the Owner.
- B. Provide equipment and personnel necessary to handle products, including those provided by the Owner, by methods to prevent damage to products or packaging.
- C. Provide additional protection during handling as necessary to prevent breaking scraping, marring, or otherwise damaging products or surrounding areas.
- D. Handle products by methods to prevent over bending or overstressing.
- E. Lift heavy components only at designated lifting points.
- F. Handle materials and equipment in accordance with Manufacturer's recommendations.
- G. Do not drop, roll, or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.07 STORAGE OF MATERIAL

- A. Store and protect materials in accordance with manufacturer's recommendations and requirements of these Technical Specifications.
- B. Make necessary provisions for safe storage of materials and equipment. Place loose soil materials, and materials to be incorporated into the Work to prevent damage to any part of the Work or existing facilities and to maintain free access at all times to all parts of the Work and to utility service company installations in the vicinity of the Work.
- C. Keep materials and equipment neatly and compactly stored in locations that will cause a minimum of inconvenience to other Contractors, public travel, adjoining owners, tenants, and occupants. Arrange storage in a manner to provide easy access for inspection.
- D. Provide adequately ventilated, watertight storage facilities with floor above ground level for materials and equipment susceptible to weather damage.
- E. Restrict storage to areas available on the construction site for storage of material and equipment as shown on Plans or approved by the Engineer.
- F. Provide off-site storage and protection when on-site storage is not adequate.
- G. Do not use lawns, grass plots, or other private property for storage purposes without written permission of the owner or other person in possession or control of such premises. Damage to

lawns, sidewalks, streets or other improvements shall be repaired or replaced to the satisfaction of the Engineer.

- H. Protect stored materials and equipment against loss or damage.
- I. Store materials in manufacturers' unopened containers.
- J. Materials delivered and stored along the line of the Work shall be not closer than 3 feet to any fire hydrant. Public and private drives and street crossings shall be kept open.
- K. The total length which materials may be distributed along the route of construction at any one time is 1,000 linear feet, unless otherwise approved in writing by the Engineer.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Project identification sign description.
- B. Installation.
- C. Maintenance and removal.

1.02 UNIT PRICES

- A. No separate payment will be made for design, fabrication, installation, and maintenance of project identification signs under this Section. Include cost of work performed under this Section in the pay item for Section 20 - Mobilization.
- B. If changes to project identification signs are requested by the Engineer to keep them current, payment will be made by change order.
- C. Skid-mounted signs shall be relocated as directed by the Engineer at no additional cost to the City. Post-mounted signs shall be relocated once, if directed in writing by the Engineer, at no additional cost to the City. If a post-mounted sign is relocated more than once at the written direction of the Engineer, payment will be made by change order.

1.03 SYSTEM DESCRIPTION

- A. Sign Construction: Project identification signs shall be constructed of new materials and painted new for the project. Construct post-mounted signs as shown on Construction Sign Details.
- B. Appearance: Project identification signs shall be maintained to present a clean and neat look throughout the project duration.
- C. Sign Manufacturer/Maker: Experienced as a professional sign company.
- D. Sign Placement: Place signs at locations as directed by the Engineer. The Engineer will provide sign placement instructions at the Pre-construction Meeting.
 - 1. A linear project is one involving paving, overlay, or storm drainage that runs in the right-of-way over a distance. A linear project requires a project identification sign at each end of the construction site.
 - 2. Single Site or Building Projects: Provide one project identification sign.
 - 3. Multiple Sites: Provide one project identification sign at each site.
 - 4. Sign Relocation: As work progresses at each site, it may be necessary to move and relocate project identification signs. Relocate signs as directed in writing by the Engineer.
- E. Alternate Skid-mounted Sign Construction: Post-mounted signs are preferred, but skid-mounted signs are allowed, especially for projects with noncontiguous locations where work progresses from one location to another. The skid structure shall be designed so that the sign will withstand a 60-mile-per-hour wind load directly to the face or back of the sign. Use stakes, straps, or ballast. Approval of the use of skid-mounted signs shall not release the Contractor

from responsibility of maintaining a project identification sign on the project site and shall not make the City responsible for the security of such signs.

