

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS
FOR
WIND & WATER SPORTS VENUE
FOR



PREPARED BY:



HDR Engineering, Inc.
555 N. Carancahua, Suite 1600
Corpus Christi, Texas 78401

FEBRUARY 2026



ITB 2026-SL02

Wind and Water Sports Venue

Sealed Bids must be received before:

2 P.M. Central on 12 March 2026

City of South Padre Island

ATTN: City Secretary

4601 Padre Boulevard South Padre Island, TX 78597

City of South Padre Island – City Secretary
4601 Padre Boulevard, South Padre Island, TX 78597
956-761-8109
www.myspi.org

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INSTRUCTIONS TO BIDDERS

Bids are solicited for the **Wind and Water Sports Venue** with the following definitions, terms, and conditions of bidding. This bid contains the City's standard contract terms, conditions, and insurance requirements, attached as Exhibit A.

I. NOTICE

Sealed bids are due at 2 P.M. on Thursday, 12 March 2026, after which all qualified bids will be opened and publicly read aloud at 4601 Padre Blvd, South Padre Island, Texas 78597. Bids received after the specified deadline will be returned unopened.

Sealed bids shall be clearly marked with the bid number and title and addressed to the City of South Padre Island – City Secretary. Bids shall be delivered using one of the following:

Hand-deliver to: 4601 Padre Blvd South Padre Island, TX 78597	Mail to: 4601 Padre Blvd. South Padre Island, TX 78597	Ship to (FedEx, UPS, DHL): 4601 Padre Blvd. South Padre Island, TX 78597
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II. LOCATION AND DESCRIPTION OF PROJECT

The project is located on the west side of Park Road 100, approximately 0.25 miles north of the Shores Subdivision and approximately 0.45 miles south of Edwin King Atwood Park. The project address is 8815 Padre Boulevard South Padre Island, Texas 78597. The project will construct an entrance driveway and gate, permeable road and parking lots, and a restroom for non-motorized recreational access to the Laguna Madre. Additionally, the project includes permitted mitigation for impacts to the tidal flats, wetlands, and upland areas within the critical dune area.

III. PRE-BID CONFERENCE

A Pre-Bid Meeting will be held at 4601 Padre Boulevard, South Padre Island, Texas 78597 at 10:00 A.M. Central time on Wednesday, 25 February 2026. This meeting is not mandatory, but attendance is highly recommended.

IV. COPIES OF BIDDING DOCUMENTS

A complete set of Bidding and Contract Documents will be made available on the City of South Padre Island's website at www.myspi.org or for no charge on a flash drive (or other electronic means) at:

City of South Padre Island
City Secretary's Office
4601 Padre Blvd.
South Padre Island, TX 78597

Vendors may receive notice of bids from the City of South Padre Island from a variety of channels. Approved methods of dissemination include: City of South Padre Island website or the City of South Padre Island City Secretary. The receipt of solicitations through any other means may result in the receipt of incomplete specifications or addenda which could ultimately render your bid non-compliant. City of South Padre Island accepts no responsibility for the receipt or notification of solicitations through any other source.

V. BID SECURITY

A Certified Cashier's Check or an acceptable Bid Bond in an amount of not less than five (5) percent of the total amount bid, shall accompany each bid proposal.

VI. BONDS

The successful bidder will be required to furnish a Payment Bond and Performance Bond in the amount of the contract. Bidders may not withdraw their Bid Proposal within 60 calendar days of the bid opening date.

VII. QUESTIONS AND INQUIRIES

The deadline for written questions is **Monday 02 March 2026 by 5 P.M.** Questions and inquiries about this Solicitation shall be submitted in writing to the following individual:

Harrison McNeil
HDR Project Manager
harrison.mcneil@hdrinc.com

Bidders shall not attempt to contact City Council members, City staff, or management directly during the pre-proposal or post-proposal period. The City intends to respond to all appropriate questions or concerns; however, the City reserves the right to decline to respond to any question or concern. All material modifications, clarifications, or interpretations will be incorporated into an addendum, which will be posted publicly.

All addenda will be posted on the City's website at www.myspi.org no later than **4 P.M. Friday, 06 March 2026** Central time. All addenda issued prior to the due date and time for responses must be incorporated into the ITB and must be acknowledged in the bid response. Only written information provided shall be binding. Oral or other interpretations shall not be binding and are held without legal effect.

VIII. SCHEDULE OF IMPORTANT DATES

The tentative schedule for this Solicitation is as follows:

Release Invitation to Bid Package	17 February 2026
Advertisement Dates	25 February, 04 March 2026
Pre-Bid Conference	25 February 2026 at 10 A.M.
Deadline for Questions and Inquiries	02 March 2026 at 5 P.M.
Latest Addenda Posting	06 March 2026 by 4 P.M.
ITB Due Date	12 March 2026 at 2 P.M.
Earliest Award by City	April 2026

BID TERMS & CONDITIONS

A. DEFINITION OF TERMS

In order to simplify the language throughout this bid, the following definitions and those defined in the Contract Documents shall apply:

BIDDER - A contractor who submits a Bid directly to the City.

BIDDING DOCUMENTS - the Advertisement, Instructions to Bidders, Bid Terms and Conditions, the Proposal, Special Provisions, Technical Specifications, and the proposed Contract Documents (including all Addenda issued prior to the receipt of Bids).

CITY OF SOUTH PADRE ISLAND – Same as City.

CITY COUNCIL – The elected officials of the City of South Padre Island, Texas given the authority to exercise such powers and jurisdiction of all City business as conferred by the State Constitution and Laws.

CONTRACT – An agreement between the City and a Supplier to furnish supplies and/or services over a designated period of time during which repeated purchases are made of the commodity specified.

CONTRACTOR – The successful Bidder(s) of this bid request.

CITY – The government of the City of South Padre Island, Texas.

OWNER – City of South Padre Island.

SUB-CONTRACTOR – Any contractor hired by the Contractor or Supplier to furnish materials and services specified in this bid request.

SUCCESSFUL BIDDER - the lowest, qualified, responsible and responsive Bidder to whom the City (on the basis of the City's evaluation as hereinafter provided) makes an award.

SUPPLIER – Same as Contractor.

B. PRE-BID CONFERENCE

A Pre-Bid Meeting will be held at 4601 Padre Boulevard, South Padre Island, Texas at 10 A.M. Central time on Wednesday, 25 February 2025. This meeting is not mandatory, but attendance is highly recommended.

The owner's representatives will be present to discuss the project. Bidders are highly encouraged to attend and participate in the conference. The owner's representative will transmit to all prospective bidders of record such Addenda as they consider necessary in response to questions arising at the conference.

C. GENERAL BID PROVISIONS

1. The Invitation to Bid as advertised will be considered an inclusion of the specifications and conditions.
2. The term "Owner" as used throughout these documents will mean the City of South Padre Island, Texas.
3. Bid proposals will be submitted on the forms provided by Owner. All figures must be written in ink or typewritten. However, mistakes may be crossed out, corrections inserted adjacent thereto and initialed in ink by the person signing the proposal. Do not use a whiteout or other cover products on mistakes.
4. Formal advertised bids indicate date and time by which the bids must be received at the designated location. Bids received after that time will be returned unopened to the bidder.
5. The bidder will note any exceptions to the conditions of this bid. If no exceptions are stated, it will be understood that all general and specific conditions will be complied with, without exception.
6. Bidders may request withdrawal of a posted sealed proposal prior to the scheduled bid opening time, provided the request for withdrawal is submitted to the City of South Padre Island in writing. Owner reserves the right to reject any and all bids by reason of this request.
7. In the event there are inconsistencies between the general provisions and other bid terms or conditions contained herein, the former will take precedence.
8. If it becomes necessary to revise any part of this bid, a written addendum will be provided to all bidders. Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner's employees, unless such clarification of change is provided to bidders in written addendum form from the City of South Padre Island.
9. All bids will be awarded to the lowest responsible bidder. The determination of the lowest responsible bidder may involve all or some of the following factors: price, conformity to

specifications, financial ability to perform the contract, previous performance, facilities and equipment, availability of repair parts, qualifications and experience, delivery promise, payment terms, compatibility as required, other costs, and other objectives and accountable factors which are reasonable.

10. Owner may give an environmental preference to products or services that have a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose. This comparison may consider raw materials acquisition, product, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.
11. Bidders may be disqualified, and rejection of proposals may be recommended to the Owner for any (but not limited to) of the following causes: 1) Failure to use the proposal form furnished by the Owner; 2) Lack of signature by an authorized representative on the proposal form; 3) Failure to properly complete the proposal; 4) Evidence of collusion among proposers; 5) Omission of a certified Cashier's Check or Bid Bond proposal guarantee; 6) Unauthorized alteration of bid form; 7) Lack of appropriate qualifications and experience relative to the size and scope of the work proposed; 8) Unsatisfactory performance; 9) Failure to complete projects; or 10) Loaded or unbalanced bids. Owner reserves the right to waive any minor informality or irregularity.
12. Whenever in this invitation, any particular materials, process, and/or equipment are indicated or specified by patent, proprietary or brand name, or by name of manufacture, such wording will be deemed to be used for the purpose of facilitating description of the material, process, and/or equipment desired and will be deemed to be followed by the words "or equal." Contractor shall provide exactly such items in his bid as described, unless approved pursuant to other provisions provided herein.
13. Samples of items shall be furnished, if requested by the Owner, without charge, and if not destroyed, shall be returned upon request at the bidder's expense.
14. It is agreed that the successful bidder will not assign, transfer, convey, or otherwise dispose of the contract or its right, title, or interest in or to the same, or any part thereof, without previous written consent of Owner and any sureties.
15. Contractor must provide audited financial statements, if requested, to the City.
16. Prices in the Bid Proposal shall be presented in the format requested (Unit Price, Lump Sum, etc.)
17. No freight or delivery charges will be accepted unless shown on bid.
18. Owner is exempt from State Retail Tax and Federal Excise Tax. The price bid must be net, exclusive of taxes.
19. All bidders will comply with all Federal, State, and local laws relative to conducting business in the City of South Padre Island. The laws of the State of Texas will govern as to the interpretation, validity, and effect of this bid, its award and any contract entered into.
20. The successful bidder agrees by entering into this contract, to defend, indemnify, and hold Owner harmless from any and all causes of action or claims of damages arising out of or related to bidder's performance under this contract.
21. Advanced disclosures of any information to any particular bidder which gives that particular bidder any advantage over any other interested bidder in advance of the opening of bids, whether in response to advertising or an informal request for bids, made or permitted by a member of the governing body or an employee or representative thereof, will operate to void all proposals of that particular bid solicitation or request.
22. Minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, creed, sex, or national origin in consideration for an award.

D. QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of City's request, written evidence, such as financial data, previous experience, present commitments and other such data as may be called for below. Each Bid must contain evidence of the Bidder's qualifications to do business in the State of Texas or covenant to obtain such qualification prior to award of the contract.

In determining a bidder's qualifications, the following factors will be considered:

1. Work previously completed by the bidder and whether the bidder:
 - a. Maintains a permanent place of business,
 - b. Has adequate plant and equipment to do the work properly and expeditiously,
 - c. Has paid or settled all claims for payment promptly,
 - d. Has appropriate technical experience,
 - e. Has job references for work of similar size and scope to the project bid herein; and
 - f. Satisfactory performance and completion of public, or comparable, projects.
2. The safety record of the Bidder, of the corporation, partnership, or institution represented by the Bidder, or of anyone acting for such firm, corporation, or partnership.

Each Bidder may be required to show that he has properly completed similar-type work and that no claims are now pending against such work. No bid will be accepted from any bidder who is engaged in any work that would impair his ability to fully execute, perform, or finance this work.

The General/Sub-Contractors Experience Data Sheet following the proposal must be filled out and submitted with the bid for consideration. Failure to include a completed Data Sheet may result in the rejection of the bid.

E. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

1. It is the responsibility of each Bidder before submitting a Bid, to:
 - a. Examine the Contract Documents thoroughly,
 - b. Visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work,
 - c. Consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work,
 - d. Study and carefully correlate Bidder's observations with the Contract Documents, and
 - e. Notify Owner's Representative of all conflicts, errors or discrepancies in the Contract Documents.
 - f. Visit with local utilities, including cable companies, and other entities that may have underground or above-ground infrastructure in the work area for infrastructure location.
2. Information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site is based upon information and data from the Owner's files for its underground facilities and information and data furnished by owners of other underground facilities. Owner does not assume responsibility for the accuracy or completeness thereof.
3. Before submitting a Bid each Bidder will be responsible to make or obtain such explorations, at bidders expense and not to be added into cost of bid if accepted (tests and data concerning physical 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 and which

Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4. The lands upon which the Work is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment or disposal of spoil are to be provided by Contractor. Contractor is responsible for obtaining all permits required for any of the before mentioned purposes prior to beginning work in accordance with the Standard Form of Agreement, Paragraph 35 Permits and Licenses.
5. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this section, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work. No pleas of ignorance of conditions that may be encountered in their execution of the Work under this contract, that is a result of failure to make the necessary examinations and investigations herein above indicated, will be accepted as an excuse for the failure or omission on the part of the Contractor to fulfill in every detail all the requirements of the Contract Documents. In no event shall a claim for extra compensation or for an extension of time be allowed for failure to thoroughly examine all requirements of Contract Documents.

F. INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the Contract Documents are to be directed to the Owner. Interpretations or clarification considered necessary by Owner's Representative in response to such questions will be issued by Addenda and mailed or otherwise delivered to all parties recorded by Owner's Representative as having received the Bidding Documents. Questions received less than 48 hours prior to opening of Bids will not be answered. Only questions answered by a formal written Addenda will be binding. No oral and other interpretations or clarification will be considered official or binding.

Addenda may also be issued to modify the Bidding Documents as deemed advisable by the City.

To properly qualify his bid, each Bidder shall, prior to filing his Bid, check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the Proposal Form or on a separate attachment to the bid. Bids without such acknowledgment of all issued Addenda and letters of clarification may cause your bid to be considered non-responsive. Such Addenda and letters of clarification shall become a part of the executed contract and modify the contract documents accordingly.

G. BID SECURITY

Bidders must submit with their Bids a Cashier's Check or a Certified Check in the amount of five (5%) percent of the maximum amount of Bid payable without recourse to the City of South Padre Island, Texas, or a bid bond in the same amount from a surety company holding permit from the State of Texas to act as a surety, as a guarantee that Bidder will enter into a contract and execute bond and guarantee forms within fifteen (15) days after notice of award of contract. Bids without checks, as stated above, or acceptable bid bond may not be considered.

Bid Security shall be in effect from the opening of the Bid and will be retained until a Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. A Bidder may withdraw its Bid at any time until the Agreement is signed. However, it will forfeit its Bid Security in doing so if no material mistake was made in the Bid.

The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen (15) days after the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until 5 days after the Agreement is executed whereupon Bid Security furnished by such Bidders will be returned. Bid Security with Bids which are not competitive will be returned within seven days after the Bid opening.

H. CONTRACT TIME

The times for Substantial Completion and Final Completion are set forth in the Special Provisions and will be included in the Standard Form of Agreement. It will be necessary for the Successful Bidder to satisfy the City of the Bidder's ability to achieve Substantial Completion and Final Completion within the times designated in the Special Provisions.

I. LIQUIDATED DAMAGES

TIME IS OF THE ESSENCE IN THIS CONTRACT. Failure to meet Substantial or Final Completion dates will result in damages to the city in an amount specified in City's Standard Form of Agreement.

J. SUBSTITUTE OR "OR EQUAL" ITEMS

The materials and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by Owner's Representative at least five (5) working days prior to the date for receipt of Bids or until after the contract for the work has been signed. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Owner's Representative's decision of approval or disapproval of a proposed substitution shall be final. If Owner's Representative approves any proposed substitution before the date for receipt of bids, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

K. BID FORM

All blanks on the Bid Form must be completed in ink or by typewriter. Unfilled blanks may result in the bid being disqualified.

Any financial amounts written in words will supersede amounts written by numbers in the Bid Form.

Bids by corporations must be executed in the corporate name by the corporate officer authorized to sign for the corporation, accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and accompanied by evidence of authority to sign. The fiscal address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Bid shall contain an acknowledgment of receipt of all Addenda. The numbers and dates of which must be filled in on the Bid Form or on a separate attachment to the Bid.

The address and telephone number(s) for communication regarding the Bid must be shown.

All of the data on the GENERAL/SUB-CONTRACTORS EXPERIENCE AND DATA INFORMATION sheet must be completely filled in.

L. SUBMISSION OF BIDS

A Bid shall be submitted at the time and place indicated in the Advertisement. It shall be enclosed in an opaque sealed envelope, marked with the project title, name, and address of the Bidder. The Bid shall be accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

Each Bidder should, prior to filing their Bid check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the outside of the envelope containing his Bid proposal.

M. MODIFICATION AND WITHDRAWAL OF BIDS

Bids may be modified or withdrawn by an appropriate document duly executed, in the described manner that a Bid must be executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

If prior to the award of the contract by the City Council, any Bidder files a duly signed, written notice with Owner's Representative and promptly thereafter demonstrates to the reasonable satisfaction of Owner's Representative that there was a material mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

N. OPENING OF BIDS

Properly prepared Bids will be opened publicly and read aloud. A summary of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids. A tabulation of the Bids which are read will be available upon request as soon as it has been assembled and verified.

Bids received after the specified time of the opening will be returned unopened.

O. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance, for 60 days after the date of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

P. AWARD OF CONTRACT

Owner reserves the right to reject any and all Bids, to waive any and all informalities and irregularities not involving price, time, or changes in the Work and to disregard all non-conforming, non-responsive, unbalanced or conditional Bids. Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the

multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

In addition to the purchase price in determining the best value for the City, the City may consider:

- (1) The reputation of the Bidder and of the Bidder's good and services;
- (2) The quality of the Bidder's goods or services;
- (3) The extent to which the goods or services meet the municipality's needs;
- (4) The Bidder's past relationship with the municipality;
- (5) The City shall consider the impact on the ability of the municipality to comply with laws and rules relating to contraction with historically underutilized businesses and nonprofit organizations employing persons with disabilities;
- (6) The total long-term cost to the municipality to acquire the Bidder's goods or services;
- (7) Any relevant criteria specifically listed in the request for bids or proposals;
- (8) The offeror's safety record;
- (9) The offeror's proposed personnel;
- (10) Whether the offeror's financial capability is appropriate to the size and scope of the project;
- (11) Any relevant factor specifically listed in the request for bids, proposals, or qualifications; and
- (12) The City shall consider and apply any existing laws, rules, or applicable municipal charters, including laws applicable to local governments, related to the use of women, minority, small, or disadvantaged businesses.

Owner may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of subcontractors, suppliers, and other persons and organizations must be submitted as provided. Owner may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

If the contract is to be awarded, it will be awarded to the lowest responsible Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 60 days after the day of the Bid opening.

Bid prices may be compared after adjusting for differences in the time designated in the Bid for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Standard Form of Agreement for liquidated damages indicated for Substantial Completion for each day after the desired date appearing in City's Standard Form of Agreement.

To facilitate the evaluation process, the City will be scoring the Bid per the following:

Criteria	Weight (%)	Score 1-5 (5 as the highest)
Bid Proposal Amount (<i>Total project cost</i>)	55%	1 - 5
Schedule & Time (<i>Proposed project completion timeline</i>)	15%	1 - 5
Experience & Qualifications (<i>Relevant project history; Key personnel</i>)	20%	1 - 5
References (<i>References included and/or contacted by the City</i>)	10%	1 - 5

The weighted score will be calculated as: (Score for Category) x (Weight for Category)

The total score will be calculated as: Sum of all weighted scores to determine the highest Ranked Bidder.

