

RESOLUTION NO. R-2023-45

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS APPROVING A CONSTRUCTION CONTRACT WITH TEXAS MATERIALS GROUP, DBA GULF COAST A CRH COMPANY (GULF COAST) TO A NOT-TO-EXCEED AMOUNT OF ONE MILLION FOUR HUNDRED NINETY THOUSAND ONE HUNDRED AND SEVEN DOLLARS (\$1,490,107.00) FOR THE OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION; AUTHORIZING CITY MANAGER TO EXECUTE ALL NECESSARY DOCUMENTS; PROVIDING FOR A REPALING CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Bastrop, Texas recognizes that the Old Austin Highway is in need of rehabilitation to extend its useful life; and

WHEREAS, the City Council of the City of Bastrop recognizes the importance of maintaining streets and the value added to the community by proper maintenance; and

WHEREAS, the City Council of the City of Bastrop, Texas recognizes that tax dollars should be spent responsibly; and

WHEREAS, the City Council understands that re-bidding this project was necessary; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:

Section 1: That the bids received for the 2019 Streets Program Maintenance and Preventative Maintenance Project were formally rejected.

Section 2: That the City Manager is hereby authorized to execute the Construction Contract, to a not-to-exceed amount of One Million Four Hundred Ninety Thousand One Hundred and Seven Dollars (\$1,490,107.00);

Section 3: That this Resolution shall take effect immediately upon its passage, and it is so resolved.

DULY RESOLVED AND ADOPTED by the City Council of the City of Bastrop, Texas
this 28th day of March, 2023.

APPROVED:



Connie B. Schroeder, Mayor

ATTEST:



Ann Franklin, City Secretary

APPROVED AS TO FORM:



Alan Bojorquez, City Attorney

CITY OF BASTROP

OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION

PROJECT MANUAL

MARCH 2023

PROJECT NUMBER 4-01127.01

RFP No. ENG 2023-01

MAYOR
Connie Schroeder

CITY COUNCIL
Drusilla Rogers – Mayor Pro Tem
Cheryl Lee – Place 1
Kevin Plunkett – Place 3
Jimmy Crouch – Place 4
John Kirkland – Place 5

CITY MANAGER
Sylvia Carillo, ICMA-CM, CPM

PROJECT MANUAL
as part of
the
Bidding Documents

PROJECT MANUAL
as part of
the
Contract Documents
(including Addenda numbers
1 to 2, inclusive)



R. Alan Munger, PE



Walker Partners
engineers | surveyors

DOCUMENT 00 01 10
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TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) STANDARD SPECIFICATIONS

The Texas Department of Transportation “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges,” 2014 Edition, is incorporated herein by reference for all intents and purposes. If a standard specified in that document conflicts with a standard included within a bid specifications document, the standard in the bid specifications document controls. If the standard is still unclear, the Engineer will determine which standard controls and his determination shall be final.

TxDOT Special Specifications

3003 – Emulsion Treatment (Road-Mixed)

6001 – Portable Changeable Message Sign

6001-001 Special Provision to Special Specification 6001 Portable Changeable Message Sign

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SECTION 00 11 12

INVITATION TO SUBMIT PROPOSALS

City of Bastrop (Owner) is requesting Competitive Sealed Proposals for the Old Austin Highway Pavement Rehabilitation project from, qualified contractors, to be received until 2:00 PM, on March 9, 2023 in its offices located at 1311 Chestnut Street, Bastrop, TX, 78602. Sealed competitive proposals will be publicly opened and read aloud at shortly thereafter at same location. Proposals are invited for furnishing all labor, equipment, and materials necessary for construction of the following:

RFP No. ENG 2023-01 – City of Bastrop Old Austin Highway Pavement Rehabilitation

Old Austin Highway Pavement Rehabilitation consists of full depth 8” reclamation, emulsion treatment stabilization, hot mix asphaltic concrete, and pavement markings. Project will be awarded to proposal providing best value to Owner based on a number of factors including cost, experience of contractor, and prior work performance.

Proposals must be submitted on forms provided in Proposal Documents and accompanied by a Proposal Security in the penal sum of not less than five percent (5%) of base proposal amount, payable without recourse to Owner. Proposal Security may be in either form of a cashier’s check or Offeror’s Bond from a security company approved to conduct business in State of Texas as a guarantee that offeror will enter into a contract and execute a 100% payment bond within fifteen (15) days after issuance of a notice of award to that Offeror. Proposals not accompanied by such Security or received after designated proposal time will not be considered. Refer to other proposal requirements described in Document 00 21 13 – Instructions to Offerors.

Copies of Proposal Documents (Project Manual and Drawings) are on file and may be examined at the office of Engineer. Proposal Documents are available for download electronically online at CivCast (www.civcastusa.com) or from Walker Partners by contacting Amy Jo Moreno at amoreno@walkerpartners.com.

Owner reserves the right to reject any or all Proposals and to waive informalities and irregularities.

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO OFFERORS

COMPETITIVE SEALED PROPOSALS

1. Overview of Request for Proposal Process.
 - 1.1 Objective of Request for Proposal (RFP) process is to competitively procure services with a qualified contractor whose Proposal provides best value for the City of Bastrop Old Austin Highway Pavement Rehabilitation project. Proposals will be received, publicly opened, and names and monetary Proposals of each Offeror read aloud. Subsequently, Proposals will be ranked according to criteria described in this RFP Document. Both cost and non-cost factors will be evaluated and scored. One or more Offerors may be invited back for discussions or to present their Proposal to Owner before final rankings are made. Owner may enter into contract negotiations with highest ranked firm for completion of Work. If negotiations with highest ranked firm are unsuccessful, Owner will formally close negotiations with this firm and initiate contract negotiations with next highest ranked firm. Upon agreement between both parties, a Contractor-executed Contract may be recommended for approval by Owner's governing body. Upon approval, Contract will be executed by Owner.
2. Defined Terms.
 - 2.1. Definitions for the following terms used in these Instructions do not replace definitions for similar terms that may be contained within other sections of Contract Documents.
 - 2.2. Certain additional terms used in these Instructions to Offerors have meanings indicated below and are applicable to both singular and plural thereof.
 - 2.2.1. Addendum or Addenda- Additions, deletions, and/or changes to any part of RFP issued in writing by Owner prior to Proposal due date and time.
 - 2.2.2. Apparent Best Value Offeror-Offering Firm whose Proposal for completion of Work provides best value for Owner as defined by ranking criteria detailed in Article 11 of Instructions to Offerors.
 - 2.2.3. City Council – Governing body of Owner.
 - 2.2.4. Contract Negotiations- Discussions which take place between Owner and Apparent Best Value Offeror in an effort to reach agreement on contract scope of work, cost, and other contractual requirements.
 - 2.2.5. Contractor – Successful Offeror to this RFP who enters into a contractual relationship with Owner for completion of Work.
 - 2.2.6. Engineer - Walker Partners, LLC
 - 2.2.7. Issuing Office - Location from which RFP Documents are issued. For this project issuing office is Walker Partners, 804 Las Cimas Parkway, Suite 150, Austin, TX 78746.
 - 2.2.8. Offeror, Offering Firm- Firm which responds to an RFP by submitting a Proposal directly to Owner. Offeror and Offering Firm shall have same meaning in the Instructions to Offerors.
 - 2.2.9. Owner – City of Bastrop.
 - 2.2.10. Proposal- Offeror's submittal which conforms to requirements set forth in this RFP.
 - 2.2.11. Proposal Form- As detailed in requirements of this RFP, contains unit pricing for all parts of Work and their aggregate as detailed and affirmed on Proposal Form and may include additional forms supplied by Offeror and or Owner that relate to Offeror's proposed cost for completing Work.
 - 2.2.12. RFP Document- abbreviation of Request for Proposals Document, document used to request Competitive Sealed Proposals for procurement of goods and services as authorized under Government Code Chapter 2269, Subchapter D.
 - 2.2.13. Statement of Qualifications, (SOQ) - Offeror submitted documents which describe Offering Firm's qualifications for performing Work and contain no pricing or cost data. Requirements for the Statement of Qualifications (SOQ) are set forth in Article 8 and Article 10 of Instructions to Offerors (this RFP).

- 2.2.14. Subcontractor - Any contractor or Supplier hired by Contractor to furnish materials and services specified in this RFP.
 - 2.2.15. Successful Offeror - Firm who has completed negotiations with Owner and may enter into a Contract with Owner to complete Work.
 - 2.2.16. Supplier- Same as Contractor
3. Schedule.
- 3.1 Advertisements: February 23, 2023; and March 2, 2023
 Pre-submittal Conference (Non-mandatory): February 28, 2023 at 11:00 AM
 Deadline for Questions and Inquiries: March 2, 2023 at 5:00 PM
 Last Addenda/Addendum Issued: March 8, 2023 at 5:00 PM
 Proposal Submission Deadline: March 9, 2023 at 2:00 PM
 Anticipated Construction Start: May 30, 2023
4. Request for Proposal Documents/Copies.
- 4.1. This Request for Competitive Sealed Proposals (RFP) consists of the following documents:
 - 4.1.1. Invitation to Submit Proposals (00 11 12);
 - 4.1.2. Instructions to Offerers (00 21 13);
 - 4.1.3. Statement of Qualifications (00 21 14);
 - 4.1.4. Proposal Form (00 41 00);
 - 4.1.5. All Contract Documents referenced in this RFP;
 - 4.1.6. Addenda to this RFP issued by Engineer;
 - 4.1.7. Any attached forms; and
 - 4.1.8. Proposal Security (00 43 13 - Offeror's Bond)
 - 4.2. Complete set of RFP Documents may be accessed at online at CivCast (www.civcastusa.com).
 - 4.3. Complete sets of RFP Documents must be used in preparing Proposals; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from use of incomplete sets of RFP Documents.
 - 4.4. Owner and Engineer, in making copies of RFP Documents available on above noted terms, do so only for purpose of obtaining Proposals for Work and do not confer a license or grant for any other use.
5. Competitive Sealed Proposal Process\Contract Documents.
- 5.1. All questions are to be submitted via the question and answer feature in CivCast.
 - 5.2. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda. Oral interpretations or clarifications are not binding.
6. Pre- Submittal Conference.
- 6.1. A pre-submittal conference will be held at 11:00 a.m. local time on February 28, 2023 at City of Bastrop City Hall, 1311 Chestnut Street, Bastrop, TX. Representatives of Owner and Engineer will be present to discuss the Project. Offerers are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Offerers of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.
7. Basis for Ranking of Proposals.
- 7.1 Owner will consider qualifications (Statement of Qualifications) of each Offeror and their respective proposed Contract Price (Proposal Form) when evaluating Proposals to determine which Offeror, in sole opinion of Owner, will provide best value to Owner. All procurements shall conform to Chapter 2269 of State of Texas Government Code. Proposals will be evaluated using the following criteria and weighting:
 - 7.1.1. Proposed Project Cost: Offeror's Proposed Cost of Performing Work shall be indicated in Section 00 41 00 – Proposal Form.
 - 7.1.2. Experience/Past Performance of Offeror: Provide general information about Organization and a Statement of Qualifications. Include information on a minimum of three (3) similar Projects on which Offeror has had significant involvement in the last five (5) years, or

that demonstrate experience with similar Projects. This list is to include name and a current telephone number of references for each of these Project assignments. Offerors are to include a list of current Project assignments for each of individuals proposed, anticipated completion date for this assignment and percentage of time they will have available to devote to this Project.

- 7.1.3 Ability to Meet Proposed Time for Construction: Provide information to demonstrate ability to meet proposed time for construction, including list of on-going projects, the anticipated dates of completion, including contact and phone number of the owner's project manager.
- 7.1.4. Experience/Qualifications of Superintendent: Provide information on Superintendent's qualifications including information on similar Projects on which Superintendent has been in charge of in the last five (5) years, or that demonstrate experience with similar Projects. This list is to include name and a current telephone number of references for each of these assignments. Superintendent must be dedicated to this Project full time for duration of Project and may not be changed without written approval by Engineer.
- 7.1.5. Other Factors: Owner will consider other factors in evaluating Proposals, including the following:
 - 7.1.5.1. Quality of Work: Demonstrated quality of Work on completed Projects as determined by site visits or discussions with references for Projects. Quality considerations may include appearance of completed Work, amount of warranty or rework required, durability and maintainability of completed Project, and quality of documentation provided.
 - 7.1.5.2. Safety: Demonstrated success in implementation of a site safety program.
 - 7.1.5.3. Claims Experience and Litigation History: Provide a list all claims or litigation involving construction Projects that have been filed by Offeror or Owner within last five (5) years, or that are currently outstanding.
 - 7.1.5.4 Financial Stability: Provide financial statements from current and previous years.
 - 7.1.5.5 Submit an original Conflict of Interest questionnaire (form included in this Project Manual).

7.2. Table of criteria and weighting for the ranking of Offeror's Proposals.

Category	Description	Weighting Points
1	Proposed Project Cost	45
2	Experience/Past Performance of Offeror with Similar Projects	25
3	Ability to Meet Proposed Budget and Time for Construction	25
4	Experience/Qualifications of Proposed Key Personnel	5
5	Financial Management (Stability)	Pass/Fail
Total		100

8. Proposal Form.

- 8.1. Proposal Form (00 41 00) is included with RFP Documents.
- 8.2. All blanks on Proposal Form must be completed in ink, by hand, or electronically printed.
- 8.3. Proposal price shall include such amount as Offeror deems proper for overhead and profit.

9. Offering Firm's Statement of Qualifications (SOQ).

- 9.1. Provide information required on form Section 00 21 14 - Statement of Qualifications.

10. Ranking of Offeror's Proposals.

- 10.1. Owner will consider qualifications (Statement of Qualifications) of Offerors and Offeror's subcontractors and consultants, in addition to proposed cost(s) (Proposal Form) when evaluating Proposals to determine which Proposal offers best value to Owner. Owner will rank each of Offeror's Proposals based on criteria and criteria weighting described in Article 8, Basis for Ranking of Proposals.
- 10.2. Evaluation and ranking of Proposals will be completed no later than 6th calendar day from date of Proposal opening. Offerors are requested not to withdraw their Proposals within 60 calendar days

- from date on which Proposals are opened. Proposal Security of highest ranking firms will be held by Owner until contract negotiations are finalized.
- 10.3. In evaluating Proposals, Owner will consider selection criteria set forth in Article 8 of these Instructions to Offerors and whether or not Proposals comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested by Owner.
 - 10.4. Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of Work, as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in General Conditions. Owner may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in Work when such data is required to be submitted prior to recommendation of award.
 - 10.5. Owner may conduct such investigations as Owner deems necessary to assist in evaluation of any Proposal and to establish the responsibility, qualifications and financial ability of Offerors, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish Work in accordance with Contract Documents to Owner's satisfaction within prescribed time.
 - 10.6. Owner, at its discretion, may also choose to conduct interviews with top ranking Offerors to provide Offerors a better opportunity to demonstrate they can provide best value to Owner for this Project. Should Owner choose to conduct interviews with top ranking Offerors, they will be notified of:
 - 10.6.1. Time and place for interview.
 - 10.6.2. Interview format and agenda.
 - 10.6.3. Questions to prepare for interview.
 - 10.6.4. Individuals that are expected to participate in the interview. Failure to participate in interview may result in disqualification from consideration for project.
11. Award of Contract.
- 11.1. It is intent of Owner to award this contract to Offering Firm whose Proposal for completion of Work provides best value for Owner after consideration of relative importance of costs and other evaluation factors described in Basis for Ranking Offerors set forth in Article 8 of these Instructions to Offerors.
 - 11.2. Owner reserves right to adopt most advantageous interpretation of Proposals submitted in case of ambiguity or lack of clearness in stating Proposal Prices, to reject any or all Proposals, and/or waive informalities.
 - 11.3. Owner reserves right to reject any or all Proposals, including without limitation rights to reject any or all nonconforming, non-responsive, unbalanced, or conditional Proposals and to reject the Proposal of any Offeror if Owner believes that it would not be in best interest of Project to make an award to that Offeror, whether because Proposal is not responsive or Offeror is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner.
 - 11.4. Owner also reserves the right to waive all informalities not involving price, time or changes in Work and to negotiate contract terms with Apparent Best Value Offeror. Discrepancies between multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between indicated sum of any column of figures and correct sum thereof will be resolved in favor of correct sum. Discrepancies between words and figures will be resolved in favor of words.
 - 11.5. Qualifications of a firm shall not deprive Owner of right to accept a Proposal, which in its judgment offers best value to Owner. In addition, Owner reserves the right to reject any Proposal where circumstances and developments have, in opinion of Owner, changed qualifications or responsibility of firm.
 - 11.6. Material misstatements in material submitted for evaluation may be ground for rejection of Offeror's Proposal on this project. Any such misstatement, if discovered after award of contract to such firm, may be grounds for immediate termination of contract. Additionally, Offeror will be liable to Owner for any additional costs or damages to Owner resulting from such misstatements, including costs and attorney's fees for collecting such costs and damages.

- 11.7. If Contract is to be awarded, it will be awarded to Apparent Best Value Offeror following successful Contract Negotiations.
 - 11.8. If Contract Negotiations with Apparent Best Value Offeror are unsuccessful, Owner will formally close Contract Negotiations with this Firm and attempt to open Contract Negotiations with next highest-ranked firm according to selection criteria set forth in Article 8 of these Instructions to Offerors.
 - 11.9. If Contract is to be awarded, Owner will notify Successful Offeror of intent to submit contract for approval by Owner within sixty (60) days after day of Proposal opening. Following approval Owner shall execute contract.
 - 11.10. Offeror may submit exceptions or alternatives not in accordance with terms and conditions of Contract Documents, or for Work that is not in strict compliance with Contract Documents. Describe intent and substance of changes in Proposal in adequate detail so they are clearly understood. Alternates will not be considered in ranking and evaluation of Proposals. Upon selection of Proposal that offers the best value to Owner, Owner and Engineer may consider proposed alternates in negotiating a final Contract scope, schedule and price.
 - 11.11. Addenda may be issued to clarify, correct, or change Contract Documents, Addenda or related supplemental data as deemed advisable by Owner or Engineer.
12. Interpretation, Addenda, and Alternate Proposals.
 - 12.1. All questions about meaning or intent of Request for Proposal and Contract Documents are to be submitted via the question and answer feature in CivCast. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by written Addenda.
 - 12.2. To properly qualify his Proposal, each Offeror shall, prior to submitting his Proposal, check receipt of all Addenda and acknowledge such receipt on Proposal Form and on the acknowledgement line of Addendum Cover page. Proposals submitted without such acknowledgment of all issued Addenda and letters of clarification may cause Proposal to be considered non-responsive. Such Addenda and letters of clarification shall become a part of the executed contract and modify contract documents accordingly.
 - 12.3. Questions received after deadline for Questions and Inquiries may not be answered.
 - 12.4. Only questions answered by formal written Addenda issued by Owner will be binding. Oral and other interpretations or clarifications will be without legal effect.
 - 12.5. Addenda may also be issued to modify RFP Documents as deemed advisable by Owner or Engineer.
 - 12.6. Owner or Engineer will not be held liable for any failure by Engineer for notification to reach Offeror. Offerors are encouraged to contact Engineer after legal limit for filing addenda (48 hours prior to Proposal due date and time) has passed to ensure receipt of all addenda.
13. Confidentiality of Proposal Information.
 - 13.1 All materials submitted to Owner will become public property and are subject to Texas Public Information Act, Government Code Chapter 552. If an Offeror does not desire proprietary Information in SOQ to be disclosed, each page must be identified and marked proprietary at time of submittal. Owner will, to extent provided by law, endeavor to protect such information from disclosure. Final decision as to what information must be disclosed, however, lies with Texas Attorney General. Failure to identify proprietary information will result in all unmarked sections being deemed non-proprietary and available upon public request. Proposers shall not be permitted to mark entire Proposal as proprietary.
14. Examination of Contract Documents and Site.
 - 14.1. It is the sole responsibility of each Offeror before submitting a Proposal:
 - 14.1.1. To examine thoroughly Contract Documents and other related data identified in RFP Documents (including "technical data" referred to below):
 - 14.1.2. To visit Site to become familiar with and satisfy Offeror as to general, local and Site conditions that may affect cost, progress, performance or furnishing of Work;
 - 14.1.3. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of Work;

- 14.1.4. To study and carefully correlate Offeror's knowledge and observations with Contract Documents and such other related data; and
- 14.1.5. To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Offeror has discovered in or between Contract Documents and such other related documents.
- 14.2. Information and data shown or indicated in Contract Documents with respect to existing Underground Facilities at or contiguous to Site are based upon information and data furnished to Owner and Engineer by Owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for accuracy or completeness thereof or for Offeror's interpretation of such information and data. Contractor is advised to coordinate closely with Owner, Engineer and Utility Operator(s) prior to the commencement of any underground construction activities.
- 14.3. Provisions concerning responsibilities for adequacy of data furnished to prospective Offerors with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in Contract Documents due to differing or unanticipated conditions appear in Article 6 of Agreement and Article 4 of General Conditions.
- 14.4. Before submitting a Proposal, each Offeror will be responsible for obtaining such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to site or otherwise, which may affect cost, progress, performance or furnishing of Work, or which relate to any aspect of means, methods, techniques, sequences or procedures of construction to be employed by Offeror and safety precautions and programs incident thereto or which Offeror deems necessary to determine its Proposal for performing and furnishing Work in accordance with time, price and other terms and conditions of Contract Documents.
- 14.5. On request, Owner will provide each Offeror access to site to conduct such examinations, investigations, explorations, tests and studies, as each Offeror deems necessary for submission of a Proposal. Offeror must fill any resultant holes and clean up and restore Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- 14.6. Reference is made to Specification Section 01 10 00 - Summary of Work for the identification of general nature of Work that is to be performed at Site by Owner or others (such as utilities and other prime Contractors) that relates to Work for which a Proposal is to be submitted. On request, Owner may provide to each Offeror for examination access to or copies of Contract Documents (other than portions thereof related to price) for such Work.
- 14.7. Submission of a Proposal will constitute an incontrovertible representation by Offeror that Offeror has complied with every requirement of this Article 15, that without exception Proposal is premised upon performing and furnishing Work required by Contract Documents and applying specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by Contract Documents, that Offeror has given Owner or Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Offeror has discovered in Contract Documents and written resolutions thereof by Engineer is acceptable to Offeror, and that Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing Work.
- 14.8. Provisions of 15.1 through 15.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Article 4.06 of General Conditions.
- 14.9. Addenda may also be issued to modify RFP Documents as deemed advisable by Owner or Engineer.
- 15. Proposal Security.
 - 15.1. Each Proposal must be accompanied by Proposal Security made payable to Owner in the amount not less than five percent (5%) of total Proposal Amount, including any Cash Allowances and Alternates, and shall be in form of a cashier's check or Offeror's Bond.
 - 15.2. Offeror's Bond must be on the form provided within Contract Documents (RFP) and must bear impressed seal of Surety, and be signed by Offeror and an authorized individual of Surety. Bonds will only be accepted from Sureties authorized to execute a bond order and in accordance with state law.

- 15.3. Proposal Security of Successful Offeror will be retained until such Offeror has executed Agreement, furnished required contract securities and met other conditions contained in Specification Section 00 41 00 – Proposal Form, whereupon Proposal Security will be returned. If Offeror fails to execute and deliver Agreement and furnish required contract security within thirty (30) days after contract award notification, Owner may annul its award and Proposal Security of that Offeror will be forfeited. Proposal Security of other Offerors whom Owner believes to have a reasonable chance of receiving award may be retained by Owner until the earlier of seventh day after Effective Date of Agreement or ninety-first day after Proposal opening, whereupon Proposal Security furnished by such Offerors will be returned. Proposal Security submitted in form of a cashier's check with Proposals which are not competitive will be returned.
16. Contract Times.
- 16.1 Number of days (calendar days) within which, or dates by which, Work is to achieve Substantial and Final Completion are set forth in Section 00 52 00 – Agreement between Owner and Contractor.
17. Substitutes and "Or-Equal" Items.
- 17.1 Contract, if awarded, will be on basis of materials and equipment described in Drawings or specified in Specifications with consideration for possible substitute or "or equivalent" items. Whenever it is indicated in Drawings or specified in Specifications that a Substitute or "or-equal"/"or equivalent" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer and Owner, application for such acceptance may be prior to Contract award in accordance with Texas Government Code 2269.155.
18. Subcontractors, Suppliers and Others.
- 18.1. If Owner requests the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Apparent Best Value Offeror, and any other Offerors so requested, shall within five (5) days from request submit to Owner a list of all such Subcontractors, Suppliers or other persons or organizations proposed for those portions of Work for which such identification is requested. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person or organization if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, Owner may, before giving notice of its intent to recommend Award, request that Apparent Best Value Offeror submit an acceptable substitute without an increase in price. If Apparent Best Value Offeror declines to make any such substitution, Owner may formally close contract negotiations with Offeror and enter into contract negotiations with next most highly-ranked Offeror that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. Declining to make requested substitutions will not constitute grounds for sacrificing Proposal Security of any Offeror. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to giving notice of its intent to recommend Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after Effective Date of Agreement as provided in Article 6.06 of General Conditions.
- 18.2. No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.
19. Preparation and of Proposals.
- 19.1. Prepare one (1) unbound original of complete Proposal Package, including completed Proposal Form 00 41 00.
- 19.2. Original Proposal is Proposal containing Original Signature of a person authorized to sign on behalf of Offering Firm.
- 19.3. Proposals shall be enclosed in an opaque sealed Envelope (or Package), marked with RFP name in addition to name and address of Offering Firm.
- 19.4. Each Original Proposal submitted by an Offeror shall contain the following:

- 19.4.1. Offerors Statement of Qualifications (Form Section 00 21 14 - Statement of Qualifications)
 - 19.4.2. Completed Proposal (Form Section 00 41 00 - Proposal)
 - 19.4.3. Proposal Security (Form Section 00 43 13 - Offeror's Bond)
 - 19.4.4. Completed Conflict of Interest Questionnaire
 - 19.4.5. Any other Documentation required by terms of this Request for Proposal.
 - 19.5. Proposals submitted by corporations must be executed in corporate name by president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and corporate seal must be affixed and attested by the secretary or an assistant secretary. Corporate address and state of incorporation must be shown below signature.
 - 19.6. Submitted Proposals by partnerships must be executed in partnership name and signed by a partner, whose title must appear under signature and official address of partnership must be shown below signature.
 - 19.7. All names must be typed or printed in ink below signature.
 - 19.8. Proposal shall contain an acknowledgment of receipt of all Addenda (numbers of which must be filled in on Proposal Form).
 - 19.9. Address and telephone number for communications regarding Proposal must be shown.
 - 19.10. Evidence of authority to conduct business in the State of Texas shall be provided in accordance with 00 41 00 – Proposal Form.
20. Submission of Proposals.
- 20.1. Proposals shall be submitted at time and place indicated in Invitation to Submit Proposals (00 11 12) and shall be enclosed in an opaque sealed envelope with name and address of Offering Firm, Project Name, and accompanied by Proposal Security and other required documents.
 - 20.2. If Proposal is sent through mail or other delivery system sealed envelope shall be enclosed in a separate envelope with notation "SEALED PROPOSAL ENCLOSED" on face of it. Proposals not received by time or at location specified will be returned unopened to Offeror.
 - 20.3. Clock used by Owner at place used for receiving Proposals shall conclusively determine time that Proposals are received.
 - 20.4. Proposals sent by facsimile or electronic mail or delivered to any other location other than address provided in Invitation to Offerors will NOT be accepted.
21. Modification and Withdrawal of Proposals.
- 21.1. Proposals may be modified or withdrawn by a document duly executed (in same manner that a Proposal must be executed) and delivered to place where Proposals are to be submitted prior to date and time for opening of Proposals.
 - 21.2. If, within twenty-four (24) hours after Proposals are opened, any Offeror files a duly signed written notice with Owner and promptly thereafter demonstrates to reasonable satisfaction of Owner that there was a material or substantial mistake in preparation of its Proposal, that Offeror may withdraw its Proposal. Proposal Security may be retained by Owner if Offeror cannot clearly demonstrate to Owner evidence of a material or substantial mistake in its Proposal. Thereafter, that Offeror may be disqualified from responding to a reissued RFP for Work to be furnished under these Contract Documents.
22. Opening of Proposals.
- 22.1. Proposals will be opened and (unless obviously non-responsive) names and Monetary Proposals of Offering Firms read aloud at a public opening. An abstract of Proposals will be made available no later than seventh day after Contract is awarded.
23. Proposals to Remain Subject to Acceptance.
- 23.1. All Proposals will remain subject to acceptance for ninety days (90) after date of opening, but Owner may, in its sole discretion, release any Proposal and return Proposal Security prior to that date.
24. Prevailing Wage Rates.
- 24.1. Contractors for this Project must pay no less than prevailing wage rates for area.

25. Liquidated Damages.
25.1 Provisions for liquidated damages are set forth in specification section 00 52 15 - Standard Form of Agreement between Owner and Contractor and specification section 00 72 15 - General Conditions of the Contract.
26. Contract Security and Insurance.
26.1 Article 5 of General Conditions sets forth Owner's requirements as to insurance(s) and Performance and Payment Bonds. When Successful Offeror delivers executed Agreement to Owner, it must be accompanied by required insurances, Performance and Payment Bonds. Insurances shall include all required certificates and/or endorsements.
27. Conflict of Interest.
27.1 Chapter 176 of Texas Local Government Code mandates public disclosure of certain information concerning persons doing business or seeking to do business with Owner, including affiliations and business and financial relationships such persons may have with Owner. An explanation of requirements of Chapter 176, applicable forms and a complete text of this law are available at: <http://www.ethics.state.tx.us/forms/CIQ.pdf>. BY DOING BUSINESS OR SEEKING TO DO BUSINESS WITH OWNER, YOU ACKNOWLEDGE THAT YOU HAVE BEEN NOTIFIED OF REQUIREMENTS OF CHAPTER 176 OF TEXAS LOCAL GOVERNMENT CODE AND THAT YOU ARE SOLELY RESPONSIBLE FOR COMPLYING WITH THEM.
28. Taxes.
28.1 Owner is exempt from payment of sales and compensating use taxes of State of Texas and of cities and counties thereof on all materials to be incorporated into Work. Owner will furnish required certificates of tax exemption to Contractor for use in purchase of supplies and materials to be incorporated into Work.
28.2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into Work.
28.3. Sales and Use Tax: Owner is exempt from Texas state sales and use taxes on materials and equipment to be incorporated into Work. Said taxes shall not be included in Proposal.
29. Signing of Agreement.
29.1 Owner will transmit to Successful Offeror required number of unsigned counterparts of Agreement with all other written Contract Documents attached. Contractor shall sign and deliver required number of counterparts of Agreement and written Contract Documents to Owner thirty (30) days.

END OF SECTION

SECTION 00 21 14

STATEMENT OF QUALIFICATIONS

TABLE 1 - GENERAL INFORMATION			
A. COMPANY DATA			
Organization Doing Business:	Texas Materials Group, Inc. dba Gulf Coast a CRH Company		
Business Address:	23990 State Hwy 6 Navasota, Texas 77868		
Telephone Number:	936-825-0118		
Fax Number:	N/A		
Form of Business:	Corporation X	Partnership	Individual Joint Venture
IF A CORPORATION			
Date of Incorporation:	1978		
State Incorporated:	Delaware		
President's Name:	Aaron Price		
Vice President's Name:	Derek Angel		
IF A PARTNERSHIP			
Date of Organization:			
Type	General	Limited	
IF AN INDIVIDUAL			
Name:			
Business Address:			
IF A JOINT VENTURE			
Name of Manager:			
Name of Firm:			
Name of Individual Companies:			
B. BUSINESS INFORMATION			
Current Number of Full Time Employees:	887	Past Year's Revenues:	\$500,000,000.00 Plus
Average Number of Projects Annually:	100	Average Construction Cost of Project:	\$5,000,000.00
C. DIVISION OF WORK BETWEEN CONTRACTOR AND SUBCONTRACTORS			
1. List work that will be provided by Offeror (Prime Contractor) using its own resources.			
Traffic control, all demolition per proposal tabulation, all street improvements per proposal tabulation. All roadwork stabilization, concrete repairs, & erosion.			
2. List work that will be provided by Subcontractors on this project.			
SWPPP control measures, all pavement marking improvements per proposal tabulation. Striping, & Barricades			

TABLE 2 – CONSTRUCTION EXPERIENCE			
1. Years of experience on asphalt full depth reclamation (FDR) projects:			
As a General Contractor:	20 Years	Number of Total Projects:	50 +
2. Number of asphalt FDR projects completed in State of Texas in the past five (5) years?			8
3. Has this or a predecessor company ever defaulted on a project or failed to complete work award to it?			No
4. Has this or a predecessor company ever been released from a bid or proposal in the past ten (10) years?			No
5. Has this or a predecessor company ever been disqualified as a bidder or offeror on any project within the last five (5) years?			No
6. Is offering company currently involved in any litigation or contemplating any litigation?			No
7. Has this or a predecessor company ever refused to construct or refused to provide materials defined in Contract Documents on a project?			No
8. Are there any liens currently filed against the offeror by either subcontractor or material suppliers on previous projects?			No

TABLE 3 – PROPOSED KEY PERSONNEL	
PROJECT MANAGER	
Name of Project Manager	Kyle Lewis
Years of Experience as PM	23
Number of Similar Projects as PM with this company	40
Number of Similar Projects with other companies (PM)	10
Current Assignments	8
% of time dedicated to this project	25%
Reference Project	
Project Name: City of Bastrop Street Maintenance	Reference Name: Alan Mounger
Title: Engineer	Organization: City of Bastrop
Telephone Number: 979-599-9870	Email: amunger@walkerpartners.com
PROJECT SUPERINTENDENT	
Name of Superintendent	Brandon Kiphen
Years of Experience as Superintendent	20
Number of Similar Projects as Super with this company	35
Number of Similar Project with other companies (Super)	8
Current Assignments	8
% of time dedicated to this project	80%
Reference Project	
Project Name: Austin FM 109	Reference Name: Ryan Simper
Title: Area Engineer	Organization: TXDOT
Telephone Number: 979-532-3141	Email: ryan.simper@txdot.com

TABLE 4 - SIMILAR PROJECTS COMPLETED WITHIN LAST 5 YEARS**REFERENCE PROJECT 1**

Project Description

Speegleville Road Reclamation and Oak Road reconstruction involving 10" Emulsion reclamation and HMA paving

Owner	Project Name	Contract Amount	Date Completed	% Change Orders
City of Waco	Speegleville Rd	\$1,810,847	3/15/2020	0%

Owner's Reference Information

Name	Title	Organization	Telephone	E-Mail
Jim Reed	Program Admin	City of Waco	254-750-8690	jimr@wacotx.gov

Engineer's Reference Information

Name	Title	Company	Telephone	E-Mail
Clark Gauer	Engineer	Walker Partners	254-714-1402	

REFERENCE PROJECT 2

Project Description

TxDOT FM 1633 Limestone Co. Reconstruction, 10" foamed asphalt reclamation with HMA paving, and culvert widening.

Owner	Project Name	Contract Amount	Date Completed	% Change Orders
TxDOT	FM 1633	\$7,107,479	5/20/21	0%

Owner's Reference Information

Name	Title	Organization	Telephone	E-Mail
Josh Voiles	Area Engineer	TxDOT	254-582-5432	josh.voiles@txdot.gov

Engineer's Reference Information

Name	Title	Company	Telephone	E-Mail
Josh Voiles	Area Engineer	TxDOT	254-582-5432	josh.voiles@txdot.gov

REFERENCE PROJECT 3

Project Description

TxDOT US 87 McCulloch Co, Reconstruction, 10" foamed asphalt reclamation with roadway widening and new urban section and including curb and gutter

Owner	Project Name	Contract Amount	Date Completed	% Change Orders
TxDOT	US 87	\$7,056,081	12/31/22	11%

Owner's Reference Information

Name	Title	Organization	Telephone	E-Mail
Bart Fris	Area Engineer	TxDOT	325-643-0358	bart.fris@txdot.gov

Engineer's Reference Information

Name	Title	Company	Telephone	E-Mail
Bart Fris	Area Engineer	TxDOT	325-643-0358	bart.fris@txdot.gov

TABLE 5 – SUBCONTRACTORS AND SUPPLIERS

PROJECT SPECIFIC SUBCONTRACTORS (greater than 10% of work)

Name	Work to be Provided	% of Contract
None		

Provide a list of major equipment or material suppliers for use on project.

Supplier Name	Material or Equipment Supplied
Texas Materials Group	Liquid Asphalt & Hotmix
Ergon Asphalt & Emulsions	Asphalt
Martin Marietta	Cement

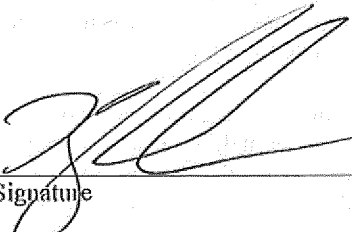
AFFIDAVIT

State Texas

County of Brazos

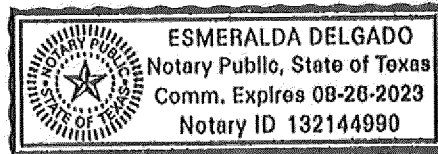
Kyle Lewis, being duly sworn deposes and attests that he/she is
(name)
Area Manager and is a duly authorized representative of the Offeror
(title)

submitting the foregoing Section 00 21 14 – Statement of Qualifications and related information, that he/she has read such documents, that he/she is authorized to submit such information on behalf of the Offeror, and that such documents are true and correct and contain no factual errors or material misrepresentations.


Signature

Signed and sworn to me before this 9th day of March, 20 23.

Esmeralda Delgado
Notary Public



My Commission expires: 08/26/2023

DOCUMENT 00 31 00

AVAILABLE PROJECT INFORMATION

1. SUMMARY

A. Document Includes:

1. Subsurface investigation report.
2. Planimetric survey.

B. Related Documents:

1. Document 00 21 13 - Instructions to Offerors: Examination of Site

2. SUBSURFACE INVESTIGATION REPORT

- A. A geotechnical report titled Old Austin Highway Pavement Rehabilitation was prepared for the design of the Owner.
- B. A complete copy of the report shall be furnished upon request by Offeror to Engineer. The report was not prepared for purposes of bid development and its information and accuracy may be limited for that purpose. *Engineer recommends that Offerors confer with the geotechnical engineer who prepared the report for interpretation of data contained therein and to conduct any additional studies required to obtain specific types of information required for bid development.*
- C. Report(s) to Offeror for informational purposes only and not for purposes of Offeror using or relying on this information in preparing its costs for performing Work. By submitted a Proposal, Offeror agrees and affirms that Offeror is solely responsible for determining all site conditions that may affect Work on Project.
- D. Offeror agrees and expressly understands that Report(s) may not represent all conditions that Offeror may encounter during performance of Work on Project and that Report(s) is/are indicative of only those locations where tests were performed or observations were made and conditions may vary greatly at other locations on the Project and Offeror is responsible for determining such actual conditions;
- E. Offerors are urged to conduct an independent examination of available soils investigation data and conduct further investigations, as needed, of Site prior to submitted a Proposal. Owner and Engineer disclaim any responsibility for accuracy, true location, and extent of soils investigation prepared by others. Owner and Engineer further disclaims any responsibility for interpretation of that data by Offerors, as in projecting soil bearing values; types of materials encountered; soil stability; and the presence, level and extent of any underground water.
- F. By submission of a proposal Offeror expressly also agrees that Report(s) shall not be utilized for purposes of asserting a claim for additional costs in performance of Work due to a changed condition on Project.
- G. Soil investigation data is not a part of Contract Documents.

END OF DOCUMENT

SECTION 00 41 00

PROPOSAL FORM

To: City of Bastrop
1311 Chestnut Street
Bastrop, TX 78602

Project: City of Bastrop – Old Auslin Highway Pavement Rehabilitation

RFP No.: ENG 2023-01

Offerer: Texas Materials Group, Inc. dba Gulf Coast a CRH Company
(Print or type full name of proprietorship, partnership, corporation, or joint venture)

1.0 OFFER

- A. Total Proposal Price: Undersigned Offerer proposes and agrees, if this Proposal is accepted, to enter into an Agreement with Owner on form included in Contract Documents to perform all Work as specified or indicated in Contract Documents for Contract Price indicated in this Proposal or as modified by written Amendment.
- B. Proposal Security: Included with the Proposal is a Proposal Security in amount of 5% of Total Proposal Price subject to terms described in Document 00 21 13 – Instructions to Offerers.
- C. Period for Proposal Acceptance: Offerer accepts all of terms and conditions of Request for Proposals and Instructions to Offerers, including without limitation those dealing with disposition of required Bonds. This offer shall remain open to acceptance and is irrevocable for 90 days from Proposal Date (opening). That period may be extended by mutual written agreement of Owner and Offerer.
- D. Liquidated Damages: Offerer accepts the provisions of Agreement as to liquidated damages in the event of its failure to complete Work in accordance with schedule as set forth in Agreement.
- E. Addenda: Offerer hereby acknowledges it has received, examined and carefully studied all Addenda and modifications to Proposal Documents have been considered and all related costs are included in Total Proposal Price. Offerer hereby acknowledges receipt of the following Addenda:
- F. Proposal Supplements: The following documents shall be provided with proposal:
- Offerer's Statement of Qualifications (SOQ).
 - Completed Certification of Proposal
 - Proposal Security
 - Non-Collusion Affidavit

2.0 CONTRACT TIME

- A. If offer is accepted, Contractor shall achieve Date of Substantial Completion and Date of Final Completion within Contract Times prescribed in Article 3 of Section 00 52 00 - Agreement Between Owner and Contractor, subject to adjustments of Contract Time as provided in Contract.

3.0 OFFERER REPRESENTATIONS

- A. Offerer is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and furnishing of Goods and Special Services.

- B. Offerer has visited Site and become familiar with and is satisfied as to general, local and Site conditions that may affect cost, progress, and performance of Work.
- C. Offerer has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to Site (except Underground Facilities) and (2) Hazardous Environmental Conditions identified in reports and drawings provided to Offerer or available for Offerer review. Offerer understands that neither Owner nor Engineer is responsible for the accuracy of these documents and that they are not part of Contract Documents.
- D. Offerer has obtained and carefully studied all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions including surface, subsurface and Underground Facilities at or contiguous to Site which may affect cost, progress, or performance of Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Offerer, including applying specific means, methods, techniques, sequences, and procedures of construction expressly required by Contract Documents to be employed by Offerer, and safety precautions and programs incident thereto and accepts all consequences for not doing so.
- E. Offerer does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Proposal for performance of Work at the Contract Price proposed, within Contract Times proposed and in accordance with terms and conditions of Contract Documents.
- F. Offerer is aware of general nature of work to be performed by Owner and others at Site that relates to Work as indicated in the Contract Documents.
- G. Offerer has correlated information known to Offerer, information and observations obtained from visits to Site, reports and drawings identified in Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with Contract Documents.
- H. Offerer has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Offerer has discovered in Contract Documents, and written resolution thereof by Owner or Engineer is acceptable to Offerer.
- I. Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of Work for which this Proposal is submitted.
- J. Laws to be Observed: In execution of Contract, Contractor must comply with all applicable Federal, State, and Local laws, including, but not limited to laws concerned with labor, safety, minimum wages, and environment. Contractor will make himself familiar with and shall at all times observe and comply with all Federal, State, and Local laws, ordinances and regulations which in any manner affect the conduct of the work, and shall indemnify and save harmless the Owner and its representatives against any claim arising from violation of any such law, ordinance or regulation by himself or by his subcontractor or by his employees.
- K. Review by Owner: Owner and authorized representatives and agents of owner shall at all times have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract.
- L. Offerer will submit written evidence of its authority to do business in State of Texas.
- M. Offerer further represents that this Proposal is genuine and not made in interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Offerer has not directly or indirectly induced or solicited any other Offerer to submit a false or sham Proposal; Offerer has not solicited or induced any individual or

4.0 DEFINED TERMS:

A. Defined terms used in this Proposal, if any, shall be for purposes of this Proposal and shall not change any meanings indicated in General Conditions. Significance of terms with initial capital letters is defined in General Conditions.