1.04 SUBMITTALS

- A. Submit shop drawings under provisions of Section 15 - Submittals.
- B. Show content, layout, lettering style, lettering size, and colors. Make sign and lettering to scale, clearly indicating condensed lettering, if used.

2.0 PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and Framing: All sign materials shall be new.
 - 1. Sign Posts: Use 4-inch by 4-inch treated wood posts, sized to fix top of sign at 6 FEET ABOVE GROUND.
 - 2. Sign Supports and Skid Bracing: 2-inch by 4-inch wood framing material.
 - 3. Skid Members: 2-inch by 6-inch wood framing material.
 - 4. Fasteners:
 - a. Use galvanized steel fasteners.
 - b. Use 3/8-inch by 5-1/2-inch button head carriage bolts to attach sign to posts.
 - c. Secure with nuts and flat head washers at locations as recommended by Sign Manufacturer.
 - d. Cover button heads with white reflective film or paint to match sign background
- B. Sign and Sign Header: Use medium density overlaid marine plywood, minimum 1/2-inch thick. Use full-size 4-foot by 8-foot sheets for sign and a single piece for header to minimize joints; do not piece wood to fabricate a sign face.
- C. Paint and Primers: White paint used to prime surfaces and to resist weathering shall be an industrial grade, fast-drying, oil-based paint with gloss finish. Paint structural and framing members white on all sides and edges to resist weathering. Paint sign and sign header material white on all sides and edges to resist weathering. Paint all sign surfaces with this weather-protective paint prior to adding any sign paint or adhesive applications.
- D. Colors:
 - 1. Follow criteria shown in the construction drawings.

3.0 EXECUTION

3.01 INSTALLATION

- A. Install project identification signs within 10 calendar days after Date of Commencement.
- B. Erect signs where designated by the Engineer at the Pre-Construction Meeting or as described in Part 1.03 of this Section. Position the sign in such a manner as to be fully visible and readable to the general public.
- C. Erect sign level and plumb.

- D. If mounted on posts, sink posts a minimum of 30 inches below grade in 10-inch diameter posthole. Stabilize posts with sharp sand or concrete to minimize lateral motion. Leave a minimum of 8 feet of post above existing grade for mounting of the sign and header.
- E. Erect sign so that the top edge of the sign is no higher than 6 feet above existing grade.

3.02 MAINTENANCE AND REMOVAL

- A. Keep signs and supports clean. Repair deterioration and damage.
- B. Remove signs, framing, supports, and foundations to a depth of 2 feet upon completion of Project. Restore the area to a condition equal to or better than before construction.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Testing Laboratory Services and Contractor responsibilities related to those services.
- B. References to Technical Specifications:
 - 1. Section 15 – Submittals
- C. Referenced Standards:
 - 1. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, adopted June 2004 by the Texas Department of Transportation (TxDOT)
 - 2. American Society for Testing and Materials (ASTM)
 - a. ASTM D 3740, “Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction”
 - b. ASTM E 329, “Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction”

1.02 SELECTION AND PAYMENT

- A. Owner will select, employ, and pay for services of an independent testing laboratory to perform inspection and testing identified in individual Technical Specifications.
- B. Employment of testing laboratory shall not relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.
- C. Owner or designated representative shall schedule and monitor testing as required to provide timely results and to avoid delay to the Work.
- D. Contractor shall be responsible for paying for services of commercial testing laboratory, with prior approval of Owner, to perform the following:
 - 1. Pipe diameter deflection tests on all flexible and semi-rigid pipe installations.
 - 2. Laboratory services required to establish mix design proposed for use for Portland cement concrete, asphaltic concrete mixtures and other material mixes requiring control by testing laboratory when required because of change in source of materials or other conditions not caused by Owner.
 - 3. Tests required to establish optimum moisture of earth and base materials and to determine required compactive effort to meet density requirements.
 - 4. Cores to test for thickness.
 - 5. Testing and inspection performed for the Contractor’s convenience.
 - 6. Retesting and repetitions of laboratory services when initial tests indicate work does not comply with requirements of Contract Documents.