Q. CONTRACT SECURITY

BOND PROVISIONS of the Standard Form of Agreement (Exhibit A) set forth Owner's requirements as to performance and payment bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required performance and payment bonds.

R. SIGNING OF AGREEMENT

The successful bidder shall execute the Contract and provide proof of insurance as detailed in the Standard Form of Agreement (Exhibit A) based on Staff recommendation prior to Council action. No later than 15 days of award, all required bonds shall be delivered to Owner. A fully executed contract will be presented to the successful bidder.

S. PERSONAL INTEREST

No employee or City Council Member of the City may have any financial interest, directly or indirectly, in any proposed or existing agreement, purchase, work, sale or service to, for, with or by the City.

T. DISCLOSURE OF INTERESTED PARTIES

Contracting hereunder may require compliance with §2252.908 Texas Government Code/Disclosure of Interested Parties for contracts that (1) require an action or vote by the City Council before the contract may be signed; or (2) has a value of at least \$1 million. The law provides that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity or state agency.

For purposes of this section, the following definitions apply:

"Interested party" means a person who has a controlling interest in a business entity with whom the City contracts or who actively participates in facilitating the contract or negotiating the terms of the contract, including a broker intermediary, advisor, or attorney for the business entity.

"Controlling interest" means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.

"Intermediary," means a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:

1. Receives compensation from the business entity for the person's participation;
2. Communicates directly with the City on behalf of the business entity regarding the contract; and
3. Is not an employee of the business entity.

The process as implemented by the Texas Ethics Commission ("TEC") is as follows:

1. The disclosure of interested parties must be performed using the [Texas Ethics Commission's electronic filing application](#) listing each interested party of which the business entity is aware on Form 1295, obtaining a certification of filing number for this form from the TEC, and printing a copy of it to submit to the City.
2. The copy of Form 1295 submitted to the City must be notarized and contain the unique certification number from the TEC. The form must be filed with the City pursuant to §2252.908 Texas Government Code, "at the time the business entity submits the signed contract" to the City.

The City, in turn, will submit a copy of the disclosure form to the TEC not later than the 30th day after the date the City receives the disclosure of interested parties from the business entity.

CONTRACTOR'S PROPOSAL

Provide all necessary labor, materials, and supplies for the Marisol Boat Ramp Construction. Please use the Proposal/Bid Form on the next pages.

BID SUMMARY

BASE BID (ITEMS A1-A29)	\$ _____
BASE BID RESTROOM (ITEMS B1-B9)	\$ _____
ADDITIVE 1 PARKING LOT B (ITEMS C1-C10)	\$ _____
ADDITIVE 2 PARKING LOT C (ITEMS D1-D10)	\$ _____

TOTAL number of calendar days to substantial completion _____

ADDENDUM ACKNOWLEDGED _____ DATE _____

ADDENDUM ACKNOWLEDGED _____ DATE _____

ADDENDUM ACKNOWLEDGED _____ DATE _____

Enclosed with the proposal is a cashier's check or bid bond in the amount of \$ _____ (at least 5% of the base bid shown in the proposal).

COMPANY: _____

PHONE: _____

ADDRESS: _____

BY: _____ *Signature* _____ *Date* _____

Printed Name

Title

BASE BID SUMMARY OF IMPROVEMENTS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QTY.	BID UNIT PRICE	BID PRICE
A1	FURNISH AND INSTALL YELLOW PAVEMENT MARKING CAPS	LF	550	\$	\$
A2	FURNISH AND INSTALL WHITE PAVEMENT MARKING CAPS	LF	108	\$	\$
A3	FURNISH AND INSTALL ADA PAVEMENT MARKING CAPS	EA	5	\$	\$
A4	FURNISH AND INSTALL ACCESS MAT LAYDOWN AREA	SF	2,955	\$	\$
A5	FURNISH AND INSTALL TIMBER BOLLARDS (4 IN X 4 IN X 6 FT)	EA	11	\$	\$
A6	FURNISH AND INSTALL RIPRAP (STONE COMMON, 6 IN)	CY	302	\$	\$
A7	FURNISH AND INSTALL WETLANDS SEEDING	SY	19,685	\$	\$
A8	FURNISH AND INSTALL DUNE SEEDING	SY	3,440	\$	\$
A9	FURNISH AND INSTALL DUNE RESTORATION	CY	0.30	\$	\$
A10	FURNISH & INSTALL SOLAR POWERED PROXIMITY CARD READER	EA	1	\$	\$
A11	FURNISH & INSTALL SOLAR POWERED BARRIER ARM GATE	EA	1	\$	\$
A12	FURNISH AND INSTALL PERMEABLE PLASTIC PAVERS	SF	86,850	\$	\$
A13	FURNISH & INSTALL WOVEN GEOTEXTILE	SY	10,406	\$	\$
A14	FURNISH & INSTALL COMPACTED NO. 57 STONE AGGREGATE	CY	2,833	\$	\$
A15	FURNISH & INSTALL 8" COMPACTED SAND SUBGRADE	CY	2,312	\$	\$
A16	FURNISH & INSTALL REINFORCED FILTER FABRIC FENCE	LF	5,360	\$	\$
A17	FURNISH & INSTALL 12" HDPE CORRGUGATED PIPE	LF	434	\$	\$
A18	FURNISH & INSTALL STORM WATER PROTECTION PLAN (SW3P)	LS	1	\$	\$
A19	FURNISH & INSTALL TRASH CAN ASSEMBLY	EA	1	\$	\$

A20	FURNISH & INSTALL ENTRANCE SIGN ASSEMBLY	EA	1	\$	\$
A21	FURNISH & INSTALL ENTRANCE SIGN ASSEMBLY	EA	1	\$	\$
A22	FURNISH & INSTALL STOP SIGN ASSEMBLY	EA	1	\$	\$
A23	FURNISH & INSTALL SPEED LIMIT SIGN ASSEMBLY	EA	2	\$	\$
A24	SITE CUT	CY	367	\$	\$
A25	SITE FILL	CY	6,608	\$	\$
A26	FURNISH & INSTALL EARTHGUARD FIBER MATRIX	AC	1.35	\$	\$
A27	FURNISH AND INSTALL BOLLARD FENCE (4 IN X 4 IN X 6 FT)	LF	7,821	\$	\$
A28	FURNISH AND INSTALL 6 IN THICK REINFORCED CONCRETE ENTRANCE DRIVEWAY (BY OTHERS)	SY	483	\$	\$
A29	BASE BID CONTINGENCY	LS	1	\$100,000	\$100,000

BASE BID (RESTROOM) SUMMARY OF IMPROVEMENTS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QTY.	BID UNIT PRICE	BID PRICE
B1	FURNISH AND INSTALL PERMEABLE PLASTIC PAVERS	SF	1,594	\$	\$
B2	FURNISH & INSTALL WOVEN GEOTEXTILE	SY	178	\$	\$
B3	FURNISH & INSTALL COMPACTED NO. 57 STONE AGGREGATE	CY	48	\$	\$
B4	FURNISH & INSTALL 8" COMPACTED SAND SUBGRADE	CY	40	\$	\$
B5	SITE CUT	CY	1	\$	\$
B6	SITE FILL	CY	363	\$	\$
B7	FURNISH & INSTALL FOUNDATION	EA	1	\$	\$
B8	FURNISH & INSTALL RESTROOM FACILTIY (BY OTHERS)	EA	1	\$	\$

B9	FURNISH AND INSTALL RIPRAP (STONE COMMON, 6 IN)	CY	18	\$	\$
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ADDITIVE 1 (PARKING LOT B) BID SUMMARY OF IMPROVEMENTS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QTY.	BID UNIT PRICE	BID PRICE
C1	FURNISH AND INSTALL PERMEABLE PLASTIC PAVERS	SF	28,004	\$	\$
C2	FURNISH & INSTALL WOVEN GEOTEXTILE	SY	3,112	\$	\$
C3	FURNISH & INSTALL COMPACTED NO. 57 STONE AGGREGATE	CY	847	\$	\$
C4	FURNISH & INSTALL 8" COMPACTED SAND SUBGRADE	CY	692	\$	\$
C5	FURNISH AND INSTALL WHITE PAVEMENT MARKING CAPS	LF	1,064	\$	\$
C6	FURNISH & INSTALL STOP SIGN ASSEMBLY	EA	1	\$	\$
C7	FURNISH & INSTALL TRASH CAN ASSEMBLY	EA	1	\$	\$
C8	FURNISH AND INSTALL RIPRAP (STONE COMMON, 6 IN)	CY	20	\$	\$
C9	SITE CUT	CY	179	\$	\$
C10	SITE FILL	CY	232	\$	\$

ADDITIVE 2 (PARKING LOT C) BID SUMMARY OF IMPROVEMENTS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QTY.	BID UNIT PRICE	BID PRICE
D1	FURNISH AND INSTALL PERMEABLE PLASTIC PAVERS	SF	19,300	\$	\$
D2	FURNISH & INSTALL WOVEN GEOTEXTILE	SY	2,145	\$	\$
D3	FURNISH & INSTALL COMPACTED NO. 57 STONE AGGREGATE	CY	584	\$	\$
D4	FURNISH & INSTALL 8" COMPACTED SAND SUBGRADE	CY	477	\$	\$
D5	FURNISH AND INSTALL WHITE PAVEMENT MARKING CAPS	LF	936	\$	\$
D6	FURNISH & INSTALL STOP SIGN ASSEMBLY	EA	1	\$	\$
D7	FURNISH & INSTALL TRASH CAN ASSEMBLY	EA	1	\$	\$
D8	FURNISH AND INSTALL RIPRAP (STONE COMMON, 6 IN)	CY	24	\$	\$
D9	SITE CUT	CY	345	\$	\$
D10	SITE FILL	CY	154	\$	\$

CONTRACTOR'S EXPERIENCE & QUALIFICATIONS

Name of Company: _____

Company Years in Business: _____

List Municipal Projects
(Similar Projects in Size and Scope Completed in Last Five Years)

Project	Municipality	\$ Amount	Type	Date

Superintendent & Project Manager Information

Include Superintendent proposed for the project, years of experience as superintendent, project manager proposed for the project, and years of experience as project manager.