5.0 TOTAL PROPOSAL PRICE HAS BEEN CALCULATED BY OFFERER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

**CITY OF BASTROP
OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION
PROPOSAL TABULATION**

Item	Specification	Description	Quantity	Unit	Unit Price	Total Amount
1.00	General Conditions					
1.01	WP-01 21 00	MOBILIZATION & PROJECT INCIDENTALS - Section 01 21 00	1	LS	140,000. ⁰⁰	140,000. ⁰⁰
1.02	WP-01 55 26	TRAFFIC CONTROL PLAN - PROJECT NOTES	1	LS	5,000. ⁰⁰	5,000. ⁰⁰
1.03	WP-01 55 26	TRAFFIC CONTROL PLAN - IMPLEMENTATION	1	LS	30,000. ⁰⁰	30,000. ⁰⁰
1.04	WP-31 25 12	STORM WATER POLLUTION PREVENTION PLAN	1	LS	1,000. ⁰⁰	1,000. ⁰⁰
1.05	WP-31 25 12	STORMWATER POLLUTION PREVENTION PLAN IMPLEMENTATION	1	LS	10,000. ⁰⁰	10,000. ⁰⁰
1.06	TxDOT 6001	PORTABLE CHANGEABLE MESSAGE SIGN - 60 DAYS	4	EA/DAY	10,000. ⁰⁰	40,000. ⁰⁰
1.07	WP-01 20 00	CONSTRUCTION MATERIALS TEST ALLOWANCE	1	LS	\$ 25,000.00	\$ 25,000.00
1.08	WP-01 20 00	CONTINGENCY ALLOWANCE	1	LS	\$ 50,000.00	\$ 50,000.00
Subtotal General Conditions						301,000.⁰⁰
2.00	Demolition					
2.01	TxDOT 105	REMOVING TREATED & UNTREATED BASE & ASPHALT PAVEMENT	94	SY	10. ⁰⁰	940. ⁰⁰
Subtotal Demolition						940.⁰⁰
3.00	Street Improvements					
3.01	TxDOT 315	FOG SEAL (CSS-1H)TY-C (W/Zydex Nanotac Additive)	3,572	GAL	7. ⁰⁰	25,004. ⁰⁰
3.02	TxDOT 340	DENSE GRADED HMA (SQ) TY-C (PG70-22) (2-INCH)	2,786	TON	160. ⁰⁰	445,760. ⁰⁰
3.03	TxDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR (5")	50	SY	90. ⁰⁰	4,500. ⁰⁰
3.04	TxDOT 354	PLANE ASPHALT CONCRETE PAVEMENT (2")	1,462	SY	10. ⁰⁰	14,620. ⁰⁰
3.05	TxDOT 3003	EMULSION TREATMENT (MIX EXIST MATERIAL) (8")	23,815	SY	15.40	366,751. ⁰⁰
3.06	TxDOT 3003	EMULSION TREATMENT (CEMENT) (2%)	238	TON	175. ⁰⁰	41,650. ⁰⁰
3.07	TxDOT 3003	EMULSION TREATMENT (EMULSION) (4.8%)	134,484	GAL	1.73	235,347. ⁰⁰
3.08	WP-32 13 13	24" RIBBON CURB	160	SF	36. ⁰⁰	5,760. ⁰⁰
3.09	WP-32 13 13	8" REINFORCED CONCRETE FILLET	200	SF	40. ⁰⁰	8,000. ⁰⁰
3.10	WP-32 13 13	8" REINFORCED CONCRETE VALLEY	140	SF	40. ⁰⁰	5,600. ⁰⁰
Subtotal Street Improvements						1,152,992.⁰⁰

Item	Specification	Description	Quantity	Unit	Unit Price	Total Amount
4.00	Pavement Marking Improvements					
4.01	TxDOT 666	REFL PAV MRK TY I (Y) 4" (SLD) (100 MIL)	10,320	LF	1.00	10,320.00
4.02	TxDOT 666	REFL PAV MRK TY I (Y) 4" (BRK) (100 MIL) (80 FT SPA)	9,480	LF	0.25	2,370.00
4.03	TxDOT 666	REFL PAV MRK TY I (W) 4" (SLD) (100 MIL)	1,250	LF	1.00	1,250.00
4.04	TxDOT 666	REFL PAV MRK TY I (W) 4" (BRK) (100 MIL) (40 FT SPA)	350	LF	0.60	210.00
4.05	TxDOT 666	REFL PAV MRK TY I (ARROW) (100 MIL)	26	EA	300.00	7,800.00
4.06	TxDOT 666	REFL PAV MRK TY I (W) 8" (SLD) (100 MIL)	565	LF	2.20	1,243.00
4.07	TxDOT 666	REFL PAV MRK TY I (W) 12" (SLD) (100 MIL)	105	LF	5.00	525.00
4.08	TxDOT 666	REFL PAV MRK TY I (W) 24" (SLD) (100 MIL) (CROSSWALK)	540	LF	9.50	5,130.00
4.09	TxDOT 666	REFL PAV MRK TY I (W) 24" (SLD) (100 MIL) (STOP BAR)	240	LF	9.50	2,280.00
4.10	TxDOT 666	REFL PAV MRK TY I (W) 8" (DOTD) (100 MIL)	130	LF	3.70	481.00
4.11	TxDOT 672	REFL PAV MRKR TY II-(BLUE)	24	EA	22.00	528.00
4.12	TxDOT 672	REFL PAV MRKR TY II-A-A	347	EA	7.00	2,429.00
4.13	TxDOT 672	REFL PAV MRKR TY I-C	87	EA	7.00	609.00
Subtotal Pavement Marking Improvements						35,175.00

TOTAL PROPOSAL AMOUNT

\$1,490,107.00 (FL)

6.0 ADDENDA

Following Addenda have been received by Offerer. Modifications to Proposal Documents have been considered and all costs are included in Proposal Price.

Addendum # 1 Dated 2/23/23

Addendum # 2 Dated 3/2/23

Addendum # Dated

Addendum # Dated

Addendum # Dated

Addendum # Dated


7.0 PROPOSAL FORM SIGNATURES*

This Proposal is submitted by:

Texas Materials Group, dba Gulf Coast, a CRH Company
(Offerer - print the full name of firm submitting Proposal)**

was hereunto affixed in the presence of:

Name and Title (printed or typed): Kyle Lewis, Area Manager

By: 
(Authorized signing officer signature)

(Seal)

Person with Offerer authorized to discuss contents of Proposal and Qualifications:
Kyle Lewis

Phone Number: 281-300-5194

- * If Proposal is a joint venture, add additional Proposal Form signature sheets for each member of joint venture.
- ** Offerer certifies that only person or parties interested in this offer as principals are those named above. Offerer has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive Proposing.

Note: This document constitutes a government record, as defined by § 37.01 of Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of Texas Penal Code.

END OF SECTION

SECTION 00 43 13
OFFERER'S BOND

THAT WE, Texas Materials Group, Inc. dba Gulf Coast, A CRH Company, as Principal, ("Offerer"), and the other subscriber hereto, Liberty Mutual Insurance Company, as Surety, do hereby acknowledge ourselves to be held and firmly bound to City of Bastrop, ("Owner") a political sub-division of the State of Texas, in the sum of Five Percent of the Total Bid Price Including Cash Allowances and Alternatives Dollars (\$ 5%TBPICAA) an amount equal to five (5) percent of the Total Bid Price, including Cash Allowances and Alternates, if any, for payment of which sum, well and truly to be made to Owner and its successors, Offerer and Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

CONDITIONS OF THIS OBLIGATION ARE SUCH THAT: WHEREAS, Offerer has submitted on or about this day a proposal offering to perform the following:

RFP No. ENG 2023-01 City of Bastrop -- Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which reference is hereby made.

NOW, THEREFORE, if Offerer's offer as stated in Document 00 41 00 – Proposal Form is accepted by Owner, and Offerer executes and returns to Owner executed Section 00 52 00 – Agreement on forms provided in Proposal Documents, for Work and also executes and returns same number of Performance, Payment, and Maintenance Bonds (such bonds to be executed by a Corporate Surety authorized by State Board of Insurance to conduct insurance business in the State of Texas, and having an underwriting limitation in at least the amount of bond) and other submittals as required, in connection with Work, within allotted Contract Time, then this obligation shall become null and void; otherwise it is to remain in full force and effect.

If Offerer is unable to or fails to perform its obligations undertaken herein, the undersigned Offerer and Surety shall be liable to Owner for full amount of this obligation which is hereby acknowledged as amount of damages which will be suffered by Owner on account of failure of such Offerer to perform such obligations, the actual amount of such damages being difficult to ascertain. Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on third day following deposit in a United States Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to respective other Party at address prescribed in Contract Documents, or at such other address as receiving Party may hereafter prescribe by written notice to sending Party.

IN WITNESS THEREOF, both Offerer and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)

OFFERER

SURETY

Texas Materials Group, Inc. dba
Gulf Coast, A CRH Company (Seal)
Bidder's Name and Corporate Seal

Liberty Mutual Insurance Company (Seal)
Surety's Name and Corporate Seal

By: [Signature]
Signature and Title Area Manager

By: [Signature]
Signature and Title Tannis Mattson, Attorney-in-Fact
(Attach Power of Attorney)

Attest: [Signature]
Signature and Title Project Manager

Attest: [Signature]
Signature and Title Laura Sudduth, Witness

END OF SECTION



Figure: 28 TAC § 1.601(a)(2)(B)

Have a complaint or need help?

If you have a problem with a claim or your premium, call your insurance company or HMO first. If you can't work out the issue, the Texas Department of Insurance may be able to help.

Even if you file a complaint with the Texas Department of Insurance, you should also file a complaint or appeal through your insurance company or HMO. If you don't, you may lose your right to appeal.

Liberty Mutual Insurance Company

To get information or file a complaint with your insurance company or HMO:

Call: Liberty Mutual Surety Claims **at** 206-473-6210

Online: www.LibertyMutualSuretyClaims.com

Email: HOSCL@libertymutual.com

Mail: P.O. Box 34526 Seattle, WA 98124

The Texas Department of Insurance

To get help with an insurance question or file a complaint with the state:

Call with a question: 1-800-252-3439

File a complaint: www.tdi.texas.gov

Email: ConsumerProtection@tdi.texas.gov

Mail: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091

¿Tiene una queja o necesita ayuda?

Si tiene, un problema con una reclamación o con su prima de seguro, llame primero a su compañía de seguros o HMO. Si no puede resolver el problema, es posible que el Departamento de Seguros de Texas (Texas Department of Insurance, por su nombre en inglés) pueda ayudar.

Aun si usted presenta una queja ante el Departamento de Seguros de Texas, también debe presentar una queja a través del proceso de quejas o de apelaciones de su compañía de seguros o HMO. Si no lo hace, podría perder su derecho para apelar.

Liberty Mutual Insurance Company

Para obtener información o para presentar una queja ante su compañía de seguros o HMO:

Llame a: Liberty Mutual Surety Claims

al 206-473-6210

En línea: www.LibertyMutualSuretyClaims.com

Correo electrónico: HOSCL@libertymutual.com

Dirección postal: P.O. Box 34526 Seattle, WA 98124

El Departamento de Seguros de Texas

Para obtener ayuda con una pregunta relacionada con los seguros o para presentar una queja ante el estado:

Llame con sus preguntas al: 1-800-252-3439

Presente una queja en: www.tdi.texas.gov

Correo electrónico: ConsumerProtection@tdi.texas.gov

Dirección postal: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8209189-022029

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Amanda Tunman-Ayina; Barbara Norton; Jennie Goonie; Jessica Richmond; Joyce Johnson; Laura E Sudduth; Mario Arzamendi; Mary Ann Garcia; Misty Witt; Phillip N. Bair; Stephanio Gross; Tannis Mattson; Teuta Luri

all of the city of Houston state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 28th day of December, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY

On this 28th day of December, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes herein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 1st day of March, 2023.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

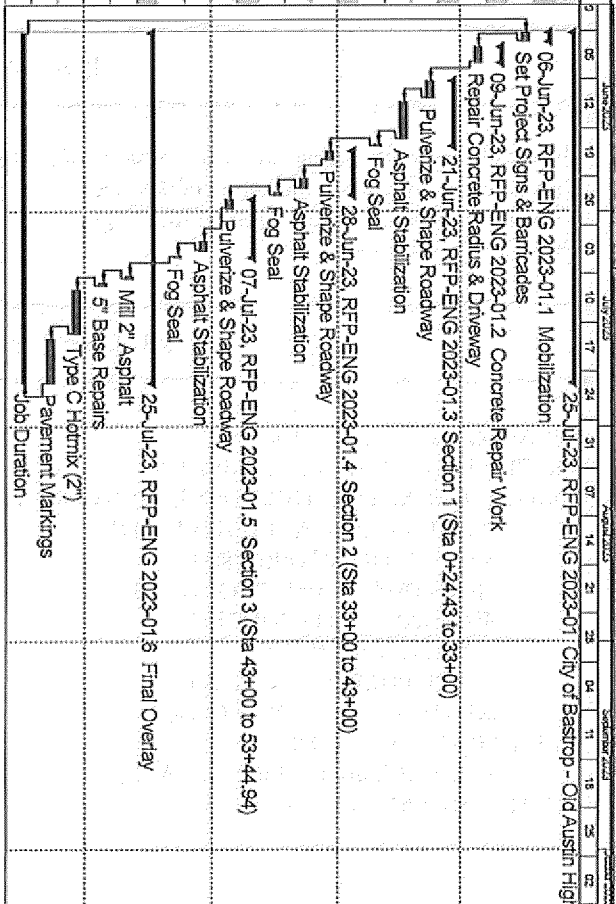
For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

CITY OF BASTROP - OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION

PRELIMINARY SCHEDULE

TEXAS MATERIALS GROUP

Activity	Activity Name	Original Duration	Remaining Duration	Start	Finish
1	RFP-ENG 2023-01: City of Bastrop - Old Austin Highway Pavement Rehabilitation	37	37	05-Jun-23	25-Jul-23
2	RFP-ENG 2023-01.1 Mobilization	2	2	05-Jun-23	06-Jun-23
3	A1000 Set Project Signs & Barricades	2	2	05-Jun-23	06-Jun-23
4	RFP-ENG 2023-01.2 Concrete Repair Work	3	3	07-Jun-23	09-Jun-23
5	A1010 Repair Concrete Radius & Driveway	3	3	07-Jun-23	09-Jun-23
6	RFP-ENG 2023-01.3 Section 1 (Sta 0+24.43 to 33+00)	8	8	12-Jun-23	21-Jun-23
7	A1020 Pulverize & Shape Roadway	3	3	12-Jun-23	14-Jun-23
8	A1030 Asphalt Stabilization	4	4	15-Jun-23	20-Jun-23
9	A1040 Fog Seal	1	1	21-Jun-23	21-Jun-23
10	RFP-ENG 2023-01.4 Section 2 (Sta 33+00 to 43+00)	5	5	22-Jun-23	28-Jun-23
11	A1050 Pulverize & Shape Roadway	2	2	22-Jun-23	23-Jun-23
12	A1060 Asphalt Stabilization	2	2	26-Jun-23	27-Jun-23
13	A1070 Fog Seal	1	1	28-Jun-23	28-Jun-23
14	RFP-ENG 2023-01.5 Section 3 (Sta 43+00 to 53+44.94)	5	5	29-Jun-23	07-Jul-23
15	A1080 Pulverize & Shape Roadway	2	2	29-Jun-23	30-Jun-23
16	A1090 Asphalt Stabilization	2	2	05-Jul-23	06-Jul-23
17	A1100 Fog Seal	1	1	07-Jul-23	07-Jul-23
18	RFP-ENG 2023-01.6 Final Overlay	37	37	05-Jun-23	25-Jul-23
19	A1110 Mill 2" Asphalt	1	1	10-Jul-23	10-Jul-23
20	A1120 5" Base Repairs	1	1	11-Jul-23	11-Jul-23
21	A1130 Type C Hotmix (2")	5	5	12-Jul-23	18-Jul-23
22	A1140 Pavement Markings	5	5	19-Jul-23	25-Jul-23
23	A1150 Job Duration	51	51	05-Jun-23	25-Jul-23



Remaining Level of Effort
 Actual Work

Remaining ...
 Critical Rem...

Page 1 of 1
05-Jun-23

TASK filter: All Activities
© Oracle Corporation

Brad M. Porterfield, MCRM, CSHO, SHEP

2517 Piney Woods Drive, Pearland, Texas

281-839-8044

PROFESSIONAL QUALIFICATIONS

- Safety, Health, Environmental, and Facility Management Director utilizing over 20 years of experience concentrating in the following disciplines:
 - OSHA Compliance (CFR 1910 & 1926)
 - Mine Safety & Health Compliance
 - Training and Development
 - Safety Inspections and Reporting
 - Workers Compensation Reporting
 - Environmental Safety Compliance
 - Work Zone Safety & Compliance
 - DOT Safety Compliance
 - Accident Investigation & Documentation
 - GL, Auto, WC Claim Management
 - Regulatory Reporting
 - Corporate Media Representative
 - Code of Conduct/ Ethics Compliance Admin
 - Recognition/Incentive Program Admin
- Additional strengths include: Safety Procedure Coordination and Compliance Resolution, Field and Asphalt Plant Operations, Product/Process Development, Quality Control, and Multi-Agency Policy and Procedure Development and Implementation.
- Extensive leadership background and public speaking skills
- Well organized with excellent communication skills; broad-based technical knowledge and design strengths; cost-conscious, quality directed, safety and profit-oriented.
- Computer Skills: Microsoft XP Professional/ME, Excel, and Power Point.

EDUCATION

University of Texas Arlington - Completions of Masters S&H and Masters Risk Management (May 2017)
University of Houston - Bachelors of Science
University Texas at Austin - Associates Degree
Humble High School

EMPLOYMENT HISTORY

TEXAS MATERIALS GROUP, INC. dba GULF COAST, A CRH COMPANY (formerly ANGEL BROTHERS HOLDINGS CORP.) CENTURY ASPHALT MATERIALS MEGA SAND ENTERPRISES INDUSTRIAL SAND PRODUCTS MINERAL TECH INDUSTRIES BAYTOWN AIRPORT ROYAL PURPLE RACEWAY	Baytown, TX	May 2007 / Present
TEXAS MUTUAL INSURANCE COMPANY SAFETY RISK & LOSS, INC.	Houston, TX Pearland, TX	May 2004 / May 2007 March 1995 / May 2004
LEVCON, INC (Champion Int. Paper Mill)	Chanelview TX	Jan. 1994 / March 1995
SOUTHWESTERN BELL/ATT	Austin TX	Dec. 1992 / Jan. 1994

Brad M. Porterfield, CSHO, SHEP

2517 Piney Woods Drive, Pearland, Texas

281-839-8044

AFFILIATIONS AND CERTIFICATIONS

Masters Certification in Risk Management
Certified Safety and Health Official - Construction (CSHO)
Certified Safety and Health Official - General Industry (CSHO)
Certified Safety, Health and Environmental Professional (SHEP)
Safety, Health & Environmental Risk Management
OSHA 510 Construction Standards Certificate
MSHA Part 46 Certification
Forklift Trainer
Work Zone Traffic Control / Flagger Certificate (TBEX)
First Aid/CPR
Decision Driving Certification
Member - Associated General Contractors Safety Committee
Member - SE Texas Utility Damage Prevention Council
Member - Delta Waterfowl
Member - Bay Area Baptist Church
University of Texas Baseball Letterman (Alumni) 1990-1992

PROJECT EXPERIENCE & ACHIEVEMENTS

PAST PROJECTS:

- TxDOT - Harris County - N Loop 610 US 45N Interchange 22.5 million 2013-2015
- TxDOT - Harris County - FM 249 \$10.7 million 2014/2015
- TxDOT - Harris County - I-10 \$21.4 million 2010 / 2012
- TxDOT - Harris County - West \ Park Toll way \$21.0 million 2013/2014
- TxDOT - Chambers County - IH 10 \$21.4 million 2011 / 2013
- TxDOT - Comal County \$18.7 million 2011/2012
- TxDOT - Liberty County SH 146 \$11.4 million 2010 / 2011
- City of Houston - Brittnoore \$9.4 million 2010 / 2011
- TxDOT - Harris County FM 2920 -\$7.2 million 2007 / 2008
- TxDOT - Harris County Barbour's Cut Blvd \$12.9 million 2007 / 2008
- TxDOT - Walker County IH-45 \$10.1.0 million 2010 / 2011
- TxDOT - Liberty County SH 105 \$13 million 2010 / 2011

ACHIEVEMENTS:

- Reduction of Angel Brothers experience modifier rate (EMR) .56.
- Associated General Contractors Certificate of Commendation for 25% below Highway Division Rate 2012, 2013, 2014 & 2015
- Associated General Contractors Certificate of Commendation for No Days Away from Work for over 1,000,000 Man hours - 2015
- Reduction of Underground Utility Damage Costs from \$550,000 to \$30,000 (2008-2016)

REFERENCES UPON REQUEST

KYLE ALAN LEWIS

TEXAS MATERIALS GROUP, 23990 STATE HIGHWAY 6, NAVASOTA, TX 77868

281-300-5194 • klewis@gc-texas.com

Experience

Area Manager • August 2021 – Present

Texas Materials Group • 23990 State Highway 6, Navasota, TX 77868

Area Manager for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas. Duties include overseeing some of the Project Management Team in the Hill Country Division. Other duties include financial reporting, equipment acquisition, strategic planning, estimating (HCSS), scheduling (P6), change order negotiations, material orders, and client relations.

Vice President / Project Manager • April 2017 – August 2021

Angel Brothers Enterprises, Ltd. • 23990 State Highway 6, Navasota, TX 77868

Vice President/Project Manager for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas. Duties include overseeing some of the Project Management Team in the Hill Country Division. Other duties include equipment acquisition, strategic planning, estimating (HCSS), scheduling (P6), change order negotiations, material orders, and client relations.

Area 3 Project Manager • April 2014 – October 2015

Angel Brothers Enterprises, Ltd. • 723 Krueger Canyon, New Braunfels, TX 78132

Project Manager for the construction of all Angel Brothers work in Area 3 for ESR2P Energy Sector Project. Duties include scheduling, change order negotiations, material orders, and client relations.

Estimator / Project Manager • December 2013 – March 2017

Angel Brothers Enterprises, Ltd. • 723 Krueger Canyon, New Braunfels, TX 78132

Estimator/Project Manager for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas. Duties include estimating (HCSS), scheduling (P6), change order negotiations, material orders, and client relations.

Construction Manager • June 2012 – December 2013

Knife River Corporation • P.O. Box 674, Bryan, TX 77806

Construction Manager for the Bryan Area for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas with annual revenue of \$50 million on projects varying in size from \$50 thousand to over \$30 million. Scope of projects includes asphalt paving, grading, utilities, MSE walls, bridge structures, and concrete paving. Duties include direction and supervision of the Project Management Team including all Project Managers, Project Engineers, and General Superintendents. Responsible for all office and field personnel with a work force in excess of 150 employees. Additional supervisory duties include preparation of financial budgets, financial reporting, assembling estimates, reviewing bids, as well as training others in estimating, scheduling, client relations, job costing, and change order negotiations.

Senior Estimator • June 2006 – June 2012
Knife River Corporation • P.O. Box 674, Bryan, TX 77806

Senior Estimator for the Bryan Area for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas varying in size from \$50 thousand to over \$140 million. Scope of projects includes asphalt paving, grading, utilities, MSE walls, bridge structures, and concrete paving. Duties include estimating (HCSS), scheduling (P6), change order negotiations, material orders, and client relations. Additional supervisory duties include reviewing bids, as well as well as training others in estimating, scheduling, client relations, job costing, and change order negotiations.

Project Manager • January 2005 – June 2006
Knife River Corporation • P.O. Box 674, Bryan, TX 77806

On-site Project Manager of \$17.5 million dollar widening of approximately 2 miles of Texas Avenue in College Station, TX, including installing new water and sanitary sewer lines, storm sewer, asphalt and concrete paving, signal work, landscaping, etc. Duties include scheduling, change order negotiations, material orders, subcontractor supervision, job costing, public notification, and client relations. Additional supervisory duties include reviewing bids, as well as well as training others in estimating, scheduling, client relations, job costing, and change order negotiations.

Estimator • May 1999 – January 2005
Knife River Corporation • P.O. Box 674, Bryan, TX 77806

Estimator for the construction of State, Private, and Municipal utility and heavy highway projects in Central Texas. Scope of projects includes asphalt paving, grading, utilities, MSE walls, bridge structures, and concrete paving. Duties include quantity take-off, scheduling, change order negotiations, material orders, and client relations. Largest successful bid is for the US 190 Expansion at Fort Hood valued at over \$42 million dollars.

Education

Texas A&M University
1999 • Bachelor of Science in Construction Science

Texas A&M University
1999 • Minor in Business Administration

Additional Training

University of Texas at Austin Texas Executive Education Program
Fall 2007 • Managerial Accounting

University of Texas at Austin Texas Executive Education Program
Spring 2008 • Financial Analysis and Measuring Business Performance

Relevant Project Experience

Bastrop US 290 Expansion - \$54 million • 2019-2021
McDade & Palge, TX

Construction of a four lane divided highway approximately 12 miles long, including installing new cross drainage structures, six bridge structures, 1,000,000 CY of Excavation/Embankment, 373,000 SY of Sub-grade Stabilization, 180,000 Tons of Flexible Base, 370,000 Tons of Hot Mix Paving, concrete riprap, MSE Walls, signal work, landscaping, etc. The project was completed within the allotted time and budget.

Bastrop US 290 - \$21 million • 2014-2016
Palge, TX

Construction of a four lane divided highway approximately 7 miles long, including installing new cross drainage structures, four bridge structures, 400,000 CY of Excavation/Embankment, 150,000 SY of Sub-grade Stabilization, 160,000 Tons of Hot Mix Paving, concrete riprap, signal work, landscaping, etc. The project won a Texas Asphalt Pavement Association Award as well as a National Asphalt Pavement Association for Excellence in Quality Construction. The project was completed within the allotted time and budget.

Brazos FM 2818 & FM 2154 - \$23 million • 2008-1010
College Station, TX

Construction of a six lane grade separation over FM 2154 and the UPRR railroad. Scope of work includes grading, MSE walls, bridge structures, storm sewer, asphalt and slip-form concrete paving, signal work, landscaping, etc.

Brazos BS-6R (Texas Avenue) - \$18 million • 2005-2007
College Station, TX

Construction of a six lane widening of 2 miles of Texas Avenue, including installing new water, sanitary sewer, storm sewer, asphalt and concrete paving, signal work, landscaping, etc. The project had a traffic count of over 60,000 cars per day. Over 200,000 man-hours were worked without any recordable incident or lost time injuries. The project was completed within the allotted time and budget.

Brandon Wayne Kiphen

5835 County Road 333, Caldwell Texas 77836 | (979) 412-1624 | Brandon.Kiphen@texasmaterials.com

Education

AUGUST 1999-MAY 2001 | CENTRAL TEXAS COLLEGE

AUGUST 2001-DECEMBER 2003 | BLINN COLLEGE

Skills & Abilities

MANAGEMENT

- Schedule and oversee various project operations to ensure safety of workers as well as the public.
- Construct projects per specifications within time and budget constraints.
- Ensure compliance with company and TxDOT policies.
- Use resources efficiently, including equipment and personnel, matching employee skill sets to projects/jobs.
- Respond and investigate near-misses and accidents on construction sites.
- Resolve issues and complaints of personnel and the public.

COMMUNICATION

- Coordinate with management, TxDOT/Municipal officials, and public to safely construct projects and minimize inconveniences.
- Lead crews throughout the day to safely complete tasks required.
- Discuss the project progress and changes with PMs and management.
- Examine and plan projects with local contractors to verify existing utilities.
- Work with emergency crews during onsite accidents.

CERTIFICATIONS

- Crane Rigging
- Flagger/Train the Trainer
- OSHA-10 Hour
- Competent Person (Trench Safety)
- Competent Person (Traffic Control)

EXPERIENCE

OPERATIONS MANAGER | TEXAS MATERIALS GROUP, INC. | AUGUST 2022-PRESENT

- Scheduled and supervised all crews throughout the Gulf Coast – Brazos Valley Area from start to finish to ensure projects were completed on time and within budget.
- Responsible for coordination, safety, scheduling, and all aspects of construction in the Brazos Valley Area

PROJECT SUPERINTENDENT | TEXAS MATERIALS GROUP, INC. | JUNE 2021-JULY 2022

- Scheduled and supervised crews throughout the project from start to finish to ensure projects were completed on time and within budget.
- Supervised earthwork, concrete, bridge, paving crews, and sub-contractor crews onsite, as well to ensure work was completed in accordance with TxDOT standards.

- Safely set up an assortment of traffic control operations to ensure protection of public and workers as daily tasks were performed.
- Self-performed grade staking on project as needed.

PROJECT SUPERINTENDENT | KNIFE RIVER | OCTOBER 2006-SEPTEMBER 2011, MARCH 2012-JUNE 2021

- Scheduled and supervised crews throughout the project from start to finish to ensure projects were completed on time and within budget.
- Supervised earthwork crews and oversaw concrete, paving, and sub-contractor crews onsite, as well to ensure work was completed in accordance with TxDOT standards.
- Safely set up an assortment of traffic control operations to ensure protection of public and workers as daily tasks were performed.
- Self-performed grade staking on project as needed.

ESTIMATOR/PROJECT MANAGER | SK NELSON | OCTOBER 2011-MARCH 2012

- Compiled list of site work projects for bidding.
- Gathered bids from subcontractors and suppliers.
- Put together earthwork, utility, and paving take offs for bids.
- Coordinated with suppliers and subcontractors for materials and work to be performed on projects.

PROJECT SUPERINTENDENT | BIG CREEK CONSTRUCTION | MARCH 2003-OCTOBER 2006

- Placed survey layout for earthwork, storm, paving, and concrete operations, as well as grade staking when needed.
- Run ride testing on asphalt operations as a TXDOT certified technician.
- Performed 1B testing on paving operations.
- In 2004, became project supervisor overseeing earthwork operations as well as concrete, asphalt paving, and various subcontractors.
- In 2005, took over paving crew and began seal and asphalt projects.

Projects Supervised

- 2022 Easterwood Airport Taxiway A Realignment Phase 1; Approx. \$5 million.
- 2021 Bastrop US 290 Construction of divided highway; Approx. \$20 million.
- 2021 Austin FM 109 Rehab roadway and widen bridges; Approx. \$10 million.
- 2018 FM 60 Construction of Texas 4th Diverging Diamond Interchange
- 2014 FM 2818 Construction of overpass and frontage roads; Approx. \$15 million.
- 2013 FM 1179 Widening of existing roadway for medians, new turn lane construction, and new traffic signals installation; Approx. \$5 million.
- 2010 Easterwood Airport Construction of new access roads and runway rehabilitation.

• 2008 Hwy 6 Ramp Reversal

Reconfigured ramps between MLK and Boonville Road NB.

• 2006-2008 City of Bryan Rehab

Rehab of various streets throughout the city of Bryan.

• 2006 Hwy 21

4 lane widening between Caldwell and Lee County; Approx. \$24 million.

• 2005 Interstate 45

6-mile concrete repairs and multiple overlays through Buffalo and resurfacing of ramps between FM 80 and FM 977.

• 2005 FM 1695

Overpass construction and frontage road widening; Approx. \$16 million.

MIKE LACKEY
michael.lackey@gc-texas.com

EXPERIENCE

APR 2022 – PRESENT
PROJECT MANAGER, TEXAS MATERIALS GROUP, INC. GULF COAST

DEC 2016 – APR 2022
PROJECT MANAGER, KNIFE RIVER CORP. - SOUTH

EDUCATION

DECEMBER 2006
CONSTRUCTION SCIENCE, TEXAS A&M UNIVERSITY

CERTIFICATIONS/TECHNICAL SKILLS

- OSHA 30 hour
- Primavera P6
- JD Edwards Accounting Software
- TxDOT SW3P Courses

PROJECTS

TxDOT Bryan Area Office – Ashley Hill, P.E. –

- Brazos SH 21 Widening & Drainage Improvements, Bryan TX, NH 2015(530), 2.8 Million,
- Brazos BS 6-R Mill & Inlay, Bryan TX, STP 2017(914) HES, 1.5 Million,
- Brazos US 190 Bridge Rail Reconstruction, Bryan TX, BR 2016 (968), \$862K,
- Brazos SH 21 ETC Mill & Inlay, Bryan TX, NH 2018 (317), 7.6 Million, Robertson
- SH 6 Spot Repairs, Various Locations, RMC 6314-08-001, 1.3 Million,
- Grimes SH 105 Road Widening, Plantersville TX, C 0338-01-052, 7.7 Million
- Grimes SH 6 Mill, Inlay, PFC, Navasota TX, C 0050-03-100 6.5 Million

TxDOT Brenham Area Office - Mark Shafer, P.E. –

- Washington US 290 Wolf Creek Bridge Construction, Somerville TX, BR 1702 (193), 1.4 Million,
- Washington US 290 Spot Base Repairs, Various Locations, RMC 6317-39-001, \$880K,
- Washington BU 290F Pedestrian Improvements/Paving, Brenham TX, C 0114-09-077 3.1 Million

TxDOT Huntsville Area Office – Jace Lee, P.E. –

- Walker SH 30 Spot Base Repairs, Various Locations, RMC 6317-38-001, \$850K,
- Walker IH 45 Milling/HMA/PFC Overlay, Huntsville TX, C 675-6-96, 6.3 Million
- Leon FM 811 Road Rehab, Centerville TX, C 1145-02-022, 9.5 Million



**Liberty
Mutual.**
INSURANCE

Liberty Mutual Group
157 Berkeley Street
Boston, MA 02116

January 31, 2023

To Whom it May Concern

RE: Gulf Coast

Experience Modification Rate

The following is the current EMR, along with the EMR rate for the past four years

9/1/2022- 9/1/2023	9/1/2021 9/1/2022	9/1/2020- 9/1/2021	9/1/2019- 9/1/2020
Contingent Mod			
0.59	0.57	0.52	0.50

If you need anything else, I can be reached at (617) 654-4096.

Sincerely,

Natalie O'Brien

Account Specialist

ACTION BY WRITTEN CONSENT
OF THE BOARD OF DIRECTORS
OF
TEXAS MATERIALS GROUP, INC.

The undersigned, being all of the members of the Board of Directors of Texas Materials Group, Inc., a Delaware corporation (the "*Corporation*"), do hereby, pursuant to applicable Delaware statute, give this written consent to the taking of the following actions, such actions to have the same force and effect had a meeting been duly called and held:

I. ELECTION OF OFFICERS

RESOLVED, that effective June 27, 2022, all previous elections of officers are terminated, and the following persons be, and hereby are, elected to serve as officers of the Corporation (each individually, an "*Officer*" and collectively, the "*Officers*") in the capacities set forth opposite their respective names until such time as their successors shall be elected and qualified:

Aaron Price	President
Kristin Davis	Secretary/Treasurer
Kal A. Kincaid	Vice President/Assistant Secretary
John Shogren	Vice President/Assistant Secretary
Nicholas Schack	Vice President/Assistant Secretary
Mike Brown	Vice President/Assistant Secretary
Derek Angel	Vice President/Assistant Secretary
David M. Toolan	Admin. Vice President/Assistant Secretary
Robert Banks	Assistant Secretary

FURTHER RESOLVED, that the Officers be, and each of them hereby is, authorized to execute and deliver agreements, contracts, documents, certificates, and other instruments, under the seal of the Corporation if required, for the purpose of conducting the Corporation's business, including without limitation, selling products and securing construction work, and to take such other action, as they may deem necessary, advisable, convenient, or appropriate to carry out and fully perform duties incident to the office or offices so appointed, and such other duties as may be prescribed by the Board of Directors from time to time;

FURTHER RESOLVED, that the following persons are hereby designated Officers solely for the purpose of attesting signatures of other Officers signing on behalf of the Corporation, and for executing and attesting various corporate documents, tax returns, affidavits, and other instruments as may be necessary from time to time:

Jessica Aldrich	Assistant Secretary/Assistant Treasurer
Michael F. Deaton	Assistant Secretary
Rodney McCann	Assistant Secretary
Gary P. Hickman	Assistant Secretary
William P. Jones	Assistant Secretary
David C. Lewis	Assistant Secretary

II. APPOINTMENT OF AUTHORIZED EMPLOYEES

RESOLVED, that effective June 27, 2022 all previous appointments of authorized employees are terminated, and that the following persons be and each of them hereby is appointed to serve as an authorized employee of the Corporation, which persons shall be authorized to execute and deliver such agreements, contracts, documents, certificates and other instruments, under the seal of the Corporation if required, for the purpose of conducting the Corporation's business including, without limitation, selling products and securing construction work:

Robert Brown	Kaylon Page
Wayne Sweet	Barry Egbert
James A. Connor	Ron Stinson
Dean Donnellan	Stephen Koonce
Lance Phillips	Artie Tucker
David Reese	Ben Liggett
Scott Blanchard	Brian Miller
Angela Kvarme	TJ Brown
Lisa Roberts	Derek Schluterman
Tom Hershberger	Sam Davis
Kelly Andrews	Kevin Guy
Phillip King	Kirk Morris
Ben Wibbenmeyer	Kyle Lewis
Keith Pierson	Jacob Trim
Chris Michael	Dean W. Buchanan
Colin Tinsley	Jason (Thad) Traverse
Johnathan Murphy	Troy Rakes
Jake Kilgore	

FURTHER RESOLVED, that the President of the Corporation may, from time to time, without further action by the Board of Directors, appoint other persons to serve as authorized employees, or remove any individuals from this capacity, and to direct those appointed to take such action, as he may deem necessary, advisable, convenient or appropriate to carry out and fully perform the duties incident to the office of President.

III. AUTHORIZATION OF TRADE NAMES

RESOLVED, that the activities and operations of the Corporation may be carried on in any of the following manners or styles as may from time-to-time be deemed necessary or appropriate:

Gulf Coast, A CRH company
Texas Bit, A CRH company
Texas Concrete, A CRH company
Texas Materials, A CRH company

FURTHER RESOLVED, that the President of the Corporation may, from time to time, without further action by the Board of Directors, authorize the use of additional trade names, and to deem unauthorized any trade name previously authorized, as he may deem necessary, advisable, convenient or appropriate.

IV. MISCELLANEOUS

RESOLVED, that all actions previously taken by any Officer of the Corporation appointed hereunder in his/her capacity as such Officer be, and each of them hereby is, adopted, ratified, confirmed and approved in all respects as the authorized acts and deeds of the Corporation;

FURTHER RESOLVED, that each undersigned agrees that electronic signatures, whether digital or encrypted, of the Board of Directors are intended to authenticate this consent and to have the same force and effect as manual signatures. As used in the previous sentence, the term "electronic signatures" means any electronic sound, symbol or process attached to or logically associated with this consent and executed and adopted by a member of the Board of Directors with the intent to sign such consent, including, but not limited to, e-mail electronic signatures executed through DocuSign Services; and

FURTHER RESOLVED, that this Consent, following execution by all of the members of the Board of Directors, be filed in appropriate order in the minute book of the Corporation.

DocuSigned by:
John Keating
ANR00A4AGD101EA

John J. Keating

DocuSigned by:
Aaron Price
F077D28C41274ED...

Aaron Price



A GRU COMPANY

Staff Breakdown

EE ID #	Description	Position	Total
351308	Accounting / Finance	Accountant	4
351486	Accounting / Finance	Accountant	
643125	Accounting / Finance	Accountant	
351465	Accounting / Finance	Accountant	
638016	Accounting / Finance	Accounting Clerk	4
638074	Accounting / Finance	Accounting Clerk	
331797	Accounting / Finance	Accounting Clerk	
642831	Accounting / Finance	Accounting Clerk	
350097	Accounting / Finance	Accounting Supervisor	1
620794	Accounting / Finance	Accounts Payable Clerk	2
642920	P2P - Accounts Payable	Accounts Payable Clerk	
636974	Administrative / Misc.	Administrative Assistant	3
642003	Administrative / Misc.	Administrative Assistant	
642880	Administrative / Misc.	Administrative Assistant	
338683	Administrative / Misc.	Area Manager	2
337833	Plant/Location Managers	Area Manager	
642478	Administrative / Misc.	Assist Contract Admin	1
350866	Accounting / Finance	Assistant Controller	2
637308	Accounting / Finance	Assistant Controller	
642128	OP - Billing & Invoicing	Billing Clerk	1
351388	Accounting / Finance	Business Systems Analyst	1
637189	Hourly Payroll-NonUnion	Carpenter	5
636860	Hourly Payroll-NonUnion	Carpenter	
642641	Hourly Payroll-NonUnion	Carpenter	
643176	Hourly Payroll-NonUnion	Carpenter	
643172	Hourly Payroll-NonUnion	Carpenter	
611716	Hourly Payroll-NonUnion	Concrete Finisher	
621273	Hourly Payroll-NonUnion	Concrete Finisher	
638442	Hourly Payroll-NonUnion	Concrete Finisher	
618214	Hourly Payroll-NonUnion	Concrete Finisher	
638517	Hourly Payroll-NonUnion	Concrete Finisher	
621150	Hourly Payroll-NonUnion	Concrete Finisher	
620997	Hourly Payroll-NonUnion	Concrete Finisher	
606990	Hourly Payroll-NonUnion	Concrete Finisher	
609296	Hourly Payroll-NonUnion	Concrete Finisher	
620867	Hourly Payroll-NonUnion	Concrete Finisher	
638481	Hourly Payroll-NonUnion	Concrete Finisher	
642027	Hourly Payroll-NonUnion	Concrete Finisher	
642137	Hourly Payroll-NonUnion	Concrete Finisher	
642916	Hourly Payroll-NonUnion	Concrete Finisher	
642153	Hourly Payroll-NonUnion	Concrete Finisher	
642155	Hourly Payroll-NonUnion	Concrete Finisher	
642165	Hourly Payroll-NonUnion	Concrete Finisher	
642274	Hourly Payroll-NonUnion	Concrete Finisher	
642298	Hourly Payroll-NonUnion	Concrete Finisher	

642321	Hourly Payroll-NonUnion	Concrete Finisher	48	
642930	Hourly Payroll-NonUnion	Concrete Finisher		
642359	Hourly Payroll-NonUnion	Concrete Finisher		
642409	Hourly Payroll-NonUnion	Concrete Finisher		
642651	Hourly Payroll-NonUnion	Concrete Finisher		
642473	Hourly Payroll-NonUnion	Concrete Finisher		
642505	Hourly Payroll-NonUnion	Concrete Finisher		
642719	Hourly Payroll-NonUnion	Concrete Finisher		
642549	Hourly Payroll-NonUnion	Concrete Finisher		
642045	Hourly Payroll-NonUnion	Concrete Finisher		
642568	Hourly Payroll-NonUnion	Concrete Finisher		
642569	Hourly Payroll-NonUnion	Concrete Finisher		
642595	Hourly Payroll-NonUnion	Concrete Finisher		
642601	Hourly Payroll-NonUnion	Concrete Finisher		
642592	Hourly Payroll-NonUnion	Concrete Finisher		
643042	Hourly Payroll-NonUnion	Concrete Finisher		
643103	Hourly Payroll-NonUnion	Concrete Finisher		
642706	Hourly Payroll-NonUnion	Concrete Finisher		
643106	Hourly Payroll-NonUnion	Concrete Finisher		
642791	Hourly Payroll-NonUnion	Concrete Finisher		
643105	Hourly Payroll-NonUnion	Concrete Finisher		
642292	Hourly Payroll-NonUnion	Concrete Finisher		
642835	Hourly Payroll-NonUnion	Concrete Finisher		
642028	Hourly Payroll-NonUnion	Concrete Finisher		
642936	Hourly Payroll-NonUnion	Concrete Finisher		
642895	Hourly Payroll-NonUnion	Concrete Finisher		
642909	Hourly Payroll-NonUnion	Concrete Finisher		
642974	Hourly Payroll-NonUnion	Concrete Finisher		
643034	Hourly Payroll-NonUnion	Concrete Finisher		
292121	Plant/Location Managers	Const. Superintendent		4
351422	Plant/Location Managers	Const. Superintendent		
351423	Plant/Location Managers	Const. Superintendent		
351433	Plant/Location Managers	Const. Superintendent		
351487	Salary Payroll-Exempt	Construction Foreperson	1	
637390	Hourly Payroll-NonUnion	Construction Laborers	6	
637054	Hourly Payroll-NonUnion	Construction Laborers		
638100	Hourly Payroll-NonUnion	Construction Laborers		
637448	Hourly Payroll-NonUnion	Construction Laborers		
643141	Hourly Payroll-NonUnion	Construction Laborers		
643142	Hourly Payroll-NonUnion	Construction Laborers		
612582	Salary Payroll-Exempt	Construction Supervisor	1	
642019	Hourly Payroll-NonUnion	Construction Utilityperson	10	
642146	Hourly Payroll-NonUnion	Construction Utilityperson		
643044	Hourly Payroll-NonUnion	Construction Utilityperson		
643054	Hourly Payroll-NonUnion	Construction Utilityperson		
642364	Hourly Payroll-NonUnion	Construction Utilityperson		
642386	Hourly Payroll-NonUnion	Construction Utilityperson		