1.03 LABORATORY REPORTS

- A. The Engineer will receive 2 copies and the Contractor will receive 2 copies of Laboratory Reports from the testing laboratory. One of the Contractor's copies shall remain at the Project Site for duration of Project. Test results which indicate non-conformance shall be transmitted immediately via fax or email from the testing laboratory to the Contractor and Engineer.

1.04 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

1.05 CONTRACTOR RESPONSIBILITIES

- A. Notify Project Manager and laboratory 24 hours prior to expected time for operations requiring inspection and testing services. Notify Owner if specification section requires the presence of the Engineer.
- B. Cooperate with laboratory personnel in collecting samples to be tested or collected on Project Site.
- C. Provide access to the Work and to manufacturer's facilities.
- D. Provide samples to laboratory in advance of their intended use to allow thorough examination and testing.
- E. Provide incidental labor and facilities for access to the Work to be tested; to obtain and handle samples at the site or at source of products to be tested; and to facilitate tests and inspections including storage and curing of test samples.
- F. Arrange with laboratory and pay for:
 - 1. Retesting required for failed tests.
 - 2. Retesting for nonconforming Work.
 - 3. Additional sampling and tests requested by Contractor for his own purposes.

2.0 EXECUTION

2.01 CONDUCTING TESTING

- A. A Laboratory sampling and testing shall conform to ASTM D 3740 and ASTM E 329, as well as other test standards specified in individual Technical Specifications.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for surveyors and surveys.
- B. Procedures pertaining to survey control points and reference points.
- C. References to Technical Specifications:
 - 1. Section 15 – Submittals
 - 2. Section 27 – Project Record Documents

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

1.03 QUALITY CONTROL

- A. Conform to State of Texas laws for surveys requiring licensed surveyors. Employ a land surveyor acceptable to Engineer.

1.04 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.
- B. Submit to Engineer the name, address, and telephone number of Surveyor before starting survey work.
- C. Submit documentation verifying accuracy of survey work on request.

1.05 PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. Submit Record Documents under provisions of Section 27 – Project Record Documents.

1.06 EXAMINATION

- A. Verify locations of survey control points prior to starting Work.
- B. Notify Engineer immediately of any discrepancies discovered.

1.07 SURVEY REFERENCE POINTS

- A. Control datum for survey is that established by Owner-provided survey and indicated on Plans.
- B. Locate and protect survey control points, including property corners, prior to starting site work. Use caution to preserve permanent reference points during construction.

- C. The Contractor shall not reset; nor cause to be reset, lost, disturbed, or damaged; control points. Promptly notify Engineer of disturbance or damage to any control point(s).
- D. Notify Engineer 48 hours in advance of need for relocation of reference points due to changes in grades or other reasons.
- E. Report promptly to Engineer the loss or destruction of any reference point.
- F. Any re-staking of control points lost, disturbed, or damaged by Contractor's operations will be provided by Owner at Contractor's expense.
- G. Employ a Registered Public Land Surveyor to reset any missing, disturbed, or damaged monumentation.

1.08 SURVEY REQUIREMENTS

- A. Utilize recognized engineering survey practices.
- B. Establish a minimum of two permanent bench marks on Project Site, referenced to established control points. Record locations, with horizontal and vertical data, on Project Record Documents.
- C. Establish and record in survey notes elevations, lines and levels to provide quantities required for Measurement and Payment and to provide appropriate controls for the Work. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading; fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Monumented Baseline.
- D. Verify periodically layouts by same means.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Protection, care and maintenance of existing trees and plants to remain that are affected by the execution of the Work, whether temporary or permanent construction.
- B. Related Sections:
 - 1. Reference Specification Section 329300 – Trees, Shrubs, Vines, Perennials and Groundcover.
 - 2. Reference Specification Section 329350 – Landscape Establishment for 90 Days.