Superintendent	Years Experience	Projects

Project Manager	Years Experience	Projects

References

Name 5 projects of similar work, giving owner's name, representative's name, project engineer's name, and telephone numbers for each.

1.

2.

3.

4.

5.

CERTIFICATION & ACKNOWLEDGEMENT

The undersigned affirms that they are duly authorized to submit this bid, that this bid has not been prepared in collusion with any other bidder, and that the contents of this bid have not been communicated to any other bidder prior to the official opening of this bid. To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Bidder certifies that it: i) does not boycott Israel; and ii) will not boycott Israel during the term of the Agreement. Additionally, the undersigned affirms that the firm is willing to sign the enclosed Standard Form of Agreement (if applicable).

Signed By: _____ Title: _____

Typed Name: _____ Company Name: _____

Phone No: _____ Fax No: _____

Email: _____

Bid Address: _____
P.O. Box or Street _____ City _____ State _____ Zip _____

Remit Address: _____
P.O. Box or Street _____ City _____ State _____ Zip _____

Federal Tax ID No: _____

DUNS No: _____

Date: _____

GENERAL & SPECIAL CONDITIONS OF AGREEMENT

A. GENERAL CONDITIONS OF AGREEMENT

The Standard Form of Agreement between Owner and Contractor shall be governing conditions of this contract.

1. STANDARD SPECIFICATIONS FOR CONSTRUCTION--CITY OF SOUTH PADRE ISLAND

- a. **FACILITIES:** All building construction and related installations shall conform to the City's latest adopted editions of the 2018 International Building Code, 2018 International Residential Code without Section R313 (deleted), 2018 International Fire Code without Appendices L and M (deleted), 2018 International Mechanical Code, 2015 International Plumbing Code, 2015 International Fuel Gas Code, 2014 National Electrical Code, 2018 International Energy Conservation Code, 1997 Standard Housing Code, and the 1985 Unsafe Building Abatement Code and all other amendments thereto except as modified by the Code of Ordinances. All other City of South Padre codes and ordinances shall also apply.
- b. **CIVIL CONSTRUCTION:** These specifications shall be used in conjunction with the City of South Padre Island's Standard Specifications of Water and Sewer Construction and Street Construction and is hereby incorporated by reference and those specifically provided for in Chapter 23 of the Code of Ordinances, City of South Padre Island. All City of South Padre codes and ordinances shall apply.

Any discrepancies between the City standards and these specifications shall be clarified per the instructions in Paragraph G, "QUESTIONS AND INQUIRIES," in the Instructions to Bidders section.

B. SPECIAL CONDITIONS OF AGREEMENT

1. **MEASUREMENTS:** All work not specifically set forth as a pay item in the Proposal shall be considered a subsidiary obligation of the Contractor, and all costs in connection therewith shall be included in the various unit prices listed in the Proposal.
2. **QUANTITIES:** Where unit quantities are shown on each bid item of the Proposal, they shall be construed to represent approximate quantities of Work to be completed. Final quantities will be determined by measurement on the site of the completed Work. Work performed outside of specified limits will not be included in final measurement. Bidders are hereby notified that no incidental items of the Work will be paid for unless it is listed in the Proposal form as a pay item.
3. **EXPLOSION, COLLAPSE, AND UNDERGROUND HAZARDS (XCU):** Contracts, where trenching depths exceed twelve (12) feet, shall require additional coverage for the following General Liability hazards:

<u>Explosion</u>	Applies to blasting operations
<u>Collapse</u>	Applies to excavation and grading work adjacent to structure
<u>Underground</u>	Applies to excavation, burrowing, trenching, tunneling, etc. For example, severing an electrical line during excavation operations.

An additional premium may be assessed by contractor's insurance provider. Successful contractor is responsible for assessing depth based on plans and specifications contained herein.

4. TRAFFIC CONTROL. When work is performed in or immediately adjacent to a public street right-of-way, the Contractor shall submit to the City Engineer a traffic control plan for each public right-of-way he enters prior to the pre-construction meeting. This plan shall be in conformance to the Texas Manual on Uniform Traffic Control Devices. Once reviewed, the plans will be returned to the Contractor with comments.

Approved Traffic Control Plans shall be in the possession of the contractor on-site during all work within the designated right of way.

5. MATERIAL STAGING. Contractor is responsible for identifying and securing a suitable site for the storage of materials and other construction related items unless such a site is specifically identified in the plans.
6. PERMITS. Contractor will be required to get permits pursuant to contract documents; however, the City will waive the fees.
7. STORMWATER PERMIT. For construction areas disturbing more than one (1) acre of land, Contractor shall provide a Storm Water Pollution Prevention Plan and all related inspections, rain gages, signage, subsidiary to the contract.
8. SURVEY. The Owner will provide a one-time survey staking of key construction points, bench marks, horizontal controls, building corners, or utility appurtenances as deemed necessary by the City Engineer. Additional construction staking, or replacement staking, will be at the contractor's expense.
9. CONTRACTOR PARKING and BATHROOMS. Unless noted otherwise in the bid documents and plans, the installation of temporary bathroom facilities on the site will not be allowed. Parking for construction related vehicles, worker vehicles, and other equipment may be limited at the construction site. The Contractor should anticipate the need to provide for off-site parking subsidiary to the bid price in the contract.
10. FIELD OFFICES. The Contractor will not be required to maintain a field office at the construction site. In the event that the Contractor wishes to have a temporary project office, approval will be required by the Owner. The cost for the installation of all utilities will be paid by the Contractor.
11. DRAINAGE AND EROSION CONTROLS. The contractor will be responsible for designing, installing and maintaining interim drainage and erosion controls for the construction site. Surface drainage channels, culverts, or other features will be maintained by the contractor in such a way to minimize the impacts from storm water to offsite properties.
12. CONTRACT FORMS, BONDS, AND CERTIFICATES. The Standard Form of Agreement bond forms listed below will be made a part of the executed contract documents and are made a part of these specifications:
 - a. PERFORMANCE BOND
 - b. PAYMENT BOND

These forms are not to be filled in by the bidder at the time of submitting his proposal.

EXHIBIT A: STANDARD FORM OF AGREEMENT

**STANDARD FORM OF AGREEMENT
CONSTRUCTION SERVICES OVER \$50,000**

This Agreement is entered into by and between the **City of South Padre Island**, a Texas home-rule municipal corporation (the "City"), and _____, a corporation (the "Contractor"), for the construction and/or installation of the **Wind and Water Sports Venue**.

1. DEFINITIONS.

- 1.01. **Calendar Day.** A "calendar day" is any day of the week or month, no days being excepted.
- 1.02. **City.** Whenever the word "City" is used, it shall mean and be understood as referring to the City of South Padre Island, Texas.
- 1.03. **City's Representative.** Whenever the words "City's Representative" or "Representative" are used, it shall mean and be understood as referring to the City Manager or his delegate, who shall act as City's agent. The City's Representative may inspect and issue instructions but shall not directly supervise the Contractor.
- 1.04. **Contract Amount.** The term "Contract Amount" shall mean the amount of Contractor's lump sum base bid proposal, together with all alternates, as accepted by the City in accordance with the Contractor's Proposal. In the case of a unit price contract, Contract Amount shall mean the sum of the product of all unit prices times the respective estimated final quantities of work, for all base bid and alternates, as accepted by the City.
- 1.05. **Contract Documents.** The term "Contract Documents" shall mean those documents listed in Paragraph 2.01.
- 1.06. **Contractor.** Whenever the word "Contractor" is used, it shall mean the person(s), partnership, or corporation who has agreed to perform the work embraced in this Agreement and the other Contract Documents.
- 1.07. **Extra Work.** The term "Extra Work" shall mean and include work that is **not** covered or contemplated by the Contract Documents but that may be required by City's Representative and approved by the City in writing **prior** to the work being done by the Contractor.
- 1.08. **Final Completion.** The term "Final Completion" shall mean that all the work has been completed, all final punch list items have been inspected and satisfactorily completed, all payments to materialmen and subcontractors have been made, all documentation and warranties have been submitted, and all closeout documents have been executed and approved by the City.
- 1.09. **Interpretation of Phrases.** Whenever the words "directed", "permitted", "designated", "required", "considered necessary", "prescribed", or words of like import are used, it is understood that the direction, requirement, permission, order, designation, or prescription of City's Representative is intended. Similarly, the words "approved", "acceptable", "satisfactory", or words of like import shall mean approved by, accepted by, or satisfactory to City's Representative.
- 1.10. **Nonconforming work.** The term "nonconforming work" shall mean work or any part thereof that is rejected by City's Representative as not conforming with the Contract Documents.
- 1.11. **Parties.** The "parties" are the City and the Contractor.
- 1.12. **Project.** The term "Project" shall mean and include all that is required to obtain a final product that is acceptable to the City. The term "work" shall have like meaning.