642589	Hourly Payroll-NonUnion	Construction Utilityperson	
642656	Hourly Payroll-NonUnion	Construction Utilityperson	
642903	Hourly Payroll-NonUnion	Construction Utilityperson	
642914	Hourly Payroll-NonUnion	Construction Utilityperson	
638065	OP - Credit & Collections	Credit Collections Specialist	1
351379	OP - Credit & Collections	Credit Manager	1
642243	Dispatch / Delivery	Customer Service Rep	15
642247	Dispatch / Delivery	Customer Service Rep	
642254	Dispatch / Delivery	Customer Service Rep	
642323	Dispatch / Delivery	Customer Service Rep	
643153	Hourly Payroll-NonUnion	Customer Service Rep	
643124	Hourly Payroll-NonUnion	Customer Service Rep	
642442	Dispatch / Delivery	Customer Service Rep	
642444	Dispatch / Delivery	Customer Service Rep	
642638	Dispatch / Delivery	Customer Service Rep	
642672	Dispatch / Delivery	Customer Service Rep	
643109	Dispatch / Delivery	Customer Service Rep	
642721	Dispatch / Delivery	Customer Service Rep	
642793	Dispatch / Delivery	Customer Service Rep	
642803	Dispatch / Delivery	Customer Service Rep	
642855	Dispatch / Delivery	Customer Service Rep	
642235	Dispatch / Delivery	Dispatcher	2
351412	Dispatch / Delivery	Dispatcher	
614326	Hourly Payroll-NonUnion	Distributor Driver	4
638431	Hourly Payroll-NonUnion	Distributor Driver	
608100	Hourly Payroll-NonUnion	Distributor Driver	
642742	Hourly Payroll-NonUnion	Distributor Driver	
642833	Hourly Payroll-NonUnion	Dozer Operator	4
642781	Hourly Payroll-NonUnion	Dozer Operator	
643107	Hourly Payroll-NonUnion	Dozer Operator	
643108	Hourly Payroll-NonUnion	Dozer Operator	
638399	Safety	EHS Assistant	2
346871	Safety	EHS Manager	
642246	Hourly Payroll-NonUnion	Electrician	3
642482	Hourly Payroll-NonUnion	Electrician	
642696	Hourly Payroll-NonUnion	Electrician	
351343	Salary Payroll-Exempt	Electrician Supervisor	1
351437	Safety	Environmental Compl. Mgr	1
609274	Equipment	Equipment Manager	1
620318	Hourly Payroll-NonUnion	Equipment Operator	
614266	Hourly Payroll-NonUnion	Equipment Operator	
613890	Hourly Payroll-NonUnion	Equipment Operator	
642172	Hourly Payroll-NonUnion	Equipment Operator	
642191	Hourly Payroll-NonUnion	Equipment Operator	
642311	Hourly Payroll-NonUnion	Equipment Operator	
642343	Hourly Payroll-NonUnion	Equipment Operator	
642400	Hourly Payroll-NonUnion	Equipment Operator	

642423	Hourly Payroll-NonUnion	Equipment Operator	20
642550	Hourly Payroll-NonUnion	Equipment Operator	
642640	Hourly Payroll-NonUnion	Equipment Operator	
643116	Hourly Payroll-NonUnion	Equipment Operator	
642339	Hourly Payroll-NonUnion	Equipment Operator	
642341	Hourly Payroll-NonUnion	Equipment Operator	
643099	Hourly Payroll-NonUnion	Equipment Operator	
642898	Hourly Payroll-NonUnion	Equipment Operator	
642938	Hourly Payroll-NonUnion	Equipment Operator	
642948	Hourly Payroll-NonUnion	Equipment Operator	
642952	Hourly Payroll-NonUnion	Equipment Operator	
642959	Hourly Payroll-NonUnion	Equipment Operator	
295714	Estimators/Engineers	Estimating Manager	1
637347	Estimators/Engineers	Estimator	8
636699	Estimators/Engineers	Estimator	
351316	Estimators/Engineers	Estimator	
351364	Estimators/Engineers	Estimator	
351373	Estimators/Engineers	Estimator	
351413	Estimators/Engineers	Estimator	
95728	Estimators/Engineers	Estimator	
351478	Estimators/Engineers	Estimator	
642054	Hourly Payroll-NonUnion	Flagger	16
643058	Hourly Payroll-NonUnion	Flagger	
643102	Hourly Payroll-NonUnion	Flagger	
643047	Hourly Payroll-NonUnion	Flagger	
643097	Hourly Payroll-NonUnion	Flagger	
643152	Hourly Payroll-NonUnion	Flagger	
642424	Hourly Payroll-NonUnion	Flagger	
642462	Hourly Payroll-NonUnion	Flagger	
643051	Hourly Payroll-NonUnion	Flagger	
643110	Hourly Payroll-NonUnion	Flagger	
642524	Hourly Payroll-NonUnion	Flagger	
642572	Hourly Payroll-NonUnion	Flagger	
642797	Hourly Payroll-NonUnion	Flagger	
642772	Hourly Payroll-NonUnion	Flagger	
643005	Hourly Payroll-NonUnion	Flagger	
643096	Hourly Payroll-NonUnion	Flagger	
611406	Salary Payroll-Exempt	Foreperson	
620721	Salary Payroll-Exempt	Foreperson	
618755	Salary Payroll-Exempt	Foreperson	
609047	Salary Payroll-Exempt	Foreperson	
350958	Salary Payroll-Exempt	Foreperson	
611223	Salary Payroll-Exempt	Foreperson	
616578	Salary Payroll-Exempt	Foreperson	
333491	Salary Payroll-Exempt	Foreperson	
609607	Salary Payroll-Exempt	Foreperson	
617532	Salary Payroll-Exempt	Foreperson	

314281	Salary Payroll-Exempt	Foreperson	
607002	Salary Payroll-Exempt	Foreperson	
351313	Salary Payroll-Exempt	Foreperson	
351322	Salary Payroll-Exempt	Foreperson	
351333	Salary Payroll-Exempt	Foreperson	
351335	Salary Payroll-Exempt	Foreperson	
351476	Salary Payroll-Exempt	Foreperson	
351337	Salary Payroll-Exempt	Foreperson	
643052	Salary Payroll-Exempt	Foreperson	
351351	Salary Payroll-Exempt	Foreperson	
351357	Salary Payroll-Exempt	Foreperson	
351360	Salary Payroll-Exempt	Foreperson	
351361	Salary Payroll-Exempt	Foreperson	
351366	Salary Payroll-Exempt	Foreperson	
642354	Salary Payroll-Exempt	Foreperson	
351365	Salary Payroll-Exempt	Foreperson	
351370	Salary Payroll-Exempt	Foreperson	
351371	Salary Payroll-Exempt	Foreperson	
351374	Salary Payroll-Exempt	Foreperson	
351375	Salary Payroll-Exempt	Foreperson	
351385	Salary Payroll-Exempt	Foreperson	
351394	Salary Payroll-Exempt	Foreperson	
351397	Salary Payroll-Exempt	Foreperson	
351399	Salary Payroll-Exempt	Foreperson	
351403	Salary Payroll-Exempt	Foreperson	
351404	Salary Payroll-Exempt	Foreperson	
351409	Salary Payroll-Exempt	Foreperson	
642624	Salary Payroll-Exempt	Foreperson	
351363	Salary Payroll-Exempt	Foreperson	
351415	Salary Payroll-Exempt	Foreperson	
351417	Salary Payroll-Exempt	Foreperson	
351421	Salary Payroll-Exempt	Foreperson	
351442	Salary Payroll-Exempt	Foreperson	
351445	Salary Payroll-Exempt	Foreperson	
351446	Salary Payroll-Exempt	Foreperson	
351451	Salary Payroll-Exempt	Foreperson	
351453	Salary Payroll-Exempt	Foreperson	
351479	Salary Payroll-Exempt	Foreperson	
351458	Salary Payroll-Exempt	Foreperson	
351461	Salary Payroll-Exempt	Foreperson	
643026	Salary Payroll-Exempt	Foreperson	
351463	Salary Payroll-Exempt	Foreperson	
642983	Hourly Payroll-NonUnion	Haul Truck Driver	1
638124	Hourly Payroll-NonUnion	Heavy Equipment Operator	
638298	Hourly Payroll-NonUnion	Heavy Equipment Operator	
638472	Hourly Payroll-NonUnion	Heavy Equipment Operator	
638445	Hourly Payroll-NonUnion	Heavy Equipment Operator	

636704	Hourly Payroll-NonUnion	Heavy Equipment Operator	12
638061	Hourly Payroll-NonUnion	Heavy Equipment Operator	
608892	Hourly Payroll-NonUnion	Heavy Equipment Operator	
621715	Hourly Payroll-NonUnion	Heavy Equipment Operator	
643111	Hourly Payroll-NonUnion	Heavy Equipment Operator	
643039	Hourly Payroll-NonUnion	Heavy Equipment Operator	
643012	Hourly Payroll-NonUnion	Heavy Equipment Operator	
642766	Hourly Payroll-NonUnion	Heavy Equipment Operator	
351396	Human Resources	HR Administrator	1
638351	Human Resources	HR Assistant	2
642694	Human Resources	HR Assistant	
351327	Information Technology	IT Manager	1
351438	Information Technology	IT Specialist	1
642543	Information Technology	IT Support Technician	2
642675	Information Technology	IT Support Technician	
642065	Hourly Payroll-NonUnion	Lab Technician	7
642100	Hourly Payroll-NonUnion	Lab Technician	
642101	Hourly Payroll-NonUnion	Lab Technician	
642412	Hourly Payroll-NonUnion	Lab Technician	
642317	Hourly Payroll-NonUnion	Lab Technician	
642683	Hourly Payroll-NonUnion	Lab Technician	
642757	Hourly Payroll-NonUnion	Lab Technician	
621109	Hourly Payroll-NonUnion	Laborer	
609227	Hourly Payroll-NonUnion	Laborer	
638480	Hourly Payroll-NonUnion	Laborer	
638565	Hourly Payroll-NonUnion	Laborer	
638584	Hourly Payroll-NonUnion	Laborer	
638499	Hourly Payroll-NonUnion	Laborer	
638375	Hourly Payroll-NonUnion	Laborer	
638322	Hourly Payroll-NonUnion	Laborer	
638169	Hourly Payroll-NonUnion	Laborer	
638173	Hourly Payroll-NonUnion	Laborer	
612740	Hourly Payroll-NonUnion	Laborer	
611459	Hourly Payroll-NonUnion	Laborer	
615611	Hourly Payroll-NonUnion	Laborer	
634072	Hourly Payroll-NonUnion	Laborer	
611477	Hourly Payroll-NonUnion	Laborer	
621013	Hourly Payroll-NonUnion	Laborer	
638123	Hourly Payroll-NonUnion	Laborer	
636903	Hourly Payroll-NonUnion	Laborer	
636920	Hourly Payroll-NonUnion	Laborer	
620960	Hourly Payroll-NonUnion	Laborer	
606987	Hourly Payroll-NonUnion	Laborer	
638316	Hourly Payroll-NonUnion	Laborer	
620998	Hourly Payroll-NonUnion	Laborer	
611460	Hourly Payroll-NonUnion	Laborer	
608891	Hourly Payroll-NonUnion	Laborer	

609129	Hourly Payroll-NonUnion	Laborer
607000	Hourly Payroll-NonUnion	Laborer
637156	Hourly Payroll-NonUnion	Laborer
638500	Hourly Payroll-NonUnion	Laborer
638145	Hourly Payroll-NonUnion	Laborer
638121	Hourly Payroll-NonUnion	Laborer
621014	Hourly Payroll-NonUnion	Laborer
638378	Hourly Payroll-NonUnion	Laborer
642018	Hourly Payroll-NonUnion	Laborer
642023	Hourly Payroll-NonUnion	Laborer
642022	Hourly Payroll-NonUnion	Laborer
642033	Hourly Payroll-NonUnion	Laborer
643166	Hourly Payroll-NonUnion	Laborer
642035	Hourly Payroll-NonUnion	Laborer
642052	Hourly Payroll-NonUnion	Laborer
642502	Hourly Payroll-NonUnion	Laborer
642078	Hourly Payroll-NonUnion	Laborer
642084	Hourly Payroll-NonUnion	Laborer
642120	Hourly Payroll-NonUnion	Laborer
642125	Hourly Payroll-NonUnion	Laborer
642126	Hourly Payroll-NonUnion	Laborer
642132	Hourly Payroll-NonUnion	Laborer
642135	Hourly Payroll-NonUnion	Laborer
642157	Hourly Payroll-NonUnion	Laborer
642158	Hourly Payroll-NonUnion	Laborer
642161	Hourly Payroll-NonUnion	Laborer
642168	Hourly Payroll-NonUnion	Laborer
643164	Hourly Payroll-NonUnion	Laborer
642192	Hourly Payroll-NonUnion	Laborer
642200	Hourly Payroll-NonUnion	Laborer
642213	Hourly Payroll-NonUnion	Laborer
642263	Hourly Payroll-NonUnion	Laborer
642281	Hourly Payroll-NonUnion	Laborer
642280	Hourly Payroll-NonUnion	Laborer
642287	Hourly Payroll-NonUnion	Laborer
642081	Hourly Payroll-NonUnion	Laborer
642308	Hourly Payroll-NonUnion	Laborer
642296	Hourly Payroll-NonUnion	Laborer
643177	Hourly Payroll-NonUnion	Laborer
642313	Hourly Payroll-NonUnion	Laborer
642178	Hourly Payroll-NonUnion	Laborer
642346	Hourly Payroll-NonUnion	Laborer
642336	Hourly Payroll-NonUnion	Laborer
642042	Hourly Payroll-NonUnion	Laborer
642366	Hourly Payroll-NonUnion	Laborer
643135	Hourly Payroll-NonUnion	Laborer
642384	Hourly Payroll-NonUnion	Laborer

642389	Hourly Payroll-NonUnion	Laborer
642393	Hourly Payroll-NonUnion	Laborer
643040	Hourly Payroll-NonUnion	Laborer
642402	Hourly Payroll-NonUnion	Laborer
642408	Hourly Payroll-NonUnion	Laborer
642416	Hourly Payroll-NonUnion	Laborer
642465	Hourly Payroll-NonUnion	Laborer
642457	Hourly Payroll-NonUnion	Laborer
642474	Hourly Payroll-NonUnion	Laborer
642476	Hourly Payroll-NonUnion	Laborer
642479	Hourly Payroll-NonUnion	Laborer
642480	Hourly Payroll-NonUnion	Laborer
642483	Hourly Payroll-NonUnion	Laborer
642488	Hourly Payroll-NonUnion	Laborer
642489	Hourly Payroll-NonUnion	Laborer
642498	Hourly Payroll-NonUnion	Laborer
642509	Hourly Payroll-NonUnion	Laborer
642510	Hourly Payroll-NonUnion	Laborer
643120	Hourly Payroll-NonUnion	Laborer
642517	Hourly Payroll-NonUnion	Laborer
642521	Hourly Payroll-NonUnion	Laborer
642522	Hourly Payroll-NonUnion	Laborer
643048	Hourly Payroll-NonUnion	Laborer
642551	Hourly Payroll-NonUnion	Laborer
642559	Hourly Payroll-NonUnion	Laborer
643180	Hourly Payroll-NonUnion	Laborer
642565	Hourly Payroll-NonUnion	Laborer
642573	Hourly Payroll-NonUnion	Laborer
642103	Hourly Payroll-NonUnion	Laborer
642774	Hourly Payroll-NonUnion	Laborer
642628	Hourly Payroll-NonUnion	Laborer
642627	Hourly Payroll-NonUnion	Laborer
642635	Hourly Payroll-NonUnion	Laborer
642643	Hourly Payroll-NonUnion	Laborer
642167	Hourly Payroll-NonUnion	Laborer
642652	Hourly Payroll-NonUnion	Laborer
642669	Hourly Payroll-NonUnion	Laborer
642684	Hourly Payroll-NonUnion	Laborer
642685	Hourly Payroll-NonUnion	Laborer
643093	Hourly Payroll-NonUnion	Laborer
642703	Hourly Payroll-NonUnion	Laborer
642708	Hourly Payroll-NonUnion	Laborer
642709	Hourly Payroll-NonUnion	Laborer
642713	Hourly Payroll-NonUnion	Laborer
642731	Hourly Payroll-NonUnion	Laborer
642743	Hourly Payroll-NonUnion	Laborer
642090	Hourly Payroll-NonUnion	Laborer

642750	Hourly Payroll-NonUnion	Laborer
642770	Hourly Payroll-NonUnion	Laborer
642776	Hourly Payroll-NonUnion	Laborer
643170	Hourly Payroll-NonUnion	Laborer
642798	Hourly Payroll-NonUnion	Laborer
642811	Hourly Payroll-NonUnion	Laborer
642812	Hourly Payroll-NonUnion	Laborer
643046	Hourly Payroll-NonUnion	Laborer
642808	Hourly Payroll-NonUnion	Laborer
642825	Hourly Payroll-NonUnion	Laborer
643117	Hourly Payroll-NonUnion	Laborer
642839	Hourly Payroll-NonUnion	Laborer
642843	Hourly Payroll-NonUnion	Laborer
642845	Hourly Payroll-NonUnion	Laborer
642864	Hourly Payroll-NonUnion	Laborer
642879	Hourly Payroll-NonUnion	Laborer
642884	Hourly Payroll-NonUnion	Laborer
642892	Hourly Payroll-NonUnion	Laborer
642902	Hourly Payroll-NonUnion	Laborer
642919	Hourly Payroll-NonUnion	Laborer
642923	Hourly Payroll-NonUnion	Laborer
642928	Hourly Payroll-NonUnion	Laborer
643171	Hourly Payroll-NonUnion	Laborer
642527	Hourly Payroll-NonUnion	Laborer
642934	Hourly Payroll-NonUnion	Laborer
643161	Hourly Payroll-NonUnion	Laborer
642947	Hourly Payroll-NonUnion	Laborer
642969	Hourly Payroll-NonUnion	Laborer
642970	Hourly Payroll-NonUnion	Laborer
642745	Hourly Payroll-NonUnion	Laborer
643167	Hourly Payroll-NonUnion	Laborer
642984	Hourly Payroll-NonUnion	Laborer
642997	Hourly Payroll-NonUnion	Laborer
643001	Hourly Payroll-NonUnion	Laborer
643009	Hourly Payroll-NonUnion	Laborer
643013	Hourly Payroll-NonUnion	Laborer
643027	Hourly Payroll-NonUnion	Laborer
643028	Hourly Payroll-NonUnion	Laborer
606999	Hourly Payroll-NonUnion	Leadperson
606991	Hourly Payroll-NonUnion	Leadperson
614402	Hourly Payroll-NonUnion	Leadperson
642009	Hourly Payroll-NonUnion	Leadperson
643098	Hourly Payroll-NonUnion	Leadperson
642130	Hourly Payroll-NonUnion	Leadperson
642705	Hourly Payroll-NonUnion	Leadperson
642725	Hourly Payroll-NonUnion	Leadperson
643049	Hourly Payroll-NonUnion	Leadperson

642889	Hourly Payroll-NonUnion	Leadperson
638295	Hourly Payroll-NonUnion	Loader Operator
637961	Hourly Payroll-NonUnion	Loader Operator
620047	Hourly Payroll-NonUnion	Loader Operator
616111	Hourly Payroll-NonUnion	Loader Operator
637446	Hourly Payroll-NonUnion	Loader Operator
614330	Hourly Payroll-NonUnion	Loader Operator
634073	Hourly Payroll-NonUnion	Loader Operator
614334	Hourly Payroll-NonUnion	Loader Operator
614335	Hourly Payroll-NonUnion	Loader Operator
642007	Hourly Payroll-NonUnion	Loader Operator
642032	Hourly Payroll-NonUnion	Loader Operator
642038	Hourly Payroll-NonUnion	Loader Operator
642189	Hourly Payroll-NonUnion	Loader Operator
642201	Hourly Payroll-NonUnion	Loader Operator
642224	Hourly Payroll-NonUnion	Loader Operator
642229	Hourly Payroll-NonUnion	Loader Operator
642248	Hourly Payroll-NonUnion	Loader Operator
642257	Hourly Payroll-NonUnion	Loader Operator
642312	Hourly Payroll-NonUnion	Loader Operator
642405	Hourly Payroll-NonUnion	Loader Operator
636799	Hourly Payroll-NonUnion	Loader Operator
642421	Hourly Payroll-NonUnion	Loader Operator
642437	Hourly Payroll-NonUnion	Loader Operator
642447	Hourly Payroll-NonUnion	Loader Operator
642445	Hourly Payroll-NonUnion	Loader Operator
642455	Hourly Payroll-NonUnion	Loader Operator
642832	Hourly Payroll-NonUnion	Loader Operator
642448	Hourly Payroll-NonUnion	Loader Operator
642513	Hourly Payroll-NonUnion	Loader Operator
642515	Hourly Payroll-NonUnion	Loader Operator
642616	Hourly Payroll-NonUnion	Loader Operator
642351	Hourly Payroll-NonUnion	Loader Operator
642748	Hourly Payroll-NonUnion	Loader Operator
642752	Hourly Payroll-NonUnion	Loader Operator
642773	Hourly Payroll-NonUnion	Loader Operator
642796	Hourly Payroll-NonUnion	Loader Operator
642801	Hourly Payroll-NonUnion	Loader Operator
642822	Hourly Payroll-NonUnion	Loader Operator
642804	Hourly Payroll-NonUnion	Loader Operator
642823	Hourly Payroll-NonUnion	Loader Operator
642837	Hourly Payroll-NonUnion	Loader Operator
642836	Hourly Payroll-NonUnion	Loader Operator
642844	Hourly Payroll-NonUnion	Loader Operator
642848	Hourly Payroll-NonUnion	Loader Operator
642907	Hourly Payroll-NonUnion	Loader Operator
642906	Hourly Payroll-NonUnion	Loader Operator

642911	Hourly Payroll-NonUnion	Loader Operator	
642941	Hourly Payroll-NonUnion	Loader Operator	
643017	Hourly Payroll-NonUnion	Loader Operator	
643031	Hourly Payroll-NonUnion	Loader Operator	
351459	Estimators/Engineers	Maintenance Manager	1
642134	Hourly Payroll-NonUnion	Maintenance Person	2
642230	Hourly Payroll-NonUnion	Maintenance Person	
642942	Salary Payroll-Exempt	Maintenance Supervisor	1
643008	Equipment	Manager	1
637433	Plant/Location Managers	Material Manager	1
638258	Hourly Payroll-NonUnion	Mechanic	
610136	Hourly Payroll-NonUnion	Mechanic	
609720	Hourly Payroll-NonUnion	Mechanic	
642029	Hourly Payroll-NonUnion	Mechanic	
642049	Hourly Payroll-NonUnion	Mechanic	
642059	Hourly Payroll-NonUnion	Mechanic	
642061	Hourly Payroll-NonUnion	Mechanic	
642092	Hourly Payroll-NonUnion	Mechanic	
642209	Hourly Payroll-NonUnion	Mechanic	
642212	Hourly Payroll-NonUnion	Mechanic	
642303	Hourly Payroll-NonUnion	Mechanic	
643132	Hourly Payroll-NonUnion	Mechanic	
642338	Hourly Payroll-NonUnion	Mechanic	
642782	Hourly Payroll-NonUnion	Mechanic	27
642486	Hourly Payroll-NonUnion	Mechanic	
642500	Hourly Payroll-NonUnion	Mechanic	
643143	Hourly Payroll-NonUnion	Mechanic	
642585	Hourly Payroll-NonUnion	Mechanic	
642657	Hourly Payroll-NonUnion	Mechanic	
642674	Hourly Payroll-NonUnion	Mechanic	
642722	Hourly Payroll-NonUnion	Mechanic	
642749	Hourly Payroll-NonUnion	Mechanic	
642866	Hourly Payroll-NonUnion	Mechanic	
642881	Hourly Payroll-NonUnion	Mechanic	
642901	Hourly Payroll-NonUnion	Mechanic	
642900	Hourly Payroll-NonUnion	Mechanic	
642932	Hourly Payroll-NonUnion	Mechanic	
642050	Hourly Payroll-NonUnion	Milling/Reclaim Operator	14
642159	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642177	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642188	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642197	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642218	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642348	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642140	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642440	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642875	Hourly Payroll-NonUnion	Milling/Reclaim Operator	

642905	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642924	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
642951	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
643003	Hourly Payroll-NonUnion	Milling/Reclaim Operator	
351043	Plant/Location Managers	Operations Manager	
614147	Plant/Location Managers	Operations Manager	3
351332	Plant/Location Managers	Operations Manager	
606983	Hourly Payroll-NonUnion	Operator	
637196	Hourly Payroll-NonUnion	Operator	
606985	Hourly Payroll-NonUnion	Operator	
620973	Hourly Payroll-NonUnion	Operator	
608896	Hourly Payroll-NonUnion	Operator	
607270	Hourly Payroll-NonUnion	Operator	
636555	Hourly Payroll-NonUnion	Operator	
638167	Hourly Payroll-NonUnion	Operator	
615918	Hourly Payroll-NonUnion	Operator	
642006	Hourly Payroll-NonUnion	Operator	
642005	Hourly Payroll-NonUnion	Operator	
642014	Hourly Payroll-NonUnion	Operator	
642039	Hourly Payroll-NonUnion	Operator	
642056	Hourly Payroll-NonUnion	Operator	
642053	Hourly Payroll-NonUnion	Operator	
642073	Hourly Payroll-NonUnion	Operator	
642080	Hourly Payroll-NonUnion	Operator	
642095	Hourly Payroll-NonUnion	Operator	
642108	Hourly Payroll-NonUnion	Operator	
642124	Hourly Payroll-NonUnion	Operator	
642162	Hourly Payroll-NonUnion	Operator	
642182	Hourly Payroll-NonUnion	Operator	
642190	Hourly Payroll-NonUnion	Operator	
642195	Hourly Payroll-NonUnion	Operator	
643163	Hourly Payroll-NonUnion	Operator	
643147	Hourly Payroll-NonUnion	Operator	
642233	Hourly Payroll-NonUnion	Operator	
642234	Hourly Payroll-NonUnion	Operator	
642236	Hourly Payroll-NonUnion	Operator	
642240	Hourly Payroll-NonUnion	Operator	
642244	Hourly Payroll-NonUnion	Operator	
642249	Hourly Payroll-NonUnion	Operator	
642250	Hourly Payroll-NonUnion	Operator	
642264	Hourly Payroll-NonUnion	Operator	
642277	Hourly Payroll-NonUnion	Operator	
643168	Hourly Payroll-NonUnion	Operator	
643149	Hourly Payroll-NonUnion	Operator	
642300	Hourly Payroll-NonUnion	Operator	
642301	Hourly Payroll-NonUnion	Operator	
642297	Hourly Payroll-NonUnion	Operator	

643158	Hourly Payroll-NonUnion	Operator
642345	Hourly Payroll-NonUnion	Operator
642335	Hourly Payroll-NonUnion	Operator
642013	Hourly Payroll-NonUnion	Operator
642357	Hourly Payroll-NonUnion	Operator
643101	Hourly Payroll-NonUnion	Operator
642370	Hourly Payroll-NonUnion	Operator
642391	Hourly Payroll-NonUnion	Operator
642392	Hourly Payroll-NonUnion	Operator
643136	Hourly Payroll-NonUnion	Operator
642397	Hourly Payroll-NonUnion	Operator
642398	Hourly Payroll-NonUnion	Operator
643140	Hourly Payroll-NonUnion	Operator
642418	Hourly Payroll-NonUnion	Operator
642433	Hourly Payroll-NonUnion	Operator
642467	Hourly Payroll-NonUnion	Operator
642443	Hourly Payroll-NonUnion	Operator
642460	Hourly Payroll-NonUnion	Operator
642477	Hourly Payroll-NonUnion	Operator
642484	Hourly Payroll-NonUnion	Operator
642491	Hourly Payroll-NonUnion	Operator
642501	Hourly Payroll-NonUnion	Operator
642507	Hourly Payroll-NonUnion	Operator
642516	Hourly Payroll-NonUnion	Operator
642537	Hourly Payroll-NonUnion	Operator
642538	Hourly Payroll-NonUnion	Operator
642563	Hourly Payroll-NonUnion	Operator
643059	Hourly Payroll-NonUnion	Operator
642576	Hourly Payroll-NonUnion	Operator
643165	Hourly Payroll-NonUnion	Operator
642609	Hourly Payroll-NonUnion	Operator
643160	Hourly Payroll-NonUnion	Operator
643150	Hourly Payroll-NonUnion	Operator
642633	Hourly Payroll-NonUnion	Operator
642642	Hourly Payroll-NonUnion	Operator
642695	Hourly Payroll-NonUnion	Operator
642714	Hourly Payroll-NonUnion	Operator
642716	Hourly Payroll-NonUnion	Operator
642720	Hourly Payroll-NonUnion	Operator
643139	Hourly Payroll-NonUnion	Operator
642729	Hourly Payroll-NonUnion	Operator
642747	Hourly Payroll-NonUnion	Operator
642758	Hourly Payroll-NonUnion	Operator
643183	Hourly Payroll-NonUnion	Operator
643104	Hourly Payroll-NonUnion	Operator
643055	Hourly Payroll-NonUnion	Operator
642802	Hourly Payroll-NonUnion	Operator

643169	Hourly Payroll-NonUnion	Operator	
642840	Hourly Payroll-NonUnion	Operator	
643162	Hourly Payroll-NonUnion	Operator	
642004	Hourly Payroll-NonUnion	Operator	
643156	Hourly Payroll-NonUnion	Operator	
642958	Hourly Payroll-NonUnion	Operator	
642964	Hourly Payroll-NonUnion	Operator	
642965	Hourly Payroll-NonUnion	Operator	
643138	Hourly Payroll-NonUnion	Operator	
643157	Hourly Payroll-NonUnion	Operator	
643006	Hourly Payroll-NonUnion	Operator	
643023	Hourly Payroll-NonUnion	Operator	
643025	Hourly Payroll-NonUnion	Operator	
608894	Hourly Payroll-NonUnion	Paver Operator	20
610212	Hourly Payroll-NonUnion	Paver Operator	
636813	Hourly Payroll-NonUnion	Paver Operator	
638330	Hourly Payroll-NonUnion	Paver Operator	
614333	Hourly Payroll-NonUnion	Paver Operator	
642082	Hourly Payroll-NonUnion	Paver Operator	
642099	Hourly Payroll-NonUnion	Paver Operator	
642196	Hourly Payroll-NonUnion	Paver Operator	
642377	Hourly Payroll-NonUnion	Paver Operator	
642382	Hourly Payroll-NonUnion	Paver Operator	
642470	Hourly Payroll-NonUnion	Paver Operator	
642487	Hourly Payroll-NonUnion	Paver Operator	
642564	Hourly Payroll-NonUnion	Paver Operator	
642702	Hourly Payroll-NonUnion	Paver Operator	
642701	Hourly Payroll-NonUnion	Paver Operator	
642841	Hourly Payroll-NonUnion	Paver Operator	
642954	Hourly Payroll-NonUnion	Paver Operator	
642953	Hourly Payroll-NonUnion	Paver Operator	
642967	Hourly Payroll-NonUnion	Paver Operator	
643030	Hourly Payroll-NonUnion	Paver Operator	
642385	Hourly Payroll-NonUnion	Paving Laborer	6
642422	Hourly Payroll-NonUnion	Paving Laborer	
642728	Hourly Payroll-NonUnion	Paving Laborer	
642730	Hourly Payroll-NonUnion	Paving Laborer	
642760	Hourly Payroll-NonUnion	Paving Laborer	
642987	Hourly Payroll-NonUnion	Paving Laborer	
642976	Hourly Payroll-NonUnion	Pipelayer	11
643133	Hourly Payroll-NonUnion	Pipelayer	
642332	Hourly Payroll-NonUnion	Pipelayer	
642333	Hourly Payroll-NonUnion	Pipelayer	
642454	Hourly Payroll-NonUnion	Pipelayer	
643155	Hourly Payroll-NonUnion	Pipelayer	
642441	Hourly Payroll-NonUnion	Pipelayer	
642655	Hourly Payroll-NonUnion	Pipelayer	

642744	Hourly Payroll-NonUnion	Pipelayer	
642778	Hourly Payroll-NonUnion	Pipelayer	
642514	Hourly Payroll-NonUnion	Pipelayer	
642106	Salary Payroll-Exempt	Plant Foreman	5
642265	Salary Payroll-Exempt	Plant Foreman	
642316	Salary Payroll-Exempt	Plant Foreman	
643159	Hourly Payroll-NonUnion	Plant Foreman	
642594	Salary Payroll-Exempt	Plant Foreman	
637960	Hourly Payroll-NonUnion	Plant Loader Operator	1
314278	Plant/Location Managers	Plant Manager	2
351443	Plant/Location Managers	Plant Manager	
637206	Hourly Payroll-NonUnion	Plant Operator	21
637975	Hourly Payroll-NonUnion	Plant Operator	
620905	Hourly Payroll-NonUnion	Plant Operator	
638424	Hourly Payroll-NonUnion	Plant Operator	
634074	Hourly Payroll-NonUnion	Plant Operator	
608895	Hourly Payroll-NonUnion	Plant Operator	
636742	Hourly Payroll-NonUnion	Plant Operator	
642726	Hourly Payroll-NonUnion	Plant Operator	
642183	Hourly Payroll-NonUnion	Plant Operator	
642239	Hourly Payroll-NonUnion	Plant Operator	
642141	Hourly Payroll-NonUnion	Plant Operator	
642266	Hourly Payroll-NonUnion	Plant Operator	
642506	Hourly Payroll-NonUnion	Plant Operator	
642556	Hourly Payroll-NonUnion	Plant Operator	
642621	Hourly Payroll-NonUnion	Plant Operator	
642622	Hourly Payroll-NonUnion	Plant Operator	
642636	Hourly Payroll-NonUnion	Plant Operator	
642754	Hourly Payroll-NonUnion	Plant Operator	
642780	Hourly Payroll-NonUnion	Plant Operator	
642877	Hourly Payroll-NonUnion	Plant Operator	
642998	Hourly Payroll-NonUnion	Plant Operator	
351406	Plant/Location Managers	Plant Superintendent	1
350914	Plant/Location Managers	Production Manager	1
351260	Salary Payroll-Exempt	Project Foreman	12
351130	Salary Payroll-Exempt	Project Foreman	
634210	Salary Payroll-Exempt	Project Foreman	
637345	Salary Payroll-Exempt	Project Foreman	
351324	Salary Payroll-Exempt	Project Foreman	
351353	Salary Payroll-Exempt	Project Foreman	
351354	Salary Payroll-Exempt	Project Foreman	
351484	Salary Payroll-Exempt	Project Foreman	
351407	Salary Payroll-Exempt	Project Foreman	
351474	Salary Payroll-Exempt	Project Foreman	
351452	Salary Payroll-Exempt	Project Foreman	
351475	Salary Payroll-Exempt	Project Foreman	
351470	Plant/Location Managers	Project Manager	

351372	Plant/Location Managers	Project Manager	5
351383	Plant/Location Managers	Project Manager	
351401	Plant/Location Managers	Project Manager	
351405	Plant/Location Managers	Project Manager	
351013	Purchasing/Procurement	Purchasing Agent	1
636976	Purchasing/Procurement	Purchasing Clerk	1
350981	Quality Control	QC Manager	3
351382	Dispatch / Delivery	QC Manager	
620114	Quality Control	QC Manager	
637389	Hourly Payroll-NonUnion	QC Technician	12
638537	Hourly Payroll-NonUnion	QC Technician	
637186	Hourly Payroll-NonUnion	QC Technician	
637015	Hourly Payroll-NonUnion	QC Technician	
636946	Hourly Payroll-NonUnion	QC Technician	
620495	Hourly Payroll-NonUnion	QC Technician	
636645	Hourly Payroll-NonUnion	QC Technician	
637944	Hourly Payroll-NonUnion	QC Technician	
637972	Hourly Payroll-NonUnion	QC Technician	
621244	Hourly Payroll-NonUnion	QC Technician	
642834	Hourly Payroll-NonUnion	QC Technician	
642945	Hourly Payroll-NonUnion	QC Technician	
350903	Salary Payroll-Exempt	Quality Control Specialist	2
642753	Salary Payroll-Exempt	Quality Control Specialist	2
642740	Salary Payroll-Exempt	Quality Control Supervisor	1
642697	Administrative / Misc.	Receptionist	2
642890	Administrative / Misc.	Receptionist	
618877	Hourly Payroll-NonUnion	Roller Operator	17
616250	Hourly Payroll-NonUnion	Roller Operator	
608734	Hourly Payroll-NonUnion	Roller Operator	
617518	Hourly Payroll-NonUnion	Roller Operator	
642064	Hourly Payroll-NonUnion	Roller Operator	
642089	Hourly Payroll-NonUnion	Roller Operator	
642109	Hourly Payroll-NonUnion	Roller Operator	
642151	Hourly Payroll-NonUnion	Roller Operator	
642315	Hourly Payroll-NonUnion	Roller Operator	
642328	Hourly Payroll-NonUnion	Roller Operator	
642417	Hourly Payroll-NonUnion	Roller Operator	
642530	Hourly Payroll-NonUnion	Roller Operator	
642557	Hourly Payroll-NonUnion	Roller Operator	
642593	Hourly Payroll-NonUnion	Roller Operator	
642611	Hourly Payroll-NonUnion	Roller Operator	
642699	Hourly Payroll-NonUnion	Roller Operator	
642817	Hourly Payroll-NonUnion	Roller Operator	
642086	Safety	Safety	5
642425	Safety	Safety	
642535	Safety	Safety	
642790	Safety	Safety	

642943	Safety	Safety	
351024	Sales	Sales	
351309	Sales	Sales	4
351381	Sales	Sales	
351456	Sales	Sales	
642286	Sales	Sales Clerk FOH	
642536	Sales	Sales Coordinator	1
350900	Sales	Sales Manager	2
351330	Sales	Sales Manager	
637540	Hourly Payroll-NonUnion	Scale Operator	3
642055	Hourly Payroll-NonUnion	Scale Operator	
642689	Hourly Payroll-NonUnion	Scale Operator	
642534	Hourly Payroll-NonUnion	Shop Assistant	1
642548	Hourly Payroll-NonUnion	Shop Laborer	2
642558	Hourly Payroll-NonUnion	Shop Laborer	
350101	Plant/Location Managers	Superintendent	5
609809	Plant/Location Managers	Superintendent	
351483	Plant/Location Managers	Superintendent	
351349	Plant/Location Managers	Superintendent	
351441	Plant/Location Managers	Superintendent	
342606	Equipment	Supervisor FOH	1
620906	Hourly Payroll-NonUnion	Survey Manager	3
638571	Hourly Payroll-NonUnion	Survey Manager	
351480	Estimators/Engineers	Survey Manager	
621149	Hourly Payroll-NonUnion	Survey/Gradesetter	2
634051	Hourly Payroll-NonUnion	Survey/Gradesetter	
638555	Hourly Payroll-NonUnion	Surveyor	1
80247	Dispatch / Delivery	Transportation Manager	2
351348	Dispatch / Delivery	Transportation Manager	
638233	Hourly Payroll-NonUnion	Truck Driver	
636934	Hourly Payroll-NonUnion	Truck Driver	
638398	Hourly Payroll-NonUnion	Truck Driver	
610134	Hourly Payroll-NonUnion	Truck Driver	
616290	Hourly Payroll-NonUnion	Truck Driver	
638096	Hourly Payroll-NonUnion	Truck Driver	
610152	Hourly Payroll-NonUnion	Truck Driver	
611124	Hourly Payroll-NonUnion	Truck Driver	
642001	Hourly Payroll-NonUnion	Truck Driver	
643041	Hourly Payroll-NonUnion	Truck Driver	
643178	Hourly Payroll-NonUnion	Truck Driver	
642062	Hourly Payroll-NonUnion	Truck Driver	
642076	Hourly Payroll-NonUnion	Truck Driver	
642121	Hourly Payroll-NonUnion	Truck Driver	
642122	Hourly Payroll-NonUnion	Truck Driver	
642129	Hourly Payroll-NonUnion	Truck Driver	
642000	Hourly Payroll-NonUnion	Truck Driver	
642150	Hourly Payroll-NonUnion	Truck Driver	

643179	Hourly Payroll-NonUnion	Truck Driver
642163	Hourly Payroll-NonUnion	Truck Driver
642179	Hourly Payroll-NonUnion	Truck Driver
642186	Hourly Payroll-NonUnion	Truck Driver
642194	Hourly Payroll-NonUnion	Truck Driver
642228	Hourly Payroll-NonUnion	Truck Driver
642259	Hourly Payroll-NonUnion	Truck Driver
642552	Hourly Payroll-NonUnion	Truck Driver
642278	Hourly Payroll-NonUnion	Truck Driver
642285	Hourly Payroll-NonUnion	Truck Driver
642324	Hourly Payroll-NonUnion	Truck Driver
642325	Hourly Payroll-NonUnion	Truck Driver
642330	Hourly Payroll-NonUnion	Truck Driver
642326	Hourly Payroll-NonUnion	Truck Driver
642356	Hourly Payroll-NonUnion	Truck Driver
642355	Hourly Payroll-NonUnion	Truck Driver
642777	Hourly Payroll-NonUnion	Truck Driver
642369	Hourly Payroll-NonUnion	Truck Driver
642371	Hourly Payroll-NonUnion	Truck Driver
642381	Hourly Payroll-NonUnion	Truck Driver
642237	Hourly Payroll-NonUnion	Truck Driver
642403	Hourly Payroll-NonUnion	Truck Driver
642420	Hourly Payroll-NonUnion	Truck Driver
642427	Hourly Payroll-NonUnion	Truck Driver
642428	Hourly Payroll-NonUnion	Truck Driver
642434	Hourly Payroll-NonUnion	Truck Driver
642468	Hourly Payroll-NonUnion	Truck Driver
642449	Hourly Payroll-NonUnion	Truck Driver
642463	Hourly Payroll-NonUnion	Truck Driver
642481	Hourly Payroll-NonUnion	Truck Driver
643173	Hourly Payroll-NonUnion	Truck Driver
642503	Hourly Payroll-NonUnion	Truck Driver
642519	Hourly Payroll-NonUnion	Truck Driver
642523	Hourly Payroll-NonUnion	Truck Driver
642553	Hourly Payroll-NonUnion	Truck Driver
642562	Hourly Payroll-NonUnion	Truck Driver
642580	Hourly Payroll-NonUnion	Truck Driver
642584	Hourly Payroll-NonUnion	Truck Driver
642588	Hourly Payroll-NonUnion	Truck Driver
642598	Hourly Payroll-NonUnion	Truck Driver
642613	Hourly Payroll-NonUnion	Truck Driver
642649	Hourly Payroll-NonUnion	Truck Driver
642650	Hourly Payroll-NonUnion	Truck Driver
642653	Hourly Payroll-NonUnion	Truck Driver
642654	Hourly Payroll-NonUnion	Truck Driver
642664	Hourly Payroll-NonUnion	Truck Driver
642658	Hourly Payroll-NonUnion	Truck Driver

643129	Hourly Payroll-NonUnion	Truck Driver	
643154	Hourly Payroll-NonUnion	Truck Driver	
642820	Hourly Payroll-NonUnion	Truck Driver	
642666	Hourly Payroll-NonUnion	Truck Driver	
642707	Hourly Payroll-NonUnion	Truck Driver	
642712	Hourly Payroll-NonUnion	Truck Driver	
642775	Hourly Payroll-NonUnion	Truck Driver	
642724	Hourly Payroll-NonUnion	Truck Driver	
642792	Hourly Payroll-NonUnion	Truck Driver	
642814	Hourly Payroll-NonUnion	Truck Driver	
642805	Hourly Payroll-NonUnion	Truck Driver	
642810	Hourly Payroll-NonUnion	Truck Driver	
643122	Hourly Payroll-NonUnion	Truck Driver	
642838	Hourly Payroll-NonUnion	Truck Driver	
642849	Hourly Payroll-NonUnion	Truck Driver	
642854	Hourly Payroll-NonUnion	Truck Driver	
642859	Hourly Payroll-NonUnion	Truck Driver	
642863	Hourly Payroll-NonUnion	Truck Driver	
642886	Hourly Payroll-NonUnion	Truck Driver	
642302	Hourly Payroll-NonUnion	Truck Driver	
642764	Hourly Payroll-NonUnion	Truck Driver	
642921	Hourly Payroll-NonUnion	Truck Driver	
642926	Hourly Payroll-NonUnion	Truck Driver	
643151	Hourly Payroll-NonUnion	Truck Driver	
642961	Hourly Payroll-NonUnion	Truck Driver	
642940	Hourly Payroll-NonUnion	Truck Driver	
642972	Hourly Payroll-NonUnion	Truck Driver	
642979	Hourly Payroll-NonUnion	Truck Driver	
642988	Hourly Payroll-NonUnion	Truck Driver	
642991	Hourly Payroll-NonUnion	Truck Driver	
643004	Hourly Payroll-NonUnion	Truck Driver	
643018	Hourly Payroll-NonUnion	Truck Driver	
643033	Hourly Payroll-NonUnion	Truck Driver	
642542	Equipment	Truck Fleet Coordinator	1
642927	Hourly Payroll-NonUnion	Trucking Supervisor	1
642644	Hourly Payroll-NonUnion	Water Truck Driver	1
642040	Hourly Payroll-NonUnion	Welder	7
642034	Hourly Payroll-NonUnion	Welder	
642187	Hourly Payroll-NonUnion	Welder	
642261	Hourly Payroll-NonUnion	Welder	
642492	Hourly Payroll-NonUnion	Welder	
642518	Hourly Payroll-NonUnion	Welder	
642554	Hourly Payroll-NonUnion	Welder	
		Total =	887