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component. Work and payments for the work shall be inclusive of all requirements of this section, the drawings and other specifications related to this section.

1.03 DEFINITIONS:

- A. Caliper: Diameter of a trunk measured by a diameter tape or the average of the smallest and largest diameters at 6 inches above the ground for trees up to and including 4-inch size, and 12 inches above the ground for trees larger than 4-inch size.
- B. Drip Line of Trees: Shall be a general line projecting from the approximate furthest extending edges of the outer foliage or leaf line (canopy) of the tree or plant downward to the ground and continuous along the ground for the extent of the canopy.
- C. Root Protection Area: The measurement of the diameter of the tree trunk in inches times a multiplier of 12. Root Protection Line may not coincide with drip line. The City Arborist may determine the Root Protection Area is larger for certain trees, specimen trees and trees with extreme exposure to construction etc.

1.04 PROJECT CONDITIONS:

- D. Preserve and protect existing trees and plants to remain from foliage, branch, trunk, or root damage that could result from construction operations.
- E. Prevent following types of damage:
 - 1. Compaction of root zone by foot or vehicular traffic, or material storage.
 - 2. Trunk damage from equipment operations, material storage, or from nailing or bolting.
 - 3. Trunk and branch damage caused by ropes or guy wires or machine impacts.
 - 4. Root poisoning from spilled solvents, gasoline, paint, and other noxious materials.
 - 5. Branch damage due to improper pruning or trimming.
 - 6. Damage from lack of water due to:
 - a. Cutting or altering natural water migration patterns near root zones.
 - b. Failure to provide adequate watering.
 - 7. Damage from alteration of soil pH factor caused by depositing lime, concrete, plaster, or other base materials near roots.
 - 8. Cutting feeder of roots or roots larger than 1-1/2 inches in diameter.

- F. Confine Work activities to the identified Work Zone, Right of Way or Easement as described in Section 10 – Contractor’s Use of Premises.

1.04 DAMAGE ASSESSMENT

- A. When trees, other than those designated for removal, are destroyed or badly damaged as a result of construction operations, remove and replace with same size, species, and variety up to and including 8 inches in trunk diameter. Trees larger than 8 inches in diameter shall be replaced with an 8-inch diameter tree of the same species and variety and total contract amount will be reduced by an amount determined from the following International Shade Tree Conference formula: $0.7854 \times D^2 \times \10.00 where D is diameter in inches of tree or shrub trunk measured 12 inches above grade.
- B. All necessary tree replacements shall be as approved by Engineer.

2.0 PRODUCTS

2.01 MATERIALS

- A. Asphalt paint: Emulsified asphalt or other adhesive, elastic, antiseptic coating formulated for horticultural use on cut or injured plant tissue, free from kerosene and coal creosote.
- B. Burlap: Suitable for use as tree wrapping.
- C. Fertilizer: Liquid containing 20 percent nitrogen, 10 percent phosphorus, and 5 percent potash.

3.0 EXECUTION

3.01 PROTECTION AND MAINTENANCE OF EXISTING TREES AND SHRUBS

- A. Except for trees and shrubs shown on Plans to be removed, all trees and shrubs within the Project Site area are to remain and be protected from damage.
- B. For designated trees to be removed, perform the following:
 - 1. Stake right-of-way limits and identify any tree of diameter greater than 4 inches which is to be removed. Mark trees prior to felling with an “X” in orange paint, clearly visible, on the trunk, and at eye level.
 - 2. After marking trees give a minimum of 48-hours notice in writing to the Engineer of intent to begin felling operations.
 - 3. Trees whose trunks are only partially in the right-of-way shall be protected and preserved as described below.
- C. For trees or shrubs to remain, perform the following:
 - 1. Trim trees and shrubs only as necessary. Trees and shrubs requiring pruning for construction should also be pruned for balance as well as to maintain proper form and branching habit. Cut limbs at branch collar. No stubs should remain on trees. Branch cuts should not gouge outer layer of tree structure or trunk.
 - 2. Use extreme care to prevent excessive damage to root systems. Roots in construction areas will be cut smoothly with a trencher before excavation begins. Do not allow ripping of roots with a backhoe or other equipment. Temporarily cover exposed roots with wet burlap to prevent roots from drying. Cover exposed roots with soil as soon as possible.