- 1.13. **Subcontractor.** The term "subcontractor" shall mean and include only those hired by and having a direct contact with Contractor for performance of work on the Project. The City shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors shall look exclusively to the Contractor for any payments due.
- 1.14. **Substantially Completed.** The term "Substantially Completed" means that in the opinion of the City's Representative the Project, including all systems and improvements, is in a condition to serve its intended purpose but still may require minor miscellaneous work and adjustment. Final payment of the Agreement Price, including retainage, however, shall be withheld until Final Completion and acceptance of the work by the City. Acceptance by the City shall not impair or waive any warranty obligation of Contractor.
- 1.15. **Work.** The term "work" as used in this Agreement shall mean and include all that is required herein to obtain a final product that is acceptable to the City. The term "Project" shall have a like meaning. This Project aims to construct a public boat ramp and ADA ramp with associated truck/trailer parking spaces (both concrete and paver parking lot with header curbs and pavement striping), an attendance dock, a fish cleaning station, exterior light fixtures, landscaping, and the placement of educational signage. Additional related work will generally include clearing, grubbing, removal and disposal of both a section of the existing bulkhead and pavement section to allow for construction of the proposed boat ramp and adjacent bulkhead, and installation of a cofferdam. The work will also include installing water, wastewater, and electrical utilities. All work shall be completed in accordance with the construction plans, specifications, permits, and contract documents. The project is permitted through the US Army Corps of Engineers.
- 1.16. **Working Day.** A "working day" means any day not including Saturdays, Sundays, or legal holidays.

2. CONTACT DOCUMENTS.

- 2.01. The Contract Documents and their priority shall be as follows:
 - (a) This signed Agreement
 - (b) Addendum to this Agreement
 - (c) General Conditions
 - (d) Special Conditions
 - (e) Technical specifications
 - (f) Drawings
 - (g) Instructions to Bidders and any other notices to Bidders or Contractor
 - (h) Performance bond, Payment bonds, Bid bonds and Special bonds
 - (i) Contractor's Proposal
- 2.02. Where applicable, the Contractor will be furnished three (3) sets of plans, drawings, specifications, and related Contract Documents for its use during construction. Plans and specifications provided for use during construction shall be furnished directly to the Contractor only.
- 2.03. The Contractor shall distribute copies of the plans and specifications to suppliers and subcontractors as necessary. The Contractor shall keep one (1) copy of the plans and specifications accessible at the work site with the latest revisions noted thereon. For proper execution of the work contemplated by this Agreement, additional sets of drawings, plans and specifications may be purchased by the Contractor.
- 2.04. All drawings, specifications, and copies thereof furnished by the City shall not be re-used on other work, and with the exception of one (1) copy of the signed Contract Documents, all documents, including sets of the plans and specifications and "as built" drawings, are to be returned to the City on request at the completion of the work. All Contract

Documents, models, mockups, or other representations are the property of the City. In the event of inconsistencies within or between parts of the Contract Documents, the Contractor shall (1) provide the better quality or greater quantity of Work, or (2) comply with the more stringent requirement, either or both in accordance with the City's interpretation. The terms and conditions of this Clause 2.04, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 8.01. and 8.02.

3. AWARD OF CONTRACT

- 3.01. Upon, the award of the contract by the City Council, the parties shall execute this Agreement, and the Contractor shall deliver to City's Representative all documents, bonds, and certificates of insurance required herein.
- 3.02. **Time is of the essence of this Agreement.** Accordingly, the Contractor shall be prepared to perform the work in the most expedient and efficient possible manner in order to complete the work by the times specified in this Agreement for Substantial Completion and Final Completion. In addition, the Contractor's work on the Project shall be commenced on the date to be specified in the notice to proceed. The notice to proceed may be given by oral notification or set by City's Representative at the post-contract award conference. **The notice to proceed may not be given, nor may any work be commenced, until this Agreement is fully executed and complete, including all required exhibits and other attachments, particularly those required under Paragraphs 27 and 28 (Insurance & Bonds).**
- 3.03. **Contract Amount.** Except in the event of a duly authorized change order approved by the City as provided in this Contract, and in consideration of the Contractor's final completion of all work in conformity with this Contract, the City shall pay the Contractor an amount not to exceed _____ /100 Dollars (\$_____).

4. CITY'S REPRESENTATIVE

- 4.01. The Contractor shall forward all communications, written or oral, to the City through the City's Representative.
- 4.02. The City's Representative may periodically review and inspect the work of the Contractor.
- 4.03. The City's Representative shall appoint, from time to time, such subordinate supervisors or inspectors as City's Representative may deem proper to inspect the work performed under this Agreement and ensure that said work is performed in accordance with the plans and specifications.
- 4.04. The Contractor shall regard and obey the directions and instructions of City's Representative, any subordinate supervisors or inspectors appointed by the City provided such directions and instructions are consistent with the obligations of this Agreement.
- 4.05. Should the Contractor object to any orders by any subordinate supervisor or inspector, the Contractor may, within two (2) days from receipt of such order, make written appeal to City's Representative for his decision.

5. INDEPENDENT CONTRACTOR

- 5.01. In all activities or services performed hereunder, the Contractor is an independent contractor and not an agent or employee of the City. The Contractor, as an independent contractor, shall be responsible for the final product contemplated under this Agreement. Except for materials furnished by the City, the Contractor shall supply all materials, equipment and labor required for the execution of the work on the Project. The Contractor shall have ultimate control over the execution of the work under this Agreement. The Contractor shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees and subcontractors, and the City shall have no control of or supervision over the employees of the Contractor or any of the Contractor's subcontractors except to the limited extent provided for in this Agreement.

- 5.02. The Contractor shall retain personal control and shall give its personal attention to the faithful prosecution and completion of the work and fulfillment of this Agreement. The subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its obligations to the City under this Agreement. The Contractor shall appoint and keep on the Project during the progress of the work a competent Project Manager and any necessary assistants, all satisfactory to City's Representative, to act as the Contractor's representative and to supervise its employees and subcontractors. All directions given to the Project Manager shall be binding as if given to the Contractor. Adequate supervision by competent and reasonable representatives of the Contractor is essential to the proper performance of the work, and lack of such supervision shall be grounds for suspending the operations of the Contractor and is a breach of this Agreement.
- 5.03. Unless otherwise stipulated, the Contractor shall provide and pay for all labor, materials, tools, equipment, transportation, facilities, and drawings, including engineering, and any other services necessary or reasonably incidental to the performance of the work by the Contractor. It shall be the responsibility of the Contractor to furnish a completed work product that meets the requirements of the City. Any additional work, material, or equipment needed to meet the intent of this specification shall be supplied by the Contractor **without** claim for additional payment, even though not specifically mentioned herein.
- 5.04. Any injury or damage to the Contractor or the Project caused by an act of God, natural cause, a party or entity not privy to this Agreement, or other force majeure shall be assumed and borne by the Contractor.

6. DISORDERLY EMPLOYEES

The Contractor agrees to employ only orderly and competent employees skillful in the performance of the type of work required, and agrees that whenever City's Representative shall inform the Contractor in writing that any person or persons on the work are, in his opinion, incompetent, unfaithful, or disorderly, such person or person shall be discharged from the work and shall not again be re-employed on the site or the Project without City's Representative's written permission.

7. HOURS OF WORK

The Contractor may work Monday through Friday from 7 a.m. to 6 p.m., exclusive of Saturdays, Sundays, or legal holidays. The Contractor may work overtime, weekends, and holidays only when approved in advance by the City's Representative. The time for Substantial Completion shall not be affected in any way by inclusion of this section or by the City's consent or lack of consent to work outside of the times specified in this Agreement.

8. NATURE OF THE WORK

- 8.01. It is understood and agreed that the Contractor has, by careful examination, studied and compared the various Drawings and other Contract Documents, satisfied itself as to the nature and location of the work, the conditions of the ground and soil, the nature of any structures, the character, quality, and quantity of the material to be utilized, the character of equipment and facilities needed for and during the prosecution of the work, the time needed to complete the work, Contractor's ability to meet all deadlines and schedules required by this Agreement, the general and local conditions, including but not limited to weather, and all other matters that in any way affect the work under this Agreement. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered, or which reasonably should have been discovered by the Contractor shall be reported promptly to the City as a request for information in such form as the City may require. However, the Contractor shall not perform any act or do any work on the Project that places the safety

of persons at risk or potentially damages materials or equipment used in the Project, and the Contractor shall do nothing that would render any test or tests erroneous.

8.02. Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the City, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or which reasonably should have been discovered or made known to the Contractor shall be reported promptly to the City.

8.03. If the Contractor fails to perform the obligations of Paragraphs 8.01. and 8.02., the Contractor shall pay such costs and damages to the City as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the City for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized or reasonably should have recognized such error, inconsistency, omission or difference and knowingly failed to report it to the City.

9. POST-AGREEMENT AWARD MEETINGS

9.01. Prior to the commencement of the work, the parties shall meet and attend a post-agreement award meeting at the time and place determined by City's Representative. At the post-agreement award meeting, the parties shall meet, discuss, and finalize all schedules, including commencement date, and/or specifications submitted for review. No later than ten (10) days prior to the post-agreement award meeting, the Contractor shall submit to City's Representative the following documents:

- (a) Schedules of work contemplated, including the starting and ending date, as well as an indication of the completion of stages of work hereunder.
- (b) The names and addresses of all proposed subcontractors in writing.
- (c) Schedules of the starting and ending dates of subcontractors and the scope of work contemplated for subcontractors.
- (d) Name, local office, phone number and addresses and, home phone numbers for the Contractor and its Project Superintendent/Manager.
- (e) For construction projects, four (4) copies of all shop and/or setting drawings or schedules for the submission thereof.
- (f) Where applicable, materials procurement schedules and material supplier names, addresses and phone numbers.

9.02. The City's Representative, within five (5) working days after the initial post-agreement award conference or any other meetings, may submit minutes of the meeting to the Contractor. The Contractor shall thereafter have five (5) working days to review the minutes and make its objections, changes, or reductions thereto in writing. The Contractor shall thereafter sign the minutes and promptly return them to City's Representative. Where there is disagreement, City's Representative will make the final determination.

10. PROGRESS OF WORK

10.01. Unless otherwise specifically provided, the Contractor shall prosecute its work at such time and sessions, in such order of precedence, and in such manner as shall be most conducive to the economy of the Project; provided, however, that the order and time of prosecution shall be such that the Project shall be Substantially Completed in accordance with this Agreement, the plans and specifications, and within the time of completion designated in the schedules agreed upon by the parties.