A CRH COMPANY

Owned Equipment List

Equipment #	Description
10.280001	Crane Rough Terrain >45Ton
10.280003	Crane Rough Terrain >45Ton
10.700001	Crane Rough Terrain >45Ton
10.700004	Crane Rough Terrain >45Ton
10.700010	Crane Rough Terrain >45Ton
12.280001	Scissor Lift RT Gas or Diesel
12.280002	Forklift Telescop to 8K lb
12.280002	Forklift Warehouse to 6K lb
12.280100	Boom Lift RT to 59' Gas/Dsl
12.280101	Boom Lift RT to 59' Gas/Dsl
12.280102	Boom Lift RT 60' & Up Gas/Dsl
12.280106	Boom Lift RT 60' & Up Gas/Dsl
12.280107	Boom Lift RT to 59' Gas/Dsl
12.280108	Boom Lift RT 60' & Up Gas/Dsl
12.280109	Forklift Warehouse to 6K lb
12.280150	Forklift Telescop to 8K lb
12.281001	Forklift Telescop to 8K lb
12.281002	Forklift Warehouse to 6K lb
12.281100	Forklift Telescop to 8K lb
12.281101	Forklift Telescop to 8K lb
13.280009	Vacuum/Broom Truck
13.280010	Vacuum/Broom Truck
13.280017	Broom 4 Whl Self-Prop Frt Mtd
13.280023	Broom 4 Whl Self-Prop Frt Mtd
13.280025	Broom 4 Whl Self-Prop Frt Mtd
13.280026	Broom 4 Whl Self-Prop Frt Mtd
13.280028	Broom 4 Whl Self-Prop Frt Mtd
13.280030	Broom 4 Whl Self-Prop Frt Mtd
13.280037	Broom 4 Whl Self-Prop Frt Mtd
13.280038	Broom 4 Whl Self-Prop Frt Mtd

13.280042	Broom 4 Whl Self-Prop Frt Mtd
13.280043	Broom 4 Whl Self-Prop Frt Mtd
13.280047	Broom 4 Whl Self-Prop Frt Mtd
13.280049	Broom 4 Whl Self-Prop Frt Mtd
13.280051	Broom 4 Whl Self-Prop Frt Mtd
13.280052	Broom 4 Whl Self-Prop Frt Mtd
13.280053	Broom 4 Whl Self-Prop Frt Mtd
13.280056	Broom 4 Whl Self-Prop Frt Mtd
13.280057	Broom 4 Whl Self-Prop Frt Mtd
13.280058	Broom 4 Whl Self-Prop Frt Mtd
13.280059	Broom 4 Whl Self-Prop Frt Mtd
13.280060	Broom 4 Whl Self-Prop Frt Mtd
13.280061	Broom 4 Whl Self-Prop Frt Mtd
13.280062	Broom 4 Whl Self-Prop Frt Mtd
13.280067	Broom 4 Whl Self-Prop Frt Mtd
13.280068	Broom 4 Whl Self-Prop Frt Mtd
13.280069	Broom 4 Whl Self-Prop Frt Mtd
13.700021	Broom 4 Whl Self-Prop Frt Mtd
13.700041	Broom 4 Whl Self-Prop Frt Mtd
13.700044	Broom 4 Whl Self-Prop Frt Mtd
13.700045	Broom 4 Whl Self-Prop Frt Mtd
14.280036	Dozer Crawl 71-95hp D4/D41
14.280042	Dozer Crawl 126-155hp D6/D61
14.280045	Dozer Crawl 96-125hp D5/D58
14.280052	Dozer Crawl 126-155hp D6/D61
14.280055	Dozer Crawl 126-155hp D6/D61
14.280056	Dozer Crawl 126-155hp D6/D61
14.280057	Dozer Crawl 126-155hp D6/D61
14.280061	Dozer Crawl to 70hp D3/D32
14.280062	Dozer Crawl to 70hp D3/D32
14.280065	Dozer Crawl to 70hp D3/D32
14.280069	Dozer Crawl 96-125hp D5/D58

14.280070	Dozer Crawl 96-125hp D5/D58
14.280071	Dozer Crawl to 70hp D3/D32
14.280073	Dozer Crawl to 70hp D3/D32
14.280074	Dozer Crawl 126-155hp D6/D61
14.280076	Dozer Crawl 126-155hp D6/D61
14.280077	Dozer Crawl 126-155hp D6/D61
14.280078	Dozer Crawl 71-95hp D4/D41
14.280079	Dozer Crawl 71-95hp D4/D41
14.280080	Dozer Crawl 126-155hp D6/D61
14.280081	Dozer Crawl 96-125hp D5/D58
14.280082	Dozer Crawl 71-95hp D4/D41
14.280083	Dozer Crawl 126-155hp D6/D61
14.700012	Dozer Crawl 126-155hp D6/D61
14.700049	Dozer Crawl 71-95hp D4/D41
14.700075	Dozer Crawl 126-155hp D6/D61
15.700007	Scraper Self Load to 12CY
20.280006	Asphalt/Sealer Kettle/Pot
20.280007	Asphalt/Sealer Kettle/Pot
20.280010	Asphalt/Sealer Kettle/Pot
20.280012	Asphalt/Sealer Kettle/Pot
21.280001	Generator Diesel 5-49kw
21.280004	Generator Diesel 50-100kw
21.280005	Generator Diesel 50-100kw
21.280006	Generator Diesel 5-49kw
23.250045	Loader RT 3.1-4CY 950
23.280001	Loader RT 2.1-3CY 936
23.280006	Skid Steer Tire Loader
23.280009	Skid Steer Track Loader
23.280021	Loader RT 2.1-3CY 936
23.280022	Loader RT 2.1-3CY 936
23.280025	Loader RT 2.1-3CY 936
23.280028	Loader RT 2.1-3CY 936
23.280030	Loader RT 2.1-3CY 936
23.280031	Loader RT 2.1-3CY 936
23.280032	Loader RT 2.1-3CY 936
23.280036	Loader RT 2.1-3CY 936
23.280038	Loader RT 2.1-3CY 936

23.280039	Loader RT 2.1-3CY 936
23.280040	Loader RT 2.1-3CY 936
23.280043	Loader RT 2.1-3CY 936
23.280044	Loader RT 2.1-3CY 936
23.280046	Loader RT 2.1-3CY 936
23.280047	Loader RT 2.1-3CY 936
23.280048	Loader RT 2.1-3CY 936
23.280049	Loader RT 2.1-3CY 936
23.280050	Loader RT 2.1-3CY 936
23.280051	Loader RT 2.1-3CY 936
23.280053	Loader RT 2.1-3CY 936
23.280054	Loader RT 2.1-3CY 936
23.280055	Loader RT 2.1-3CY 936
23.280056	Loader RT 2.1-3CY 936
23.280057	Loader RT 3.1-4CY 950
23.280058	Loader RT 3.1-4CY 950
23.280059	Loader RT 3.1-4CY 950
23.280119	Loader RT 6.1-7.5CY 980
23.280122	Loader RT 6.1-7.5CY 980
23.280128	Loader RT 6.1-7.5CY 980
23.280135	Loader RT 6.1-7.5CY 980
23.280136	Loader RT 6.1-7.5CY 980
23.280139	Loader RT 6.1-7.5CY 980
23.280140	Loader RT 6.1-7.5CY 980
23.280141	Loader RT 6.1-7.5CY 980
23.280142	Loader RT 6.1-7.5CY 980
23.280143	Loader RT 6.1-7.5CY 980
23.280144	Loader RT 6.1-7.5CY 980
23.280145	Loader RT 6.1-7.5CY 980
23.280146	Loader RT 6.1-7.5CY 980
23.280147	Loader RT 6.1-7.5CY 980
23.280148	Loader RT 6.1-7.5CY 980
23.280149	Loader RT 6.1-7.5CY 980
23.280153	Loader RT 6.1-7.5CY 980
23.280154	Loader RT 6.1-7.5CY 980
23.280155	Loader RT 6.1-7.5CY 980
23.280156	Loader RT 6.1-7.5CY 980
23.280157	Loader RT 6.1-7.5CY 980
23.280158	Loader RT 6.1-7.5CY 980
23.280160	Loader RT 6.1-7.5CY 980
23.280161	Loader RT 6.1-7.5CY 980

23.280162	Loader RT 6.1-7.5CY 980
23.280163	Loader RT 6.1-7.5CY 980
23.280164	Loader RT 6.1-7.5CY 980
23.280168	Loader RT 6.1-7.5CY 980
23.280169	Loader RT 6.1-7.5CY 980
23.280216	Skid Steer Tire Loader
23.280218	Skid Steer Tire Loader
23.280222	Skid Steer Tire Loader
23.280225	Skid Steer Tire Loader
23.280228	Skid Steer Tire Loader
23.280230	Skid Steer Tire Loader
23.280231	Skid Steer Tire Loader
23.280232	Skid Steer Tire Loader
23.280236	Skid Steer Tire Loader
23.280237	Skid Steer Tire Loader
23.280239	Skid Steer Tire Loader
23.280240	Skid Steer Tire Loader
23.281002	Loader RT 2.1-3CY 936
23.700004	Skid Steer Tire Loader
23.700009	Skid Steer Tire Loader
23.700026	Loader RT 2.1-3CY 936
23.700029	Loader RT 2.1-3CY 936
23.700033	Loader RT 2.1-3CY 936
23.700045	Loader RT 4.1-5CY 966
23.700108	Loader RT 6.1-7.5CY 980
24.280040	Loader Backhoe <15ft 416
24.280041	Loader Backhoe <15ft 416
24.280045	Loader Backhoe <15ft 416
24.280046	Loader Backhoe <15ft 416
24.280047	Loader Backhoe <15ft 416
24.280048	Loader Backhoe <15ft 416
24.280049	Loader Backhoe <15ft 416
24.280050	Loader Backhoe <15ft 416
24.280054	Loader Backhoe <15ft 416
24.280055	Loader Backhoe <15ft 416
24.700042	Loader Backhoe <15ft 416
24.700052	Loader Backhoe 15-16ft 426
24.700053	Loader Backhoe 15-16ft 426
27.280023	Haul Truck Articulate 26-30Ton

27.280029	Haul Truck Articulate 26-30Ton
27.280030	Haul Truck Articulate 26-30Ton
27.280031	Haul Truck Articulate 26-30Ton
27.280033	Haul Truck Articulate 26-30Ton
27.280034	Haul Truck Articulate 26-30Ton
27.280035	Haul Truck Articulate 26-30Ton
27.280036	Haul Truck Articulate 26-30Ton
27.280037	Haul Truck Articulate 26-30Ton
27.700022	Haul Truck Articulate 26-30Ton
29.250022	Hyd Hammer 1201-3300 ftlb
29.280004	Spreader Chip Self-Propelled
29.280008	Spreader Chip Self-Propelled
29.280009	Spreader Chip Self-Propelled
29.280010	Hyd Hammer > 3300 ftlb
29.280011	Hyd Hammer > 3300 ftlb
29.280012	Hyd Hammer > 3300 ftlb
29.280013	Hyd Hammer 1201-3300 ftlb
29.280014	Hyd Hammer > 3300 ftlb
29.280015	Hyd Hammer > 3300 ftlb
29.280016	Hyd Hammer 1201-3300 ftlb
29.280017	Hyd Hammer > 3300 ftlb
29.280018	Hyd Hammer > 3300 ftlb
29.280019	Hyd Hammer 1201-3300 ftlb
29.280020	Hyd Hammer 1201-3300 ftlb
29.280021	Hyd Hammer > 3300 ftlb
29.280022	Hydraulic Compactor
29.280023	Spreader, Concrete 12-32 ft
29.280101	Hyd Hammer > 3300 ftlb
30.280015	Grader 201-274hp 14
30.280017	Grader 201-274hp 14
30.280020	Grader 126-144hp
30.280021	Grader 126-144hp
30.280028	Grader 126-144hp
30.280030	Grader 201-274hp 14
30.280038	Grader 126-144hp
30.280039	Grader 126-144hp
30.280043	Grader 201-274hp 14
30.280045	Grader 201-274hp 14
30.700033	Grader 201-274hp 14

30.700036	Grader 201-274hp 14
30.700040	Grader 201-274hp 14
31.280017	Excavator Crwlr 41-50Ton 345
31.280028	Excavator Crwlr 41-50Ton 345
31.280029	Excavator Crwlr 41-50Ton 345
31.280030	Excavator Crwlr 18-23Ton 320
31.280031	Excavator Crwlr 33-40Ton 330
31.280035	Excavator Crwlr 33-40Ton 330
31.280037	Excavator Crwlr 18-23Ton 320
31.280038	Excavator Crwlr 18-23Ton 320
31.280042	Excavator Crwlr 28-32Ton 325
31.280044	Excavator Crwlr 33-40Ton 330
31.280047	Excavator Crwlr 28-32Ton 325
31.280048	Excavator Crwlr 41-50Ton 345
31.280050	Excavator Crwlr 51-65Ton 350
31.280052	Excavator Crwlr 18-23Ton 320
31.280053	Excavator Crwlr 18-23Ton 320
31.280054	Excavator Crwlr 18-23Ton 320
31.280056	Excavator Crwlr 51-65Ton 350
31.280057	Excavator Crwlr 51-65Ton 350
31.280058	Excavator Crwlr 41-50Ton 345
31.280059	Excavator Crwlr 41-50Ton 345
31.280060	Excavator Crwlr 41-50Ton 345
31.280061	Excavator Crwlr 51-65Ton 350
31.280064	Excavator Crwlr 41-50Ton 345
31.280065	Excavator Crwlr 28-32Ton 325
31.280066	Excavator Crwlr 33-40Ton 330
31.280067	Excavator Crwlr 33-40Ton 330
31.280068	Excavator Crwlr 28-32Ton 325
31.280073	Excavator Crwlr 33-40Ton 330
31.280074	Excavator Crwlr 33-40Ton 330
31.280075	Excavator Crwlr 28-32Ton 325
31.280077	Excavator Crwlr 33-40Ton 330
31.280078	Excavator Crwlr 33-40Ton 330
31.280079	Excavator Crwlr 33-40Ton 330
31.280080	Excavator Crawler to 12Ton
31.280082	Excavator Crwlr 51-65Ton 350
31.280083	Excavator Crwlr 28-32Ton 325
31.280084	Excavator Crwlr 51-65Ton 350
31.280085	Excavator Crwlr 18-23Ton 320

31.280086	Excavator Crwlr 18-23Ton 320
31.280087	Excavator Crwlr 33-40Ton 330
31.280088	Excavator Crwlr 18-23Ton 320
31.280089	Excavator Crwlr 18-23Ton 320
31.280090	Excavator Crwlr 28-32Ton 325
31.280091	Excavator Crwlr 28-32Ton 325
31.280200	Excavator Crwlr 18-23Ton 320
31.280201	Excavator Crwlr 33-40Ton 330
31.280202	Excavator Crwlr 33-40Ton 330
31.280203	Excavator Crwlr 18-23Ton 320
31.280206	Excavator Crwlr 33-40Ton 330
31.280207	Excavator Crwlr 33-40Ton 330
31.280208	Excavator Crwlr 33-40Ton 330
31.700039	Excavator Crwlr 33-40Ton 330
31.700046	Excavator Crawler to 12Ton
31.700049	Excavator Crwlr 18-23Ton 320
31.700070	Excavator Crawler to 12Ton
31.700071	Excavator Crawler to 12Ton
32.280009	Excavator Truck Mtd Gradall
32.280010	Excavator Truck Mtd Gradall
32.280011	Excavator Truck Mtd Gradall
34.280003	T/C Arrowboard
34.280004	T/C Arrowboard
34.280005	T/C Arrowboard
34.280006	T/C Arrowboard
34.280009	Light Plants
34.280010	Light Plants
34.280011	Light Plants
34.280013	Light Plants
34.280014	Light Plants
34.280015	T/C Arrowboard
34.280016	T/C Arrowboard
34.280017	T/C Message Boards
34.280018	Light Plants
34.280020	T/C Arrowboard
34.280022	T/C Arrowboard
34.280028	T/C Arrowboard
34.280031	T/C Message Boards
34.280032	T/C Arrowboard

34.280033	T/C Message Boards
34.280034	T/C Arrowboard
34.280035	T/C Arrowboard
34.280036	T/C Arrowboard
34.280037	T/C Arrowboard
34.280038	T/C Arrowboard
34.280039	T/C Arrowboard
34.280040	T/C Message Boards
34.280041	T/C Message Boards
34.280042	T/C Message Boards
34.280043	T/C Message Boards
34.280044	T/C Message Boards
34.280045	T/C Message Boards
34.280046	T/C Message Boards
34.280048	T/C Message Boards
34.280049	T/C Arrowboard
34.280050	T/C Arrowboard
34.280051	T/C Arrowboard
34.280052	T/C Arrowboard
34.280053	T/C Arrowboard
34.280054	T/C Arrowboard
34.280055	T/C Arrowboard
34.280056	T/C Arrowboard
34.280065	T/C Arrowboard
34.280066	T/C Arrowboard
34.280067	T/C Arrowboard
34.280068	T/C Arrowboard
34.280069	T/C Arrowboard
34.280070	T/C Arrowboard
34.280071	T/C Message Boards
34.280072	T/C Message Boards
34.280073	T/C Message Boards
34.280074	T/C Message Boards
34.280075	T/C Message Boards
34.280077	T/C Message Boards
34.280078	Light Plants
34.280079	Light Plants
34.280100	Light Plants
34.280101	Light Plants
34.280327	T/C Attenuator Trucks
34.280480	T/C Attenuator Trucks

34.280481	T/C Attenuator Trucks
34.280482	T/C Attenuator Trucks
34.280483	T/C Attenuator Trucks
34.280484	T/C Attenuator Trucks
34.280519	T/C Attenuator Trucks
34.280520	T/C Attenuator Trucks
34.280548	T/C Attenuator Trucks
34.280550	T/C Attenuator Trucks
34.280552	T/C Attenuator Trucks
34.280573	T/C Attenuator Trucks
34.280574	T/C Attenuator Trucks
34.280575	T/C Attenuator Trucks
34.280576	T/C Attenuator Trucks
34.280580	T/C Attenuator Trucks
34.280581	T/C Attenuator Trucks
34.280582	T/C Attenuator Trucks
34.280584	T/C Attenuator Trucks
34.280586	T/C Attenuator Trucks
34.280587	T/C Attenuator Trucks
34.281016	T/C Message Boards
34.281032	T/C Message Boards
34.281034	T/C Message Boards
34.281037	T/C Message Boards
34.281038	T/C Message Boards
34.281049	T/C Message Boards
34.281050	T/C Message Boards
34.281051	T/C Message Boards
34.281052	T/C Message Boards
34.281053	T/C Message Boards
34.281054	T/C Message Boards
34.281055	T/C Message Boards
34.281065	T/C Message Boards
34.281066	T/C Message Boards
34.281067	T/C Message Boards
34.281068	T/C Message Boards
34.284006	Light Plants
34.284015	Light Plants
34.284016	Light Plants
34.284017	Light Plants
34.700021	T/C Message Boards
34.700030	T/C Arrowboard

34.700040	T/C Arrowboard
34.700045	T/C Arrowboard
34.700089	T/C Message Boards
34.700562	T/C Attenuator Trucks
34.700564	T/C Attenuator Trucks
34.701058	T/C Message Boards
34.701059	T/C Message Boards
49.280004	Pumps 0-9'''
49.280006	Pumps 0-9'''
49.280007	Pumps 0-9'''
49.280008	Pumps 0-9'''
49.280101	Pumps 0-9'''
49.700005	Pumps 0-9'''
53.280231	Truck Water 3 Axle 2-7Kgal
53.280266	Truck Water 3 Axle 2-7Kgal
53.280290	Truck Water 3 Axle 2-7Kgal
53.280356	Truck Water 3 Axle 2-7Kgal
53.280357	Truck Water 3 Axle 2-7Kgal
53.280358	Truck Water 3 Axle 2-7Kgal
53.280379	Truck Water 3 Axle 2-7Kgal
53.280381	Truck Water 3 Axle 2-7Kgal
53.280382	Truck Water 3 Axle 2-7Kgal
53.280384	Truck Water 3 Axle 2-7Kgal
53.280387	Truck Water 3 Axle 2-7Kgal
53.280388	Truck Water 3 Axle 2-7Kgal
53.280390	Truck Water 3 Axle 2-7Kgal
53.280392	Truck Water 3 Axle 2-7Kgal
53.280393	Truck Water 3 Axle 2-7Kgal
53.280396	Truck Water 3 Axle 2-7Kgal
53.280400	Truck Water 3 Axle 2-7Kgal
53.280401	Truck Water 3 Axle 2-7Kgal
53.280406	Truck Water 3 Axle 2-7Kgal
53.280414	Truck Water 3 Axle 2-7Kgal
53.280425	Truck Water 3 Axle 2-7Kgal
53.280432	Truck Water 3 Axle 2-7Kgal
53.280442	Truck Water 3 Axle 2-7Kgal
53.280447	Truck Water 3 Axle 2-7Kgal
53.280449	Truck Water 3 Axle 2-7Kgal
53.280495	Truck Water 3 Axle 2-7Kgal

53.700291	Truck Water 3 Axle 2-7Kgal
53.700354	Truck Water 3 Axle 2-7Kgal
53.700467	Truck Water 3 Axle 2-7Kgal
53.700493	Truck Water 3 Axle 2-7Kgal
53.704290	Truck Water 3 Axle 2-7Kgal
54.216781	Truck Distributor 2 Axle to 2K
54.280243	Truck Distributor 3 Axle 2-4K
54.280260	Truck Distributor 2 Axle to 2K
54.280313	Truck Distributor 3 Axle 2-4K
54.280322	Truck Distributor 3 Axle 2-4K
54.280361	Truck Distributor 3 Axle 2-4K
54.280479	Truck Distributor 3 Axle 2-4K
54.280487	Truck Distributor 3 Axle 2-4K
54.280496	Truck Distributor 3 Axle 2-4K
54.280503	Truck Distributor 3 Axle 2-4K
54.280541	Truck Distributor 3 Axle 2-4K
54.280542	Truck Distributor 3 Axle 2-4K
54.280543	Truck Distributor 3 Axle 2-4K
54.280579	Truck Distributor 3 Axle 2-4K
54.280583	Truck Distributor 3 Axle 2-4K
54.280628	Truck Distributor 3 Axle 2-4K
54.280629	Truck Distributor 2 Axle to 2K
54.280667	Truck Distributor 3 Axle 2-4K
56.280474	Trk Mixer Rear Disc 3Ax 10CY
56.280475	Trk Mixer Rear Disc 3Ax 10CY
56.280476	Trk Mixer Rear Disc 3Ax 10CY
56.280477	Trk Mixer Rear Disc 3Ax 10CY
56.280478	Trk Mixer Rear Disc 3Ax 10CY
60.280003	Mtrl Trsfr > 25Ton Hopper
60.280008	Mtrl Trsfr > 25Ton Hopper
60.280009	Mtrl Trsfr > 25Ton Hopper
60.280013	Mtrl Trsfr > 25Ton Hopper
60.280014	Mtrl Trsfr > 25Ton Hopper
60.280015	Mtrl Trsfr > 25Ton Hopper
61.280002	Roadwidener Self Propelled
61.280004	Roadwidener Self Propelled

62.280019	Asph Paver Tire > 29K lbs
62.280022	Asph Paver Tire > 29K lbs
62.280024	Asph Paver Tire > 29K lbs
62.280030	Asph Paver Tire > 29K lbs
62.280031	Asph Paver Tire 19-28K lbs
62.280034	Asph Paver Tire > 29K lbs
62.280035	Asph Paver Tire 19-28K lbs
62.280036	Novachip / Microlift Paver
62.280037	Novachip / Microlift Paver
62.280038	Asph Paver Tire 19-28K lbs
62.700023	Novachip / Microlift Paver
63.280001	Roller Static All Other
64.280032	Roller Vib Single Drum > 12Ton
64.280033	Roller Vib Single Drum > 12Ton
64.280034	Roller Vib Single Drum 3-8Ton
64.280035	Roller Vib Dbl Drum 11-13Ton
64.280036	Roller Vib Dbl Drum 11-13Ton
64.280037	Roller Vib Dbl Drum 11-13Ton
64.280038	Roller Vib Dbl Drum 11-13Ton
64.280040	Roller Vib Dbl Drum 11-13Ton
64.280044	Roller Vib Dbl Drum 11-13Ton
64.280045	Roller Vib Dbl Drum 11-13Ton
64.280055	Roller Vib Dbl Drum > 13Ton
64.280056	Roller Vib Dbl Drum > 13Ton
64.280058	Roller Vib Dbl Drum 8-11Ton
64.280061	Roller Vib Dbl Drum 8-11Ton
64.280062	Roller Vib Dbl Drum > 13Ton
64.280063	Roller Vib Dbl Drum 8-11Ton
64.280064	Roller Vib Dbl Drum > 13Ton
64.280065	Roller Vib Dbl Drum 8-11Ton
64.280067	Roller Vib Dbl Drum > 13Ton
64.280068	Roller Vib Dbl Drum > 13Ton
64.280069	Roller Vib Dbl Drum > 13Ton
64.280070	Roller Vib Single Drum 8-12Ton
64.280071	Roller Vib Single Drum 8-12Ton
64.280074	Roller Vib Dbl Drum > 13Ton
64.280075	Roller Vib Dbl Drum > 13Ton
64.280079	Roller Vib Dbl Drum > 13Ton
64.280080	Roller Vib Dbl Drum 8-11Ton

64.280083	Roller Vib Dbl Drum > 13Ton
64.280084	Roller Vib Dbl Drum 8-11Ton
64.280085	Roller Vib Dbl Drum > 13Ton
64.280090	Roller Vib Dbl Drum 8-11Ton
64.280091	Roller Vib Dbl Drum 8-11Ton
64.281021	Roller Vib Single Drum 8-12Ton
64.281031	Roller Vib Single Drum 8-12Ton
64.281035	Roller Vib Single Drum 3-8Ton
64.281045	Roller Vib Single Drum 8-12Ton
64.700012	Roller Vib Single Drum 8-12Ton
64.700023	Roller Vib Single Drum 8-12Ton
64.700027	Roller Vib Single Drum 8-12Ton
64.700041	Roller Vib Single Drum 8-12Ton
64.700087	Roller Vib Single Drum 8-12Ton
64.700088	Roller Vib Single Drum 8-12Ton
64.700089	Roller Vib Single Drum 8-12Ton
64.701042	Roller Vib Single Drum > 12Ton
65.280034	Roller Rubber Tire 10-15Ton
65.280039	Roller Rubber Tire 4-9Ton
65.280040	Roller Rubber Tire 4-9Ton
65.280041	Roller Rubber Tire 4-9Ton
65.280042	Roller Rubber Tire 4-9Ton
65.280044	Roller Rubber Tire 4-9Ton
65.280045	Roller Rubber Tire 4-9Ton
65.700015	Roller Rubber Tire 10-15Ton
65.700030	Roller Rubber Tire 16-30Ton
65.700043	Roller Rubber Tire 16-30Ton
66.280014	AsphGrind-Recyc > 500hp
66.280016	AsphGrind-Recyc to 400hp
66.280017	AsphGrind-Recyc to 400hp
66.280021	AsphGrind-Recyc > 500hp
66.280023	AsphGrind-Recyc 400-500hp
66.281018	AsphGrind-Recyc 400-500hp
66.281022	AsphGrind-Recyc 400-500hp
66.701020	AsphGrind-Recyc 400-500hp
69.280017	Asph Grinders-Profile 11' -12'
69.280022	Asph Grinders-Profilers 7'-8'
69.280024	Asph Grinders-Profile 11' -12'

69.280025	Asph Grinders-Profilers 7'-8'
69.280026	Asph Grinders-Profilers 7'-8'
69.280027	Asph Grinders-Profilers 7'-8'
69.280028	Asph Grinders-Profilers 5'-6'
69.280029	Asph Grinders-Profilers 5'-6'
69.280032	Asph Grinders-Profilers 7'-8'
69.280033	Asph Grinders-Profilers 7'-8'
70.280001	Trencher Wheel Mounted Chain
71.280001	Placer Concrete Distribution
71.280003	Concrete Paver 8' to 25'
71.280005	Concrete Paver > 25'
71.280007	Concrete Paver > 25'
71.280008	Concrete Paver 8' to 25'
71.280009	Concrete Paver > 25'
71.382618	Power Screeds (Small Engines)
71.700004	Concrete Paver 8' to 25'
71.700006	Curb Machine, Conc <12K lb <8'
72.280009	Self Propelled Saws
72.280010	Self Propelled Saws
72.280011	Self Propelled Saws
72.280012	Self Propelled Saws
72.280013	Self Propelled Saws
72.280014	Self Propelled Saws
72.280015	Self Propelled Saws
72.280016	Self Propelled Saws
76.280006	Compressor Portable to 250cfm
76.280009	Compressor Portable to 250cfm
76.280010	Compressor Portable to 250cfm
76.280012	Compressor Portable to 250cfm
76.280013	Compressor Portable to 250cfm
76.280014	Compressor Portable to 250cfm

76.280015	Compressor Portable to 250cfm
76.280017	Compressor Portable to 250cfm
76.700016	Compressor Portable to 250cfm



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GULF COAST - HOUSTON WORK IN PROGRESS

Project: **Fort Bend County – US 90A (CSJ 0027-07-032)**
(Concrete Paving, Drainage, Utilities, Bridge)
Owner: TxDOT
Contact: Carlos Zepeda, Jr., P.E., 281-238-7900
Contract Amount: \$18,608,127.80
% Complete: 24%

Project: **Montgomery County – FM 1097 (CSJ 1259-01-042)**
Owner: TxDOT
Contact: Abraham "Abe" Guzman, P.E., 936-538-3300
Contract Amount: \$17,598,760.22
% Complete: 99%

Project: **Austin County – FM 2429 (CSJ 2320-01-011)**
(Bridge)
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$2,033,612.24
% Complete: 99%

Project: **Bastrop County – US 290 (CSJ 0114-05-037)**
Owner: TxDOT
Contact: Diana Schulze, P.E., 512-321-2195
Contract Amount: \$37,064,824.83
% Complete: 99%

Project: **Wharton County – FM 3086 (CSJ 3173-01-004)**
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$3,598,793.16
% Complete: 96%

Project: **Jefferson County – US 69 (CSJ 0065-07-062)**
Owner: TxDOT
Contact: David Collins, P.E., 409-924-6521
Contract Amount: \$22,904,524.93
% Complete: 99%

Project: Harris County – SH 3 (CSJ 0051-02-101)
Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$14,565,290.27
% Complete: 98%

Project: Galveston County – FM 3005 (CSJ 0051-09-024)
Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$36,799,440.06
% Complete: 86%

Project: Galveston County – SH 87 (CSJ 0051-04-067)
Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$12,463,264.54
% Complete: 98%

Project: Austin County – FM 2502 (CSJ 0315-09-011)
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$1,310,741.25
% Complete: 99%

Project: Colorado County – FM 102 (CSJ 0027-03-073)
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$4,252,543.97
% Complete: 94%

Project: Western League City
Water & Sanitary Sewer Facilities
Owner: West FM 517, Ltd. on behalf of City of League City
c/o Dannenbaum Engineering Corp.
Contact: Steve Sheldon, P.E., 713-520-9570
Contract Amount: \$11,334,753.00
% Complete: 99%

Project: Brazoria County – VA (CSJ 0912-31-310)
(Bicycle Infrastructure)
Owner: TxDOT
Contact: Maria Aponte, P.E., 979-864-8500
Contract Amount: \$2,256,140.57
% Complete: 87%

Project: **Road Construction at Cullen Boulevard
(Segment B) (20/0124)**
(Concrete Paving, Drainage, Utilities)
Owner: Harris County, Precinct 1
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$12,707,778.73
% Complete: 54%

Project: **Harris County – FM 1960 (CSJ 1685-03-058)**
(Asphalt and Concrete Paving, Drainage)
Owner: TxDOT
Contact: Phil Garlin, P. E., 281-319-6400
Contract Amount: \$59,157,651.34
% Complete: 37%

Project: **Brazoria County – SH 35 (CSJ 0179-03-034)**
Owner: TxDOT
Contact: Maria Aponte, P.E., 979-864-8500
Contract Amount: \$5,916,209.38
% Complete: 98%

Project: **Austin County – FM 109 (CSJ 0716-01-047)**
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$10,008,192.85
% Complete: 77%

Project: **Fayette County – BS 71-E (CSJ 0265-14-008)**
Owner: TxDOT
Contact: Clayton Harris, P.E., 361-293-4300
Contract Amount: \$13,726,568.07
% Complete: 87%

Project: **Brazoria County – FM 2004 (CSJ 2523-02-068)**
(Asphalt Paving, Drainage, Bridge)
Owner: TxDOT
Contact: Maria Aponte, P.E., 979-864-8500
Contract Amount: \$29,211,218.45
% Complete: 61%

Project: **Road Construction at Hufsmith Road (20/0332)**
(Asphalt Paving, Drainage)
Owner: Harris County, Precinct 4
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$4,527,783.50
% Complete: 80%

Project: **Old Houston Road Construction (21-06)**
(Asphalt Paving, Drainage)

Owner: Montgomery County
Contact: Jeff Johnson, County Engineer, 936-539-7833
Contract Amount: \$4,962,204.97
% Complete: 94%

Project: **Chambers County – FM 563 (CSJ 1023-01-035)**

Owner: TxDOT
Contact: Roberto Rodriguez, P.E., 936-336-2244
Contract Amount: \$5,490,987.14
% Complete: 99%

Project: **Galveston County – FM 518 (CSJ 0976-03-105)**

Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$5,462,155.93
% Complete: 62%

Project: **Fayette County – BS 71 (CSJ 0266-01-086)**

Owner: TxDOT
Contact: Clayton Harris, P.E., 361-293-4300
Contract Amount: \$3,519,611.38
% Complete: 48%

Project: **Colorado County – CS (CSJ 0913-26-065)**

Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3143
Contract Amount: \$413,551.20
% Complete: 99%

Project: **DeWitt County – FM 766 (CSJ 1113-01-028)**

Owner: TxDOT
Contact: Clayton Harris, P.E., 361-293-4300
Contract Amount: \$8,867,575.16
% Complete: 98%

Project: **Caldwell County – US 183 (CSJ 0152-03-062)**

Owner: TxDOT
Contact: Diana Schulze, P.E., 512-321-2195
Contract Amount: \$1,390,350.92
% Complete: 62%

Project: **Twinwood Parkway Phase 1B, Segment C-D**
(Asphalt Paving, Drainage)

Owner: Fort Bend County Municipal Utility District No. 213
c/o LJA Engineering, Inc.
Contact: Steven Boyd, P.E., 713-953-5200
Contract Amount: \$3,124,261.64
% Complete: 99%

Project: Galveston County – FM 2004 (CSJ 2523-01-026)
Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$7,397,526.84
% Complete: 99%

Project: Chambers Commons
(Concrete Paving, Drainage, Utilities)
Owner: KM 146 Partners, LLC
c/o KM Realty Advisors, LLC
Contact: Randall D. Keith, Manager, 713-275-2600
Contract Amount: \$11,965,578.53
% Complete: 97%

Project: Asphalt Overlay (Package 2021-2) (21/0248)
Owner: Harris County, Precinct 4
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$6,670,373.13
% Complete: 23%

Project: Tall Pines Addition Subdivision Road and Drainage
Improvements (21/0328)
(Asphalt Paving, Drainage)
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,708,534.42
% Complete: 77%

Project: Asphalt Concrete Pavement Overlay, Base Repair
of Various Roads (21/0243)
Owner: Harris County, Precinct 1
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$1,500,000.00
% Complete: 76%

Project: Clay Road (21/0357) (Asphalt Paving, Drainage)
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$4,726,520.23
% Complete: 55%

Project: Liberty County – SH 321 (CSJ 6384-22-001)
Owner: TxDOT
Contact: Roberto Rodriguez, P.E., 936-336-2244
Contract Amount: \$2,960,799.36
% Complete: 99%

Project: Harris County – IH 610 (CSJ 0271-17-175)
Owner: TxDOT
Contact: Hamoon Bahrami, P.E., 713-934-5900
Contract Amount: \$2,252,813.05
% Complete: 99%

Project: Kilgore Parkway (Concrete Paving, Drainage)
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-2708
Contract Amount: \$7,256,472.61
% Complete: 75%

Project: Eisenhower Park Roadway Reconstruction
(22/0092) (Asphalt Paving, Drainage)
Owner: Harris County, Precinct 1
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,125,492.60
% Complete: 77%

Project: Mulberry Farms Section 1 and Entry Road
(Concrete Paving)
Owner: Mulberry Farms, LLC
c/o LJA Engineering, Inc.
Contact: Jorge Gonzalez, P.E., 713-953-5200
Contract Amount: \$1,564,089.50
% Complete: 96%

Project: Harris County – IH 10 (CSJ 0508-01-354)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$6,465,263.54
% Complete: 99%

Project: A. Myers Road Extension
(Concrete Paving, Drainage)
Owner: Fort Bend County Municipal Utility District No. 184
c/o Quiddity
Contact: Justin M. Au, P.E., 281-363-4039
Contract Amount: \$2,231,260.20
% Complete: 98%

Project: Asphalt Street Rehabilitation Various Streets –
RE1704G Package 6 – Mobility
Owner: City of League City
Contact: Scott Tuma, PMP., 281-554-1000
Contract Amount: \$3,878,758.03
% Complete: 99%

Project: **ARP Supplemental Roads 2021 Package I (22-55)**
(Asphalt Paving)
Owner: Brazoria County
Contact: Trey Haskins, Asst. Co. Engineer, 979-849-5711
Contract Amount: \$1,254,932.42
% Complete: 95%

Project: **ARP Supplemental Roads 2021 Package II (22-56)**
(Asphalt Paving)
Owner: Brazoria County
Contact: Trey Haskins, Asst. Co. Engineer, 979-849-5711
Contract Amount: \$1,638,649.88
% Complete: 25%

Project: **Harris County – SH 3 (CSJ 0051-06-018)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$2,304,492.04
% Complete: 51%

Project: **Montgomery County – FM 1314 (CSJ 1986-01-067)**
Owner: TxDOT
Contact: Abraham "Abe" Guzman, P.E., 936-538-3300
Contract Amount: \$4,740,084.60
% Complete: 74%

Project: **Pedregal Section 3 (Concrete Paving, Drainage, Utilities)**
Owner: LPI Property Management, LLC
on behalf of City of League City
c/o Dannenbaum Engineering Corporation
Contact: Kyle Kern, P.E., 713-520-9570
Contract Amount: \$11,204,722.85
% Complete: 54%

Project: **Harris County – FM 865 (CSJ 0976-01-043)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$3,261,340.96
% Complete: 54%

Project: **Montgomery County – FM 2854 Etc.
(CSJ 2744-01-032 Etc.)**
Owner: TxDOT
Contact: Abraham "Abe" Guzman, P.E., 936-538-3300
Contract Amount: \$10,866,962.64
% Complete: 0%

Project: Asphalt Streets Mill and Overlay (RW2011)
Owner: City of Baytown
Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
Contract Amount: \$3,524,597.20
% Complete: 16%

Project: Fisher Road – Phase 2 (Concrete Paving, Drainage)
Owner: Cedar Port Navigation and Improvement District
c/o Jacobs Engineering Group, Inc.
Contact: Aniruddha Dutta, P.E., 281-721-8400
Contract Amount: \$5,683,543.10
% Complete: 12%

Project: Montgomery County – FM 2090 (CSJ 1912-01-022)
Owner: TxDOT
Contact: Abraham "Abe" Guzman, P.E., 936-538-3300
Contract Amount: \$7,041,940.21
% Complete: 0%

Project: Sedona Section 7 (Concrete Paving)
Owner: West FM 517, Ltd.
on behalf of City of League City
c/o Dannenbaum Engineering Corporation
Contact: Kyle Kern, P.E., 713-520-9570
Contract Amount: \$1,350,525.00
% Complete: 53%

Project: NASA Parkway Roadway Improvements (22-05)
Owner: City of Webster
Contact: David Glasco, Manager Engineering & Construction,
281-316-4139
Contract Amount: \$7,075,804.75
% Complete: 16%

Project: Road and Drainage Improvements for CDBG –
Plan Set I (23-19) (Asphalt Paving, Drainage)
Owner: Brazoria County
Contact: Trey Haskins, Asst. Co. Engineer, 979-849-5711
Contract Amount: \$4,919,490.90
% Complete: 0%

Project: Road and Drainage Improvements for CDBG –
Plan Set II (23-20) (Asphalt Paving, Drainage)
Owner: Brazoria County
Contact: Trey Haskins, Asst. Co. Engineer, 979-849-5711
Contract Amount: \$1,513,068.30
% Complete: 0%

Project: Liberty County – SH 146 (CSJ 0389-01-044)
Owner: TxDOT
Contact: Roberto Rodriguez, Jr., P.E., 936-336-2244
Contract Amount: \$9,934,425.44
% Complete: 0%

Project: Burleson County – CR (CSJ 0917-30-059, Etc.)
(Bridge Replacement)
Owner: TxDOT
Contact: James Kreamer, P.E., 979-836-9359
Contract Amount: \$1,827,278.80
% Complete: 0%

Project: Jefferson County – SH 124 (CSJ 0368-02-046)
(Bridge Replacement)
Owner: TxDOT
Contact: David Collins, P.E., 409-924-6521
Contract Amount: \$6,296,239.49
% Complete: 0%

Project: Washington County – PR 12 (CSJ 6414-36-001)
Owner: TxDOT
Contact: James Kreamer, P.E., 979-836-9359
Contract Amount: \$899,167.10
% Complete: 0%

Project: Fort Bend Grand Parkway Toll Road (SH 99)
(Peek Road to south of River Park Drive)
(Asphalt Overlay, Concrete Repair)
Owner: Fort Bend Grand Parkway Toll Road Authority
c/o BGE, Inc.
Contact: Gary Gehbauer, P.E., 281-558-8700
Contract Amount: \$2,144,501.20
% Complete: 0%



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GULF COAST - HOUSTON COMPLETED PROJECTS FIVE (5) YEAR HISTORY

Project: FM 1409 Overpass at IH-10 (CSJ 0762-03-021)
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-2708
Contract Amount: \$5,187,910.35
Complete: February 2023

Project: Galveston County – PR 66 (CSJ 6381-09-001)
Owner: TxDOT
Contact: David Lazaro, P.E., 409-978-2500
Contract Amount: \$3,568,678.21
Complete: December 2022

Project: Hot Mix Asphaltic Concrete (HMAC)
Pavement Installation
Owner: Waller County
Contact: Yancy Scott, County Engineer, 979-826-7670
Contract Amount: \$2,608,313.39
Complete: December 2022

Project: Harris County – SH 6 (CSJ 1685-05-115)
Owner: TxDOT
Contact: Hamoon Bahrami, P.E., 713-934-5900
Contract Amount: \$1,980,486.76
Complete: December 2022

Project: Harris County – FM 1960 (CSJ 1685-01-110)
Owner: TxDOT
Contact: Hamoon Bahrami, P.E., 713-934-5900
Contract Amount: \$3,476,712.47
Complete: October 2022

Project: Encino Estates Section 5 (Asphalt Paving)
Owner: Encino Estates, Ltd.
Contact: Pat Baker, 832-797-6187
Contract Amount: \$511,715.94
Complete: October 2022

Project: **HMAC Installation**
 Owner: Waller County
 Contact: Yancy Scott, County Engineer, 979-826-7670
 Contract Amount: \$1,669,988.70
 Complete: September 2022

Project: **Alvin 2021 Asphalt Pavement Project (B-21-17)**
 Owner: City of Alvin
 Contact: Michelle Segovia, City Engineer, 281-388-4284
 Contract Amount: \$1,617,056.70
 Complete: September 2022

Project: **Cemetery Road Maintenance Overlay (B221017)**
 Owner: Galveston County
 Contact: Lee Crowder, Road Administrator, 281-534-4152
 Contract Amount: \$638,530.80
 Complete: September 2022

Project: **Bastrop County – US 290 (CSJ 0114-06-029)**
 Owner: TxDOT
 Contact: Diana Schulze, P.E., 512-321-2195
 Contract Amount: \$16,136,394.54
 Complete: August 2022

Project: **Construction of Bridges at Louetta Road and Little Cypress Creek (20/0136)**
 (Concrete Paving, Drainage, Utilities)
 Owner: Harris County, Precincts 3 and 4
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$8,586,702.14
 Complete: August 2022

Project: **49th Street Improvements (COG-CON-19-117)**
 (Asphalt Paving, Drainage, Utilities)
 Owner: City of Galveston
 Contact: Trina Jankowski, P.M., 409-797-3966
 Contract Amount: \$3,627,021.15
 Complete: August 2022

Project: **Rollingbrook Drive Reconstruction**
 (Concrete Paving, Drainage)
 Owner: City of Baytown
 Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
 Contract Amount: \$2,664,629.66
 Complete: August 2022

Project: River Ranch Boulevard Phase One, River Ranch Estates Section 1, and River Ranch Meadows Section 1 (Concrete Paving, Drainage, Utilities)
Owner: River Ranch Holdings, LLC on behalf of River Ranch M.U.D. No. 3 and River Ranch Improvement District c/o LJA Engineering, Inc.
Contact: Piyali Chatterjee, CAG-Project Coordinator, 713-953-5200
Contract Amount: \$7,644,184.25
Complete: July 2022

Project: Garth Road Paving & Drainage Facilities (Concrete Paving, Drainage)
Owner: Lennar Homes of Texas, L.P. obo Harris County M.U.D. No. 213-A c/o Jones & Carter, Inc.
Contact: Brian Geier, P.E., 713-777-5337
Contract Amount: \$3,417,003.93
Complete: July 2022

Project: Rankin Road Paving, Drainage, and Water Line Improvements Project (20-05) (Asphalt Paving)
Owner: City of Humble c/o ARKK Engineers
Contact: Doug Bradford, P.E., 713-400-2755
Contract Amount: \$3,021,741.69
Complete: July 2022