3. Prevent damage or compaction of root zone (area inside dripline) by construction activities. Do not allow scarring of trunks or limbs by equipment or other means. Do not store construction materials, vehicles, or excavated material inside dripline of trees. Do not pour liquid materials inside dripline.
4. Water and fertilize trees and shrubs that will remain to maintain their health during construction period. Supplemental watering of landscaping during construction should be done once a week in months receiving average rainfall and twice a week in months receiving below average rainfall. This watering shall consist of saturating soils at least 6 to 8 inches beneath surface.
5. Water areas currently being served by private sprinkler systems while systems are temporarily taken out of service to maintain health of existing landscapes.
6. With the Engineer's permission, trees and shrubs to remain may be temporarily transplanted and returned to original positions under supervision of professional horticulturist.

3.02 PROTECTIVE CONTROLS

- A. Protection of trees or shrubs in open area:
 1. Install steel drive-in fence posts in protective circle, approximately 8 feet on center, not closer than 4 feet to trunk of trees or stems of shrubs.
 2. Drive steel drive-in fence posts 3 feet minimum into ground, leaving 5 feet minimum above ground.
 3. For trees or shrubs in paved areas, use moveable posts constructed from concrete-filled steel pipe 2-1/2 inches minimum in diameter mounted in rubber auto tires filled with concrete.
 4. Mount steel hog-wire on posts.
- B. Timber-wrap protection for trees in close proximity of moving or mechanical equipment and construction work:
 1. Wrap trunk with layer of burlap.
 2. Install 2 x 4's or 2 x 6's (5-foot to 6-foot lengths) vertically, spaced 3 inches to 5 inches apart around circumference of tree trunk.
 3. Tie in place with 12 to 9 gage steel wire.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Options for making product or process selections.
- B. Procedures for proposing equivalent construction products or processes, including preapproved, and approved products or processes

1.02 SUBMITTALS

- A. Make Submittals required by this and related Sections under the provisions of Section 15 – Submittals.

1.03 DEFINITIONS

- A. Product: Means, materials, equipment, or systems incorporated into the Work. Product does not include machinery and equipment used for production, fabrication, conveying, and erection of the Work. Products may also include existing materials or components designated for re-use.
- B. Process: Any proprietary system or method for installing system components resulting in an integral, functioning part of the Work. For this Section, the word Product includes Processes.

1.04 SELECTION OPTIONS

- A. Pre-approved Products: Products of certain manufacturers or suppliers are designated in the Technical Specifications as “pre-approved.” Products of other manufacturers or suppliers will not be acceptable under this Contract and will not be considered under the submittal process for approving alternate products.
- B. Approved Products: Products of certain manufacturers or suppliers designated in the Technical Specifications followed by the words "or approved equal.” Approval of alternate products not listed in the Technical Specifications may be obtained through provisions of this Section and Section 15 – Submittals. The procedure for approval of alternate products is not applicable to Pre-approved Products.
- C. Product Compatibility: To the maximum extent possible, provide products that are of the same type or function from a single manufacturer, make, or source. Where more than one choice is available as a Contractor's option, select a product which is compatible with other products already selected, specified, or in use by the Owner.

1.05 CONTRACTOR'S RESPONSIBILITY

- A. Furnish information the Engineer deems necessary to judge equivalency of the alternate product.
- B. Pay for laboratory testing as well as any other review or examination cost needed to establish the equivalency between products which enables the Engineer to make such a judgment.
- C. If the Engineer determines that an alternate product is not equivalent to that named in the Technical Specifications, the Contractor shall furnish one of the specified products.