10.02. Further, the parties shall be subject to the following:

- (a) The Contractor shall submit a progress schedule and payment schedule of the work contemplated by this Agreement at the initial post-agreement award meeting and subsequent meetings.
- (b) City's Representative shall be entitled to make objections to the Contractor's schedule submitted herein. The Contractor shall promptly resubmit a revised schedule to City's Representative.
- (c) The Project Superintendent/Manager shall coordinate its activities with City's Representative. If required by the City, the Contractor shall provide a weekly schedule of planned activities, which may be reviewed on a daily basis.
- (d) The Contractor shall submit, at such time as may reasonably be requested by City's Representative, additional schedules that shall list the order in which the Contractor proposes to carry on the work with dates at which the Contractor will start the several parts of the work and the estimated dates of completion of the several parts.
- (e) The Contractor shall attend additional meetings called by City's Representative upon twenty-four (24) hours written notice unless otherwise agreed in writing by the parties.
- (f) When the City is having other work done, either by agreement or by its own force, City's Representative may direct the time and manner of work done under this Agreement so that conflicts will be avoided and the various work being done by and for the City shall be coordinated.
- (g) In the event that it is determined by the City that the progress of the work is not in accordance with the approved progress and payment schedule, the City may so inform the Contractor and require the Contractor to take such action as is necessary to insure completion of the Project within the time specified.

10.03. The process of approving Contractor's schedules and updates to Contractor's schedules shall not constitute a warranty by the City that any non-Contractor milestones or activities will occur as set out in the Contractor's schedules. Approval of a contractor's schedules does not constitute a commitment by the City to furnish any City-furnished information or material any earlier than the City would otherwise be obligated to furnish that information or material under the Contract Documents. Failure of the Work to proceed in the sequence scheduled by Contractor shall not alone serve as the basis for a Claim for additional compensation or time. In the event there is interference with the Work which is beyond its control, Contractor shall attempt to reschedule the Work in a manner that will hold the additional time and costs beyond its control to a minimum. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedules and shall promptly advise the City of any delays or potential delays. In the event any schedule indicates any delays, the Contractor shall propose an affirmative plan to correct the delay. In no event shall any schedule constitute an adjustment in the Contract Time, any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the City and authorized pursuant to Change Order.

10.04. **Work Stoppage.** If in the judgment of either the City or City's Representative any of the work or materials furnished is not in strict accordance with this Agreement or any portion of the work is being performed so as to create a hazardous condition, they may, in their sole discretion, order the work of the Contractor or any sub-contractor wholly or partially stopped until any objectionable person, work, or material is removed from the premises. Such stoppage or suspension shall neither invalidate any of the Contractor's performance obligations under this Agreement, including the time of performance and deadlines therefore, nor will any extra charge be allowed the Contractor by reason of such stoppage or suspension.

11. SITE CONDITIONS AND MANAGEMENT

- 11.01. Where the Contractor is working around or in existing structures, it shall verify conditions at the site, including but not limited to, door openings and passages. Any items constructed or manufactured off-site or outside of buildings shall be done so that they are not too bulky for existing facilities. The Contractor shall provide special apparatus as required to handle any such items. All special handling equipment charges shall be at the Contractor's expense. Further, Contractor shall include in its price for the Work, all labor, materials, equipment and/or engineering services required to protect the adjacent properties and/or structures from damage due to performance of the Work.
- 11.02. The Contractor shall be responsible for all power, light, and water required to perform the work.
- 11.03. Throughout the progress of the work, the Contractor shall keep the working area free from debris of all types, and remove from premises all rubbish, resulting from any work being done by him. At the completion of the work, the Contractor shall leave the premises in a clean and finished condition. Any failure to do so may be remedied and charged back to the Contractor.
- 11.04. **Layout of Work.** Except as specifically provided herein, the Contractor shall lay out all work in a manner acceptable to City's Representative in accordance with applicable City of South Padre Island codes and ordinances. City's Representative will review the Contractor's layout of all structures and any other layout work done by the Contractor at the construction meeting, or at the Contractor's request, but this review does not relieve the Contractor of the responsibility of accurately locating all work in accordance with the plans and specifications.
- 11.05. **Lines and Grades.** All lines and grades shall be furnished by the Contractor. Benchmarks and control stakes have been provided by the City's Representative. All benchmarks and control stakes shall be carefully preserved by the Contractor. In case of destruction or removal of the same by the Contractor, its subcontractors, or employees, such stakes, marks, etc. shall be replaced by the Contractor at the Contractor's expense. If the Contractor fails to do so, the City may do so and charge back the Contractor. Additional construction staking as needed for the work, including lines and grades, shall be the sole responsibility of the Contractor, and the Contractor shall receive no extra time or compensation therefor.
- 11.06. **Contractor's Structures.** The building or locating of structures for housing men or the erection of tents or other forms of protection will be permitted only at such places as City's Representative shall permit. The Contractor shall not damage the property where such structures are allowed and shall at all times maintain sanitary conditions in and about such structures in a manner satisfactory to the City. The City may charge the Contractor for any damage or injury to the City, its property, or third persons as a result of the location or use of such structures.
- 11.07. The Contractor and any entity over whom the Contractor has control shall not erect any sign on the Project site without the prior written consent of the City.
- 11.08. City may have other work related to the Project performed at the Project site during the time the Work is performed. Contractor should schedule its Work to coordinate with the work of other contractors and utilities with the understanding that some of that work may be performed at times other than as set out in the Contract Documents or as otherwise anticipated. City will endeavor to have such other work performed so as not to unduly interfere with Contractor's performance when Contractor notifies City of specific reasonable needs well in advance of those needs and where it is possible to do so. Although Contractor should anticipate some delays and interference to its sequence of Work because of work by other contractors and utilities, and will not be entitled to either an extension of time or additional compensation because of them, in the event of substantial delay caused by another contractor or a utility, after advance notice of its needs by Contractor, Contractor will be entitled to make a claim for an extension of time as provided herein.

11.09. When two or more contractors, including Contractor, are employed on related or adjacent work or obtain materials from the same material source, or when work must be completed by one contractor before another can begin, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor, including Contractor if applicable, shall be responsible to the other for all damage to work, to persons, or to property caused to the other by his operations, and for loss caused the other due to unreasonable or unjustified delays or failure to finish the work or portions thereof, or furnish materials within the time requested. Should Contractor cause damage to the work or property of any separate contractor at the Project site, or should any claim arising out of Contractor's separate contractor at the Project site, or should any claim arising out of Contractor's performance of the Work at the Project site be made by any separate contractor against Contractor, City or other consultants, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute. **Contractor shall, to the fullest extent permitted by applicable laws, indemnify and hold City harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of architects, attorneys and other professionals and court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against City to the extent based on a claim arising out of Contractor's negligence.**

12. MATERIALS

12.01. Materials or work described in words that when so applied have well-known technical or trade meaning shall be held to refer to such recognized standards. All work shall be done and all materials furnished in strict conformity with this Agreement, the other Contract Documents, and recognized industry standards. When specific products, systems or items of equipment are referred to in the Contract Documents, any ancillary devices necessary for connecting the products, systems or items of equipment shall also be provided. When standards, codes, manufacturer's instructions and guarantees are required by the Contract Documents, the current edition at the time of Contract execution shall apply, unless another edition is specified in the Contract Documents. References to standards, codes, manufacturer's instructions and guarantees shall apply in full, except (1) they do not supersede more stringent standards set out in the Contract Documents, and (2) any exclusions or waivers that are inconsistent with the Contract Documents do not apply.

12.02. All materials shall be approved by the City prior to purchase by the Contractor. Unless otherwise specified herein, the Contractor shall purchase all materials and equipment outright and shall not subject the materials and equipment utilized in the Project to any conditional sales agreement, bailment, lease, or other agreement reserving unto seller any right, title, or interest therein. Title to all materials, but not risk of loss, shall pass to the City upon delivery to the Project.

12.03. Where the City deems it necessary to supply materials, it may furnish to the Contractor the list of materials set forth in the attached "List of City Furnished Materials". Upon receipt of said materials, the Contractor shall immediately furnish to the City a written receipt. Moreover, the Contractor shall, on behalf of the City, accept delivery of the materials set forth in the attached "List of Materials Ordered by the City". Under such circumstances, the Contractor shall promptly forward to the City for payment the supplier's invoice together with the Contractor's receipt in writing for such materials.

(a) Upon acceptance of the materials furnished or ordered by the City, the Contractor warrants that it shall properly handle, transport, store and safeguard the materials.

(b) Further, the Contractor shall repair, repaint or replace any and all materials or any part thereof damaged or stolen while in its possession. Such materials are

considered to be in the Contractor's possession from the moment the Contractor either accepts delivery of the materials or signs a receipt accepting delivery of said materials until the Project is accepted by the City's Representative.

- (c) Before transporting any of the materials furnished or ordered by the City, the Contractor shall establish to the City's satisfaction that it has obtained insurance against losses, theft, damage, equal to or greater than the amounts spent by the City in securing said materials. It shall be incumbent upon the Contractor to verify the cost of materials.
- (d) The City shall not be obligated to furnish materials in excess of the quantities, size, kind, and type set forth in the attached List of City Furnished Materials and List of Materials Ordered by the City. If the City furnishes, and the Contractor accepts, materials in excess thereof, the values of such excess materials shall be their actual cost as stated by the City.
- (e) Upon delivery, the Contractor shall promptly receive, unload, transport, and handle all materials and equipment on the List of Materials Ordered by the City at its expense and shall be responsible for all shipping costs.