Project: Harris County – FM 1093 (CSJ 1258-04-063)
Owner: TxDOT
Contact: Hamoon Bahrami, P.E., 713-934-5900
Contract Amount: \$16,502,349.06
Complete: June 2022

Project: Bastrop County – SH 304 (CSJ 0573-01-032)
Owner: TxDOT
Contact: Diana Schulze, P.E., 512-321-2195
Contract Amount: \$5,705,974.61
Complete: June 2022

Project: Friendswood Lakes Boulevard (B201029) (Concrete Paving, Drainage, Utilities)
Owner: Galveston County c/o Terra Associates, Inc.
Contact: A.G.A.N. Nanayakkara, P.E., 713-993-0333
Contract Amount: \$4,299,674.64
Complete: June 2022

Project: **Hurricane Harvey Round 1 – Infrastructure Improvements (GLO 20-065-095-C264)**
 (Asphalt Paving)
 Owner: Liberty County
 Contact: David Douglas, Engineering Administrator, 936-336-4560
 Contract Amount: \$3,591,149.46
 Complete: June 2022

Project: **Encino Estates Section 4 (Asphalt Paving, Drainage)**
 Owner: Encino Estates, Ltd.
 Contact: Pat Baker, 832-797-6187
 Contract Amount: \$956,218.50
 Complete: June 2022

Project: **City Wide Overlay Package #22 (N-321037-0071-4)**
 Owner: City of Houston
 Contact: Steven Loo, P.E., 832-395-2151
 Contract Amount: \$6,063,065.51
 Complete: May 2022

Project: **Brazos County – FM 158 (CSJ 0212-03-062)**
 Owner: TxDOT
 Contact: James Robbins, P.E., 979-778-6233
 Contract Amount: \$5,262,559.78
 Complete: May 2022

Project: **Brazoria County – SH 288 (CSJ 0598-02-126)**
 (Concrete Paving, Drainage)
 Owner: TxDOT
 Contact: Maria Aponte, P.E., 979-864-8500
 Contract Amount: \$2,827,733.41
 Complete: May 2022

Project: **Asphaltic Pavement Overlay Services for Public Works (S89-L29376)**
 Owner: City of Houston
 Contact: Larius Hassen, P.M., 832-395-4703
 Contract Amount: \$2,763,056.01
 Complete: May 2022

Project: **Laneview Road Widening (GLO 20-065-062-C180)**
 (Asphalt Paving)
 Owner: Waller County
 Contact: Yancy Scott, County Engineer, 979-826-7670
 Contract Amount: \$1,740,155.20
 Complete: May 2022

Project: Harris County – IH 10 (CSJ 0508-01-346, etc.)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$23,271,304.70
Complete: April 2022

Project: Chambers County – FM 565 (CSJ 1024-01-042)
(Asphalt Paving, Drainage)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$5,083,673.38
Complete: April 2022

Project: Harris County – SH 35 (CSJ 0178-01-036)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$2,489,363.92
Complete: April 2022

Project: Concrete & Asphalt Restoration
(S-MA1000-0007-4; File No. WA11142-09)
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$2,326,970.65
Complete: April 2022

Project: San Jacinto – SH 150 (CSJ 0395-02-041, etc.)
Owner: TxDOT
Contact: Clint Jones, P.E., 936-327-8981
Contract Amount: \$12,210,063.22
Complete: March 2022

Project: Langston Boulevard Extension, Phase 1 (RD-020)
(Concrete Paving, Drainage & Utilities)
Owner: City of Mont Belvieu
Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
Contract Amount: \$8,629,302.82
Complete: March 2022

Project: Chambers County Logistics Terminal North
Entrance
(Concrete Paving, Drainage)
Owner: Katoen Natie Engineering USA, Inc.
Contact: Hans D'hooghe, 281-470-5439
Contract Amount: \$4,254,925.85
Complete: March 2022

Project: River Farms Sections 5 & 6 (Concrete Paving, WS&D)
Owner: Lanai, LLLP.
c/o GC Engineering, Inc.
Contact: Umesh KC, P.E., 281-412-7008
Contract Amount: \$1,985,390.00
Complete: March 2022

Project: Brazoria County – FM 1459 (CSJ 1413-01-018)
Owner: TxDOT
Contact: Maria Aponte, P.E., 979-864-8500
Contract Amount: \$1,566,164.74
Complete: March 2022

Project: Chambers County – SH 61 (CSJ 6349-21-001)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$560,567.52
Complete: March 2022

Project: Perry Avenue Extension Project (RD-021)
(Concrete Paving, Drainage & Utilities)
Owner: City of Mont Belvieu
Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
Contract Amount: \$11,153,240.04
Complete: February 2022

Project: Cedar Port Parkway – Phase 2
East Fisher Road – Phase 1
SH 99 @ Cedar Port Parkway
(Concrete Paving & Drainage)
Owner: Chambers County Improvement District No. 1
Contact: Brock Lewis, P.E., 832-603-2261
Contract Amount: \$5,413,484.84
Complete: February 2022

Project: Nita Way Roadway (Concrete Paving)
Owner: Chambers County Improvement District No. 1
Contact: Brock Lewis, P.E., 832-603-2261
Contract Amount: \$2,714,122.15
Complete: February 2022

Project: Langston Boulevard Phase 2 Water Line (RD-020)
Owner: City of Mont Belvieu
Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
Contract Amount: \$1,377,301.00
Complete: February 2022

Project: Rain Tree Section 3 (Concrete Paving)
 Owner: Lanai, LLLP.
 Contact: c/o GC Engineering, Inc.
 Contract Amount: Umesh KC, P.E., 281-412-7008
 Complete: \$1,080,197.75
 February 2022

Project: Asphalt Overlay (Package 2021-2) (21/0248)
 Owner: Harris County, Precinct 3
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$576,837.50
 Complete: February 2022

Project: NRG Park Parking Lot Repairs & Improvements
 (18/0339) (Asphalt & Concrete Paving & Drainage)
 Owner: Harris County
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$5,240,892.57
 Complete: January 2022

Project: Asphalt Overlay of Various Roads (Package 2020-2)
 (20/0310)
 Owner: Harris County, Precinct 3
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$4,703,203.26
 Complete: December 2021

Project: 2018 Annual Mill & Overlay Project (w/Two Renewals)
 Owner: City of Baytown
 Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
 Contract Amount: \$2,575,166.29
 Complete: November 2021

Project: Harris County – IH 10 (CSJ 6366-19-001)
 Owner: TxDOT
 Contact: Melody Galland, P.E., 281-464-5500
 Contract Amount: \$843,019.57
 Complete: November 2021

Project: Beinhorn Road Reconstruction (Asphalt Paving)
 Owner: City of Hunters Creek Village
 Contact: James Stewart, Director of Public Works, 713-465-2150
 Contract Amount: \$476,935.25
 Complete: October 2021

Project: **Southwinds Section 3 (Concrete Paving)**
Owner: Baytown-45 Residential Development
c/o CobbFendley
Contact: Iraida Tang, P.E., 713-462-3242
Contract Amount: \$1,075,853.90
Complete: September 2021

Project: **Galveston County – FM 270 (CSJ 3312-02-017)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$578,358.28
Complete: September 2021

Project: **West Bay Road Overlay**
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-8379
Contract Amount: \$446,963.00
Complete: September 2021

Project: **Galveston County – CR (CSJ 0912-73-183)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$9,231,610.20
Complete: August 2021

Project: **Repair of Various Roads in the Crosby and East Aldine Camp Areas for the BetterStreets2Neighborhoods Community Program (20/0261)**
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,124,793.26
Complete: July 2021

Project: **Rain Tree Section 2 (Concrete Paving, Utilities)**
Owner: Lanai, LLLP.
c/o GC Engineering, Inc.
Contact: Umesh KC, P.E., 281-412-7008
Contract Amount: \$974,614.75
Complete: July 2021

Project: **Wharton County – US 59 (CSJ 0089-06-081)**
(Concrete Paving)
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3141
Contract Amount: \$19,748,295.60
Complete: June 2021

Project: City Wide Overlay Package #21 (N-321037-0070-4)
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$3,659,343.56
Complete: June 2021

Project: Harris County – SL 8 (CSJ 3256-02-095)
Owner: TxDOT
Contact: John Elam, P. E., 281-319-6400
Contract Amount: \$2,016,882.10
Complete: June 2021

Project: Liberty County – SH 105 (CSJ 6347-85-001)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$1,868,408.37
Complete: May 2021

Project: Santa Fe Various Street Improvements (B201032)
(Asphalt Paving)
Owner: Galveston County
Contact: Michael Shannon, County Engineer, 409-770-5453
Contract Amount: \$1,141,206.18
Complete: May 2021

Project: East Kennings Road (20/0222)
(Asphalt Paving & Drainage)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$1,498,944.30
Complete: April 2021

Project: City of Arcola Various Roads (19-088)
Bond Project 17120x
(Asphalt Paving & Drainage)
Owner: Fort Bend County
Contact: Stacy Slawinski, County Engineer, 281-342-3411
Contract Amount: \$1,415,476.66
Complete: April 2021

Project: Deer Pines Section 2 Asphalt Paving
Owner: Deer Pines, Ltd.
Contact: Pat Baker, 281-290-1900
Contract Amount: \$352,500.00
Complete: April 2021

Project: **Washington County – FM 389 (CSJ 0315-08-037)**
Owner: TxDOT
Contact: Eric Bennett, P.E., 979-836-9359
Contract Amount: \$5,555,121.93
Complete: March 2021

Project: **Rain Tree Section 1 (Concrete Paving, WS&D)**
Owner: Lanai, LLLP.
c/o GC Engineering, Inc.
Contact: Umesh KC, P.E., 281-412-7008
Contract Amount: \$5,490,009.40
Complete: March 2021

Project: **Waller County – FM 359 (CSJ 0543-01-065)**
Owner: TxDOT
Contact: Carlos Zepeda, Jr., P.E., 281-238-7900
Contract Amount: \$1,686,465.13
Complete: March 2021

Project: **Lakeway Subdivision (Concrete Paving, WS&D)**
Owner: Dutton Lake, LLC
c/o GC Engineering, Inc.
Contact: Umesh KC, P.E., 281-412-7008
Contract Amount: \$1,294,828.50
Complete: March 2021

Project: **South Main Street Drainage Improvements (DR2002) (19-076-002-B351)**
(Concrete Paving & Drainage)
Owner: City of Baytown
Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
Contract Amount: \$1,199,359.65
Complete: March 2021

Project: **Repairs & New Construction of Asphalt Parking Lots, Roads, & Hike & Bike Trails (16/0318-2) (Renewal #2)**
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$5,667,301.51
Complete: February 2021

Project: **City Wide Overlay Package #24 (N-321037-0075-4)**
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$5,386,921.56
Complete: January 2021

Project: **FY2019 Roadway Rehabilitation/Overlay Package #1 (N-321040-0018-4)** (Asphalt & Concrete Paving)
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$4,845,779.58
Complete: January 2021

Project: **FY2019 Pavement Repair & Rehab Work Orders No. 2 (N-321040-0010-4)**
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$4,411,398.71
Complete: January 2021

Project: **2019-2020 Street Maintenance Program (ST2019)** (Asphalt & Concrete Paving)
Owner: City of Friendswood
Contact: Tuan Nguyen, P.M., 281-996-3200
Contract Amount: \$4,352,863.75
Complete: January 2021

Project: **Asphalt Reconstruction Package 4, Shellside Area (RE-1704D)**
Owner: City of League City
Contact: Scott Tuma, P.M., 713-554-1000
Contract Amount: \$3,347,736.07
Complete: January 2021

Project: **Chambers County – SH 124 (CSJ 0367-01-070)**
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$2,919,245.10
Complete: January 2021

Project: **Liberty County – FM 1008 (CSJ 0952-01-060)**
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$3,365,432.07
Complete: December 2020

Project: **Harris County – FM 1093 (CSJ 1258-04-062)**
Owner: TxDOT
Contact: Hamoon Bahrami, P.E., 713-934-5900
Contract Amount: \$2,080,400.84
Complete: December 2020

Project: **KTN Storm Sewer Pellet Collector Screen II**
Owner: Katoen Natie Gulf Coast Inc.
Contact: Hans D'hooghe, 281-470-5439
Contract Amount: \$2,000,456.76
Complete: December 2020

Project: **Waller County – FM 1489 (CSJ 1418-01-012)**
Owner: TxDOT
Contact: Carlos Zepeda, Jr., P.E., 281-238-7900
Contract Amount: \$1,631,135.17
Complete: December 2020

Project: **Galveston County – FM 518 (CSJ 6354-42-001)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$1,376,766.25
Complete: December 2020

Project: **Fort Bend County – FM 762 (CSJ 0543-03-076)**
Owner: TxDOT
Contact: William Semora, Jr., P.E., 281-238-7900
Contract Amount: \$845,830.35
Complete: December 2020

Project: **Blue Heron, Section 1 (Concrete Paving, WS&D)**
Owner: Snowberry Development, LLC
c/o Hutchison & Associates
Contact: Jerry Crouch, P.E., 281-422-8213
Contract Amount: \$412,847.25
Complete: December 2020

Project: **Colorado County – IH 10 (CSJ 6327-53-001)**
Owner: TxDOT
Contact: Ryan Simper, P.E., 979-532-3141
Contract Amount: \$343,249.13
Complete: December 2020

Project: **Galveston County – SH 87 (CSJ 0367-03-037)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$10,203,335.82
Complete: November 2020

Project: **Asphalt Overlay of Various Roads (Old Town of Hockley 2018 – Package 2) (20/0002)**
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,138,154.14
Complete: November 2020

Project: Harris County – IH 10 (CSJ 6352-03-001)
(Emergency Retaining Wall Repair)
Owner: TxDOT
Contact: Mark Wooldridge, P. E., 713-802-5000
Contract Amount: \$2,955,070.95
Complete: November 2020

Project: Harris County – IH 610 (CSJ 0271-15-090)
(Upgrade Storm Sewer)
Owner: TxDOT
Contact: Melody Galland, P.E., 281-464-5500
Contract Amount: \$1,407,317.63
Complete: November 2020

Project: Sedona Section 6 (Concrete Paving, WS&D)
Owner: Bay Colony West Municipal Utility District
c/o Dannenbaum Engineering Corp.
Contact: Bobby Heck, P.E., 713-520-9570
Contract Amount: \$10,246,356.90
Complete: October 2020

Project: Harris County – FM 865 (CSJ 0976-01-039)
Owner: TxDOT
Contact: Melody Galland, P.E., 281-464-5500
Contract Amount: \$2,332,438.01
Complete: October 2020

Project: Chambers County – FM 565 (CSJ 1024-01-076)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$1,150,291.31
Complete: October 2020

Project: Lower Greens Bayou Regional Detention
Embankment & Control Structure Improvements
For the Harris County Flood Control District
Project ID #P500-01-00-E001 (18/0319)
Owner: Harris County/Harris County Flood Control District
Contact: Brandie Johnson, P.E., CFM, 713-684-4134
Contract Amount: \$2,314,368.61
Complete: September 2020

Project: Galveston County – SH 3 (CSJ 0051-03-111)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$1,854,284.55
Complete: September 2020

Project: **Goose Creek Reserve Section 4 (Concrete Paving)**
Owner: D.R. Horton – Texas, Ltd.
c/o LJA Engineering, Inc.
Contact: Melony Gay, P.E., 713-953-5200
Contract Amount: \$1,696,069.89
Complete: September 2020

Project: **FY2020 Asphalt Reconstruction & Overlay (20012)**
Owner: City of La Porte
Contact: Ray Mayo, Public Works Director, 281-471-9650
Contract Amount: \$581,291.63
Complete: September 2020

Project: **Harris County – FM 521 (CSJ 0111-01-092)**
Owner: TxDOT
Contact: Melody Galland, P.E., 281-464-5500
Contract Amount: \$3,331,755.45
Complete: August 2020

Project: **Harris County – FM 2920 (CSJ 2941-02-055)**
Owner: TxDOT
Contact: John Elam, P. E., 281-319-6400
Contract Amount: \$6,284,610.95
Complete: July 2020

Project: **Crown Colony Paving & Drainage (RD-017)**
(Asphalt Paving & Drainage)
Owner: City of Mont Belvieu
Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
Contract Amount: \$4,026,957.32
Complete: July 2020

Project: **Montgomery County – FM 1488 (CSJ 0523-08-014)**
Owner: TxDOT
Contact: Adam Galland, P.E., 936-538-3300
Contract Amount: \$3,564,728.71
Complete: July 2020

Project: **Lynnwood Section 4 (Concrete Paving, WS&D)**
Owner: Grohman Venture W-1 LTD
c/o GC Engineering, Inc.
Contact: Bharath Devineni, P.E., 281-412-7008
Contract Amount: \$984,470.36
Complete: July 2020

Project: **Harris County – IH 69 Etc. (CSJ 0177-11-154, etc.)**
Owner: TxDOT
Contact: Frank Leong, P.E., 713-934-5900
Contract Amount: \$2,791,549.78
Complete: June 2020

Project: Seawall Boulevard (COG-CON-19-098)
(Asphalt Overlay)
Owner: City of Galveston
Contact: Trina Jankowski, P.M., 409-797-3966
Contract Amount: \$1,121,918.71
Complete: June 2020

Project: Tropical Storm Imelda 2019 Removal &
Replacement of Storm Damaged Bridge (19/0350)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$1,108,646.74
Complete: June 2020

Project: San Jacinto Boulevard Phase II Project
(Concrete Paving, Drainage & Utilities)
Owner: City of Baytown
Contact: Frank Simoneaux, P.E. Dir. of PW & Eng., 281-420-6545
Contract Amount: \$7,447,208.74
Complete: May 2020

Project: Lakes of Champions Boulevard Improvements
(Asphalt & Concrete Paving)
Owner: City of Mont Belvieu
c/o Binkley & Barfield Consulting Engineers
Contact: Tommy Cromer, P.E., 713-869-3433
Contract Amount: \$3,438,761.11
Complete: May 2020

Project: BAWA FM 1405 16" Waterline Project
Owner: Baytown Area Water Authority
c/o Engineering Coordinator's Office
Baytown Municipal Service Center
Contact: Frank Simoneaux, P.E. Dir. of PW & Eng., 281-420-6545
Contract Amount: \$1,315,008.51
Complete: May 2020

Project: Hunt Road Expansion
(Concrete Paving, Drainage & Utilities)
Owner: City of Baytown
Contact: Frank Simoneaux, P.E. Dir. of PW & Eng., 281-420-6545
Contract Amount: \$8,043,878.21
Complete: April 2020

Project: Encino Estates Section 2, Asphalt Paving
Owner: Encino Estates, Ltd.
Contact: Pat Baker, 832-797-6187
Contract Amount: \$2,186,583.72
Complete: April 2020

Project: Cedar Bayou Grace UMC (Concrete Paving, WS&D)
Owner: Cedar Bayou Grace United Methodist Church
c/o Hutchison & Associates
Contact: Jerry Gainer, P.E., 281-422-8213
Contract Amount: \$1,099,582.00
Complete: April 2020

Project: Liberty County – SH 321 (CSJ 0593-01-120)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$5,278,152.76
Complete: March 2020

Project: River Farms Section 3 (Concrete Paving, WS&D)
Owner: Lanai, LLLP.
c/o GC Engineering, Inc.
Contact: Umesh KC, P.E., 281-412-7008
Contract Amount: \$4,180,360.33
Complete: March 2020

Project: 2018 Street Maintenance Program (ST2018)
(Asphalt Paving)
Owner: City of Friendswood
Contact: George L. Cherepes, CFM, 281-996-3200
Contract Amount: \$1,987,979.34
Complete: March 2020

Project: Harris County – IH 45 (CSJ 0500-03-594)
Owner: TxDOT
Contact: John Elam, P. E., 281-319-6400
Contract Amount: \$1,690,883.50
Complete: March 2020

Project: Galveston County – IH 45 (CSJ 0500-01-145)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$1,521,675.59
Complete: March 2020

Project: Galveston County – FM 3005 (CSJ 0051-09-120)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$2,880,806.50
Complete: February 2020

Project: **Bel Road Extension & Linear Detention Ditch (B191024)** (Concrete Paving & Drainage)
Owner: Galveston County
c/o LJA Engineering, Inc.
Contact: Mark Havran, P.E., 713-450-1300
Contract Amount: \$1,271,313.87
Complete: February 2020

Project: **Parkway Trails Sections 1 & 2** (Concrete Paving & WS&D)
Owner: K. Hovnanian Houston Parkway Trails
c/o Dannenbaum Engineering
Contact: Alan Hirshman, P.E., 713-520-9570
Contract Amount: \$3,914,548.75
Complete: January 2020

Project: **Tropical Storm Imelda Emergency Repairs** (Base Repair & Asphalt Paving)
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-8379
Contract Amount: \$1,151,185.15
Complete: January 2020

Project: **Deer Pines Section 1 Asphalt Paving**
Owner: Deer Pines, Ltd.
Contact: Pat Baker, 281-290-1900
Contract Amount: \$1,049,930.56
Complete: January 2020

Project: **HCTRA Sam Houston Tollway TBPFC Overlay Replacement & Sam Central Toll Plaza Fault Repair (19/0153)** (HCTRA Contract No. 240)
Owner: Harris County
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$5,038,303.26
Complete: December 2019

Project: **Northeast Texas City Force Main Project** (16" Force Main)
Owner: City of Texas City
c/o ARKK Engineers
Contact: Madhu Kilambe, P.E., 713-400-2755
Contract Amount: \$3,378,325.54
Complete: December 2019

Project: **Birnam Woods Drive Widening (18-50)**
 (Concrete Paving & Drainage)
 Owner: Montgomery County, Precinct 3
 Contact: Jeff Johnson, County Engineer, 936-539-7833
 Contract Amount: \$2,037,614.61
 Complete: December 2019

Project: **Western Homes Street Improvements (18/0353)**
 (Asphalt Paving)
 Owner: Harris County, Precinct 2
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$423,056.94
 Complete: December 2019

Project: **KTN Pellet Screen (Drainage)**
 Owner: Katoen Natie Gulf Coast Inc.
 Contact: Enrique Gutierrez, 281-470-5439
 Contract Amount: \$388,800.00
 Complete: December 2019

Project: **Asphalt Overlay of Various Roads
 (Package 2019-02) (19/0029)**
 Owner: Harris County, Precinct 3
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$3,118,348.02
 Complete: November 2019

Project: **Brazoria County – FM 2917 (CSJ 2938-02-022)**
 Owner: TxDOT
 Contact: Michelle Milliard, P.E., 979-864-8500
 Contract Amount: \$2,792,089.25
 Complete: November 2019

Project: **Cypress Point Section 1 (Concrete Paving, WS&D)**
 Owner: Dutton Lake, LLC
 c/o Hutchison & Associates
 Contact: Jerry Gainer, P.E., 281-422-8213
 Contract Amount: \$2,214,063.70
 Complete: November 2019

Project: **Pine Bluff Subdivision Improvements Project
 (18001) (Concrete Paving, Drainage & Utilities)**
 Owner: City of La Porte
 Contact: Ray Mayo, Public Works Director, 281-471-9650
 Contract Amount: \$1,933,724.00
 Complete: November 2019

Project: Precinct No. 4 Roadway Projects (Asphalt Paving)
Owner: Liberty County
Contact: David Douglas, Engineering, 936-336-4560
Contract Amount: \$1,676,885.09
Complete: November 2019

Project: Basilica Bay Drive
Cathedral Shores Drive
(Concrete Paving & WS&D)
Owner: Grace International Churches & Ministries
Contact: Stu Johnson, 832-381-2306
Contract Amount: \$1,693,780.86
Complete: October 2019

Project: Brazoria County – SH 6 (CSJ 0192-03-017)
Owner: TxDOT
Contact: Michelle Milliard, P.E., 979-864-8500
Contract Amount: \$1,604,417.09
Complete: October 2019

Project: Liberty County – SH 105 (CSJ 6333-79-001)
Owner: TxDOT
Contact: Noel Salac, P.E., 936-336-2244
Contract Amount: \$827,831.52
Complete: October 2019

Project: Elan Boulevard Widening (18-49)
(Concrete Paving & Drainage)
Owner: Montgomery County, Precinct 3
Contact: Jeff Johnson, County Engineer, 936-539-7833
Contract Amount: \$1,449,407.45
Complete: September 2019

Project: Goose Creek Landing Section 5 (Concrete Paving)
Owner: Castlerock Communities, L.P.
c/o Cobb, Fendley & Associates, Inc.
Contact: Grethen Hollas, P.E., 713-462-3242
Contract Amount: \$424,900.00
Complete: September 2019

Project: Asphaltic Pavement Overlay Services (S50-C25103)
Owner: City of Houston
Contact: Steven Loo, P.E., 832-395-2151
Contract Amount: \$7,787,995.33
Complete: August 2019

Project: **Asphalt Overlay of Various Roads – Package 4 (18/0278)**
 Owner: Harris County, Precinct 3
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$2,776,112.32
 Complete: August 2019

Project: **Adlong-Johnson Road Reconstruction (18/0211)**
 (Concrete Paving & Drainage)
 Owner: Harris County, Precinct 2
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$1,382,014.04
 Complete: August 2019

Project: **Old Alvin Road Reconstruction/Widening Package 3 (T20002/0517-37)** (Concrete Paving & Drainage)
 Owner: City of Pearland
 Contact: Susan Johnson, P.M., 281-652-1900
 Contract Amount: \$3,350,567.36
 Complete: July 2019

Project: **Kilgore Park Phase 1 Detention Facilities**
 (Channel Excavation & Drainage)
 Owner: Chambers County
 Contact: Cory Taylor, County Engineer, 409-267-8379
 Contract Amount: \$549,034.44
 Complete: July 2019

Project: **Grant Road (16/0291)** (Concrete Paving & Drainage)
 Owner: Harris County, Precinct 3
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$10,080,992.22
 Complete: June 2019

Project: **Asphalt Road/Trail Overlays, Repairs, New Shoulders & Shared Use Paths Within & Near County Parks (18/0096)**
 Owner: Harris County, Precinct 1
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$1,232,353.54
 Complete: June 2019

Project: **Asphalt Overlay & Base Repairs of Various Roads (18/0097)**
 Owner: Harris County, Precinct 1
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$107,449.53
 Complete: June 2019

Project: **San Jacinto Boulevard Phase I Project**
(Concrete Paving, Drainage & Utilities)
Owner: City of Baytown
Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
Contract Amount: \$17,760,879.60
Complete: May 2019

Project: **Asphalt Overlay of Various Roads
(2019 – Package 1) (18/0324)**
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,741,371.92
Complete: May 2019

Project: **Bonbrook Plantation South Section 10**
(Concrete Paving)
Owner: B-Brook Land Partners, L.P.
Contact: John Taylor, 832-338-8866
Contract Amount: \$899,257.03
Complete: May 2019

Project: **Grant Road Roadway Improvements (16/0212)**
(Concrete Paving & Drainage)
Owner: Harris County, Precinct 4
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$13,044,003.87
Complete: April 2019

Project: **Rosenberg Lime Subgrade Stabilization**
(Initial Contract + Four Annual Renewals)
Owner: City of Rosenberg
Contact: Rigoberto Calzoncin, Public Works Director, 832-595-3300
Contract Amount: \$2,946,858.81
Complete: April 2019

Project: **Jindal Saw Yard (Asphalt Paving)**
Owner: Jindal Saw
Contact: Vikram Singh, 281-628-3178
Contract Amount: \$1,475,884.50
Complete: April 2019

Project: **Crosby Area Various Roads (18/0186)**
(Asphalt Paving)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$1,426,700.29
Complete: April 2019

Project: Brazoria County – SH 288 (CSJ 0598-02-100)
 Owner: TxDOT
 Contact: Mark Wooldridge, P. E., 713-802-5000
 Contract Amount: \$5,603,683.29
 Complete: March 2019

Project: St. Augustine Meadows Section 1
 (Concrete Paving & WS&D)
 Owner: West Chambers County Development Co.
 c/o GC Engineering, Inc.
 Contact: Fred Thompson, P.E., 281-412-7008
 Contract Amount: \$2,804,337.18
 Complete: March 2019

Project: McKinney Road Wastewater Improvements
 (Asphalt Paving & Sanitary Sewer)
 Owner: City of Baytown
 Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
 Contract Amount: \$887,697.57
 Complete: March 2019

Project: West Winfree Paving & Drainage (RD-010)
 (Asphalt Paving & Drainage)
 Owner: City of Mont Belvieu
 Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
 Contract Amount: \$1,778,556.79
 Complete: February 2019

Project: Bay Oaks Harbor Loops Project
 (Asphalt Paving & Sanitary Sewer)
 Owner: City of Baytown
 Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
 Contract Amount: \$706,386.00
 Complete: February 2019

Project: Trinity Oaks Lift Station & Force Main
 Owner: Harris County Municipal Utility District No. 528
 c/o Hutchison & Associates
 Contact: Jerry Gainer, P.E., 281-422-8213
 Contract Amount: \$634,829.35
 Complete: February 2019

Project: Choate Road (17/0135)
 (Concrete Paving, Drainage & Utilities)
 Owner: Harris County, Precinct 2
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$5,038,075.01
 Complete: January 2019

Project: Galveston County – SH 146 (CSJ 0389-06-106)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$7,537,861.48
Complete: December 2018

Project: Asphalt Overlay Package 2 (17/0215)
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$2,977,056.09
Complete: December 2018

Project: Galveston County – SH 275 (CSJ 6322-60-001)
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$705,316.89
Complete: December 2018

Project: Newport Subdivision Sections 3 & 5 (17/0239)
(Asphalt Paving)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$3,126,742.29
Complete: November 2018

Project: Fairmont Parkway Road Improvements (17/0096)
(Asphalt Paving & Drainage/Intersection Improvements)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$2,775,402.01
Complete: November 2018

Project: Winfree Oaks Sections 4 & 5
(Concrete Paving, Drainage & Utilities)
Owner: Dutton Lake, LLC
c/o Hutchison & Associates
Contact: Jerry Crouch, P.E., 281-422-8213
Contract Amount: \$2,535,944.25
Complete: November 2018

Project: River Farms Section 2 (Concrete Paving & WS&D)
Owner: Lanai, LLLP.
c/o GC Engineering, Inc.
Contact: Fred Thompson, P.E., 281-412-7008
Contract Amount: \$1,764,062.40
Complete: November 2018

Project: Chambers County – FM 2354 (CSJ 6322-21-001)
Owner: TxDOT
Contact: Omar DeLeon, P.E., 936-336-2244
Contract Amount: \$1,062,583.30
Complete: November 2018

Project: Street Rehab & Asphalt Overlay Project
(2017-19/20/21)
(Concrete & Asphalt Paving & Drainage)
Owner: City of Conroe
Contact: Tara Gaha, P.E., 936-522-3100
Contract Amount: \$2,794,135.30
Complete: October 2018

Project: Liberty County – SL 227 (CSJ 6320-56-001)
Owner: TxDOT
Contact: Omar DeLeon, P.E., 936-336-2244
Contract Amount: \$1,043,428.44
Complete: October 2018

Project: Friendswood Trails Phase 1
(Concrete Paving, Drainage & Utilities)
Owner: Friendswood Trails, LLC
c/o Everest Design Group, llc
Contact: Selwyn Thint, P.E., 281-993-3770
Contract Amount: \$4,326,178.20
Complete: September 2018

Project: Harris County – SH 225 (CSJ 0502-01-213)
Owner: TxDOT
Contact: Melody Galland, P.E., 281-464-5500
Contract Amount: \$1,639,387.45
Complete: September 2018

Project: Redell, North Redell & Gwenn Lane (17/0145)
(Asphalt Paving)
Owner: Harris County, Precinct 2
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$1,551,623.09
Complete: September 2018

Project: Clay Road (17/0143) (Asphalt Paving & Drainage)
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$690,690.00
Complete: September 2018

Project: Jefferson County – SH 73 (CSJ 0306-03-126)
 Owner: TxDOT
 Contact: Kenneth Wiemers, P.E., 409-924-6521
 Contract Amount: \$7,934,937.17
 Complete: August 2018

Project: Chambers County – FM 3180 (CSJ 3271-01-011)
 Owner: TxDOT
 Contact: Omar DeLeon, P.E., 936-336-2244
 Contract Amount: \$6,310,770.52
 Complete: August 2018

Project: Brazoria County – FM 521, Etc. (CSJ 0847-03-035)
 Owner: TxDOT
 Contact: Michelle Milliard, P.E., 979-864-8500
 Contract Amount: \$8,123,462.05
 Complete: July 2018

Project: Asphalt Concrete Pavement Overlay & Shoulder of Various Roads & Related Items (16/0077)
 Owner: Harris County, Precinct 1
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$2,177,439.06
 Complete: June 2018

Project: Zetak Lane, Meeker Circle & Rhodes Circle Reconstruction (16/0327) (Asphalt Paving & Drainage)
 Owner: Harris County, Precinct 2
 Contact: Rich Elwood, Director PID-CPD, 713-274-1531
 Contract Amount: \$1,066,996.49
 Complete: June 2018

Project: Lakes of Champions Boulevard Storm Sewer
 Owner: City of Mont Belvieu
 Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
 Contract Amount: \$756,064.10
 Complete: June 2018

Project: Pearlbrook Subdivision, Section Six (Concrete Paving)
 Owner: Castlerock Communities
 Contact: c/o Sherrington-Humble, LLC
 Contact: Sean Humble, P.E., 281-656-8837
 Contract Amount: \$237,552.18
 Complete: June 2018

Project: Kilgore Regional Drainage Plan
 Owner: Chambers County
 Contact: Cory Taylor, County Engineer, 409-267-8379
 Contract Amount: \$4,206,854.52
 Complete: May 2018

Project: **Hardin County – SH 105 (CSJ 0339-04-035)**
Owner: TxDOT
Contact: Kenneth Wiemers, P.E., 409-924-6521
Contract Amount: \$2,647,467.28
Complete: May 2018

Project: **Galveston County – SH 275 (CSJ 3595-01-017)**
Owner: TxDOT
Contact: Jamal Elahi, P.E., 281-464-5500
Contract Amount: \$937,776.14
Complete: May 2018

Project: **Industrial Park Section 4 (Asphalt Paving & Drainage)**
Owner: East Montgomery County Improvement District
obo East Montgomery County M.U.D. No. 3
c/o J.A. Costanza & Associates Engineering, Inc.
Contact: Brent Berthier, P.E., 281-930-9339
Contract Amount: \$806,642.96
Complete: May 2018

Project: **Goose Creek Landing Section 4 (Concrete Paving)**
Owner: Castlerock Communities, L.P.
c/o Cobb Fendley & Associates, Inc.
Contact: Stephanie Tabor, P.E., 713-462-3242
Contract Amount: \$569,729.84
Complete: May 2018

Project: **Brazoria County – SH 288 (CSJ 0598-02-097)**
Owner: TxDOT
Contact: Michelle Milliard, P.E., 979-864-8500
Contract Amount: \$6,367,653.84
Complete: April 2018

Project: **Hunt Road East Project (Concrete Paving & WS&D)**
Owner: City of Baytown
Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
Contract Amount: \$4,230,280.13
Complete: April 2018

Project: **Magnolia Landing Section 2 (Concrete Paving & WS&D)**
Owner: White Development, Inc.
c/o GC Engineering, Inc.
Contact: Fred Thompson, P.E., 281-412-7008
Contract Amount: \$2,462,948.20
Complete: April 2018

Project: **Paving & Signal Improvements to Serve HEB**
(Asphalt & Concrete Paving & Drainage)
Owner: City of Mont Belvieu
Contact: Ricardo Villagrand, P.E., City Engineer, 281-576-2213
Contract Amount: \$1,110,690.48
Complete: April 2018

Project: **FM 1409 Outfall #3**
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-8379
Contract Amount: \$703,471.95
Complete: April 2018

Project: **Grant Road 12" Water Line Relocation & 6" Force Main (Pawnee Bend Drive to Longwood Bend)**
Owner: Northwest Harris County Municipal Utility District No. 5
c/o Costello, Inc.
Contact: Jon VanderWilt, P.E., 713-783-7788
Contract Amount: \$508,651.00
Complete: April 2018

Project: **Proposed FM 1409 Portion of Outfall #4 (17-007)**
Owner: Chambers County
Contact: Cory Taylor, County Engineer, 409-267-8379
Contract Amount: \$268,522.00
Complete: April 2018

Project: **Chambers County – FM 1405 (CSJ 1024-02-044)**
(Concrete & Asphalt Paving)
Owner: TxDOT
Contact: Omar DeLeon, P.E., 936-336-2244
Contract Amount: \$10,270,318.39
Complete: March 2018

Project: **Williams Trace Boulevard Phase I Street Reconstruction** (Concrete Paving & Drainage)
Owner: City of Sugar Land
Contact: Ross Woodfin, P.M., 281-275-2700
Contract Amount: \$5,877,070.12
Complete: March 2018

Project: **2015 Mill & Overlay Project (Annual Contract with Two Renewals)**
Owner: City of Baytown
Contact: Frank Simoneaux, P.E., Dir. of PW & Eng., 281-420-6545
Contract Amount: \$3,000,000.00
Complete: March 2018

Project: **Asphalt Overlay (17/0144)**
Owner: Harris County, Precinct 3
Contact: Rich Elwood, Director PID-CPD, 713-274-1531
Contract Amount: \$2,042,101.66
Complete: March 2018

Project: **Lyondell IFC Road Project (CVO Phase II)**
(Concrete Paving & Drainage)
Owner: Equistar Chemicals LP
c/o Urban Construction Southwest, Inc.
Contact: Kyle Burgess, Sr., PM, 713-339-5389
Contract Amount: \$2,619,217.00
Complete: February 2018

Notice of Award

Dated March 28, 2023

Project: Old Austin Highway Pavement Reclamation	Owner: City of Bastrop	Owner's Contract No.: ENG 2023-01
Contract: City of Bastrop – Old Austin Highway Pavement Reclamation		Engineer's Project No.: 4-01127.01
Proposer: Texas Materials Group, Inc. dba Gulf Coast a CRH Company		
Proposer's Address:		
23990 State Highway 6		
Navasota, TX 77868		

You are notified that your Proposal dated March 9, 2023 for the above Contract has been considered. You are the Successful Proposer and are awarded a Contract for the Total Base Proposal amount.

The Contract Price of your Contract is One Million, Four Hundred Ninety Thousand, One Hundred and Seven Dollars (\$1,490,107.00).

3 copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

3 sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within 15 days of the date you receive this Notice of Award.

1. Deliver to the Owner 3 fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security Bonds as specified in the Instructions to Offerers (Article 27), and General Conditions (Paragraph 5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award and declare your Proposal security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

City of Bastrop
Owner
By: [Signature]
Authorized Signature
City Manager
Title

Copy to Engineer

Notice to Proceed

Dated March 30, 2023

Project: Old Austin Highway Pavement Reclamation	Owner: City of Bastrop	Owner's Contract No.: ENG2023-01
Contract: City of Bastrop – Old Austin Highway Pavement Reclamation		Engineer's Project No.: 4-01127.01
Contractor: Texas Materials Group, Inc. dba Gulf Coast a CRH Company (Gulf Coast)		
Contractor's Address:		
23990 State Highway 6		
Navasota, TX 77868		

You are notified that the Contract Times under the above contract will commence to run on ~~March 30, 2023~~ ^{May (K)}. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is July 25, 2023, and the date of readiness for final payment is August 4, 2023.

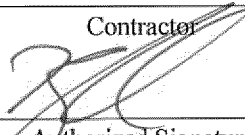
Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

- 1.0 The contractor shall call the Texas One-Call System @ 1-800-344-8377 at least 48 hours prior to digging.
- 2.0 Prepare and submit Traffic Control Plan.
- 3.0 Prepare a Stormwater Pollution Prevention Plan. Prepare and submit a Notice of Intent (NOI) to TCEQ as prescribed in the Technical Specifications.
- 4.0 Prepare an Emulsion Treatment Mix Design in accordance with TxDOT Item 3003.

Texas Materials Group, Inc. dba Gulf Coast a CRH Company

City of Bastrop

Contractor
Received by: 
Authorized Signature
Area Manager
Title
4/6/2023
Date

Owner
Given by: 
Authorized Signature
City Manager
Title
5/11/2023
Date

Copy to Engineer

SECTION 00 52 00

AGREEMENT

THIS AGREEMENT is dated as of by and between City of Bastrop (hereinafter called "OWNER") and Texas Materials Group, Inc. dba Gulf Coast a CRH Company (hereinafter called "CONTRACTOR"). OWNER and CONTRACTOR, in consideration of covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK. CONTRACTOR shall complete all Work as specified or indicated in Contract Documents. Work is generally described as follows:

RFP No. ENG 2023-01 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which reference is hereby made.

ARTICLE 2. ENGINEER AND OWNER'S REPRESENTATIVE. Project has been designed by Walker Partners, 2700 Earl Rudder Freeway, Suite 1600, College Station, TX 77845 who is hereinafter called "ENGINEER" and who assumes all duties and responsibilities and has rights and authority assigned to ENGINEER in Contract Documents in connection with completion of Work in accordance with Contract Documents. Owner's Representative for Project shall be Walker Partners, LLC.

ARTICLE 3. CONTRACT TIMES. Work will be Substantially Completed within 55 calendar days after date when Contract Time Requirements commence to run as provided in Article 2.03 of General Conditions, and CONTRACTOR shall achieve Final Completion within 65 calendar days of date required for Substantial Completion. OWNER and CONTRACTOR recognize that time is of essence of this Agreement and that OWNER will suffer financial loss including, but not limited to, loss of revenue, additional professional fees, fines, labor costs, insurance premiums, etc. if the Work is not completed within times specified in above paragraph, plus any extensions thereof allowed in accordance with Article 12 of General Conditions. They also recognize delays, expense and difficulties involved in proving actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) and, as a reasonable estimate of such damages, CONTRACTOR shall pay OWNER One Thousand Dollars (\$1,000.00) for each and every day of delay in CONTRACTOR achieving Substantial Completion of Work and readiness for final payment beyond times specified in above paragraph. OWNER shall have option of deducting the amount of any liquidated damages from any monies that may be owed to CONTRACTOR or to recover such amount from CONTRACTOR or its sureties, at CONTRACTOR'S expense.

ARTICLE 4. CONTRACT AMOUNT. OWNER shall pay CONTRACTOR for completion of Work in accordance with Contract Documents an amount in current funds equal to sum of amounts determined pursuant to Proposal and any subsequent Change Orders and Change Directives thereto in the amount of One Million, Four Hundred Ninety Thousand, One Hundred and Seven Dollars (\$1,490,107.00).

ARTICLE 5. PAYMENT PROCEDURES. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of General Conditions. Applications for Payment will be processed by ENGINEER and as provided in General Conditions and Supplemental Conditions. OWNER shall make progress payments on account of Contract Amount on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER and in conformance with the procedures described in General Conditions. All such payments will be measured by schedule of values established in Article 2.05 of General Conditions (and on number of units of each Unit Price item completed, if unit price contract). Upon final completion and acceptance of Work in accordance with Article 14 of General Conditions, OWNER shall pay the remainder of Contract Amount as recommended by Owner's Representative as provided in said Article 14. In accordance with Texas Water Code Section 49.276 – PAYMENT FOR CONSTRUCTION WORK, Subsection (d), in making progress payments, 5% of estimated amount shall be retained until final completion and acceptance of contract work.

ARTICLE 6. CONTRACTOR'S REPRESENTATIONS. In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- CONTRACTOR has examined and carefully studied Contract Documents (including Addenda listed in Article 7) and other related data identified in Proposal Documents.
- CONTRACTOR has visited site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, performance, or furnishing of Work.
- CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Legal Requirements that may affect cost, progress, performance, and furnishing of Work.
- CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to Site.
- CONTRACTOR acknowledges that such reports and drawings are not Contract Documents, are not warranted or represented in any manner by Owner to accurately show the conditions at Site, and may not be complete for CONTRACTOR'S purposes.
- CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for accuracy or completeness of information and data shown or indicated in Contract Documents with respect to subsurface conditions or Underground Facilities at or contiguous to Site or CONTRACTOR'S interpretation of such information and data.
- CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary research, examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto.
- CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of Work at Contract Amount, within Contract Time Requirements and in accordance with other terms and conditions of Contract Documents.

- CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at Site that relates to Work as indicated in Contract Documents.
- CONTRACTOR has correlated information known to CONTRACTOR, information and observations obtained from visits to Site, reports, and Drawings identified in Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with Contract Documents.
- CONTRACTOR has provided ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of Work.

ARTICLE 7. CONTRACT DOCUMENTS. Contract Documents are comprised of the following:

1. This Agreement.
2. Exhibits to this Agreement:
 - a. Document Title Date Page(s) - N/A
3. Performance and Payment Bonds.
4. General Conditions of Contract.
5. Supplemental Conditions, if any.
6. Specifications, prepared by Walker Partners, dated March 2023.
7. Drawings.
8. Addenda: Addendum No. 1 through Addendum No. 2.
9. CONTRACTOR'S Proposal Form pursuant to Request for Proposal.
10. Prevailing Wage Rates.
11. Certificate of Insurance meeting minimum policy limits for construction projects including State of Texas Workers' Compensation insurance coverage addendum.
12. Conflict of Interest Questionnaire.
11. Following which may be delivered or issued after Effective Date of Agreement and are not attached thereto: All written Change Orders or Work Orders pursuant to Article 3.04 of General Conditions. There are no Contract Documents other than those listed in this Article. Contract Documents may only be amended, modified, or supplemented as provided in Article 3.04 of General Conditions.