1.06 ENGINEER'S REVIEW

- A. Alternate products may be used only if approved in writing by the Engineer. The Engineer's determination regarding acceptance of a proposed alternate product is final.
- B. Alternate products will be accepted if the product is judged by the Engineer to be equivalent to the specified product or to offer substantial benefit to the Owner.
- C. The Owner retains the right to accept any product deemed advantageous to the Owner, and similarly, to reject any product deemed not beneficial to the Owner.

1.07 SUBSTITUTION PROCEDURE

- A. Collect and assemble technical information applicable to the proposed product to aid in determining equivalency as related to the Approved Product specified.
- B. Submit a written request for a product to be considered as an alternate product along with the product information within fourteen (14) days after the Effective Date of the Agreement.
- C. After the submittal period has expired, requests for alternate products will be considered only when a specified product becomes unavailable because of conditions beyond the Contractor's control.
- D. Submit two (2) copies of each request for alternate product approval. Include the following information:
 - 1. Complete data substantiating compliance of proposed substitution with Contract Documents.
 - 2. For products:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards.
 - c. Samples, as applicable.
 - d. Name and address of similar projects on which product was used and date of installation. Include the name of the Owner, Architect/Engineer, and installing Subcontractor.
 - 3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Shop Drawings illustrating methods.
 - 4. Itemized comparison of proposed substitution with product or method specified.
 - 5. Data relating to changes in Construction Schedule
 - 6. Relationship to separate contracts, if any.
 - 7. Accurate cost data on proposed substitution in comparison with product or method specified.
 - 8. Other information requested by the Engineer.
- E. Approved alternate products will be subject to the same review process as the specified product would have been for Shop Drawings, Product Data, and Samples.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Maintenance and Submittal of Record Documents and Samples.
- B. References to Specifications:
 - 1. Section 11 - Measurement and Payment
 - 2. Section 15 – Submittals
 - 3. Section 29 - Contract Closeout

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

1.03 SUBMITTALS

- A. Make submittals required by this and related sections under the provisions of Section 15 - Submittals.

1.04 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Maintain one copy of Record Documents at the Project Site in accordance with General Conditions Section 6.12.
- B. Store Record Documents and Samples in field office if a field office is required by Contract Documents, or in a secure location. Provide files, racks, and secure storage for Record Documents and Samples.
- C. Label each document "PROJECT RECORD" in neat, large, printed letters.
- D. Maintain Record Documents in a clean, dry, and legible condition. Do not use Record Documents for construction purposes.
- E. Keep Record Documents and Samples available for inspection by Owner.

1.05 RECORDING

- A. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- B. Plans, Change Orders, and Shop Drawings: Legibly mark each item to record all actual construction, or "as built" conditions, including:
 - 1. Measured horizontal locations and elevations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Elevations of underground utilities referenced to benchmarks utilized for the Work.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by modifications.

- 5. Details not on original Plans.
 - 6. References to related Shop Drawings and Modifications.
- C. Record information with a red pen or pencil on a set of drawings indicated as the Record Document Set, provided by Engineer.

2.0 EXECUTION

- A. Deliver Record Documents and Samples to Owner in accordance with Section 29 - Contract Closeout.
- B. All project documents will be maintained on the City provided project management software, Procore. Contractor will be responsible for uploading, maintaining, and viewing all project related documentation within the software.

END OF SECTION

1.0 GENERAL

1.01 SECTION INCLUDES

- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting, and balancing.
- D. References to Technical specifications:
 - 1. Section 15 – Submittals
 - 2. Section 19 – Contractor's Quality Control

1.02 MEASUREMENT AND PAYMENT

- A. Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

1.03 SUBMITTALS

- A. Make Submittals required by this Section under the provisions of Section 15 – Submittals.
- B. Submit a written report that equipment or system has been properly installed and is functioning correctly.

2.0 EXECUTION

2.01 PREPARATION

- A. Contractor shall conduct all start-up operations under this Contract in conformance with Section 19 – Contractor's Quality Control.
- B. Coordinate schedule for start-up of various equipment and systems.
- C. Notify Engineer 7 days prior to startup of each item.
- D. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.
- E. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- F. Verify wiring and support components for equipment are complete and tested.
- G. Execute start-up under Contractor's supervision in accordance with manufacturer's instructions.
- H. When specified in individual specification sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to and during start-up, and to supervise placing equipment or system in operation.