12.04. **Materials and supplies shall be new and of good quality.** Upon request, the Contractor shall supply proof of quality and manufacturer. No refurbished, reconditioned, or other previously utilized materials or supplies will be used without the prior signed authorization of City's Representative. The Contractor may utilize substitutes of equal quality and function only upon the prior written authorization of the City's Representative. The City's Representative may require documentation as to quality and function, including manufacturer's specifications, to insure that the proposed substitute is equal to the required material or supply. The City's Representative shall have sole discretion over the use of substitute materials and supplies. Contractor shall bear the risk of any delay in performance caused by submitting substitutions.

12.05. Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction material and equipment stored at the Project site from weather, theft, damage and all other perils is solely the responsibility of the Contractor.

13. ENTRY, OBSERVATION, TESTING & POSSESSION

13.01. The City reserves the right to enter the Project site or sites by such employee(s) or agent(s) as it may elect for the purpose of inspecting the work. The City further reserves the right to enter the Project site or sites for the purpose of performing such collateral work as the City may desire.

13.02. The City's Representative shall have the right, at all reasonable times, to observe and test the work. The Contractor shall make necessary arrangements and provide proper facilities and access for such observation and testing at any location where the work or any part thereof is in preparation or progress. The Contractor shall ascertain the scope of any observation that may be contemplated by City's Representative and shall give ample notice as to the time each part of the work will be ready for observation.

13.03. The City's Representative may require Contractor to remove, dismantle, or uncover completed work. If the work is not in accordance with the plans, specifications, or other Contract Documents, the Contractor shall pay the costs of repair and restoration of the work required to be removed, dismantled, or uncovered. Unless Contractor is obligated to provide advance notice of inspection, prior to covering up the work, and fails to do so, if the work is in accordance with the plans, specifications, and other Contract Documents, the City shall pay the costs of repair and restoration of the work.

13.04. City shall have the right to take possession of and use any completed or partially completed portions of the Project prior to the time for completing the entire Project or such portions which may not have expired. The parties agree and understand that

possession and use shall not constitute an acceptance of any work not completed in accordance with this Agreement. Further, insurance changes required to keep Contractor's insurance in effect shall be the responsibility of Contractor.

14. REJECTED WORK

- 14.01. All work deemed not in conformity with this Agreement as determined by the City in its sole discretion, may be rejected by the City. City's Representative may reject any work found to be defective or not in accordance with the Contract Documents, regardless of the stage of the work's completion or the time or place of discovery of such defects or inconsistencies and regardless of whether City's Representative has previously accepted the work through oversight or otherwise. Neither observations nor inspections, tests, or approvals made by City's Representative, or other persons authorized under this Agreement to make such observations, inspections, tests, or approvals, shall relieve the Contractor from the obligation to perform the work in accordance with the requirements of this Agreement and the other Contract Documents.
- 14.02. If the work or any part thereof is rejected by the City, it shall be deemed by City's Representative as not in conformity with this Agreement. Any remedial action required, as set forth herein, shall be at the Contractor's expense, as follows:
 - (a) The Contractor may be required, at the City's option, after notice from City's Representative, to remedy such work so that it shall be in full compliance with this Agreement. All rejected work or materials shall be immediately replaced in order to conform with this Agreement.
 - (b) If the City deems it inexpedient to correct work damaged or not done in accordance with this Agreement, an equitable deduction from the agreed sum may be made by the City at the City's sole discretion.

15. SUBCONTRACTING & SUBCONTRACTORS

- 15.01. The Contractor agrees that it will retain personal control and will give its personal attention to the fulfillment of this Agreement. The Contractor further agrees that subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its full obligation to the City as provided by this Agreement.
- 15.02. Subcontractors must be approved by City's Representative prior to hiring or beginning any work on the Project. If City's Representative judges any subcontractor to be failing to perform the work in strict accordance with the drawings and specifications, the Contractor, after due notice, shall discharge the same, but this shall in no way release the Contractor from its obligations and responsibility under this Agreement. Every subcontractor shall be bound by the terms and provisions of this Agreement and the Contract Documents as far as applicable to their work. The Contractor shall be fully responsible to the City for the acts and omissions of its subcontractors. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the City.

16. PAYMENT

- 16.01. The City stipulates that it is an exempt organization as defined by the Limited Sales, Excise and Use Tax Act and, as such, is exempt from the payment of the sales tax on materials and supplies used in the performance of this Contract. The Contractor shall issue exemption certificates to its suppliers and Subcontractors in lieu of said sales tax for all such materials and supplies, and said exemption certificates must comply with the State Comptroller's Ruling No. 95-0.07 and shall be subject to the provision of the State Comptroller's Ruling No. 95-0.09, effective October 1, 1969.
- 16.02. **Progress Payment Applications.** The Contractor shall submit applications for payment as provided for herein. Applications for payment will be processed by City's Representative.

Before the first Application for Payment, the Contractor shall submit to the City a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the City may require. This schedule, unless objected to by the City, shall be used as a basis for reviewing the Contractor's Applications for Payment. On or before the _____ day of each month, the Contractor shall submit to City's Representative, for approval or modification, a statement showing as completely as practicable the total value of the actual work performed by the Contractor and accepted by the City up to and including the last day of the ***preceding*** month. The statement shall also include the value of all materials not previously submitted for payment which have been delivered to the site but have not yet been incorporated into the work.

- 16.03. **Progress Payments.** On or before the **30th** calendar day following the City's receipt of a progress payment application made in conformity with Paragraph 16.02, the City shall pay to the Contractor the approved amount of the progress payment based on the Contractor's applications for payment, and the recommendation and approval of City's Representative. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage of work completed by the Contractor and approved by the City, but in each case less the aggregate of payments previously made, less retainage, and less amounts as City's Representative shall determine and the City may withhold in accordance with this Agreement. Upon Final Completion, including the delivery of all close out documents, such as "as built" drawings, warranties, guarantees, required additional materials, releases, operation and maintenance manuals, and acceptance of the work in accordance with this Agreement, the City shall pay the remainder of the balance due under this Agreement, less any sums withheld under other terms of this Agreement and less the retainage, which shall be retained for a period of thirty (30) calendar days from the date of Final Completion. Acceptance of retainage by Contractor shall constitute a Waiver and Release of all claims by Contractor.
- 16.04. **Retainage.** From each approved statement, the City shall retain until final payment, ten percent (10%), where the full contract amount is less than \$400,000.00, and five percent (5%), where the full contract amount is \$400,000.00 or more. The City may also retain from each approved statement any other sums authorized under the terms of this Agreement.
- 16.05. If the actual amount of work to be done and the materials to be furnished differ from estimates and where the basis for payment is the unit price method, then payment shall be for the actual amount of accepted work done and materials furnished on the Project.
- 16.06. Reduction in the scope or quantity of work on unit price items shall merely reduce the number of units. In the event that materials have been delivered prior to notice of such reduction, the City will have the option either to pay freight & transportation costs and any re-stocking charges actually incurred by the Contractor or to purchase the materials. The Contractor shall never be entitled to anticipated or lost profits on the deleted or reduced portion of a job, whether bid on a unit price or lump sum basis.
- 16.07. The Contractor shall have the sole obligation to pay any and all charges or fees and give all notices necessary to and incidental to the lawful prosecution of the work hereunder. The Contractor shall not and shall have no authority whatsoever to obligate the City to make any payments to another party nor make any promises or representation of any nature on behalf of the City, without the specific written approval of the City.
- 16.08. The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the City may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.
- 16.09. Unless otherwise provided in the Contract Documents:
 - (a) Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

- (b) Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Amount but not in the allowances;
- (c) Whenever costs are more than or less than allowances, the Contract Amount shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Paragraph 16.9(a) and (2) changes in the Contractor's costs under Paragraph 16.9(b).

16.10. **Suspension of Payments.** The City, at any time, may suspend monthly progress payments on the work if it determines that the projected liquidated damages may exceed retainage. The City, at any time, may suspend monthly progress payments if it believes that the Contractor will not complete the work due to actual default or that the Contractor has represented or done some act that indicates that it will not complete the work in accordance with this Agreement or within the time period submitted in its bid. Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

16.11. **Withhold Funds.** Regardless of any bond, the City may, on account of subsequently discovered evidence and in addition to the retainage withheld under Paragraph 16.04, withhold funds or nullify all or part of any acceptance or certificate to such extent as may be necessary to protect itself from loss on account of any of the following, or as otherwise provided in this Agreement:

- (a) Defective work.
- (b) Claims made or reasonable evidence indicating probable filing of claims by unpaid vendors or other third parties.
- (c) Failure of the Contractor to make prompt payments to subcontractors for labor or material or materialmen.
- (d) Claims made or reasonable evidence indicating claims will be made for damage to another by the Contractor.
- (e) Claims made or reasonable evidence indicating claims will be made for damage to third parties, including adjacent property owners.
- (f) Claims made or reasonable evidence indicating claims will be made for unremedied damage to property owned by the City.
- (g) City's determination of an amount of liquidated damages.
- (h) Charges made for repairs to the Contractor's defective work or repairs made by the City to correct damage to other property.
- (i) Other amounts authorized under this Agreement or under any other agreement made between City and Contractor.

Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

17. EXTRA WORK CHARGES

17.01. No changes shall be made, nor will bills for changes, alterations, modifications, deviations, and extra orders be recognized or paid for except upon the written order from authorized personnel of the City.

17.02. For "Extra Work", as defined in Paragraph 1.07 and authorized through written change orders, and pursuant to Section 252.048(d) of the Texas Local Government Code, the original contract price may not be increased by more than **twenty-five percent (25%)**. Written change orders that do not exceed **twenty-five percent (25%)** of the original contract amount may be made or approved by the City Manager or his delegate if the change order is less than **Fifty Thousand Dollars (\$50,000.00)**. Changes in excess of **Fifty Thousand Dollars (\$50,000.00)** must be approved by the City Council prior to commencement of the services or work. **Any requests by the Contractor for a change to the Contract Amount shall be made prior to the beginning of the work covered by the proposed change or the right to payment for Extra Work shall be waived.** No course of

conduct or dealings between the parties, nor implied acceptance of alterations or additions to the Work or changes to the Contract schedule shall be the basis for any claim for an increase in compensation or change in time. Any cost incurred by Contractor in connection with any Extra Work shall be included in Contractor's requested change order and Contractor's failure to include any such cost shall act to Waive and Release any claim for such non included cost.