ARTICLE 8. INDEMNITY PROVISIONS. GENERAL, SPECIAL, AND SUPPLEMENTAL CONDITIONS, IF ANY, INCORPORATED INTO THIS AGREEMENT CONTAIN PROVISIONS THAT MAY RELIEVE ONE PARTY FOR RESPONSIBILITY IT WOULD OTHERWISE HAVE UNDER LAW FOR DAMAGES OR OTHER LIABILITY ARISING OUT OF WORK. EACH OF THE PARTIES HERETO SPECIFICALLY AGREES THAT IT HAS A DUTY TO READ THIS AGREEMENT, GENERAL, SPECIAL, AND SUPPLEMENTAL CONDITIONS, IF ANY, AND ALL OTHER CONTRACT DOCUMENTS AND AGREES THAT IT IS CHARGED WITH NOTICE AND KNOWLEDGE OF TERMS OF THIS AGREEMENT AND ALL CONTRACT DOCUMENTS; THAT IT HAS IN FACT READ THIS AGREEMENT AND ALL CONTRACT DOCUMENTS AND IS FULLY INFORMED AND HAS FULL NOTICE AND KNOWLEDGE OF TERMS, CONDITIONS AND EFFECTS OF THIS AGREEMENT; THAT IT HAS HAD OPPORTUNITY TO BE REPRESENTED BY INDEPENDENT LEGAL COUNSEL OF ITS CHOICE PRECEDING ITS EXECUTION OF THIS AGREEMENT AND HAS RECEIVED OR

VOLUNTARILY CHOSEN NOT TO RECEIVE ADVICE OF ITS ATTORNEY IN ENTERING INTO THIS AGREEMENT; AND THAT IT RECOGNIZES THAT CERTAIN TERMS OF THIS AGREEMENT AND CONTRACT DOCUMENTS RESULT IN ONE PARTY ASSUMING THE LIABILITY INHERENT IN SOME ASPECTS OF TRANSACTION AND RELIEVING OTHER PARTY OF ITS RESPONSIBILITY FOR SUCH LIABILITY. EACH PARTY HERETO AGREES AND COVENANTS THAT IT WILL NOT CONTEST VALIDITY OR ENFORCEMENT OF ANY EXCULPATORY PROVISION OF THIS AGREEMENT ON BASIS THAT THE PARTY HAD NO NOTICE OR KNOWLEDGE OF SUCH PROVISION OR THAT THE PROVISION IS NOT "CONSPICUOUS".

ARTICLE 9. MISCELLANEOUS. Terms used in this Agreement which are defined in Article 1 of General Conditions will have the meanings indicated in General Conditions. CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing Contract. For purposes of this Article 9:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in proposal process or in Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made
 - (a) to influence proposal process or execution of Contract to detriment of OWNER,
 - (b) to establish Proposal or Contract prices at artificial noncompetitive levels, or
 - (c) to deprive OWNER of benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Proposers, with or without knowledge of OWNER, a purpose of which is to establish Proposal prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the proposal process or affect execution of Contract.

No assignment by a party hereto of any rights or interests in Contract will be binding on another party hereto without written consent of party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that effect of this restriction may be limited by law), and unless specifically stated to contrary in any written consent to an assignment no assignment will release or discharge assignor from any duty or responsibility under Contract.

OWNER and CONTRACTOR each binds itself, its officers, directors, shareholders, partners, members, successors, assigns, and legal representatives to other party hereto, its officers, directors, shareholders, partners, members, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in Contract Documents. Any provision or part thereof of Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions or parts thereof shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing intention of the stricken provision or part thereof.

IN WITNESS WHEREOF, OWNER, and CONTRACTOR have signed this Agreement in duplicate. One counterpart has been delivered to OWNER, one counterpart has been delivered to CONTRACTOR and one counterpart has been delivered to ENGINEER. All portions of Contract Documents have been signed, initialed, or otherwise clearly identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on May 1, 2023, (which is effective date of Agreement).

OWNER: City of Bastrop

By: [Signature]

Attest: [Signature]

Address for giving notices:
1311 Chestnut Street

Bastrop, TX 78602

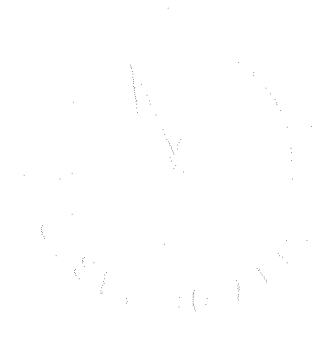
CONTRACTOR: Texas Materials Group, Inc. dba Gulf Coast a CRH Company

By: [Signature]

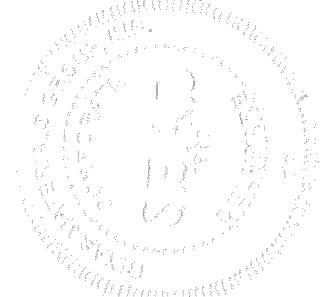
Attest: [Signature]

Address for giving notices:
23990 State Highway 6

Navasota, TX 77868



(CORPORATE SEAL)



END OF SECTION

SECTION 00 61 13

PAYMENT BOND

STATE OF TEXAS

COUNTY OF Bastrop

KNOW ALL MEN BY THESE PRESENTS: That Texas Materials Group, Inc. dba Gulf Coast,
A CRH Company (Contractor) of City
of Baytown, County of Chambers, and State of Texas, as Principal,

and Liberty Mutual Insurance Company authorized under the Laws of the State of Texas to
act as surety on bonds for principals, are held and firmly bound unto City of Bastrop (Owner), in the penal sum of

One Million Four Hundred Ninety Thousand One Hundred Seven and 00/100 Dollars (\$ 1,490,107.00) for payment whereof, the said
Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and
severally, by these presents:

WHEREAS, Principal has entered into a certain written contract with Owner, dated the 15th day of May
2023, for construction of RFP No. ENG 2023-01 City of Bastrop – Old Austin Highway Pavement
Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which
Contract is hereby referred to and make a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION IS SUCH, that if said Principal shall pay all
claimants supplying labor and material to him or a Sub-Contractor in prosecution of work provided for in said
contract, then, this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of Texas
Government Code as amended and all liabilities on this bond shall be determined in accordance with the provisions
of said Statute to the same extent as if it were copied at length herein. Surety, for value received, stipulates and
agrees that no change, extension of time, alteration or addition to the terms of contract, or to work performed
thereunder, or Specifications, or Drawings, accompanying the same, shall in anyway affect its obligation on this
bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to terms of
contract, or work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on the 13th day of April, 2023

Contractor: Texas Materials Group, Inc. dba Gulf Coast, A CRH Company

By: [Signature]

Name: Kyle Lewis

Title: Area Manager

Date: 4/13/2023

Surety: Liberty Mutual Insurance Company

By: [Signature]

Name: Stephanie Gross

Title: Attorney-in-Fact

ATTEST/SURETY WITNESS: J Richmond
Jessica Richmond, Witness

Full Name of Surety: Liberty Mutual Insurance Company

(SEAL)

Address of Surety for Notice

PO Box 34526, Seattle, WA 98124

Telephone Number of Surety: 206-473-6210

By: J Richmond

Name: Jessica Richmond

Title: Witness

Date: _____

By: [Signature]

Name: Stephanie Gross

Title: Attorney-in-Fact

Date: _____

END OF SECTION

SECTION 00 61 14

PERFORMANCE BOND

STATE OF TEXAS

COUNTY OF Bastrop

KNOW ALL MEN BY THESE PRESENTS: That Texas Materials Group, Inc. dba Gulf Coast, A CRH Company (Contractor) of City of Baytown, County of Chambers, and State of Texas, as Principal, and Liberty Mutual Insurance Company authorized under Laws of State of Texas to act as surety on bonds for principals, are held and firmly bound unto City of Bastrop (Owner), in the penal sum of One Million Four Hundred Ninety Thousand One Hundred Seven and 00/100 Dollars (\$ 1,490,107.00) for the payment whereof, said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, Principal has entered into a certain written contract with Owner, dated 1st day of May, 2023, for construction of RFP No. ENG 2023-01 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which Contract is hereby referred to and make a part hereof as fully and to same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall faithfully perform said Contract and shall in all respects duly and faithfully observe and perform all and singular the covenants, conditions an agreements in and by said contract agreed and covenanted by Principal to be observed and performed, and according to the true intent and meaning of said Contract and Drawings and Specifications hereto annexed, then this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to provisions of Chapter 2253 of Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with the provisions of said Statute to same extent as if it were copied at length herein. Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of contract, or to work performed thereunder, or drawings, Specifications, or Drawings, accompanying same, shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to terms of contract, or work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on 13th day of April, 2023

Texas Materials Group, Inc. dba Gulf Coast,
Contractor: A CRH Company

Surety: Liberty Mutual Insurance Company

By: [Signature]

By: [Signature]

Name: Kyle Lewis

Name: Stephanie Gross

Title: Area Manager

Title: Attorney-in-Fact

Date: 4/13/2023

ATTEST/SURETY WITNESS: Richmond
Jessica Richmond, Witness

Full Name of Surety: Liberty Mutual Insurance Company

(SEAL)

Address of Surety for Notice

PO Box 34526, Seattle, WA 98124

Telephone Number of Surety: 206-473-6210

By: Richmond

By: [Signature]

Name: Jessica Richmond

Name: Stephanie Gross

Title: Witness

Title: Attorney-in-Fact

Date: _____

Date: _____

END OF SECTION



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8208665-022029

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Amanda Turman-Avina; Barbara Norton; Jennie Goonie; Jessica Richmond; Joyce Johnson; Laura E. Sudduth; Mario Arzamendi; Mary Ann Garcia; Phillip N. Bair; Stephanie Gross; Tannis Mattson; Teuta Luri

all of the city of Houston state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 30th day of August, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 30th day of August, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 11th day of April, 2023.



By: Renee C. Llewellyn, Assistant Secretary

currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

ACTION BY WRITTEN CONSENT
OF THE BOARD OF DIRECTORS
OF
TEXAS MATERIALS GROUP, INC.

The undersigned, being all of the members of the Board of Directors of Texas Materials Group, Inc., a Delaware corporation (the "*Corporation*"), do hereby, pursuant to applicable Delaware statute, give this written consent to the taking of the following actions, such actions to have the same force and effect had a meeting been duly called and held:

I. ELECTION OF OFFICERS

RESOLVED, that effective June 27, 2022, all previous elections of officers are terminated, and the following persons be, and hereby are, elected to serve as officers of the Corporation (each individually, an "*Officer*" and collectively, the "*Officers*") in the capacities set forth opposite their respective names until such time as their successors shall be elected and qualified:

Aaron Price	President
Kristin Davis	Secretary/Treasurer
Kal A. Kincaid	Vice President/Assistant Secretary
John Shogren	Vice President/Assistant Secretary
Nicholas Schack	Vice President/Assistant Secretary
Mike Brown	Vice President/Assistant Secretary
Derek Angel	Vice President/Assistant Secretary
David M. Toolan	Admin. Vice President/Assistant Secretary
Robert Banks	Assistant Secretary

FURTHER RESOLVED, that the Officers be, and each of them hereby is, authorized to execute and deliver agreements, contracts, documents, certificates, and other instruments, under the seal of the Corporation if required, for the purpose of conducting the Corporation's business, including without limitation, selling products and securing construction work, and to take such other action, as they may deem necessary, advisable, convenient, or appropriate to carry out and fully perform duties incident to the office or offices so appointed, and such other duties as may be prescribed by the Board of Directors from time to time;

FURTHER RESOLVED, that the following persons are hereby designated Officers solely for the purpose of attesting signatures of other Officers signing on behalf of the Corporation, and for executing and attesting various corporate documents, tax returns, affidavits, and other instruments as may be necessary from time to time:

Jessica Aldrich	Assistant Secretary/Assistant Treasurer
Michael F. Deaton	Assistant Secretary
Rodney McCarn	Assistant Secretary
Gary P. Hickman	Assistant Secretary
William P. Jones	Assistant Secretary
David C. Lewis	Assistant Secretary

II. APPOINTMENT OF AUTHORIZED EMPLOYEES

RESOLVED, that effective June 27, 2022 all previous appointments of authorized employees are terminated, and that the following persons be and each of them hereby is appointed to serve as an authorized employee of the Corporation, which persons shall be authorized to execute and deliver such agreements, contracts, documents, certificates and other instruments, under the seal of the Corporation if required, for the purpose of conducting the Corporation's business including, without limitation, selling products and securing construction work:

Robert Brown	Kaylon Page
Wayne Sweet	Barry Egbert
James A. Connor	Ron Stinson
Dean Donnellan	Stephen Koonce
Lance Phillips	Artie Tucker
David Reese	Ben Liggett
Scott Blanchard	Brian Miller
Angela Kvarme	TJ Brown
Lisa Roberts	Derek Schluterman
Tom Hershberger	Sam Davis
Kelly Andrews	Kevin Guy
Phillip King	Kirk Morris
Ben Wibbenmeyer	Kyle Lewis
Keith Pierson	Jacob Trim
Chris Michael	Dean W. Buchanan
Colin Tinsley	Jason (Thad) Traverse
Johnathan Murphy	Troy Rakes
Jake Kilgore	

FURTHER RESOLVED, that the President of the Corporation may, from time to time, without further action by the Board of Directors, appoint other persons to serve as authorized employees, or remove any individuals from this capacity, and to direct those appointed to take such action, as he may deem necessary, advisable, convenient or appropriate to carry out and fully perform the duties incident to the office of President.

III. AUTHORIZATION OF TRADE NAMES

RESOLVED, that the activities and operations of the Corporation may be carried on in any of the following manners or styles as may from time-to-time be deemed necessary or appropriate:

Gulf Coast, A CRH company
Texas Bit, A CRH company
Texas Concrete, A CRH company
Texas Materials, A CRH company

FURTHER RESOLVED, that the President of the Corporation may, from time to time, without further action by the Board of Directors, authorize the use of additional trade names, and to deem unauthorized any trade name previously authorized, as he may deem necessary, advisable, convenient or appropriate.

IV. MISCELLANEOUS

RESOLVED, that all actions previously taken by any Officer of the Corporation appointed hereunder in his/her capacity as such Officer be, and each of them hereby is, adopted, ratified, confirmed and approved in all respects as the authorized acts and deeds of the Corporation;

FURTHER RESOLVED, that each undersigned agrees that electronic signatures, whether digital or encrypted, of the Board of Directors are intended to authenticate this consent and to have the same force and effect as manual signatures. As used in the previous sentence, the term "electronic signatures" means any electronic sound, symbol or process attached to or logically associated with this consent and executed and adopted by a member of the Board of Directors with the intent to sign such consent, including, but not limited to, e-mail electronic signatures executed through DocuSign Services; and

FURTHER RESOLVED, that this Consent, following execution by all of the members of the Board of Directors, be filed in appropriate order in the minute book of the Corporation.

DocuSigned by:
John Keating
6DBD0A4A9D404EA

John J. Keating

DocuSigned by:
Aaron Price
F877D38G11274ED...

Aaron Price



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8208665-022029

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Amanda Turman-Avina; Barbara Norton; Jennie Goonie; Jessica Richmond; Joyce Johnson; Laura E. Sudduth; Mario Arzamendi; Mary Ann Garcia; Philip N. Bair; Stephanie Gross; Tannis Mattson; Teuta Luri

all of the city of Houston state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 30th day of August, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 30th day of August, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this ___ day of _____, _____.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for Treasury, GE, GEICO, Liberty, Lloyds, Allianz, CNA, MetLife, CofC, etc. currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.



Figure: 28 TAC § 1.601(a)(2)(B)

Have a complaint or need help?

If you have a problem with a claim or your premium, call your insurance company or HMO first. If you can't work out the issue, the Texas Department of Insurance may be able to help.

Even if you file a complaint with the Texas Department of Insurance, you should also file a complaint or appeal through your insurance company or HMO. If you don't, you may lose your right to appeal.

Liberty Mutual Insurance Company

To get information or file a complaint with your insurance company or HMO:

Call: Liberty Mutual Surety Claims **at 206-473-6210**

Online: www.LibertyMutualSuretyClaims.com

Email: HOSCL@libertymutual.com

Mail: P.O. Box 34526 Seattle, WA 98124

The Texas Department of Insurance

To get help with an insurance question or file a complaint with the state:

Call with a question: 1-800-252-3439

File a complaint: www.tdi.texas.gov

Email: ConsumerProtection@tdi.texas.gov

Mail: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091

¿Tiene una queja o necesita ayuda?

Si tiene, un problema con una reclamación o con su prima de seguro, llame primero a su compañía de seguros o HMO. Si no puede resolver el problema, es posible que el Departamento de Seguros de Texas (Texas Department of Insurance, por su nombre en inglés) pueda ayudar.

Aun si usted presenta una queja ante el Departamento de Seguros de Texas, también debe presentar una queja a través del proceso de quejas o de apelaciones de su compañía de seguros o HMO. Si no lo hace, podría perder su derecho para apelar.

Liberty Mutual Insurance Company

Para obtener información o para presentar una queja ante su compañía de seguros o HMO:

Llame a: Liberty Mutual Surety Claims

al 206-473-6210

En línea: www.LibertyMutualSuretyClaims.com

Correo electrónico: HOSCL@libertymutual.com

Dirección postal: P.O. Box 34526 Seattle, WA 98124

El Departamento de Seguros de Texas

Para obtener ayuda con una pregunta relacionada con los seguros o para presentar una queja ante el estado:

Llame con sus preguntas al: 1-800-252-3439

Presente una queja en: www.tdi.texas.gov

Correo electrónico: ConsumerProtection@tdi.texas.gov

Dirección postal: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091

Policy Number: AS2-C81-004095-122, AS2-C81-054502-522
Issued by: Liberty Mutual Fire Insurance Co.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED - NONCONTRIBUTING

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIERS COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage form.

Schedule

Name of Person(s) or Organizations(s):

Any person or organization where the Named Insured has agreed by written contract to include such person or organization

Regarding Designated Contract or Project:

Any

Each person or organization shown in the Schedule of this endorsement is an "insured" for Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured Provision contained in Section II of the Coverage Form.

The following is added to the Other Insurance Condition:

If you have agreed in a written agreement that this policy will be primary and without right of contribution from any insurance in force for an Additional Insured for liability arising out of your operations, and the agreement was executed prior to the "bodily injury" or "property damage", then this insurance will be primary and we will not seek contribution from such insurance.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

SCHEDULE

Name(s) Of Person(s) Or Organization(s):

Any person or organization for whom you perform work under a written contract if the contract requires you to obtain this agreement from us, but only if the contract is executed prior to the injury or damage occurring.

Premium: \$ INCL

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The **Transfer Of Rights Of Recovery Against Others To Us** condition does not apply to the person(s) or organization(s) shown in the Schedule, but only to the extent that subrogation is waived prior to the "accident" or the "loss" under a contract with that person or organization.

Policy Number: AS2-C81-004095-122, AS2-C81-054502-522, TB2-C81-004095-112
 Issued By: Liberty Mutual Fire Insurance Co.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION TO THIRD PARTIES

This endorsement modifies insurance provided under the following:

- BUSINESS AUTO COVERAGE PART
- MOTOR CARRIER COVERAGE PART
- GARAGE COVERAGE PART
- TRUCKERS COVERAGE PART
- EXCESS AUTOMOBILE LIABILITY INDEMNITY COVERAGE PART
- SELF-INSURED TRUCKER EXCESS LIABILITY COVERAGE PART
- COMMERCIAL GENERAL LIABILITY COVERAGE PART
- EXCESS COMMERCIAL GENERAL LIABILITY COVERAGE PART
- PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
- LIQUOR LIABILITY COVERAGE PART

Schedule		
Name of Other Person(s)/ Organization(s):	Email Address or mailing address:	Number Days Notice:
Where required by written contract	Where required by written contract	90

- A. If we cancel this policy for any reason other than nonpayment of premium, we will notify the persons or organizations shown in the Schedule above. We will send notice to the email or mailing address listed above at least 10 days, or the number of days listed above, if any, before the cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

All other terms and conditions of this policy remain unchanged.

POLICY NUMBER: TB2-C81-004095-112

COMMERCIAL GENERAL LIABILITY
CG 25 03 05 09

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section I – Coverage A, and for all medical expenses caused by accidents under Section I – Coverage C, which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule below:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under Coverage A, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under Coverage C regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under Coverage A for damages or under Coverage C for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule below.
 4. The limits shown in the Declarations for Each Occurrence, Damage To Premises Rented To You and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section I – Coverage A, and for all medical expenses caused by accidents under Section I – Coverage C, which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule below:
1. Any payments made under Coverage A for damages or under Coverage C for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.
- D.** If the applicable designated construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.
- E.** The provisions of Section III – Limits Of Insurance not otherwise modified by this endorsement shall continue to apply as stipulated.

SCHEDULE

Designated Construction Project(s):

All Projects.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
 2. Available under the applicable Limits of Insurance shown in the Declarations;
- whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):

Location(s) Of Covered Operations

Any owner, lessee, or contractor for whom you have agreed in writing prior to a loss to provide liability insurance

Any location listed in such agreement

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
Any owner, lessee, or contractor for whom you have agreed in writing prior to a loss to provided liability insurance	Any location listed in such agreement

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

Policy Number: TB2-C81-004095-112
Issued By: Liberty Mutual Fire Insurance Co.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

OTHER INSURANCE AMENDMENT – SCHEDULED ADDITIONAL INSURED

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART

Schedule

Name of Person(s) or Organization(s): Any person or organization for which such coverage is required by written contract prior to a loss

If you are obligated under a written agreement to provide liability insurance on a primary, excess, contingent, or any other basis for any person(s) or organization(s) shown in the Schedule of this endorsement that qualifies as an additional insured on this Policy, this Policy will apply solely on the basis required by such written agreement and Paragraph 4. **Other Insurance of Section IV – Conditions** will not apply. Where the applicable written agreement does not specify on what basis the liability insurance will apply, the provisions of Paragraph 4. **Other Insurance of Section IV – Conditions** will apply. However, this insurance is excess over any other insurance available to the additional insured for which it is also covered as an additional insured for the same "occurrence", claim or "suit".

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to Paragraph 8. Transfer Of
Rights Of Recovery Against Others To Us of
Section IV – Conditions:

We waive any right of recovery we may have against
the person or organization shown in the Schedule
below because of payments we make for injury or
damage arising out of your ongoing operations or
"your work" done under a contract with that person
or organization and included in the "products-
completed operations hazard". This waiver applies
only to the person or organization shown in the
Schedule below.

SCHEDULE

Name Of Person Or Organization:

As required by written contract or agreement entered into prior to loss.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Policy Number: TL2-681-054523-922
Issued by: Liberty Mutual Fire Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – LIMITS OF INSURANCE

This endorsement modifies insurance provided under the following:

EXCESS LIABILITY COVERAGE FORM

If a Named Insured enters into a contract that requires the Named Insured to furnish insurance to one or more additional insureds on this policy on a primary and non-contributory basis with limits of insurance that exceed the total of the Underlying Limits of Liability shown in Item 3 of the Declarations, the following will apply:

- (1) this insurance will apply immediately upon exhaustion of the Underlying Limits of Liability for the applicable underlying insurance as respects the coverage afforded to such additional insured, but only to the extent required by contract; and
- (2) to the extent required by contract, this insurance will apply before any other insurance, whether primary, excess, contingent or on any other basis, available to the additional insured on which the additional insured is a named insured, and we will not seek contribution from such insurance.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CANCELLATION ENDORSEMENT

This endorsement modifies insurance provided under the following:

EXCESS LIABILITY POLICY FORM

Section II- Conditions, Paragraph A. Cancellation is deleted and replaced with the following:

A. Cancellation

1. The First Named Insured shown in Item 1 of the Declarations may cancel this policy by mailing or delivering to us advance written notice of cancellation.
2. We may cancel this policy by mailing or delivering to the First Named Insured written notice of cancellation at least:
 - a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
 - b. 90 days before the effective date of cancellation if we cancel for any other reason.
3. We will mail or deliver our notice to the First Named Insured's last mailing address known to us.
4. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
5. If this policy is canceled, we will send the First Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the First Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
6. If notice is mailed, proof of mailing will be sufficient proof of notice.

TL 02 01 10 06

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF SUBROGATION

This endorsement modifies insurance provided under the following:

EXCESS LIABILITY POLICY FORM

SCHEDULE

Name of Person or Organization: As required by written contract or agreement entered into prior to loss.

The following is added to **Section II – CONDITIONS**, Paragraph K. Subrogation:

We waive any right of recovery we may have against any person or organization, shown in the Schedule above, with whom you have agreed in writing prior to an "occurrence" to waive your rights because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard".

NOTICE OF CANCELLATION TO THIRD PARTIES

- A. If we cancel this policy for any reason other than nonpayment of premium, we will notify the persons or organizations shown in the Schedule below. We will send notice to the email or mailing address listed below at least 10 days, or the number of days listed below, if any, before cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

Schedule

Name of Other Person(s) / Organization(s):	Email Address or mailing address:	Number Days Notice:
Schedule on file with the Company	Schedule on file with the Company	90

All other terms and conditions of this policy remain unchanged.

Issued by Liberty Insurance Corporation 21814

For attachment to Policy No. WA7-C8D-004095-022 Effective Date Premium \$

Issued to CRH Americas, Inc.

TEXAS WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement applies only to the insurance provided by the policy because Texas is shown in Item 3.A. of the Information Page.

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule, but this waiver applies only with respect to bodily injury arising out of the operations described in the Schedule where you are required by a written contract to obtain this waiver from us.

This endorsement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

The premium for this endorsement is shown in the Schedule.

Schedule

1. Specific Waiver
Name of person or organization

Blanket Waiver
Any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver.

2. Operations:
All Texas Operations

3. Premium:
The premium charge for this endorsement shall be 2 percent of the premium developed on payroll in connection with work performed for the above person(s) or organization(s) arising out of the operations described.

4. Advance Premium:

Issued by Liberty Insurance Corporation 21814

For attachment to Policy No. WA7-C8D-004095-022 Effective Date

Premium \$

Issued to CRH Americas, Inc.

Endorsement No.

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GENERAL CONDITIONS

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 which is evidence of the agreement between Owner and Contractor covering the Work.

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. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer 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.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *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.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *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.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *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 in connection with the Work.

23. *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.

24. *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.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *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.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *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 under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *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.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *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.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *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.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *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.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *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.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *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.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *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.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times

but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. 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).

E. *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.

F. Unless stated otherwise in the Contract Documents, words or phrases which 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. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement

or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

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 Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, 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.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, 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.

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.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

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.

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 may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

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, or Engineer, or any of, their Related Entities, 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 may discover 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 any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, 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 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

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, code, or instruction (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 *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.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or
2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

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. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

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.

4.02 *Subsurface and Physical Conditions*

A. *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 in or 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.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general 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. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities 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.

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 Price or the Contract Times, or both, 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 cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or 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 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 amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities 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 arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

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; 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 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 Price or Contract Times, or both, to the extent that they are 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 amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or 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.

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 a Hazardous Environmental Condition 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 general 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. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities 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.

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 (and promptly thereafter confirm such notice in writing). 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.

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 on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor 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 either party 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, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the 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, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the 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. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. 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.

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 remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the 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 of Paragraph 5.01.B, 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 of Paragraphs 5.01.B and 5.02.

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 Supplementary Conditions.

5.03 *Certificates of Insurance*

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

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection

from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, 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 additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, 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 against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, 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.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. 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 not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. 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.

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.

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, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. 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

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 that 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 in 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 or not 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 or not 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;

4) and 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 either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

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 will 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 item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the 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.

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. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. 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. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

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 and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer,, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

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 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, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

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 arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor 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.

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.

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 arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the 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, Engineer, 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.

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 Engineer for Owner.

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 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 comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. 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 Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , 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).

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 material 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.

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 acceptable 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:* Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

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 with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample 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 Drawing's 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 will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. 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. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

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.

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. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

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. 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 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.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the 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 the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only 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 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 Engineer or any of their respective consultants, agents, officers, directors, partners, or employees 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.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

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 and Engineer 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 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 approval 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 approval 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 the adequacy of the performance or design criteria required by the Contract Documents.

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 via 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 amount or extent, if any, of any adjustment in the Contract Price or 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, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall 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 their work and will only cut or alter their 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 actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, 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 Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of 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 in or 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, in respect of 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 in 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.

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. If Owner and Engineer agree, Engineer will 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 Conditions.

9.04 *Authorized Variations in Work*

A. 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 Owner and Contractor, subject to the provisions of Paragraph 10.05.

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 believe 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 and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. 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.

E. 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 3.04, 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, or (iii) agreed to by the parties;

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 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

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 include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

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 for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

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 cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. 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 required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and

Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. 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, imposed by Laws and Regulations.

e. Deposits lost for causes other than 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, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

resulted from causes other than 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. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. 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 officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, 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. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

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. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price 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 for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract 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 Paragraph 12.01.C.2.a 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 the party making the Claim to the Engineer and the other party to the Contract 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. 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, abnormal 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 Price or the Contract Times, or both. 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.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them 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 arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. 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.

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 Owner or Engineer has actual knowledge will be given to Contractor. All 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, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site 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 said Paragraph 13.04.C; and
3. 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's 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, it must, if requested by Engineer, be uncovered 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 for Engineer's observation and 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 other 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. If the parties are unable to agree as to the amount thereof, Owner 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; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, 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 arbitration or other 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 Substantial 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 arbitration or other 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 (and, prior to Engineer's recommendation of final payment, Engineer) 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 other 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 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 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, correct or remedy any such deficiency.

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 and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. 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 arbitration or other 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 the parties are unable to agree as to the amount of the adjustment, Owner 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 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 shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. 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.

3. 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 and present the Application to Owner 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 on the Site 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 (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); 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. that 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. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. 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. Ten days after presentation of the Application for Payment to Owner 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 Owner to Contractor.

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;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. 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 a 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 corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

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

C. If 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 to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, 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. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

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.

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, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If 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 and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

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 Owner and 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 required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

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.

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 or Owner's property might in any way be responsible 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. 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 against Engineer's recommendation, including but not limited to liquidated damages, 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 recommendation of Engineer, 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:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. 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 and Engineer 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 persistent 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 disregard of the authority of 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. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. 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

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, 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 arbitration or other 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.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated 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 within no more than 30 days of receipt of said notice.

E. 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.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, 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 (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

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, plus fair and reasonable sums for overhead and profit on such expenses;

3. 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) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

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 30 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. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

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, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

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 in which the Project is located.

17.06 *Headings*

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

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect:

SC-2.01 Delete Paragraph 2.01.B in its entirety and insert the following:

B. *Evidence of Insurance:* As part of the Contract Documents, Contractor and Owner shall furnish, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following:

B. Owner shall furnish to Contractor one full sized and one half sized hard copies of the Drawings and one copy of the Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

SC-2.05 Delete Paragraph 2.05.A.1 in its entirety and insert the following:

1. a preliminary Progress Schedule; indicating a sequence of work and dates at which each segment will be completed;

SC-4.02 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

A. A Geotechnical Report entitled Old Austin Highway Pavement Rehabilitation was prepared by Terracon (May 14, 2019), a bound copy of which is available from the Owner upon request.

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner or Engineer.

B. Left Blank Intentionally.

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

CONTRACTOR'S Insurance. Before commencing the work, and as a condition of payment, the CONTRACTOR shall purchase and maintain insurance that will protect it from the claims arising out of its operations under this Agreement, whether the operations are by the CONTRACTOR, or any of its consultants or subcontractors or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

C. Minimum Limits of Liability. The CONTRACTOR shall maintain insurance with limits of liability equal to the limits of liability as set forth below.

1. Workers Compensation

A. Statutory Workers Compensation Benefits

B. Employer Liability:

Bodily Injury by Accident - \$1,000,000 Each Accident

Bodily Injury by Disease - \$1,000,000 Policy Limit

Bodily Injury by Disease - \$1,000,000 Each Employee

2. Commercial General Liability

\$1,000,000 Combined Single Limit of Bodily Injury
Liability and Property Damage Liability Per Occurrence

\$2,000,000 General Aggregate Limit

\$2,000,000 Products & Completed Operations Aggregate Limit

\$1,000,000 Personal and Advertising Injury Limit

Products and Completed Operations Coverage must be maintained for not less than two full years after final payment.

3. Business Auto Liability

A. \$1,000,000 Combined Single Limit of Bodily Injury
Liability and Property Damage Liability

4. Excess Liability

A. \$2,000,000 Each Occurrence Limit
\$2,000,000 Aggregate Limit

D. Number of Policies. Commercial General Liability Insurance and other liability insurance may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

E. Additional Insured. The CONTRACTOR shall endorse all policies identified in Subparagraph 5.04(C) (with the exception of Workers Compensation) to name Owner as an Additional Insured. On the Commercial General Liability Policy, the Owner shall be given Additional Insured status for BOTH the ongoing operations of the CONTRACTOR and the completed operations of the CONTRACTOR. Also, the coverage provided to the Owner as an Additional Insured shall be written on a Primary Basis.

F. Waiver of Subrogation Endorsements. The CONTRACTOR shall endorse all policies identified in Subparagraph 5.04(C) with a Waiver of Subrogation in favor of the Owner. The CONTRACTOR shall also require similar waivers from its subcontractors in favor of the CONTRACTOR and Owner.

G. Acceptable Insurance Companies. The CONTRACTOR shall maintain in effect all insurance coverages under this Agreement at the CONTRACTOR'S sole expense and with insurance companies acceptable to the Owner and which have an A. M. Best Company rating of A- VII or better.

H. Notice of Cancellation or Non-Renewal. The CONTRACTOR'S insurance policies identified in Subparagraph 5.04(C) shall contain a provision that coverage will not be cancelled or non-renewed until at least thirty (30) days' prior written notice has been given to the Owner.

I. Certificates of Insurance. Certificates of insurance showing required coverage to be in force pursuant to Subparagraph 5.04(C) shall be filed with the Owner prior to commencement of the CONTRACTOR'S work. In the event the CONTRACTOR fails to obtain or maintain any insurance coverage required under this Agreement, the Owner may purchase such coverage as desired for Owner's benefit and charge the expense to the CONTRACTOR, or terminate this Agreement.

J. Continuation of Coverage. The CONTRACTOR shall continue to carry Completed Operations Liability Insurance for at least two years after either ninety (90) days following substantial completion of the work or final payment to the CONTRACTOR, whichever is earlier. The CONTRACTOR shall furnish the Owner evidence of such insurance at final payment and one year from final payment.

SC-5.06.A. Delete Paragraph 5.06.A in its entirety and insert the following in its place:

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof.

1. This insurance shall:

a. include the interests of Owner, Contractor, Subcontractors, Engineer and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

b. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

c. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

- d. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 - e. allow for partial utilization of the Work by Owner;
 - f. include testing and startup; and
 - g. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.
2. Contractor shall be responsible for any deductible or self-insured retention.
3. The policies of insurance required to be purchased and maintained by Contractor in accordance with this Paragraph SC-5.06.A shall comply with the requirements of paragraph 5.06.C of the General Conditions.

SC-5.06.E. Delete Paragraph GC-5.06.E in its entirety.

SC-6.02 Delete Paragraph 6.02.B in its entirety and insert the following:

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 in accordance with the Contract Documents. 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.

SC-6.10 Add a new paragraph immediately after Paragraph 6.10.A:

B. Owner is exempt from payment of sales and compensating use taxes of the State of Texas and of cities and counties thereof on all materials to be incorporated into the public streets, drainage, and sanitary sewer portions of the Work.

- 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
- 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

SC-7.04 Claims Between Contractors

A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the construction coordinator, Contractor

shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the construction coordinator and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, Engineer's Consultants, or the construction coordinator to the extent said claim is based on or arises out of Contractor's performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the construction coordinator on account of any such damage or Claim.

C. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, and construction coordinator for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or construction coordinator for activities that are their respective responsibilities.

ADDENDUM NO. 2

CITY OF BASTROP

OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION

PROJECT NO.: 4-01127.01 / RFP NO. ENG 2023-01

DATE OF ADDENDUM: MARCH 2, 2023

PROPOSAL OPENING DATE: MARCH 9, 2023

This Addendum forms a part of Contract and clarifies, corrects or modifies original Proposal Documents, dated February 2023. Acknowledge receipt of this addendum in space provided on Proposal Form. Failure to do so may subject bidder to disqualification.

- 1) REPLACE – Replace the Proposal Form with the attached, revised Proposal Form.
- 2) REPLACE all references to TxDOT Spec 3058 with TxDOT Spec 3003 throughout the entire Project Manual.
- 3) DELETE Paragraph 1.3A and 1.3B of Section 01 20 00 – Price and Payment Procedures and replace with the following:
 - A. Costs Included in Testing and Inspecting Allowances:
 1. Cost of engaging testing and inspecting agency.
 2. Execution of tests and inspecting.
 3. Reporting results.
 - B. Costs Not Included in Testing and Inspecting Allowance but Included in Contract Sum/Price:
 1. Costs of testing services used by Contractor separate from Contract Document requirements.
 2. Costs of retesting upon failure of previous tests as determined by Architect/Engineer.
 3. Costs associated with materials testing associated with mix design stated in Special Specification 3003.
 - C. Payment Procedures:
 1. Submit one copy of inspecting or testing firm's invoice with next Application for Payment.
 2. Pay invoice upon approval by Engineer.
 - D. Testing and Inspecting Allowance Schedule:
 1. Include sum of \$ 25,000.00 for payment of testing laboratory services specified in Section 01 40 00 - Quality Requirements.
- 4) DELETE Paragraph 1.6A of Section 01 40 00 – Quality Requirements.



03/02/2023

Approved by:

R. Alan Munger, PE

Engineer

Addendum
00 91 13 - 1

ADDENDUM NO. 1

CITY OF BASTROP

OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION

PROJECT NO.: 4-01127.01 / RFP NO. ENG 2023-01

DATE OF ADDENDUM: FEBRUARY 23, 2023

PROPOSAL OPENING DATE: MARCH 9, 2023

This Addendum forms a part of Contract and clarifies, corrects or modifies original Proposal Documents, dated February 2023. Acknowledge receipt of this addendum in space provided on Proposal Form. Failure to do so may subject bidder to disqualification.

- 1) CLARIFICATION – Provide price for quantities shown on Proposal Form. Actual quantity may vary in accordance with Contractor provided design in accordance with TxDOT Spec Item 3003.
- 2) REVISE the Proposal Form as follows:
Replace all references to TxDOT Spec 3058 with TxDOT Spec 3003.
- 3) REMOVE TxDOT Specification Item 3058 from the Technical Specifications.
- 4) ADD TxDOT Specification Item 3003 to the Technical Specifications (attached).
- 5) REPLACE the revised Plan Sheets (attached): C006, C007, C200, C201, C202, and C203.



Approved by:

R. Alan Munger, PE

Engineer

2/24/2023

R. Alan Munger, PE

NON-COLLUSION AFFIDAVIT

STATE OF TEXAS §
 §
COUNTY OF §

By the signature below, the signatory for the bidder certifies that neither he nor the firm, corporation, partnership or institution represented by the signatory or anyone acting for the firm bidding this project has violated the antitrust laws of this State, codified at Section 15.01, *et seq.*, Texas Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in the same line of business, nor has the signatory or anyone acting for the firm, corporation or institution submitting a bid committed any other act of collusion related to the development and submission of this bid proposal.

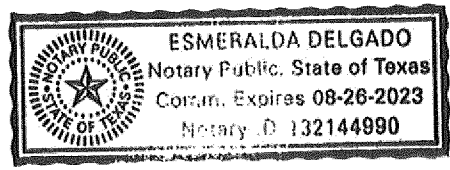
Signature: [Handwritten Signature]
Printed Name: Kyle Lewis
Title: Area Manager
Company: Texas Materials Group, Inc. dba Gulf Coast a CRH Company
Date: 4/6/2023

SUBSCRIBED and sworn to before me the undersigned authority by Kyle Lewis the Area Manager of, on behalf of said bidder.

Texas Materials Group, Inc.
dba Gulf Coast a CRH Company

[Handwritten Signature]
Notary Public in and for the
State of Texas

My commission expires: 08/26/23



CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

Texas Materials Group, Inc. dba Gulf Coast a CRH Company

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

None

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

Yes

No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

Yes

No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

None

6 Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 [Signature]
Signature of vendor doing business with the governmental entity

4/6/2023
Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;

or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

WAGE RATES

Table with multiple columns and rows, containing numerical data and text. The table is partially obscured by bleed-through from the reverse side of the page.

"General Decision Number: TX20230007 01/06/2023

Superseded General Decision Number: TX20220007

State: Texas

Construction Types: Heavy and Highway

Counties: Atascosa, Bandera, Bastrop, Bell, Bexar, Brazos, Burleson, Caldwell, Comal, Coryell, Guadalupe, Hays, Kendall, Lampasas, McLennan, Medina, Robertson, Travis, Williamson and Wilson Counties in Texas.

HEAVY (excluding tunnels and dams, not to be used for work on Sewage or Water Treatment Plants or Lift / Pump Stations in Bell, Coryell, McClennon and Williamson Counties) and HIGHWAY Construction Projects

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at

http://www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 01/06/2023

SUTX2011-006 08/03/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.56	**
ELECTRICIAN.....	\$ 26.35	
FORM BUILDER/FORM SETTER		
Paving & Curb.....	\$ 12.94	**
Structures.....	\$ 12.87	**
LABORER		
Asphalt Raker.....	\$ 12.12	**
Flagger.....	\$ 9.45	**
Laborer, Common.....	\$ 10.50	**
Laborer, Utility.....	\$ 12.27	**
Pipelayer.....	\$ 12.79	**
Work Zone Barricade Servicer.....	\$ 11.85	**
PAINTER (Structures).....	\$ 18.34	
POWER EQUIPMENT OPERATOR:		
Agricultural Tractor.....	\$ 12.69	**
Asphalt Distributor.....	\$ 15.55	**
Asphalt Paving Machine.....	\$ 14.36	**
Boom Truck.....	\$ 18.36	
Broom or Sweeper.....	\$ 11.04	**
Concrete Pavement Finishing Machine.....	\$ 15.48	**
Crane, Hydraulic 80 tons or less.....	\$ 18.36	
Crane, Lattice Boom 80 tons or less.....	\$ 15.87	**
Crane, Lattice Boom over 80 tons.....	\$ 19.38	
Crawler Tractor.....	\$ 15.67	**
Directional Drilling Locator.....	\$ 11.67	**
Directional Drilling Operator.....	\$ 17.24	
Excavator 50,000 lbs or Less.....	\$ 12.88	**
Excavator over 50,000 lbs...\$	17.71	
Foundation Drill, Truck Mounted.....	\$ 16.93	
Front End Loader, 3 CY or Less.....	\$ 13.04	**
Front End Loader, Over 3 CY.\$	13.21	**
Loader/Backhoe.....	\$ 14.12	**
Mechanic.....	\$ 17.10	
Milling Machine.....	\$ 14.18	**
Motor Grader, Fine Grade....\$	18.51	
Motor Grader, Rough.....	\$ 14.63	**
Pavement Marking Machine...\$	19.17	
Reclaimer/Pulverizer.....	\$ 12.88	**

Roller, Asphalt.....\$ 12.78 **
Roller, Other.....\$ 10.50 **
Scraper.....\$ 12.27 **
Spreader Box.....\$ 14.04 **
Trenching Machine, Heavy....\$ 18.48

Servicer.....\$ 14.51 **

Steel Worker

Reinforcing.....\$ 14.00 **
Structural.....\$ 19.29

TRAFFIC SIGNALIZATION:

Traffic Signal Installation

Traffic Signal/Light Pole
Worker.....\$ 16.00 **

TRUCK DRIVER

Lowboy-Float.....\$ 15.66 **
Off Road Hauler.....\$ 11.88 **
Single Axle.....\$ 11.79 **
Single or Tandem Axle Dump
Truck.....\$ 11.68 **
Tandem Axle Tractor w/Semi
Trailer.....\$ 12.81 **

WELDER.....\$ 15.97 **

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====
** Workers in this classification may be entitled to a higher
minimum wage under Executive Order 14026 (\$16.20) or 13658
(\$12.15). Please see the Note at the top of the wage
determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO
is available at
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number, where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current

negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISIO"

SAMPLE FORMS

Work Change Directive

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

You are directed to proceed promptly with the following change(s):

Item No.	Description

Attachments (list documents supporting change):

Purpose for Work Change Directive:

- Authorization for Work described herein to proceed on the basis of Cost of the Work due to:
 - Nonagreement on pricing of proposed change.
 - Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

Estimated change in Contract Price and Contract Times:

Contract Price \$ _____ (increase/decrease) Contract Time _____ days (increase/decrease)

If the change involves an increase, the estimated amounts are not to be exceeded without further authorization.