2.02 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to Owner two weeks minimum prior to date of Substantial Completion.
- B. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner in detail to explain all aspects of operation and maintenance.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment location.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

2.03 TESTING, ADJUSTING, AND BALANCING

- A. Contractor shall start, test, adjust, balance, and provide reports on all installed equipment as provided for in this section.
- B. Owner may also appoint, employ, and pay for services of an independent firm to perform testing, adjusting, and balancing. Reports will be submitted by the independent firm to the Owner indicating observations and results of the tests and indicating compliance or non-compliance with specified requirements and with the requirements of the Contract Documents.
- C. Owner's employment of an independent firm shall not relieve the Contractor's responsibility under this section.

END OF SECTION

1.00 GENERAL

1.01 WORK INCLUDED

- A. Comply with requirements of the General Conditions and specified administrative procedures in closing out the Construction Contract.

1.02 SUBMITTALS

- A. Submit affidavits and release on forms approved by Engineer.

1.03 SUBSTANTIAL COMPLETION

- A. Submit written notification that the work or designated portion of the work is substantially complete to the Engineer when the work is considered to be substantially complete per the General Conditions. Include a list of the items remaining to be completed or corrected before the project will be considered to be complete.
- B. Engineer shall visit the project site to observe the work within a reasonable time after notification is received to determine the status of completion.
- C. Engineer shall issue notification to the Contractor that the work is either substantially complete or that additional work must be performed before the project may be considered substantially complete.
 - 1. Engineer will notify the Contractor in writing of items that must be completed before the project can be considered substantially complete.
 - a. Correct and noted deficiencies in the work.
 - b. Issue a second written notice with a revised list of deficiencies when work has been completed.
 - c. Engineer will revisit the site and the procedure shall begin again.
 - 2. Engineer will issue a tentative Certificate of Substantial Completion when the project is considered to be substantially complete. Certificate shall include a tentative list of items to be corrected before final payment.
 - a. Engineer shall prepare and send to the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be corrected or completed.
 - b. Review the list and notify the Engineer in writing of any objections within ten (10) days of receipt of Certificate of Substantial Completion.

1.04 FINAL INSPECTION

- A. Submit written certification when the project is complete and:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been completed in compliance with the Contract Documents.
 - 3. Equipment and systems have been tested per Contract Documents and are fully operational.
 - 4. Final Operations and Maintenance Manuals have been provided to the Owner and all operator training has been completed.
 - 5. Work is complete and ready for final inspection.

- B. Engineer shall make an inspection to determine the status of completeness within a reasonable time after the receipt of the Certificate.
- C. Engineer shall issue notice that the project is complete or notify the Contractor that work is not complete or is defective.
 - 1. Submit the request for final payment with Closeout submittals described in Paragraph 1.07, if notified that the project is complete and the work is acceptable.
 - 2. Upon receipt of notification from the Engineer that work is incomplete or defective, take immediate steps to remedy the stated deficiencies. Send a second certification to the Engineer when work has been completed or corrected.
 - 3. Engineer shall re-visit the site and the procedure will begin again.

1.05 CLOSEOUT SUBMITTALS TO THE ENGINEER

- A. Record Drawings per Section 27, Project Record Documents.
- B. Keys and keying schedule.
- C. Warranties and bonds.
- D. Evidence of payment or release of liens as required by the General Conditions, and on a form approved by Engineer.
- E. Consent from Surety to Final Payment.
- F. Equipment installation reports on equipment.
- G. Shop drawings, record data, Operations and Maintenance Manuals, and other submittals as required by the Contract Documents.
- H. Specified spare parts and special tools.
- I. Certificates of Occupancy, operating certificates, or other similar releases required to allow the Owner unrestricted use of work and access to service and utilities.
- J. Evidence of final, continuing insurance, and bond coverage as required by the Contract Documents.