Recommended for Approval by Engineer:	Date
Authorized for Owner by:	Date
Accepted for Contractor by:	Date
Approved by Funding Agency (if applicable):	Date:

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

The Contract Documents are modified as follows upon execution of this Change Order:

Description: _____

Attachments: (List documents supporting change): _____

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

Original Contract Price: \$ _____
Original Contract Times: Working days Calendar days
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____: \$ _____
[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:
Substantial completion (days): _____
Ready for final payment (days): _____

Contract Price prior to this Change Order: \$ _____
Contract Times prior to this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order: \$ _____
[Increase] [Decrease] of this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

Contract Price incorporating this Change Order: \$ _____
Contract Times with all approved Change Orders:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____
Approved by Funding Agency (if applicable): _____		Date: _____

Change Order Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

Progress Estimate

Contractor's Application

For (contract):		Application Number: _____																				
Application Period:		Application Date: _____																				
A		B	C	D	E	F	G															
Bid Item No.	Description	Item	Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (E) / B	Balance to Finish (B - F)											
Totals																						

Stored Material Summary

Contractor's Application

For (contract):		Application Number:							
Application Period:		Application Date:							
A Invoice No.	B Shop Drawing Transmittal No.	C Materials Description	D Stored Previously		E Stored this Month		F Incorporated in Work		G Materials Remaining in Storage (\$) (D + E - F)
			Date (Month/Year)	Amount (\$)	Date (Month/Year)	Amount (\$)	Date (Month/Year)	Amount (\$)	
		Totals							

Certificate of Substantial Completion

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:
 The following specified portions:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities
 Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer	Date
Accepted by Contractor	Date
Accepted by Owner	Date

TECHNICAL SPECIFICATIONS

SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Contract description.
2. Work by Owner or other Work at the Site.
3. Owner-furnished products.
4. Contractor's use of Site and premises.
5. Future work.
6. Work sequence.
7. Owner occupancy.
8. Permits.
9. Specification conventions.
10. Reference specifications and standards.

1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes construction of Old Austin Highway Pavement Rehabilitation
- B. Construct the Work in accordance with the Bid Items listed on the Bid Form and as generally described below:
 1. Mobilization/Demobilization.
 2. Milling.
 3. Emulsion Treatment Stabilization.
 4. Hot Mix Asphalt Concrete.
 5. All other Work.
 - a. Install all other project Work as presented in the Project Manual and as shown in the Drawings, including but not limited to miscellaneous concrete work, pavement markings, complete and in place.

1.3 WORK BY OWNER OR OTHERS

- A. Work under this Contract includes:
 1. Work as indicated on Drawings.

1.4 OWNER-FURNISHED PRODUCTS

A. Owner's Responsibilities:

1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples to Contractor.
2. Submit claims for transportation damage and replace damaged, defective, or deficient items.

B. Contractor's Responsibilities:

1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.

2. Receive and unload products at Site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install, and finish products.
4. Repair or replace items damaged after receipt.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of Site and premises to allow:
 1. Owner occupancy.
 2. Use of Site by the public.
- B. Construction Operations: Limited to areas indicated on Drawings.
 1. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Not allowed in close proximity to existing building during regular hours of operation. Coordinate and schedule such operations with Owner to minimize disruptions.
- C. Time Restrictions for Performing Work: Generally Sunday through Thursday 7:00 pm to 5:00 am. Other times may be approved in writing by Engineer.
- D. Construction Plan: Before start of construction, submit a construction plan regarding access to Work and use of Site for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.6 WORK SEQUENCE

- A. Construct Work in phases during construction period. Coordinate construction schedule and operations with Engineer:
- B. Sequencing of Construction Plan: Before start of construction, submit one copy of construction plan regarding phasing of construction and new Work for acceptance by Owner. After acceptance of plan, construction sequencing shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.7 PERMITS

- A. Furnish all necessary permits for construction of Work including the following:
 1. TxDOT.
 2. Stormwater permit.

1.8 SPECIFICATION CONVENTIONS

- A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.9 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Materials which are specified by reference to Federal Specifications; ASTM, ASME, ANSI, TxDOT or AWWA specifications; Federal Standards; or other standard specifications must

comply with latest editions, revisions, amendments or supplements in effect on date bids are received. Requirements in reference specifications and standards are considered minimum acceptable quality for all equipment, material and work. In instances where capacities, size or other feature of equipment, devices or materials exceed these minimums, meet listed or shown capacities.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contingency allowances.
- B. Testing and inspection allowances.
- C. Schedule of Values.
- D. Application for Payment.
- E. Change procedures.
- F. Defect assessment.
- G. Unit prices.
- H. Alternates.

1.2 CONTINGENCY ALLOWANCES

- A. Include in Contract a stipulated sum/price of \$50,000.00 for use upon Owner's instruction as a contingency allowance.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.
- C. Funds will be drawn from contingency allowance only by Change Order, or as approved by City.
- D. At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.

1.3 TESTING AND INSPECTION ALLOWANCES

- A. Costs Included in Testing and Inspecting Allowances:
 - 1. Cost of engaging testing and inspecting agency.
 - 2. Execution of tests and inspecting.
 - 3. Reporting results.
- B. Costs Not Included in Testing and Inspecting Allowance but Included in Contract Sum/Price:
 - 1. Costs of testing services used by Contractor separate from Contract Document requirements.
 - 2. Costs of retesting upon failure of previous tests as determined by Architect/Engineer.

3. Costs associated with materials testing associated with mix design stated in Special Specification 3003.

C. Payment Procedures:

1. Submit one copy of inspecting or testing firm's invoice with next Application for Payment.
2. Pay invoice upon approval by Engineer.

D. Testing and Inspecting Allowance Schedule:

1. Include sum of \$ 25,000.00 for payment of testing laboratory services specified in Section 01 40 00 - Quality Requirements.

1.4 SCHEDULE OF VALUES

- A. Submit printed schedule on either EJCDC Form C-620 or on a Contractor's standard form as approved by the Engineer.
- B. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.
- C. Format: Use Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section.
- D. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

1.5 APPLICATION FOR PAYMENT

- A. Submit three copies of each Application for Payment on EJCDC C-620 - Contractor's Application for Payment or a Contractor's electronic media driven form as approved by the Engineer.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 01 33 00 - Submittal Procedures.
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 1. Partial release of liens from major Subcontractors and vendors.
 2. Record Documents as specified in Section 01 70 00 - Execution and Closeout Requirements, for review by Owner, which will be returned to Contractor.
 3. Affidavits attesting to off-Site stored products.

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942.
- D. Engineer may issue Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 10 calendar days.
- E. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors. Document requested substitutions according to Section 01 60 00 – Product Requirements.
- F. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as recommended by Engineer and approved by Owner.
- G. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- H. Work Directive Change: Engineer may issue directive, on EJCDC C-940 - Work Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- I. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- J. Change Order Forms: EJCDC C-941 - Change Order or as approved by Engineer.
- K. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- L. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.

2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
3. Promptly enter changes in Record Documents.

1.7 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Engineer and Owner.
- D. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.
- F. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products not completely unloaded from transporting vehicle.
 4. Products placed beyond lines and levels of the required Work.
 5. Products remaining on hand after completion of the Work.
 6. Loading, hauling, and disposing of rejected products.

1.8 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual Specification Sections.
- B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.
- C. Take measurements and compute quantities. Engineer will verify measurements and quantities.
- D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
 2. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.

F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect/Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

G. Measurement of Quantities:

1. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
2. Measurement by Area: Measured horizontally by square dimension using mean length and width or radius.
3. Linear Measurement: Measured horizontally by linear dimension, at item centerline or mean chord.
4. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

1.9 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.

1.10 MOBILIZATION, TRAFFIC HANDLING, AND INCIDENTALS

A. As specified in Section 01 21 00.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 21 00 – MOBILIZATION, TRAFFIC HANDLING, AND INCIDENTALS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project Mobilization and Demobilization.
2. Traffic Handling.
3. All project costs (incidentals) not included in the contract bid items.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Basis of Measurement: By the Lump Sum as the work progresses.

B. Basis of Payment: This item will be paid for at the contract unit price bid for "Mobilization, Traffic Handling, and Project Incidentals," which price shall be full compensation for mobilization and demobilization of all contractor personnel, facilities, equipment, and supplies, for all equipment, labor, and material associated with traffic handling, and all other project costs not specifically covered in the contract bid items. Costs for installation and maintenance of steel plates is incidental to this item.

C. Partial payments for this item will be administered as follows. The adjusted contract amount for construction items as used below is defined as the total contract amount less the lump sum bid for mobilization.

1. When 1% of the adjusted contract amount for construction items is earned, 50% of the mobilization lump sum bid will be paid.
2. When 5% of the adjusted contract amount for construction items is earned, 75% of the mobilization lump sum bid will be paid.
3. When 10% of the adjusted contract amount for construction items is earned, 90% of the mobilization lump sum bid will be paid.
4. Upon completion of all work items, payment for the remainder of the mobilization lump sum bid will be made.

D. The lump sum bid for mobilization shall not exceed 10% of the total contract.

1.3 REFERENCES – Not used.

1.4 QUALITY ASSURANCE – Not used.

PART 2 PRODUCTS – Not used.

PART 3 EXECUTION – Not used.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Digital construction pictures.
- F. Preinstallation meetings.
- G. Closeout meeting.
- H. Alteration procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. Coordinate interruptions of all utilities and services. All work shall be in accordance with the requirements of the applicable utility company or agency involved.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule and preside over meeting after the Agreement has been executed and all bonds and insurance are in affect for the project.
- B. Attendance Required: Engineer, Owner, Inspector, and Contractor.
- C. Minimum Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
 - 5. Security and housekeeping procedures.
 - 6. Application for payment procedures.
 - 7. Designation of personnel representing parties in Contract and Engineer.
 - 8. Procedures and processing of requests for interpretations, field decisions, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 9. Scheduling.
 - 10. Scheduling activities of Contractor. Procedures of testing.
 - 11. Procedures for maintaining record documents.
 - 12. Requirements for start-up of equipment.
 - 13. Inspection and acceptance of equipment put into service during construction period.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at two week intervals.
- B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, and Engineer, as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on Progress Schedule and coordination.
 - 13. Other business relating to Work.

1.5 DIGITAL CONSTRUCTION PICTURES

- A. The Contractor is required to photographically document site conditions prior to the start and during construction operations. Provide monthly, and within one month of the completion of work, photographs, showing the sequence and progress of work, devices, equipment, material and fitting installations.
- B. The digital photographs serve as one of the methods of documentation of the work performed each month and the associated monthly invoice will not be processed without them. Photographs shall be provided for unrestricted use by the City.
- C. Take a minimum of 20 digital photographs each week (more may be required to accurately document work). Provide an electronic copy on a thumb drive of each photograph taken. Photographs for each month shall be in a separate weekly directory. Submit digital photographs with the monthly invoice on a thumb drive, cumulative of all photos to date. Hard copies are not required.
- D. All photos shall be taken with a camera or other device capable of embedding geocoding information for each photograph. All digital photos submitted shall be geocoded. Georeferencing shall be in the metadata for each digital photograph and shall include the location and directional information for the image. Time and date information shall be correct and contained in the metadata for each image. All prints shall show good details in both shadow and sunlit areas. Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modification using image-editing software. Provide images in JPG format, produced by digital cameras with a minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

1.6 PREINSTALLATION MEETINGS

- A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific Section.
- C. Notify Engineer four days in advance of meeting date.
- D. Prepare agenda and preside over meeting:
 - 1. Review conditions of installation, preparation, and installation procedures.
 - 2. Review coordination with related Work.

1.7 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Contractor, Engineer, Owner, and others appropriate to agenda.
- C. Notify Engineer ten days in advance of meeting date.
- D. Minimum Agenda:

1. Start-up of facilities and systems.
2. Operations and maintenance manuals.
3. Testing, adjusting, and balancing.
4. System demonstration and observation.
5. Operation and maintenance instructions for Owner's personnel.
6. Contractor's inspection of Work.
7. Contractor's preparation of an initial "punch list."
8. Procedure to request Engineer inspection to determine date of Substantial Completion.
9. Completion time for correcting deficiencies.
10. Inspections by authorities having jurisdiction.
11. Certificate of Occupancy and transfer of insurance responsibilities.
12. Partial release of retainage.
13. Final cleaning.
14. Preparation for final inspection.
15. Closeout Submittals:
 - a. Project record documents.
 - b. Operating and maintenance documents.
 - c. Operating and maintenance materials.
 - d. Affidavits.
16. Final Application for Payment.
17. Contractor's demobilization of Site.
18. Maintenance.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 ALTERATION PROCEDURES

- A. Entire facility will be occupied for normal operations during progress of construction. Cooperate with Owner in scheduling operations to minimize conflict and to permit continuous usage.
 1. Perform Work not to interfere with operations of occupied areas.
 2. Keep utility and service outages to a minimum and perform only after written approval of Owner.
 3. Clean Owner-occupied areas daily. Clean spillage, overspray, and heavy collection of dust in Owner-occupied areas immediately.
- B. Materials: As specified in product Sections; match existing products with new products for patching and extending Work.
- C. Employ original and/or skilled and experienced installer to perform alteration and renovation Work.
- D. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion. Comply with Section 01 70 00 - Execution and Closeout Requirements

- E. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Prepare surface and remove surface finishes to permit installation of new Work and finishes.
- H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.
- I. Remove, cut, and patch Work to minimize damage and to permit restoring products and finishes to original or specified condition.
- J. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- K. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- L. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Engineer for review.
- M. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition to Engineer for review.
- N. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.
- O. Finish surfaces as specified in individual product Sections.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Proposed product list.
- C. Product data.
- D. Use of electronic CAD files of Project Drawings.
- E. Shop Drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Erection Drawings.
- M. Contractor review.
- N. Engineer review.

1.2 SUBMITTAL PROCEDURES

- A. Submittals shall be directly from the Contractor. Submittals from others (i.e., suppliers or subcontractors) shall not be accepted.
- B. Transmit each submittal on an Engineer accepted form.
- C. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- D. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite Project, and deliver to Engineer at business address. Coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- H. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- I. Allow space on submittals for Contractor and Engineer review stamps.
- J. When revised for resubmission, identify changes made since previous submission.

- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
- M. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

1.3 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.4 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.5 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

- A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.
- B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:
 - 1. Use of files is solely at receiver's risk. Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
 - 2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
 - 3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with

information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.

4. Receiver shall not hold Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.
5. Receiver shall understand that even though Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Engineer responsible for such viruses or their consequences, and shall hold Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SAMPLES

- A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 1. Submit to Engineer for aesthetic, color, and finish selection.
 2. Submit Samples of finishes, textures, and patterns for Engineer selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.

- E. Submit number of Samples specified in individual Specification Sections; Engineer will retain one Sample.
- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.
- H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 TEST REPORTS

- A. Submit test reports to the Engineer for assessing conformance and compliance to the Contract Documents.

1.9 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

- A. Informational Submittal: When specified in Technical Specifications, submit certification by manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: When specified in Technical Specifications, submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.

- B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit report in duplicate within three days of observation to Engineer for information.
- C. Submit reports for information for limited purposes of assessing conformance with information given and design concept expressed in Contract Documents.

1.14 ERECTION DRAWINGS

- A. Informational Submittal: Submit Drawings for Engineer's benefit as Contract administrator or for Owner.
- B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.15 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.
- B. Contractor: Responsible for:
 - 1. Determination and verification of materials including manufacturer's catalog numbers.
 - 2. Determination and verification of field measurements and field construction criteria.
 - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 - 4. Determination of accuracy and completeness of dimensions and quantities.
 - 5. Confirmation and coordination of dimensions and field conditions at Site.
 - 6. Construction means, techniques, sequences, and procedures.
 - 7. Safety precautions.
 - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

1.16 ENGINEER REVIEW

- A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner.
- B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order, Field Order, or Work Change Directive.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.
- F. Manufacturers' field services.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date for receiving Bids except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 TESTING AND INSPECTION SERVICES

- A. Contractor shall employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.
 - 1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of full-time Professional Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.
- B. Independent testing firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Engineer. In the event of a conflict in the Contract Documents concerning sampling and testing frequency, the more stringent standard shall be enforced, unless otherwise approved by the Engineer.
 - 1. Laboratory: Authorized to operate in State of Texas.
 - 2. Laboratory Staff: Maintain full-time Professional Engineer on staff to review services.

3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.
- D. Reports shall be submitted by independent firm to Engineer, Contractor, and authorities having jurisdiction, in duplicate, indicating observations and results of tests and compliance or non-compliance with Contract Documents.
 1. Submit final report indicating correction of Work previously reported as non-compliant.
- E. Cooperate with independent testing firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 1. Notify Engineer and independent testing firm 48 hours before expected time for operations requiring services.
 2. Make arrangements with independent testing firm and pay for additional Samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.
- G. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent testing firm on instructions from Engineer. Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Price.
- H. Independent Testing Firm Responsibilities:
 1. Test Samples of mixes submitted by Contractor.
 2. Provide qualified personnel at Site. Cooperate with Engineer and Contractor in performance of services.
 3. Perform indicated sampling and testing of products according to specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.
 6. Perform additional tests required by Engineer.
 7. Attend preconstruction meetings and progress meetings.
- I. Material Testing Reports: After each test, Independent Testing Firm shall promptly submit two copies of testing reports to Engineer, Contractor, and other entities as directed, indicating observations and results of tests and compliance or noncompliance with Contract Documents. At a minimum, include the following information in testing reports:
 1. Date issued.
 2. Project title and number.
 3. Name of inspector/testing technician.
 4. Date and time of sampling or inspection.
 5. Identification of product and Specification Section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.

9. Results of tests.
10. Compliance or noncompliance with Contract Documents.
11. Special observations, if any.

Submit final report indicating correction of Work previously reported as noncompliant. Log all test results in an electronic spreadsheet for each test procedure and provide updated versions to Engineer at agreed upon time interval.

- J. Limits on Independent Testing Firm Authority:
1. Independent Testing Firm may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Independent Testing Firm may not approve or accept any portion of the Work.
 3. Independent Testing Firm may not assume duties of Contractor.
 4. Independent Testing Firm has no authority to stop the Work.

1.7 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Engineer.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 55 26 –TRAFFIC CONTROL

PART 1 GENERAL

1.1 SUMMARY

1. This Specification includes the general description of the “TRAFFIC CONTROL” and the requirements of that plan. This specification applies to the furnishing of all labor, equipment, and materials and in performing all operations in connection with the “TRAFFIC CONTROL” in accordance with the plans and these specifications.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

The work and materials as prescribed by this item will be paid on the following schedule:

- A. 50% of the bid value shall be paid when the traffic control plan is fully implemented, and all of the initial traffic control devices have been installed and are in working order.
- B. 25% of the value will be prorated for the installation and maintenance of traffic control devices during the course of construction as a percent of the total contract value.
- C. 25% will be paid at the completion of construction and all traffic control devices are removed from the site.

1.3 SUBMITTALS

- A. The contractor shall submit a “TRAFFIC CONTROL PLAN” or modifications to the plan provided in the construction documents prior to commencing construction. All plans must be in accordance with the Texas Manual of Uniform Traffic Control Devices requirements. No plan may be implemented until approved by the Engineer.

PART 2 PRODUCTS – Not used.

PART 3 EXECUTION

3.1 CONSTRUCTION METHODS

- A. The “TRAFFIC CONTROL PLAN” and the installation of all devices should be continuously reviewed and updated to reflect the current stage of construction. The inspector may review minor changes; the engineer shall review major changes. The construction foreman shall provide the current “TRAFFIC CONTROL PLAN” to the inspector upon request on the site at any time during the construction of the project.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Equipment electrical characteristics and components.
- F. Product substitutions and procedures.

1.2 PRODUCTS

- A. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- B. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- C. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.
- D. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.
- E. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products according to manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.

- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. **Products Specified by Reference Standards or by Description Only:** Products complying with specified reference standards or description.
- B. **Products Specified by Naming One or More Manufacturers:** Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.
- C. **Products Specified by Naming One or More Manufacturers with Provision for Substitutions:** Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. **Wiring Terminations:** Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. **Cord and Plug:** Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Field engineering.
- B. Closeout procedures.
- C. Project record documents.
- D. Examination
- E. Execution.
- F. Cutting and patching.
- G. Protecting installed construction.
- H. Final cleaning.

1.2 FIELD ENGINEERING

- A. Contractor shall protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- B. Contractor shall verify setbacks and easements; confirm Drawing dimensions and elevations.
- C. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.
- D. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- E. Contractor shall retain Engineer to replace dislocated survey control points based on original survey control.

1.3 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, digital images of construction photographs, and other similar final record data in compliance with this Section.
 - 2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or

- corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
 5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
 6. Make final change-over of locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
 7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
 8. Perform final cleaning according to this Section.
- B. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
1. When Contractor considers Work to be complete, submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
 2. Submittals: Submit following:
 - a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims on Contractor's Affidavit of Payment of Debts and Claims.
 - f. Contractor affidavit of release of liens on Contractor's Affidavit of Release of Liens.
 - g. Consent of surety to final payment on Consent of Surety to Final Payment Form.
 3. Perform final cleaning for Contractor-soiled areas according to this Section.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, product data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.

- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates used.
 - 3. Changes made by Addenda and modifications.

- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
 - 1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 - 2. Include locations of concealed elements of the Work.
 - 3. Identify and locate existing buried or concealed items encountered during Project.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Drawings.

- G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.

- H. Submit PDF electronic files of marked-up documents to Engineer with claim for final Application for Payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 EXECUTION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.

3.3 CUTTING AND PATCHING

- A. Employ skilled and experienced installers to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill to complete Work and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and nonconforming Work.
 - 4. Remove samples of installed Work for testing.
- D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products according to requirements of Contract Documents.
- G. Identify hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

3.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual Specification Sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

3.5 FINAL CLEANING

- A. Execute final cleaning prior to final Project assessment.
- B. Clean interior and exterior glass and sur
- C. Clean debris from drainage systems.

- D. Clean Site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from Site.

END OF SECTION

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Formwork for cast-in place concrete.
2. Shoring, bracing, and anchorage.
3. Form liners.
4. Form accessories.
5. Form stripping.

B. Related Sections:

1. Section 03 20 00 - Concrete Reinforcing.
2. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

A. American Concrete Institute:

1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
2. ACI 301 - Specifications for Structural Concrete.
3. ACI 302 - Guide to Concrete Floor and Slab Construction
4. ACI 318 - Building Code Requirements for Structural Concrete.
5. ACI 347 - Guide to Formwork for Concrete.

B. American Forest and Paper Association:

1. AF&PA - National Design Specifications for Wood Construction.

C. The Engineered Wood Association:

1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.

D. American Society of Mechanical Engineers:

1. ASME A17.1 - Safety Code for Elevators and Escalators.

E. ASTM International:

1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
2. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.

F. West Coast Lumber Inspection Bureau:

1. WCLIB - Standard Grading Rules for West Coast Lumber.

1.3 DESIGN REQUIREMENTS

- A. Design, engineer, and construct formwork, shoring and bracing in accordance with ACI 301 and ACI 318 and as recommended in ACI 347 to conform to design and applicable code

requirements to achieve concrete shape, line and dimension as indicated on Drawings including any special requirements due to the use of plasticizer and/or retarder set concrete.

1.4 PERFORMANCE REQUIREMENTS

A. Plastic Vapor Retarder

1. Performance-Based Specification: Vapor retarder membrane shall be manufactured from virgin polyolefin resins and shall meet or exceed all requirements of ASTM E1745, Class A.
2. Maximum Water Vapor Permeance (ASTM E154 Sections 7, 8, 11, 12, 13, by ASTM E96, Method B or ASTM F1249)
 - a. As received: 0.0183 perms.
 - b. After Wetting and Drying: 0.0219 perms.
 - c. Resistance to Plastic Flow and Temperature: 0.0197 perms.
 - d. Effect Low Temperature and Flexibility: 0.0212 perms
 - e. Resistance to Deterioration from Organisms and Substances in Contacting Soil: 0.0198 perms.
 - f. Puncture Resistance (ASTM D1709): 4,394 grams.
 - g. Tensile Strength ASTM E154, Section 9: 52 Lb. Force/Inch

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: All forms and shoring shall be designed by a professional engineer in the State of Texas.

1. Submit formwork, shoring, and re-shoring shop drawings.
2. Indicate the following:
 - a. Pertinent dimensions, openings, methods of construction, types of connections, materials, joint arrangement and details, ties and shores, location of framing, studding and bracing, and temporary supports.
 - b. Layout of panels joints and tie hole pattern
 - c. Means of sealing form tie holes.
 - d. Sequence and timing of erection and stripping assumed compressive strength at time of stripping, height of lift and height of drop during placement.
 - e. Vertical, horizontal and special loads in accordance with ACI 347, Section 2.2 and camber diagrams, when applicable.
 - f. Notes to formwork erector showing size and location of conduits and piping embedded in concrete in accordance with ACI 318, Section 6.3.
 - g. Procedure and schedule for removal of shores and installation and removal of re-shores.

C. Product Data: Submit data on void form materials and installation requirements.

D. Design Data:

1. Indicate design data for formwork and shoring.
2. Indicate loads transferred to structure during process of concreting, shoring and re-shoring.
3. Include structural calculations to support design.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347.
- B. For wood products furnished for work of this Section, comply with AF&PA.
- C. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

- A. Design formwork under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Texas.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Products storage and handling requirements.
- B. Deliver void forms and installation instructions in manufacturer's packaging.
- C. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.9 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate this Section with other sections of work, requiring attachment of components to formwork.

PART 2 PRODUCTS

2.1 GENERAL

- A. Forms used for cast-in-place concrete shall be made of wood, metal, or other approved material and shall be like new to new condition.

2.2 WOOD FORM MATERIALS

- A. Plywood: Douglas Fir, solid one side grade, sound undamaged sheets with clean, true edges free from knotholes or loose knots.
- B. Lumber Forms:
 - 1. Application: Use for edge forms and unexposed finish concrete.
 - 2. Boards: 6 inches or 8 inches in width, ship-lapped or tongue and groove, "Standard" Grade Douglas Fir, conforming to WCLIB Standard Grading Rules for West Coast Lumber. Surface boards on four sides.
- C. Plywood Forms:
 - 1. Application: Use for exposed finish concrete.

2. Forms: Conform to PS 1; full size 4 x 8 feet panels; each panel labeled with grade trademark of APA/EWA.
3. Plywood for Surfaces to Receive Membrane Waterproofing: Minimum of 5/8 inch thick; APA/EWA "B-B Plyform Structural I Exterior" grade.
4. Plywood "Smooth Finish" is required on both the interior and exterior exposed faces: APA/EWA "HD Overlay Plyform Structural I Exterior" grade, minimum of 3/4 inch thick.

2.3 PREFABRICATED FORMS

- A. Manufacturers:
 1. Meva
 2. Peri
 3. Substitutions: Not Permitted.
- B. Preformed Forms: Plastic facing, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Circular Structures: For circular structures straight panels may be substituted for circular panels if the each panel is not more than 2 feet in width nor deflect more than 3.5 degrees per joint.
- D. Tubular Column Type: Fabricated steel or fiber reinforced plastic in bolted sections.
- E. Steel Forms: Sheet steel, suitably reinforced, and designed for particular use indicated on Drawings.
- F. Form Liners: Smooth, durable, grainless and non-staining.

2.4 ACCESSORIES

- A. Form Ties: removable type, steel, conical or spherical type, with waterproofing washer, free of defects capable of leaving holes larger than 1-1/4 inch in concrete surface.
- B. Spreader Inserts: Conical or spherical type, designed to maintain positive contact with forming material leaving no metal closer than 1.5" to surface when removed. Wire ties, wood spreaders or through bolts are not permitted.
- C. Form Anchors and Hangers:
 1. Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface.
 2. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member.
 3. Penetration of structural steel members is not permitted.
- D. Form Release Agent: Ready to use water based material formulated to reduce or eliminate surface imperfections, containing no mineral oil or organic solvents. Form release agents used in potable water containment structures shall be suitable for contact with potable water.
 1. Manufacturers:
 - a. BASF, Rheofinish 211

- b. Cresset Chemical, Crete-Lease 20-VOC
 - c. Unitex Chemical, Farm Fresh
 - d. Atlas Construction Supply, Bio-Guard
 - e. Substitutions: Not Permitted.
- E. Corners: Chamfer, rigid plastic type; 0.75" x 0.75" size; maximum possible lengths.
- 1. Manufacturers:
 - a. Greenstreak Plastic Products; Style Number 622
 - b. Substitutions: Section 01 60 00 - Product Requirements.
- F. Pre-molded Joint Filler:
- 1. Bituminous Type: ASTM A994 or ASTM D1751.
 - 2. Sponge Rubber:
 - a. Neoprene, closed cell, expanded; ASTM D1056, Type 2C5, with compression deflection, 25% deflection limit. Use in both potable and non-potable water containing structures.
 - b. Manufacturer: Rubatex Corp; R-451-N
- G. Pre-molded Control Joint: One piece flexible, polyvinyl chloride joint former.
- 1. Manufacturers:
 - a. Vinylex Corp, Kold-Seal Zip-Per Strip KSF-150-50-50.
- H. Vapor Retarder: Where indicated on Drawings, 10 mil thick polyethylene sheet, as specified in Part 1 above.
- I. Pourable Joint Filler:
- 1. Type 1 for Potable Water Containment Structures
 - a. NSF 61 approved
 - b. Multi-component sealant, self-leveling or nonsag as required for level, sloping, or vertical joints.
 - c. Color: White
 - d. Manufacturers
 - Sika Chemical; Sikaflex-2C or Sikaflex-1A
 - Product Research Chemical; Permapol RC-270SL Reservoir Sealant or RC-270 Gun Grade Reservoir Sealant with PRC Primer No. 57
 - 2. Type 2 for Other Water Containment Structures
- J. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.
- K. PVC Water Stops: Use PVC water stops throughout, unless approved by Engineer. Polyvinyl chloride, minimum 1,750 psi tensile strength, minimum 50 degrees F plus 175 degrees F working temperature range, 3/8 inch wide, maximum possible lengths, center bulb type, ribbed profile, preformed corner sections, heat welded jointing.
- 1. Manufacturers:
 - a. Vinylex Corp, RB6-38H or RB9-38H
 - b. Greenstreak Plastic Products, 03150/GRD Style 732 or Style 735
 - c. Four Seasons Industries Durajoint, CSP-162 Type 9 or Type 10.
 - d. Substitutions: Not Permitted.

- L. Hydrophilic Water Stop: Use hydrophilic water stops only for construction joints where new concrete is placed against existing concrete and only where space requirements do not allow for the use of PVC water stops. Material shall be non-bentonite rubber compound.
 1. Manufacturers:
 - a. Greenstreak Plastic Products, Hydrotite CJ-1020-2K with Leakmaster LV-1 adhesive and sealant.
 - b. Adeka Ultra Seal, MC-2010M with 3M-2141 adhesive and P-201 sealant.
 - c. Substitutions: Not Permitted.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- C. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Engineer.

3.2 INSTALLATION

- A. Earth Forms:
 1. Trench earth forms are allowed only for below ground grade beams for concrete foundations.
 2. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 3. Trim sides and bottom of earth forms.
 4. Construct wood edge strips at top of each side of trench to secure reinforcing and prevent trench from sloughing.
 5. Form sides of footings where earth sloughs.
 6. Tamp earth forms firm and clean forms of debris and loose material before depositing concrete.
- B. Formwork - General:
 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
 2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
 3. Camber forms where necessary to produce level finished soffits unless otherwise shown on Drawings.
 4. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
 5. Complete wedging and bracing before placing concrete.

- C. Forms for Smooth Finish Concrete:
 - 1. Use steel, plywood or lined board forms.
 - 2. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
 - 3. Install form lining with close-fitting square joints between separate sheets without springing into place.
 - 4. Use full size sheets of form lines and plywood wherever possible.
 - 5. Tape joints to prevent protrusions in concrete.
 - 6. Use care in forming and stripping wood forms to protect corners and edges.
 - 7. Level and continue horizontal joints.
 - 8. Keep wood forms wet until stripped.
 - D. Forms for Surfaces to Receive Membrane Waterproofing: Use plywood or steel forms. After erection of forms, tape form joints to prevent protrusions in concrete.
 - E. Framing, Studding and Bracing:
 - 1. Space studs at 16 inches on center maximum for boards and 12 inches on center maximum for plywood.
 - 2. Size framing, bracing, centering, and supporting members with sufficient strength to maintain shape and position under imposed loads from construction operations.
 - 3. Construct beam soffits of material minimum of 2 inches thick.
 - 4. Distribute bracing loads over base area on which bracing is erected.
 - 5. When placed on ground, protect against undermining, settlement or accidental impact.
 - F. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 318.
 - G. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
 - H. Obtain Engineer's approval before framing openings in structural members not indicated on Drawings.
 - I. Install fillet and chamfer strips on external corners of all exposed surfaces of beams, walls, foundations, pump and housekeeping pads, and columns.
 - J. Install void forms in accordance with manufacturer's recommendations.
 - K. Do not reuse wood forms for concrete surfaces to be exposed to view unless in a like "new" condition and approved by the Engineer. Do not patch formwork.
- 3.3 APPLICATION - FORM RELEASE AGENT
- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
 - B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.

- C. Do not apply form release agent where concrete surfaces are indicated to receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.
- D. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Do not coat forms for concrete indicated to receive "scored finish". Apply form coatings before placing reinforcing steel.

3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Install water stops continuous without displacing reinforcement. Heat seal joints watertight.
- F. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- G. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- H. Form Ties:
 - 1. Use sufficient strength and sufficient quantity to prevent spreading of forms.
 - 2. Place ties at least 1 inch away from finished surface of concrete.
 - 3. Leave inner rods in concrete when forms are stripped.
 - 4. Space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on Drawings.
- I. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- J. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.
 - 4. Arrange joints in continuous line straight, true and sharp.

- K. Embedded Items:
 - 1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, water stops, and other features.
 - 2. Do not embed wood or uncoated aluminum in concrete.
 - 3. Obtain installation and setting information for embedded items furnished under other Specification sections.
 - 4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
 - 5. Verify conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318 for size and location limitations.

- L. Openings for Items Passing Through Concrete:
 - 1. Frame openings in concrete where indicated on Drawings. Establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections.
 - 2. Coordinate work to avoid cutting and patching of concrete after placement.
 - 3. Perform cutting and repairing of concrete required as result of failure to provide required openings.

- M. Screeds:
 - 1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
 - 2. Slope slabs to drain where required or as shown on Drawings.
 - 3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.

- N. Screenshot Supports:
 - 1. For concrete over waterproof membranes and vapor retarder membranes, use cradle, pad or base type screed supports which will not puncture membrane.
 - 2. Staking through membrane is not permitted.

- O. Cleanouts and Access Panels:
 - 1. Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris and waste material.
 - 2. Clean forms and surfaces against which concrete is to be placed. Remove chips, saw dust and other debris. Thoroughly blow out forms with compressed air just before concrete is placed.

3.5 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.

3.6 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads and removal has been approved by Engineer.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Leave forms in place for minimum number of days as specified in ACI 347.

3.7 ERECTION TOLERANCES

- A. Tolerances: Construct formwork to produce completed concrete surfaces within construction tolerances specified in ACI 117 and ACI 347.
- B. Camber slabs and beams $\frac{1}{4}$ inch per 10 feet in accordance with ACI 318.

3.8 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- C. Notify Architect/Engineer after placement of reinforcing steel in forms, but prior to placing concrete.
- D. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Reinforcing bars.
2. Welded wire fabric.
3. Reinforcement accessories.

B. Related Sections:

1. Section 03 10 00 - Concrete Forming and Accessories.
2. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete
2. ACI 315 - Details and Detailing of Concrete Reinforcement
3. ACI 318 - Building Code Requirements for Structural Concrete.
4. ACI 530.1 - Specifications for Masonry Structures.
5. ACI SP-66 - Detailing Manual.

B. ASTM International:

1. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
3. A185/A185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
4. ASTM A496/A496M - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
5. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
6. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
7. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
8. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.

C. American Welding Society:

1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.

D. Concrete Reinforcing Steel Institute:

1. CRSI - Manual of Standard Practice.
2. CRSI - Placing Reinforcing Bars.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures
- B. Shop Drawings:
 - 1. Prepare in accordance with ACI SP-66 Detailing Manual.
 - 2. Indicate bar sizes, spacing, locations, and quantities of reinforcing steel and welded wire fabric, bending and cutting schedules, and supporting and spacing devices.
- C. Certificates: Submit AWS qualification certificate for welders employed on the Work per AWS S1.4/D1.4M.
- D. Test Results:
 - 1. Submit certified copies of mill test report of reinforcement materials analysis.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI - Manual of Standard Practice and ACI 301.
- B. Prepare shop drawings in accordance with ACI SP-66.
- C. Maintain one copy of each document on site.

1.5 QUALIFICATIONS

- A. Welders: AWS qualified within previous 12 months.

1.6 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate with placement of formwork, formed openings and other Work.

PART 2 PRODUCTS

2.1 REINFORCEMENT

- A. Materials shall be new, of domestic manufacture, and shall comply with the following material specifications.
- B. Reinforcing Steel: All reinforcing bars to be deformed billet-steel, uncoated as follows:
 - 1. Where welding is not required, ASTM A615/A615M, Grade 60, deformed billet bars, uncoated finish.
 - 2. Where reinforcing to be welded, ASGM A706/A706M, Grade 60.
- C. Welded Plain Wire Fabric: ASTM A185/A185M; in flat sheets, not rolls or coils; unfinished.
- D. Mechanical Splices and Connections:

1. Metal Sleeve Splice: Furnish with cast iron filler metal capable of developing 125% of tensile bar strength. Manufacturer shall be Erico Products, Cadweld T-Series.
2. Mechanical Threaded Connections: Furnish with metal coupling sleeve with internal threads engaging threaded ends of bars developing 125% of yield strength of bar. Manufacturer shall be Erico Products, Lenton Reinforcing Steel Couplers or Richmond Screw Anchor, Richmond DB-SAE Dowel Bar Splicers.

2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage black annealed type wire
- B. Chairs, Bolsters, Bar Supports, Spacers: CRSI Bar Support Specifications, Class 2 – Moderate Protection, stainless steel. Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor retarder puncture.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather or Water Exposed Concrete Surfaces: CRSI Bar Support Specifications, Class 1 – Maximum Protection plastic tipped; size and shape to meet Project conditions.
- D. Epoxy Coating Patching Material: Type as recommended by coating manufacturer.

2.3 CONCRETE DOWELING

- A. Meet requirements of ASTM C881/C881M.
- B. Use two component, insensitive to moisture, designed to be installed in adverse freeze/thaw environments.
- C. Manufacturers:
 1. Hilti, HIT Doweling Anchor System, HIT RE 500 SD.
 2. ITW Ramset/Red Head, Epcon Ceramic 6 Epoxy or A7 Adhesive Anchor System
 3. Simpson Strong-Tie, Epoxy Adhesive ET22.
 4. Covert Operations, CIA-Gel 7000 Epoxy Anchors
 5. Unitex, Pro-Poxy 300 Fast Epoxy Adhesive Anchors.

2.4 FABRICATION

- A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice.
- B. Form standard hooks for 180 degree bends, 90 degree bend, stirrup and tie hooks, and seismic hooks as indicated on Drawings.
- C. Form reinforcement bends with minimum diameters in accordance with ACI 318
- D. Fabricate column reinforcement with offset bends at reinforcement splices.
- E. Form spiral column reinforcement from minimum 3/8 inch diameter continuous deformed bar or wire.

- F. Form ties and stirrups from the following:
 - 1. For bars No. 10 and Smaller: No. 3 deformed bars.
 - 2. For bars No. 11 and Larger: No. 4 deformed bars.
- G. Weld reinforcement in accordance with AWS D1.4.
- H. Reinforcement: Clean surfaces, weld and re-protect welded joint in accordance with CRSI
- I. Locate reinforcement splices not indicated on Drawings, at point of minimum stress. Review location of splices with Engineer.

PART 3 EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position beyond specified tolerance.
 - 1. Do not weld crossing reinforcement bars for assembly except as permitted by Engineer.
- B. Do not displace or damage vapor retarder.
- C. Accommodate placement of formed openings.
- D. Install dowel embeds per manufacturer's requirements using an electric or pneumatic rotary drill with medium or light impact. Drills shall have an air flushing system.
- E. Do not field bend reinforcement unless approved by Engineer. Do not heat bars.
- F. Provide additional reinforcement around openings equivalent to one-half the cross-sectional area of the reinforcing steel interrupted by the opening.
- G. Lap splices shall be Class B tension lap splices per ACI 350.
- H. Use stainless steel chairs with stainless steel tips where exposed to weather or liquid. Use plastic tipped metal chairs in all other locations.
- I. Space reinforcement bars with minimum clear spacing in accordance with ACI 318 of one bar diameter, but not less than 1 inch.
 - 1. Where bars are indicated in multiple layers, place upper bars directly above lower bars.
- J. Maintain concrete cover around reinforcement in accordance with ACI 318 as follows:

Reinforcement Location		Minimum Concrete Cover
Footings and Concrete Formed Against Earth		3 inches
Concrete exposed to earth or weather	No. 6 bars and larger	2 inches
	No. 5 bars and smaller	1-1/2 inches
Supported Slabs, Walls, and Joists	No. 14 bars and larger	1-1/2 inches
	No. 11 bars and smaller	3/4 inches
Beams and Columns		1-1/2 inches
Shell and Folded Plate Members	No. 6 bars and larger	3/4 inches
	No. 5 bars and smaller	1/2 inches

- K. Splice reinforcing where indicated on Drawings in accordance with splicing device manufacturer's instructions.
- L. Bond and ground reinforcement in accordance with requirements of Section 26 05 26.

3.2 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Install reinforcement within the following tolerances for flexural members, walls, and compression members:

Reinforcement Depth	Depth Tolerance	Concrete Cover Tolerance
Greater than 8 inches	plus or minus 3/8 inch	minus 3/8 inch
Less than 8 inches	plus or minus 1/2 inch	minus 1/2 inch

- C. Install reinforcement within the tolerances specified in ACI 530.1 for foundation walls.

3.3 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Perform field inspection and testing in accordance with ACI 318.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Reinforcement Inspection:
 1. Placement Acceptance: Specified and ACI 318 material requirements and specified placement tolerances.
 2. Welding: Inspect welds in accordance with AWS D1.1.
 3. Periodic Placement Inspection: Inspect for correct materials, fabrication, sizes, locations, spacing, concrete cover, and splicing.
 4. Weldability Inspection: Inspect for reinforcement weldability when formed from steel other than ASTM A706/A706M.

5. Continuous Weld Inspection: Inspect reinforcement as required by ACI 318.
6. Periodic Weld Inspection: Other welded connections.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes the requirements for all cast-in-place concrete.
- B. Related Sections:
 - 1. Section 03 10 00 - Concrete Forming and Accessories: Formwork and accessories.
 - 2. Section 03 20 00 - Concrete Reinforcing.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - 2. ACI 301 - Specifications for Structural Concrete.
 - 3. ACI 305 - Hot Weather Concreting.
 - 4. ACI 306.1 - Standard Specification for Cold Weather Concreting.
 - 5. ACI 308.1 - Standard Specification for Curing Concrete.
 - 6. ACI 318 - Building Code Requirements for Structural Concrete.
- B. ASTM International:
 - 1. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 - 2. ASTM C33 - Standard Specification for Concrete Aggregates.
 - 3. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 4. ASTM C42/C42M - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
 - 5. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
 - 6. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
 - 7. ASTM C150 - Standard Specification for Portland Cement.
 - 8. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
 - 9. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - 10. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - 11. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 - 12. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
 - 13. ASTM C685/C685M - Standard Specification for Concrete Made By Volumetric Batching and Continuous Mixing.
 - 14. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
 - 15. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
 - 16. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.

17. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
18. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
19. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
20. ASTM C1218/C1218M - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
21. ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
22. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
23. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
24. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
25. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
26. ASTM E1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.
27. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

1.3 PERFORMANCE REQUIREMENTS

- A. Vapor Retarder Permeance: Per Section 03 10 00.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on joint devices, attachment accessories, and admixtures.
- C. Design Data:
 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - b. Air entrained concrete work.
 2. Identify mix ingredients and proportions, including admixtures.
 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
- D. Manufacturer's Installation Instructions: Submit installation procedures and interface required with adjacent Work.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Accurately record actual locations of embedded utilities and components concealed from view in finished construction.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 318.
- B. Conform to ACI 305 when concreting during hot weather, except as amended herein.
- C. Conform to ACI 306.1 when concreting during cold weather, except as amended herein.
- D. Acquire cement and aggregate from one source for Work.
- E. Batch Plant: Currently certified by the National Ready Mixed Concrete Association
- F. Mix Designer: Licensed professional engineer registered in the State of Texas or TXDOT approved mix designer.
- G. Maintain one copy of each document on site.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.
- B. Maintain concrete temperature after installation at minimum 50 degrees F for minimum 7 days.

1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, **Type I – General Purpose**
 - 1. Meet ASTM C150.
 - 2. Alkalies: Less than 60%.
- B. Normal Weight Aggregates: ASTM C33 furnished from a single source.
 - 1. Meet ASTM C33.
 - 2. Coarse Aggregate: In accordance with ACI 318 consisting of natural gravels, crushed gravels, crushed stone, or combination of these materials containing no more than 15% of flat, elongated particles (long dimension no more than 5 times short dimension). No more than 0.5% of coarse aggregate passing a 200 sieve.
 - 3. Fine Aggregate: Clean, sharp natural sand per ASTM C33 with no more than 4% of fine aggregate passing a 200 sieve.

- C. Water: ACI 318; potable, less than 250 ppm of chlorides.

2.2 ADMIXTURES

- A. General: Compatible with other admixtures and free from chlorides or other corrosive chemicals.
- B. Fly Ash (Pozzolan): NOT ALLOWED
- C. Air Entrainment:
 - 1. ASTM C260, non-toxic after 30 days containing no chlorides.
 - 2. Concrete with air-entrainment admixture shall maintain air percentage, as batched, within plus or minus 2% for the time required for placement.
- D. High Range Water Reducing Admixture (Superplasticizer): ASTM C494/C494M.
 - 1. Hold slump of 5" or greater for time required for placement.
 - 2. Use Type F or Type G.
 - 3. Manufacturers
 - a. BASF Admixtures Inc.; Rheobuild
 - b. Euclid Chemical Co.; Eucon 537
 - c. WR Grace & Co.; Daracem 100
- E. Water Reducing Admixture: ASTM C494/C494M, Type A or Type D.
 - 1. Manufacturers:
 - a. BASF Admixtures Inc.; Pozzolith or Polyheed
 - b. Euclid Chemical Co.; Eucon WR-91
 - c. WR Grace & Co.; HYCOL
- F. Silica Fume: Not Allowed.

2.3 ACCESSORIES

- A. Bond Breaker:
 - 1. Manufacturers:
 - a. Burke Co.; Burke Clean Lift Bond Breaker or Burke Tilt Free Bond Breaker
 - b. Nox-Crete Products Group; Silcoseal Select
 - c. Williams Distributors, Inc.; Williams Tilt-Up Compound.
 - d. Substitutions: Not Permitted.
- B. Bonding Agent: Two component modified epoxy resin.
 - 1. Manufacturers:
 - a. BASF Building Systems, Inc.; Concrecive
 - b. Euclid Chemical Co.; Euco Epoxy System
 - c. Sika Chemical Corp.; Sikadur 32.
 - d. Substitutions: Not Permitted.
- C. Vapor Retarder: ASTM E1745 Class A; 10 mil thick clear polyethylene film type recommended for below grade application. Furnish joint tape recommended by manufacturer.

- D. Non-Shrink Grout: ASTM C1107/C1107M; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 4,000 psi in 24 hours and 7,000 psi in 7 days.
 - 1. Manufacturers:
 - a. Euclid Chemical Company, Euco N-S Grout
 - b. Master Builders Masterflow 713
 - c. U.S. Grout Corp, Five Star Grout
 - d. Substitutions: Not Permitted.

- E. Concrete Reinforcing Fibers: ASTM C1116, high strength industrial-grade fibers specifically engineered for secondary reinforcement of concrete. Tensile strength -130 ksi; toughness, 15 ksi, 3/4 inch long fibers, 34 million/lb fiber count.
 - 1. Manufacturers:
 - a. W. R. Grace
 - b. Fibermesh
 - c. Forta
 - d. ProMesh
 - e. Substitutions: Section 01 60 00 - Product Requirements.

2.4 JOINT DEVICES AND FILLER MATERIALS

- A. Sealant and Primer: As approved by Engineer.

2.5 CONCRETE MIX DESIGN

- A. Design: Select and proportion ingredients using trial batches; sample, cure, and test concrete mix through approved independent testing laboratory in accordance with ACI 211.1
 - 1. Concrete Backfill and Concrete Encasement: Design for 2,000 psi at 28 days using 3/4-inch aggregate, 6" maximum slump, and 0.67 maximum water to cement ratio.
 - 2. Mud Slabs, Thrust Blocking, and Rip-Rap: Design for 2,500 psi at 28 days using 3/4-inch aggregate, 4.5" maximum slump and 0.48 maximum water to cement ratio.
 - 3. Structural Concrete Compressive Strength (F'c):
 - a. 4,000 psi at 28 days, unless otherwise shown.
 - b. 3,600 psi at 28 days for secondary concrete elements such as valley gutter, ribbon curb, curb and gutter and sidewalks (unless indicated otherwise).
 - c. Design lab-cured trial mix cylinders.
 - d. Use additional concrete above minimum specified to attain required average compressive strength (F'cr).
 - e. Use F'cr as basis for selecting concrete proportions as set forth in ACE 301.
 - f. F'cr: Equal to F'c plus 1,200 when data is not available to establish standard deviation.

- B. Proportions:
 - 1. Select proportions for normal weight concrete in accordance with ACI 211.1.
 - 2. Unless specifically stated otherwise, water to cement ratio shall control the amount of total water added to concrete as follows:

Course Aggregate Size (inches)	Water to Cement Ratio	
	Max. W/C Ratio (Superplasticizer)	Max. W/C Ratio (No Superplasticizer)

1-1/2	0.40	0.44
1	0.40	0.44
3/4	0.40	0.44

3. Minimum Cement Content:
 - a. 517 lbs./cu. yd. for 1-1/2" aggregate size.
 - b. 540 lbs./cu. yd. for 1" aggregate size.
 - c. 564 lbs./cu. yd. for 3/4" aggregate size.
 - d. Increase cement, as required, to obtain strength requirements and water-cement ratio.

- C. Select proportions for concrete in accordance with ACI 318 without trial mixtures or field experience when approved by Engineer.

- D. Admixtures: Include admixture types and quantities indicated in concrete mix designs only when approved by Engineer.
 1. Use accelerating admixtures in cold weather. Use of admixtures will not relax cold weather placement requirements.
 2. Do not use fly ash in any mix design.
 3. Do not use calcium chloride nor admixtures containing calcium chloride.
 4. Use water reducers in all structural concrete.
 5. Use high range water reducers (superplasticizers) for all wall concrete and at the Contractor's option for slab or other than walls for workability.
 6. Air Content: 4% to 6% when tested per ACI C231.

- E. Slump Range at Site:
 1. 4.5" minimum, 8" maximum for concrete with high range water reducing admixture.
 2. 3" minimum and 5" maximum for concrete without high range water reducing admixture.

- F. Average Compressive Strength Reduction: Not permitted.

- G. Ready Mixed Concrete: Mix and deliver concrete in accordance with ASTM C685/C685M.

- H. Site Mixed Concrete: Mix concrete in accordance with ACI 318.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

- B. Verify requirements for concrete cover over reinforcement.

- C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Remove laitance, coatings, and unsound materials.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- C. Remove debris and ice from formwork, reinforcement, and concrete substrates.
- D. Remove water from areas receiving concrete before concrete is placed.
- E. Joints:
 - 1. Locate expansion, control, contraction, and construction joints where shown.
 - 2. If not shown, provide construction joints at a maximum spacing of 40 feet.
 - 3. Vertical construction joints may not be greater than 20 feet from wall corners or intersections.

3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301 and ACI 304R, except as modified herein.
- B. Notify testing laboratory and Engineer minimum 24 hours prior to commencement of operations.
- C. Discharge time: Not to exceed 90 minutes, unless otherwise approved by Engineer.
- D. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and reinforcement supports are not disturbed during concrete placement.
- E. Install vapor retarder under interior slabs on grade in accordance with ASTM E1643. Lap joints minimum 6 inches and seal watertight by adhesive applied between overlapping edges and ends.
- F. Repair vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.
- G. Separate slabs on grade from vertical surfaces with 2 inch thick joint filler.
- H. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- I. Install joint device anchors. Maintain correct position to allow joint cover to be flush with floor and wall finish.
- J. Install joint covers in longest practical length, when adjacent construction activity is complete.
- K. Apply sealants in joint devices as approved by Engineer.

- L. Deposit concrete at final position. Prevent segregation of mix.
- M. Place concrete in continuous operation for each panel or section determined by predetermined joints.
- N. Consolidate concrete.
- O. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- P. Place concrete continuously between predetermined expansion, control, and construction joints.
- Q. Do not interrupt successive placement; do not permit cold joints to occur.
- R. Place floor slabs in checkerboard or saw cut pattern.
- S. Saw cut joints within 12 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- T. Screed floors and slabs on grade level, maintaining surface flatness of a maximum of 1/8 inch in 10 feet.
- U. Cold Weather:
 - 1. Do not place when ambient temperature is below 40 degrees F.
 - 2. Maintain surface temperature above 40 degrees F at all times.
 - 3. Provide surface thermometers to monitor surface temperatures during curing.
 - 4. Conform to ACI 306.1 and ACI 301 requirements.
- V. Hot Weather:
 - 1. Prepare, mix, place, cure, and protect per ACI 305R.
 - 2. Maintain concrete temperature below 90 degrees F at all times.
 - 3. Spray evaporation retardant on all exposed surfaces when temperature is greater than 90 degrees F.
 - 4. Ensure that admixtures do not produce flash set plastic shrinkage or cracking from heat of hydration.

3.4 SEPARATE FLOOR TOPPING

- A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.
- B. Place required dividers, edge strips, reinforcing, and other items to be cast in.
- C. Apply bonding agent to substrate.
- D. Place concrete floor toppings to required lines and levels. Place topping in checkerboard panels, dimension not to exceed 20 feet.
- E. Screed toppings level, maintaining surface flatness of 1/8 inch in 10 feet.

3.5 CONCRETE FINISHING

- A. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1/4 inch per foot as indicated on Drawings.

3.6 CURING AND PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
 - 1. Protect concrete footings from freezing for minimum 5 days.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 7 days.
- D. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
- E. Backfill: Do not backfill against walls for a minimum of 28 days after placement, unless otherwise approved by the Engineer. Place backfill uniformly across the wall.

3.7 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Field inspection and testing will be performed by Owner's testing laboratory in accordance with ACI 318.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- E. Concrete Inspections:
 - 1. Continuous Placement Inspection: Inspect for proper installation procedures.
 - 2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.
- F. Strength Test Samples:
 - 1. Sampling Procedures: ASTM C172.
 - 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
 - 3. Sample concrete and make one set of four cylinders for every 150 cubic yards or less of each class of concrete placed each day and for every 5,000 square feet of surface area for slabs and walls.
 - 4. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
 - 5. Make one additional cylinder during cold weather concreting, and field cure.

- G. Field Testing:
 - 1. Slump Test Method: ASTM C143/C143M.
 - 2. Air Content Test Method: ASTM C173/C173M.
 - 3. Temperature Test Method: ASTM C1064/C1064M.
 - 4. Measure slump and temperature for each compressive strength concrete sample.
 - 5. Measure air content in air entrained concrete for each compressive strength concrete sample.
- H. Cylinder Compressive Strength Testing:
 - 1. Test Method: ASTM C39/C39M.
 - 2. Test Acceptance: In accordance with ACI 318
 - 3. Test one cylinder at 7 days.
 - 4. Test two cylinders at 28 days.
 - 5. Retain one cylinder for 28 days for testing when requested by Engineer.
 - 6. Dispose remaining cylinders when testing is not required.
- I. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

3.8 PATCHING

- A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.
- C. Inject leaking cracks with injection epoxy equal to Sikadur 55 SLV.
- D. Patch imperfections as directed by Engineer in accordance with ACI 318.
- E. Provide a structurally sound surface finish, uniform in appearance acceptable to the Engineer.
- F. Tie Holes:
 - 1. Fill with non-shrink grout.
 - 2. Match color of concrete.
 - 3. Compact using steel hammer or steel tool to high density.
 - 4. Cure with water.

3.9 WATER LEAKAGE

- A. Water Containing Structures:
 - 1. Conduct leakage test after concrete has attained full design strength.
 - 2. Perform leakage test before backfill is placed against the structure or coatings have been installed.
 - 3. Install temporary plugs, bulkheads, or blind flanges as required for a complete seal.
 - 4. Fill with water to maximum liquid level and maintain for 48 hours prior to start.
 - 5. Measure water level for 72 hours after initial filling.
 - 6. Volume loss shall not exceed 0.1% of liquid volume over the test period.
 - 7. No visible seepage or damp areas shall be allowed.

3.10 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by Engineer.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.
- D. Repair all concrete damaged by construction

END OF SECTION

SECTION 31 25 12 – STORM WATER POLLUTION PREVENTION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Documentation to be prepared and signed by Contractor before conducting construction operations, in accordance with the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit Number TXR 150000, latest issue date (the Construction General Permit).
2. Implementation, maintenance inspection, and termination of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal, off-site vehicle tracking, and other appropriate practices.
3. Review of the Storm Water Pollution Prevention Plan (SWP3) implementation in a meeting with Engineer prior to start of construction.

B. Related Sections:

1. Section 03 30 00 - Cast-In-Place Concrete.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Storm Water Pollution Prevention Plan:

1. Basis of Measurement: Lump Sum.
2. Basis of Payment: Payment for Storm Water Pollution Prevention Plan shall be made at the lump sum bid for "Storm Water Pollution Prevention Plan." Payment for all work prescribed under this item shall be full compensation for the Storm Water Pollution Prevention Plan including all preparation, submittals, notices, updates, and revisions.

B. Storm Water Pollution Prevention Plan Implementation:

1. Basis of Measurement: Lump Sum.
2. Basis of Payment: Includes all aspects of implementing the SWP3, from Notice of Intent through Notice of Termination.

1.3 REFERENCES

- A. Construction General Permit (TPDES No. TXR 150000).
- B. Clean Water Act.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Submit one copy of the SWP3 to Engineer for record retention purposes only. Engineer will not review or approve the SWP3.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the SWP3 as per the submission of the Notice of Intent.
- B. Maintain one copy of the SWP3 document on site.

1.7 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWP3)

- A. Fulfill all TPDES Construction General Permit (TXR 150000) requirements.
- B. Contractor shall fulfill the role of Primary Operator as defined by the TPDES Construction General Permit (TXR 150000) for this project.
- C. Prepare and submit all required documentation and pay all applicable fees to TCEQ required by the TPDES Construction General Permit (TXR 150000). This includes but is not limited to:
 - 1. Notice of Intent.
 - 2. Site Notices.
 - 3. Notice of Termination.
 - 4. Notification of MS4 Operator.
- D. SWP3:
 - 1. Prepare a SWP3 following Part III of the TPDES Construction General Permit (TXR 150000).
 - 2. Update or revise the SWP3 as needed during the construction following Part III, Section E of the TPDES Construction General Permit (TXR 150000).
 - 3. Submit the SWP3 and any updates or revisions to the Engineer for review and address comments prior to commencing, or continuing, construction activities.
 - 4. Conduct inspections in accordance with TPDES Construction General Permit (TXR 150000).
 - 5. Maintain copies of SWP3, inspection reports, and other documentation as required by TPDES Construction General Permit (TXR 150000).

3.2 SWP3 IMPLEMENTATION

- A. Implement SWP3 utilizing state of the art Best Management Practice controls as required by the Construction General Permit, the site specific SWP3, and local government.
- B. Inspect and maintain controls throughout the course of construction per the Construction General Permit requirements.
- C. Remove controls per the Construction General Permit requirements.
- D. On-Site Waste Material Storage:
 - 1. On-site waste material storage shall be self-contained and shall satisfy appropriate local, state, and federal rules and regulations.
 - 2. Prepare list of waste material to be stored on-site. Update list as necessary to include up-to-date information. Keep a copy of updated list with the SWP3.
 - 3. Prepare description of controls to reduce pollutants generated from on-site storage. Include storage practices necessary to minimize exposure of materials to storm water, and spill prevention and response measures consistent with best management practices. Keep a copy of the description with the SWP3.

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Aggregate base course.
2. Concrete paving for:
 - a. Concrete streets and roads.
 - b. Concrete parking lots.
 - c. Concrete curbs and gutters.
 - d. Concrete median barriers.
 - e. Concrete sidewalks.
 - f. Concrete stair steps.
 - g. Concrete driveways.

B. Related Requirements:

1. Section 03 10 00 - Concrete Formwork.
2. Section 03 20 00 - Reinforcement Steel.
3. Section 03 30 00 - Cast in Place Concrete.

1.2 UNIT PRICE MEASUREMENT AND PAYMENT

A. Concrete Paving:

1. Basis of Measurement: Pavement by square yard. Curb & gutter and median barriers by linear foot.
2. Basis of Payment: Includes forms, reinforcing, concrete, joints, accessories, placing, finishing, curing, and testing.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

B. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.

C. ASTM International:

1. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
3. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
6. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
7. ASTM A775/A775M - S Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
8. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
9. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
10. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
11. ASTM C33 - Standard Specification for Concrete Aggregates.
12. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
13. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
14. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
15. ASTM C150 - Standard Specification for Portland Cement.
16. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
17. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
18. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
19. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
20. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
21. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
22. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
23. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
24. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
25. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
26. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
27. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
28. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
29. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
30. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
31. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
32. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

1.4 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

- B. Convene minimum one week prior to commencing work of this section.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data:
 - 1. Submit data on concrete materials, joint filler, admixtures, and curing compounds.
- C. Design Data:
 - 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - 2. Identify mix ingredients and proportions, including admixtures.
 - 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
- D. Source Quality Control Submittals: Indicate results of shop factory tests and inspections.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and the requirements of Section 03 10 00, Section 03 20 00, and Section 03 30 00.
- B. Obtain cementitious materials from same source throughout.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three years documented experience.

1.8 AMBIENT CONDITIONS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.1 CONCRETE PAVING

- A. Form Materials:
 - 1. Form Materials: As specified in Section 03 10 00 - Concrete Formwork.
- B. Reinforcement:
 - 1. Reinforcing Steel: Type specified in Section 03 20 00 - Reinforcement Steel.

- a. Dowel Bars: Dowel bars shall be plain steel bars conforming to ASTM A615 or ASTM A966 and shall be free from burring or other deformation restricting slippage in the concrete. Before delivery to the construction site each dowel bar shall be painted with one coat of paint conforming to MIL-DTL-24441/20A.SSPC Paint 5 or SSPC Paint 25. Metal or plastic collars (when indicated on Drawings) shall be full circular device supporting the dowel until the epoxy hardens.

The sleeves for dowel bars used in expansion joints shall be translucent of an approved design to cover 2 inches (minimum) of the dowel, with a closed end and with a suitable stop to hold the end of the bar at least 1½ inches from the closed end of the sleeve. Sleeves shall be of such design that they will not collapse during construction.

C. Concrete Materials:

1. Concrete Materials shall be as specified in Section 03 30 00 – Cast in Place Concrete.
2. Cement: ASTM C150, Type IA - Air Entraining, Type IIA - Air Entraining.
3. Exposed Aggregate: Gravel washed natural mineral aggregate; furnished from single source.
 - a. Minimum Size: 1/4 inch.
 - b. Maximum Size: 1/2 inch.
 - c. Color: As selected.

2.2 FABRICATION

- A. Fabricate reinforcing in accordance with CRSI Manual of Practice.
- B. Form standard hooks for 180 degree bends and 90 degree bends as indicated on the Drawings.

2.3 MIXES

A. Concrete Mix:

1. Mix and deliver concrete in accordance with ASTM C94/C94M, Option a.
2. Select proportions for normal weight concrete in accordance with ACI 301 Method 1.
3. Provide concrete to the following criteria:
 - a. Compressive Strength: 4000 psi at 28 days.
 - b. Slump: 3 inches to ±1 inch.
 - c. Minimum Cement Content: 564 pounds/cu yd.
 - d. Maximum Water/Cement Ratio: 0.45 (non-air entrained); 0.35 (air entrained).
 - e. Air Entrainment: ASTM C94/C94M; for severe exposure condition; maximum variation of 1.5 percent from required air content.
4. Limit the following cementitious materials to maximum percentage by mass of all cementitious materials:
 - a. Fly Ash: 0 percent. Fly ash shall not be used.
5. Use accelerating admixtures in cold weather only when approved by the Engineer in writing. Use of admixtures will not relax cold weather placement requirements.
6. Use calcium chloride only when approved by the Engineer in writing.
7. Use set retarding admixtures during hot weather only when approved by the Engineer in writing.

2.4 ACCESSORIES

- A. Curing Compound: ASTM C309, Type 2, Class B.

2.5 SOURCE QUALITY CONTROL

- A. Section 03 30 00 – Cast in Place Concrete: Testing.
- B. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of Work.
- C. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.
- D. Test samples in accordance with ASTM C94/C94M.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify compacted base or subgrade is dry and ready to support paving and imposed loads.
 - 1. Proof roll subgrade with two perpendicular passes to identify soft spots.
 - 2. Remove soft subgrade or base and replace with Flexible Base.
- C. Verify gradients and elevations of base are correct.

3.2 PREPARATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- B. Moisten substrate to minimize absorption of water from fresh concrete.
- C. Coat surfaces of manhole frames with oil to prevent bond with concrete paving.
- D. Notify Engineer minimum 24 hours prior to commencement of concreting operations.

3.3 INSTALLATION

- A. Forms:
 - 1. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
 - 2. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- B. Reinforcement:
 - 1. Place reinforcing as indicated on Drawings.
 - 2. Interrupt reinforcing at expansion joints.

3. Provide doweled joints as indicated on Drawings. Dowel bars or other load-transfer units of an approved type shall be placed across joints in the manner as shown on Drawings. They shall be of the dimensions and spacings as shown and held rigidly in the middle of the slab depth in the proper horizontal and vertical alignment of by an approved assembly device to be left permanently in place. The dowel or load-transfer and joint devices shall be rigid enough to permit complete assembly as a unit ready to be lifted and placed into position. A dowel expansion cap or sleeve shall be furnished for each dowel bar used with expansion joints. These caps shall be substantial enough to prevent collapse and shall be placed on the ends of the dowels as shown on Drawings. The caps or sleeves shall fit the dowel bar tightly and the closed end shall be watertight. The portion of each dowel painted with rust preventative paint, as required under paragraph 2.1(B) and shown on Drawings to receive a debonding lubricant, shall be thoroughly coated with asphalt MC-70, or an approved lubricant, to prevent the concrete from bonding to that portion of the dowel. If free-sliding plastic-coated or epoxy-coated steel dowels are used, a lubrication bond breaker shall be used except when approved pullout tests indicate it is not necessary. Where butt-type joints with dowels are designated, the exposed end of the dowel shall be oiled.
 4. Repair damaged galvanizing and/or epoxy coating to match shop finish.
 5. Install tie bars consisting of deformed bars in joints as shown on Drawings. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on Drawings. They shall be held in position parallel to the pavement surface and in the middle of the slab depth. When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. These bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars, two-piece hook bolts can be installed in the female side of the keyed joint provided the installation is made without distorting the keyed dimensions or causing edge slump. If a bent tie bar installation is used, the tie bars shall be inserted through the keyway liner only on the female side of the joint. In no case shall a bent tie bar installation for male keyways be permitted.
- C. Placing Concrete:
1. Place concrete as specified in Section 03 30 00 - Cast in Place Concrete.
 2. Ensure reinforcing, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
 3. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
- D. Joints: Joints shall be constructed as shown on Drawings and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on Drawings. Joints shall not vary more than ½-inch from their designated position and shall be true to line with not more than ¼-inch variation in 10 feet. The surface across the joint shall be tested with a 10-foot straightedge as the joints are finished and any irregularities in excess of ¼-inch shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on Drawings.
1. Place expansion joints as indicated on Drawings. Premolded joint filler of the thickness as shown on Drawings shall extend for the full depth and width of the slab at the joint, except for space for sealant at the top of the slab. The filler shall be securely staked or fastened into position perpendicular to the proposed finished surface. A cap shall be provided to protect the top edge of the filler and to permit the concrete to be placed and

finished. After the concrete has been placed and struck off, the cap shall be carefully withdrawn leaving the space for the premolded filler. The edges of the joint shall be finished and tooled while the concrete is still plastic. Any concrete bridging the joint space shall be removed for the full width and depth of the joint. Align curb, gutter, pavement, and sidewalk joints.

2. Place isolation joints between paving components and building or other structures as indicated on Drawings. Construct isolation joints identically to expansion joints as specified in (1), above. Isolation joints shall not be dowelled.
3. Provide construction joints as indicated on Drawings. Longitudinal construction joints shall be slip-formed or formed against side forms with or without keyways, as shown on Drawings. Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.
4. Install contraction joints at the locations and spacing as shown on Drawings. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Groove or saw cut contraction joints $\frac{1}{4}$ -inch wide at an optimum time as soon as possible after finishing. Cut $\frac{1}{4}$ of depth of slab into the slab. If contraction joint spacing is not indicated on Drawings, maximum contraction joint spacing shall be thirty (30) times the depth of the concrete paving.
5. Seal joints as indicated on Drawings and in accordance with Section 32 13 15.
6. Provide keyways as indicated on Drawings. Form keyways (only female keys permitted) in the plastic concrete by means of side forms or the use of keyway liners that are inserted during the slip-form operations. The keyway shall be formed to a tolerance of $\frac{1}{4}$ inch in any dimension and shall be of sufficient stiffness to support the upper keyway flange without distortion or slumping of the top of the flange. The dimensions of the keyway forms shall not vary more than plus or minus $\frac{1}{4}$ inch from the mid-depth of the pavement. Liners that remain in place permanently and become part of the keyed joint shall be made of galvanized, copper clad, or of similar rust-resistant material compatible with plastic and hardened concrete and shall not interfere with joint reservoir sawing and sealing.

E. Finishing Schedule:

1. Vehicular Paving: Heavy broom.
2. Sidewalk Paving: Light broom.
3. Curbs and Gutters: Light broom.

F. Curing and Protection

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
3. Cure concrete surfaces as specified in Section 03 30 00 – Cast in Place Concrete.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
- C. Maximum Variation From True Position: 1/4 inch.
- D. Maximum Variation in Thickness: 1/4 inch.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Requirements for inspecting, testing.
- B. Inspect reinforcing placement for size, spacing, location, support.
- C. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
- D. Strength Test Samples:
 - 1. Sampling Procedures: ASTM C172.
 - 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
 - 3. Sample concrete and make one set of three standard cylinders for every 50 cu yds or less of each class of concrete placed each day and for every 2500 sf of surface area paving.
 - 4. Make one additional cylinder during cold weather concreting, and field cure.
- E. Field Testing:
 - 1. Slump Test Method: ASTM C143/C143M.
 - 2. Air Content Test Method: ASTM C173/C173M ASTM C231.
 - 3. Temperature Test Method: ASTM C1064/C1064M.
 - 4. Measure slump and temperature for each compressive strength concrete sample.
 - 5. Measure air content in air entrained concrete for each compressive strength concrete sample.
- F. Cylinder Compressive Strength Testing:
 - 1. Test Method: ASTM C39/C39M.
 - 2. Test Acceptance: Average compressive strength of three consecutive test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.
 - 3. Test one cylinder at 7 days.
 - 4. Test one cylinder at 28 days.
 - 5. Retain one cylinder for reserve for testing later when requested by Engineer.
 - 6. Dispose remaining cylinders when testing is not required.
- G. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.6 PROTECTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.
- C. Do not permit vehicular traffic over paving for 14 days (minimum) after finishing.

END OF SECTION

Technical Specifications for TxDOT

The Texas Department of Transportation “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges,” 2014 Edition, is incorporated herein by reference for all intents and purposes. If a standard specified in that document conflicts with a standard included within a bid specifications document, the standard in the bid specifications document controls. If the standard is still unclear, the Engineer will determine which standard controls and his determination shall be final.

Special Specification 3003

Emulsion Treatment (Road Mixed)



1. DESCRIPTION

Mix and compact emulsion, additives, water, and base, with or without asphalt concrete pavement, in the roadway.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and of changes to material sources. The Engineer will verify that the specification requirements are met before the sources can be used. The Engineer may sample and test project materials at any time for verification of properties. Use Tex-100-E for material definitions.

- 2.1. **Emulsion.** Provide an asphalt-emulsion that meets the requirements of Table 2.
- 2.2. **Flexible Base.** Furnish base material that meets the requirements of Item 247, "Flexible Base," for the type and grade shown on the plans, before the addition of emulsion.
- 2.3. **Additive.** Determine the amount and type of additive, if any, during the mix design. When an additive is required, the total amount in the mix will not exceed 1.5% by weight of material.
- 2.3.1. **Lime.** When lime is required, furnish lime that meets the requirements of DMS-6350, "Lime and Lime Slurry," and DMS-6330, "Pre-Qualification of Lime Sources." Use hydrated lime or commercial lime slurry as shown on the plans.
- 2.3.2. **Cement.** When cement is required, furnish hydraulic cement that meets the requirements of DMS-4600, "Hydraulic Cement," and the Department's Hydraulic Cement Quality Monitoring Program (HCQMP). Sources not on the HCQMP will require testing and approval before use.
- 2.3.3. **Fly Ash.** When fly ash is required, furnish fly ash that meets the requirements of DMS-4615, "Fly Ash for Soil Treatment."
- 2.4. **Mix Design.** Submit a mix design to the Engineer for approval, before the start of the project. Include the optimum moisture content, maximum dry density, percent additive, percent additional flexible base, percent existing material, and optimum percent asphalt-emulsion required to meet the mixture requirements in Table 1. Prepare unconfined compressive strength (UCS) specimens in accordance with Tex-113-E. Perform additional mix designs based on existing material variability, as directed by the Engineer.

Table 1
Laboratory Mixture Design Properties¹

Property	Test Procedure	Criteria
Min indirect tensile strength (ITS), psi	Tex-226-F	50
Min unconfined compressive strength (UCS), psi	Tex-117-E, Part II	150
Min retained UCS, psi	Tex-117-E ²	80%

1. Air dry specimens at 77 ±5°F for 72 hr. before testing.
2. Average of three specimens subjected to 10-day capillary moisture absorption before conducting UCS (similar to Tex-117-E, Part I, or Tex-121-E, Part I, without oven drying).

Table 2
Emulsified Asphalt Properties

Test	Method	Min	Max
Residue from distillation, %	AASHTO T 59	60	-
Oil distillate by distillation, %	AASHTO T 59	-	0.5
Sieve Test, %	AASHTO T 59	-	0.1
Penetration, 25°C, dmm	AASHTO T 49	55	95

- 2.5. **Water.** Furnish water free of industrial waste and other objectionable material.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work. Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.

Provide a self-propelled mixer capable of fully mixing the existing road to the depth required, incorporate the asphalt-emulsion and water, and mix the materials to produce a homogeneous material. Provide a mixer with a minimum power of 400 HP. Provide a machine capable of mixing at least 8 ft. (2.4 m) wide and 12 in. (30.5 cm) deep in each pass. The mixer must contain a system for adding asphalt-emulsion with a full width spray bar consisting of a positive displacement pump interlocked to the machine speed so that the amount of emulsion being added is automatically adjusted with changes in machine speed. The emulsion injection system must be capable of incorporating up to 7 gal. per square yard of emulsion. Provide individual valves on the emulsion injection system spray bar that are capable of being turned off as necessary to minimize emulsion overlap on subsequent passes.

4. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans, or as directed.

- 4.1. **Preshaping.** Pulverize existing bituminous surface and all existing pavement layers to the required depth. Incorporate water and additional flexible base during this operation, if needed. Shape roadway material in accordance with applicable bid items to conform to typical sections shown on the plans and as directed before the addition of asphalt-emulsion. Compact the material to support equipment and / or traffic, and to provide depth control during mixing.
- 4.2. **Mixing.** Before mixing, aerate if too wet and add water if too dry. Add emulsion at the percentage determined in Section 3003.2.4., "Mix Design." Monitor the required depth of mixing regularly.

Complete the entire operation of mixing the existing road and incorporating additional flexible base, water, and asphalt-emulsion in one pass. Ensure that each adjacent pass of the mixer overlaps the previous pass by a minimum of 6 in. Use multiple passes if the quality control requirements specified in Article 3003.5., "Quality Control," are not met. If an additional pass of the mixer significantly improves dispersion of the emulsion, use this additional pass for the entire project.

After mixing, the Engineer will sample the mixture at roadway moisture and test in accordance with Tex-101-E, Part III, to determine compliance with the gradation requirements in Table 3.

Table 3
Gradation Requirements

Sieve Size	Percent Passing
1-3/4 in.	100
3/4 in.	85

4.3. **Application of Additive.** Uniformly apply additive in advance of the mixer. Minimize dust and scattering of additives by wind. Do not apply additives when, in the opinion of the Engineer, wind conditions cause blowing additive to become dangerous to traffic or objectionable to adjacent property owners.

4.3.1. **Lime.** Uniformly apply lime using dry or slurry placement as shown on the plans, or as directed. Add lime at the percentage determined in the mix design. Apply lime only on an area where mixing can be completed during the same working day.

Start lime application only when the air temperature is at least 35°F and rising or is at least 40°F. Take the temperature in the shade and away from artificial heat. Suspend application when the Engineer determines that weather conditions are unsuitable.

4.3.1.1. **Dry Placement.** When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of hydrated lime with approved equipment. Only hydrated lime may be distributed by bag. Do not use a motor grader to spread hydrated lime.

4.3.1.2. **Slurry Placement.** Provide slurry free of objectionable materials, at or above the approved minimum dry solids content, and with a uniform consistency that will allow ease of handling and uniform application.

Deliver commercial lime slurry to the jobsite or prepare lime slurry at the jobsite or other approved location by using hydrated lime as specified.

Distribute slurry uniformly by making successive passes over a measured section of roadway until the specified lime content is reached.

4.3.2. **Cement.** Uniformly apply cement using dry placement unless otherwise shown on the plans. Add cement at the percentage determined in the mix design. Apply cement only on an area where mixing, compacting, and finishing can be completed during the same working day. Before applying cement, bring the prepared roadway to approximately optimum moisture content. When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of dry cement with approved equipment.

4.3.3. **Fly Ash.** Uniformly apply fly ash using dry placement unless otherwise shown on the plans. Add fly ash at the percentage determined in the mix design. Apply fly ash only on an area where mixing, compacting, and finishing can be completed during the same working day. Before applying fly ash, bring the prepared roadway to approximately optimum moisture content. When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of fly ash with approved equipment.

4.3.4. **Emulsion.** Uniformly apply emulsion as specified in Section 3003.4.2., "Mixing." Add emulsion at the percentage determined in Section 3003.2.4., "Mix Design." Apply emulsion only on an area where mixing and compaction can be completed during the same working day.

Suspend emulsion application if the weather forecast calls for freezing temperatures within 7 days after incorporation of the emulsion. Finish emulsion application before the historical weather database predicts freezing temperatures within 7 days after completion of the emulsion portion of the project. Suspend application when the Engineer determines that weather conditions are unsuitable.

4.4. **Compaction.** Compact the mixture using density control, unless otherwise shown on the plans. Multiple lifts are permitted when shown on the plans or approved.

Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least one-half the width of the roller unit. On super-elevated curves, begin rolling at the low side and progress toward the high side. Offset alternate trips of the roller. Operate rollers at a speed between 2 and 6 mph, as directed.

Perform initial compaction using a heavy tamping roller applying high amplitude and low frequency. Maintain the heavy tamping roller within 500 ft. of the mixer at all times. Continue rolling until the heavy tamping roller "walks out" of the material. Walking out for the heavy tamping roller is defined as light being evident between all of the pads at the material-heavy tamping roller drum interface.

After the completion of heavy tamping rolling, remove remaining tamping marks. Cut no deeper than the depth of the tamping marks. Achieve desired slope and shape to the lines and grades shown on the plans. Perform final surface shaping on the same day as the asphalt-emulsion is incorporated. Clip, skin, or tight-blade the surface to remove and waste accumulated fines. Do not use fines to fill surface irregularities.

Use a vibratory roller and pneumatic roller to compact the bladed material. Do not finish-roll in vibratory mode. If necessary, use a light spray of water to aid in final compaction density and appearance.

Rework material that fails to meet or that loses required moisture, density, stability, or finish within 24 hours of completion of compaction. Add additional emulsion and additives at the percentage directed.

Reworking includes loosening, adding material or removing unacceptable material if necessary; mixing as directed; compacting; and finishing. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.

When an area fails to meet or loses required moisture, density, stability, or finish more than 24 hours after completion of compaction and before the next course is placed or the project is accepted, remove the unacceptable material and replace with new material that meets the mix design requirements. Compact and finish until specification requirements are met. Perform the work at no additional expense to the Department.

4.4.1. **Ordinary Compaction.** Roll with approved compaction equipment, as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing treated material as required, reshaping, and recompacting.

4.4.2. **Density Control.** The Engineer will determine roadway density of completed sections in accordance with Tex-115-E. The Engineer may accept the section if no more than 1 of the 5 most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

Compact the bottom course to at least 95% of the maximum density determined in accordance with Tex-113-E, unless otherwise shown on the plans. Compact subsequent courses treated under this Item to at least 97% of the maximum density determined in accordance with Tex-113-E, unless otherwise shown on the plans.

4.5. **Curing.** Cure the finished section until the moisture content is at least 2 percentage points below optimum, or as directed before applying the next successive course or prime coat. Do not allow equipment or traffic on the finished course during curing, unless otherwise approved. The Engineer may allow traffic on the finished course during curing if proof rolling indicates adequate stability. Proof roll in accordance with Item 216, "Proof Rolling."

If deformation occurs, do not allow traffic to return to the finished section until the mixed material is firm enough to accommodate traffic without deformation. Apply seals or additional courses within 14 calendar days of final compaction.

When the plans show no specific detour, the Contractor will provide one-way traffic control until proof rolling permits the return of normal traffic to the compacted material.

5. QUALITY CONTROL

The Contractor is responsible for quality control (QC) of the process and the completed base. The Engineer will provide sampling frequencies.

- 5.1. **Asphalt-Emulsion.** A representative from the asphalt-emulsion supplier will check the mixing and curing properties at the beginning of the project and will make recommendations for design changes to the Engineer.
- 5.2. **Moisture Content.** Check moisture content in accordance with Tex-103-E before addition of emulsion. Check the moisture content on the same day emulsion is applied. If rain has occurred after testing and before emulsion addition, recheck the moisture content.
- 5.3. Adjust by moisture addition (water truck) or aeration if the average moisture content is not within 1% of the mix design recommendation. Recheck the moisture content if manipulation has occurred.
- 5.4. **Emulsion Content.** Apply the amount of asphalt-emulsion recommended in the mix design. The Engineer must approve changes in asphalt-emulsion content or supplier. Check the percentage of emulsion added using meter readings or truck weigh tickets; the quantity of material reclaimed (depth, width, and length); and estimated in-place density determined by Tex-113-E (mix design or field check) or nuclear density gauge. Determine emulsion content on the first day of processing during the first emulsion transport. Adjust equipment calibration if necessary. Check emulsion content again if adjustments are made. Determine subsequent emulsion content as directed by the Engineer, but not less than once per day.
- 5.5. **Density.** Obtain samples to the full depth of reclamation before rolling and store in a sealed container for no longer than 2 hours. Compact in accordance with Tex-113-E and adjust mixing and compaction operations to achieve maximum dry density established in the mix design.

6. MEASUREMENT

- 6.1. **Emulsion.** Emulsion will be measured by the gallon.
- 6.2. **Additive.**
 - 6.2.1. **Lime.** When lime is furnished in trucks, the weight of lime will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When lime is furnished in bags, each bag must indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in any shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.
 - 6.2.1.1. **Hydrated Lime.**
 - 6.2.1.1.1. **Dry.** Lime will be measured by the ton (dry weight).
 - 6.2.1.1.2. **Slurry.** Lime will be measured by the ton (dry weight) of the hydrated lime used to prepare the lime slurry at the jobsite.
 - 6.2.1.2. **Commercial Lime Slurry.** Lime slurry will be measured by the ton (dry weight) as calculated from the minimum percent dry solids content of the slurry, multiplied by the weight of the slurry in tons delivered.
- 6.2.2. **Cement.** Cement will be measured by the ton (dry weight). When cement is furnished in trucks, the weight of cement will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When cement is furnished in bags, indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in a shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.

- 6.2.3. **Fly Ash.** Fly ash will be measured by the ton (dry weight). When fly ash is furnished in trucks, the weight of fly ash will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When fly ash is furnished in bags, each bag must indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in any shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.

- 6.3. **Emulsion Treatment.** Emulsion treatment will be measured by the square yard of surface area. The dimensions for determining the surface area is established by the widths shown on the plans and lengths measured at placement.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid in accordance with Section 7.1, "Emulsion"; Section 7.2, "Lime"; Section 7.3, "Cement"; Section 7.4, "Fly Ash"; and Section 7.5, "Emulsion Treatment."

Furnishing and delivering new base will be paid for in accordance with Item 247, "Flexible Base," unless otherwise shown on the plans.

Mixing, spreading, blading, shaping, compacting, and finishing new or existing base material will be paid for under Section 7.5., "Emulsion Treatment." Removal and disposal of existing asphalt concrete pavement will be paid for in accordance with pertinent Items or Article 4.2., "Changes in the Work."

Additives and emulsion used for reworking a section will not be paid for directly but will be subsidiary to this Item.

Sprinkling and rolling, except proof rolling, will not be paid for directly but will be subsidiary to this Item unless otherwise shown on the plans. When proof rolling is shown on the plans or directed by the Engineer, it will be paid for in accordance with Item 216, "Proof Rolling."

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade or existing base will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade or existing base will be in accordance with pertinent Items or Article 4.2., "Changes in the Work."

- 7.1. **Emulsion.** Emulsion will be paid for at the unit price bid for "Emulsion." This price is full compensation for materials, delivery, equipment, labor, tools, and incidentals.
- 7.2. **Lime.** Lime will be paid for at the unit price bid for "Lime" of the specified type (Hydrated (Dry), Hydrated (Slurry), or Commercial Lime Slurry). This price is full compensation for furnishing lime.
- 7.3. **Cement.** Cement will be paid for at the unit price bid for "Cement." This price is full compensation for furnishing cement.
- 7.4. **Fly Ash.** Fly ash will be paid for at the unit price bid for "Fly Ash." This price is full compensation for furnishing fly ash.

7.5.

Emulsion Treatment. Emulsion treatment will be paid for at the unit price bid for "Emulsion Treatment (Existing Base)," or "Emulsion Treatment (Mixing Existing Material and New Base)," for the depth specified. No payment will be made for thickness or width exceeding that shown on the plans.

This price is full compensation for shaping existing material, loosening, mixing, pulverizing, spreading, applying additives and emulsion, compacting, finishing, curing, curing materials, blading, shaping and maintaining shape, replacing mixture, disposing of loosened materials, processing, hauling, preparing secondary subgrade, water, equipment, labor, tools, and incidentals.

Special Specification 6001

Portable Changeable Message Sign



1. DESCRIPTION

Furnish, operate, and maintain portable trailer mounted changeable message sign (PCMS) units.

2. MATERIALS

Furnish new or used material in accordance with the requirements of this Item and the details shown on the plans. Provide a self-contained PCMS unit with the following:

- Sign controller
- Changeable Message Sign
- Trailer
- Power source

Paint the exterior surfaces of the power supply housing, supports, trailer, and sign with Federal Orange No. 22246 or Federal Yellow No. 13538 of Federal Standard 595C, except paint the sign face assembly flat black.

- 2.1. **Sign Controller.** Provide a controller with permanent storage of a minimum of 75 pre-programmed messages. Provide an external input device for random programming and storage of a minimum of 75 additional messages. Provide a controller capable of displaying up to 3 messages sequentially. Provide a controller with adjustable display rates. Enclose sign controller equipment in a lockable enclosure.
- 2.2. **Changeable Message Sign.** Provide a sign capable of being elevated to at least 7 ft. above the roadway surface from the bottom of the sign. Provide a sign capable of being rotated 360° and secured against movement in any position.
- Provide a sign with 3 separate lines of text and 8 characters per line minimum. Provide a minimum 18 in. character height. Provide a 5 × 7 character pixel matrix. Provide a message legibility distance of 600 ft. for nighttime conditions and 800 ft. for normal daylight conditions. Provide for manual and automatic dimming light sources.
- The following are descriptions for 3 screen types of PCMS:
- **Character Modular Matrix.** This screen type comprises of character blocks.
 - **Continuous Line Matrix.** This screen type uses proportionally spaced fonts for each line of text.
 - **Full Matrix.** This screen type uses proportionally spaced fonts, varies the height of characters, and displays simple graphics on the entire sign.
- 2.3. **Trailer.** Provide a 2 wheel trailer with square top fenders, 4 leveling jacks, and trailer lights. Do not exceed an overall trailer width of 96 in. Shock mount the electronics and sign assembly.
- 2.4. **Power Source.** Provide a diesel generator, solar powered power source, or both. Provide a backup power source as necessary.
- 2.5. **Cellular Telephone.** When shown on the plans, provide a cellular telephone connection to communicate with the PCMS unit remotely.

3. CONSTRUCTION

Place or relocate PCMS units as shown on the plans or as directed. The plans will show the number of PCMS units needed, for how many days, and for which construction phases.

Maintain the PCMS units in good working condition. Repair damaged or malfunctioning PCMS units as soon as possible. PCMS units will remain the property of the Contractor.

4. MEASUREMENT

This Item will be measured by each PCMS or by the day used. All PCMS units must be set up on a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day will be measured for each PCMS set up and operational on the worksite.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Portable Changeable Message Sign." This price is full compensation for PCMS units; set up; relocating; removing; replacement parts; batteries (when required); fuel, oil, and oil filters (when required); cellular telephone charges (when required); software; and equipment, materials, tools, labor, and incidentals.

Special Provision to Special Specification 6001

Portable Changeable Message Sign



Special Specification 6001 "Portable Changeable Message Sign", is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 6001.4., "Measurement." The paragraph is voided and replaced by the following:

This Item will be measured by lump sum for entire project. Measurement will include the quantity of signs for the full number of days as shown in Plans.