1.06 FINAL PAYMENT REQUEST

- A. Submit a preliminary final payment request. This request is to include adjustments to the Contract Amount for:
 - 1. Approved Work Change Directives
 - 2. Allowances not previously adjusted by Work Change Directive
 - 3. Unit Prices
 - 4. Deductions for defective work that has been accepted by the Owner
 - 5. Penalties and bonuses
 - 6. Deductions for liquidated damages
 - 7. Deductions for re-inspection payments per Paragraph 1.05
 - 8. Other adjustment

- B. Engineer shall prepare a final Work Change Directive, reflecting the approved adjustments to the contract amount which have not been covered by previously approved Work Change Directives.
- C. Submit the final application for payment per the General Conditions, including the final Work Change Directive.

1.07 TRANSFER OF UTILITIES (if applicable)

- A. Transfer utilities to the Owner when the Certificate of Substantial Completion has been issued, and the work has been occupied by the Owner.
- B. Submit final meter readings for utilities and similar data as of the date the Owner occupied the work.

1.08 WARRANTIES, BONDS, AND SERVICES AGREEMENTS (if applicable)

- A. Provide warranties, bonds, and service agreements required by Section 15 - Submittals or by the individual sections of the specifications.
- B. The date for the start of warranties, bonds, and service agreements is established per the General Conditions.
- C. Compile warranties, bonds, and service agreements and review these documents for compliance with the Contract Documents.
 - 1. Each document is to be signed by the respective manufacturer, supplier, and Subcontractor.
 - 2. Each document is to include:
 - a. The product or work item description
 - b. The firm, with the name of the principal, address, and telephone number
 - c. Scope of warranty, bond, or services agreement
 - d. Date, duration, and expiration date for each warranty bond and service agreement
 - e. Procedures to be followed in the event of a failure
 - f. Specific instances that might invalidate the warranty or bond
- D. Submit two (2) copies of each document to the Engineer for review.
 - 1. Submit duplicate sets.
 - 2. Documents are to be submitted on 8- ½" x 11" paper, punched for a standard three-ring binder.
 - 3. Submit each set in a commercial quality three-ring binder with a durable and cleanable plastic cover. The title "Warranties, Bonds, and Services Agreements," the project name, and the name of the Contractor are to be typed and affixed to the cover.
- E. Submit warranties, bond, and services agreements:
 - 1. At the time of final completion and before final payment.
 - 2. Within 10 days after inspection and acceptance for equipment or components placed in service during the progress of construction

1.09 CLAIMS AND DISPUTES

Claims and disputes must be resolved prior to recommendations of final payment. Acceptance and final payment by the Contractor will indicate that any outstanding claims or disputed issues have been resolved to the full satisfaction of the Contractor.

1.10 FINAL ACCEPTANCE

After completion of the project and the final inspection has been accomplished, but prior to the final payment and release of any retainage, the Contractor shall furnish the following to the Engineer:

1. Affidavit of Bills Paid shall be executed by the Contractor and attested to by a commissioned notary, affirming that all suppliers, Subcontractors, and bills associated with the project have been paid.
2. Consent of Surety shall be executed by the Contractor's Surety and "Power of Attorney" attached affirming that the Owner can release final payment to the Contractor.
3. Release Statements shall be copied and furnished to the Owner for their files. The releases shall be signed and dated statements from individuals or businesses that allowed the Contractor to use their property for constructing this project.
4. Operation and Maintenance Manuals shall be obtained by the Contractor from the suppliers of all applicable mechanical, electrical, electronic and hydraulic equipment included in this project and furnished to the Owner for their files (if pertinent to this project).
5. Warranty Information shall be copied and furnished to the Owner for their files. This information shall clearly show the manufacturer's warranty policy requirements, period of time and business address (if pertinent to this project).
6. Record Drawings shall be marked by the Contractor showing all his construction notes and deviations from the Contract Documents or Plans. These markings shall be shown on a clean set of blueline prints and furnished to the Owner for their files.

END OF SECTION