17.03. The Contractor shall complete all work as specified or indicated in the Contract Documents. The Contractor shall complete all Extra Work in connection therewith. All work and materials shall be in strict conformity with the specifications. The Substantial Completion of the work shall not excuse the Contractor from performing all the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents. In the event that the Contractor fails to perform the work as required for Substantial Completion or Final Completion, the City may contract with a third party to complete the work and the Contractor shall assume and pay the costs of the performance of the work as contracted.

- (a) It is agreed that the Contractor shall perform all Extra Work under the direction of City's Representative when presented with a written work order signed by City.
- (b) **No claim for Extra Work of any kind will be allowed unless ordered in writing by the City.** In case any orders or instructions appear to the Contractor to involve Extra Work for which it should receive compensation or an adjustment in the construction time, it shall make written request to City's Representative for a written order from City authorizing such Extra Work.
- (c) Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefor, and the City insists upon its performance, then the Contractor shall proceed with the work after making written requests for written orders in a change order and shall keep adequate and accurate account of the actual field costs therefor, as provided under Method C.
- (d) It is also agreed that the compensation to be paid to the Contractor for performing Extra Work shall be determined by one or more of the following methods:
 - Method A - By agreed unit prices, or
 - Method B - By agreed lump sum, or
 - Method C - If neither Method A nor Method B is agreed upon before the Extra Work is commenced, then the Contractor shall be paid the actual field cost of the work.
- (e) **Method A - Unit Prices.** The Contractor agrees to perform Extra Work for the unit prices in the Contractor's Proposal. The Contractor also agrees and warrants that when it is necessary to construct units not shown in the Contract Documents, it shall construct such units for a price arrived at as follows:
 - a. The cost of materials shall be determined by the invoices;
 - b. The cost of labor shall be the reasonable cost thereof, as determined by the City, but in no event shall it exceed an amount determined by calculating the ratio of the total labor costs to the total costs to the total material costs in the section of the Proposal involved, and multiplying the cost of materials for the unit in question by this ratio. Provided, however, that the ratio shall be calculated for only those units that are similar to the new unit for which a price is to be determined.
- (f) **Method B- Lump Sum.** The lump sum shall be reasonably close to the amount for similar work previously done or combinations of similar units. Invoices for materials used shall be provided in support of the agreed lump sum.
- (g) **Method C - Actual Field Costs.** The actual field cost is hereby defined to include the cost of all applicable workmen and laborers, as well as materials, supplies, teams, trucks, rentals on machinery and equipment, for the time actually employed or used for such Extra Work, plus actual transportation charges necessarily incurred, together

with other costs reasonably incurred directly on account of such Extra Work, including social security, old age benefits, maintenance bonds, public liability, property damage, worker's compensation, and all other insurance as may be required by law or ordinances or required and agreed to by the City or City's Representative. City's Representative may direct the form in which accounts of the actual field costs shall be kept and records of these accounts shall be made available to City's Representative. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%), unless otherwise specified, of the latest schedule of equipment and ownership expenses adopted by the Associated General Contractors of America. Where practical, the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. Actual field costs shall not exceed the prevailing market price therefor within reasonable tolerances as determined by City's Representative. The amount due to Contractor for costs other than actual field costs shall be calculated in accordance with the following standards:

- a. No indirect or consequential damages will be allowed.
- b. All damages must be directly and specifically shown to be caused by a proven wrong. No recovery shall be based on a comparison by planned expenditures to total actual expenditures or on estimated losses of labor efficiency, or on a comparison of planned manloading to actual manloading, or any other analysis that is used to show damages indirectly.
- c. Damages are limited to extra costs specifically shown to have been directly caused by a proven wrong.
- d. The maximum daily limit on any recovery for delay shall be the amount established by the Contractor for job overhead costs, defined in the pay applications, divided by the total number of days specified for completion called for in the original Contract. Absent an overhead amount in the Schedule of Values, the amount estimated by Contractor for job overhead cost shall be used.

18. TIME OF COMPLETION

- 18.01. The date of beginning, the time for Substantial Completion and Final Completion of work as specified in this Agreement are of the essence of this Agreement.
- 18.02. The work embraced by this Agreement shall be commenced on the date specified in the notice to proceed. Said notice to proceed may be given orally or set by the City's Representative at the post-award conference.
- 18.03. The work shall be Substantially Completed within the time bid, which shall run from the date when the notice to proceed is given by City's Representative. The Contractor bid _____ calendar days for the time within which it shall reach Substantial Completion of the Project.
- 18.04. The work shall reach Final Completion and be ready for final payment within **thirty (30) calendar days** from the date of Substantial Completion.

19. SUBSTANTIAL COMPLETION

- 19.01. The Contractor shall notify City's Representative when, in the Contractor's opinion, the contract is Substantially Completed. Within ten (10) calendar days after the Contractor has given City's Representative written notice that the work has been Substantially Completed, City's Representative shall inspect the work for the preparation of a final punch list.
 - (a) If City's Representative and the City find that the work is not Substantially Completed, then they shall so notify the Contractor who shall then complete the work. City's Representative shall not be required to provide a list of unfinished work.

(b) If the City Representative and City find that the work is Substantially Completed, the City shall issue to the Contractor its certificate of Substantial Completion.

19.02. The Substantial Completion of the work shall not excuse the Contractor from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents.

20. FINAL COMPLETION

20.01. Contractor shall notify the City's Representative when it believes that the work has reached Final Completion as defined in Paragraph 1.08. If the City's Representative and the City accept and deems such work Finally Complete, then Contractor shall be so notified and certificates of completion and acceptance, as provided herein, shall be issued. A complete itemized statement of this Agreement account, certified by the City's Representative as correct, shall then be prepared and delivered to Contractor. Contractor or City, as the case may be, shall pay the balance due as reflected by said statement within thirty (30) calendar days.

20.02. The Contractor shall procure all required certificates of acceptance or completions issued by state, municipal, or other authorities and submit the same to the City. The City may withhold any payments due under this Agreement until the necessary certificates are procured and delivered.

20.03. Neither the final payment nor any acceptance nor certificate nor any provision of this Agreement shall relieve the Contractor of any responsibility for faulty workmanship or materials. At the option of the City, the Contractor shall remedy any defects and pay for any damage to other work which may appear after final acceptance of the work.

21. DELAYS

21.01. The Contractor, in undertaking to complete the work within the times herein fixed, has taken into consideration and made allowance for all hindrances and delays incident to such work, whether growing out of delays in securing material or workmen or delays arising from inclement weather or otherwise.

21.02. The City may, in its sole discretion, delay the work during inclement weather in order to preserve the Project, insure safety of work forces, and the preservation of materials and equipment. In such event and upon a written request from the Contractor, the City may grant an extension of time pursuant to Paragraph 22 to offset for such stoppage of the work.

21.03. In the event of delays resulting from changes ordered in the work by the City or other delays caused by the City or for the City's convenience, the Contractor may apply to the City for recovery of incidental damages resulting from increased storage costs or other costs necessary to protect the value of the work. In no event shall any consequential or other damages be allowed or any other charges or claims be made by the Contractor for hindrances or delays resulting from any other cause.

22. EXTENSIONS OF TIME

The Contractor has submitted its proposal in full recognition of the time required for the completion of this Project, taking into consideration all factors including, but not limited to the average climatic range and industrial conditions. The Contractor has considered the liquidated damage provision of this Agreement and understands and agrees that it shall not be entitled to, nor will it request, an extension of time for either Substantial Completion or Final Completion, except when the work has been delayed by one or more of the following:

1. An act or neglect of the City, the City's Representative, employees of the City, or other contractors employed by the City;
2. By changes ordered in the work, or reductions thereto approved in writing;

3. By 'rain days with rainfall in excess of one-tenth of an inch during the term of this Agreement that exceed the average number of rain days for such term for this locality, both as determined by the Texas A&M University weather service; or
4. By other causes that the City and the Contractor agree may reasonably justify delay and that were beyond the Contractor's reasonable control and ability to estimate, predict, or avoid, such as delays caused by unforeseen labor disputes, fire, natural disasters, acts of war, and other rare and unpredictable events. This term does **not** include normal delays incident to the delivery of materials, tools, or labor that reasonably could have been predicted and/or accounted for in the Contractor's proposal or decision to bid.

If one or more of the foregoing conditions is present, the Contractor may apply in writing for an extension of time, within thirty (30) days of the occurrence of the event causing the delay, submitting therewith all written justification as may be required by the City's Representative. Within ten (10) calendar days after receipt of a written request for an extension of time, which is supported by all requested documentation, the City shall, in writing and in its sole discretion, grant or deny the request. Under no circumstances shall any extension of time by the City be valid and binding unless it is in writing and in conformity with the other terms of this Agreement.

23. LIQUIDATED DAMAGES

- 23.01. The time for the Substantial and Final Completion of the work described herein are reasonable times for the completion of each, taking into consideration all conditions, including but not limited to the average climatic conditions and usual industrial conditions prevailing in this locality. The amount of liquidated damages for the Contractor's failure to meet the deadlines for Substantial and/or Final Completion are fixed and agreed on by the Contractor because of the impracticability and extreme difficulty in fixing and ascertaining the actual damages that the City would in such an event sustain. The amounts to be charged are agreed to be damages the City would sustain and shall be retained by the City from current periodic estimates for payment or from final payment.
- 23.02. As a result of the difficulty in estimation, calculation and ascertainment of City's damages due to a failure of Contractor to achieve timely completion of the Work, if the Contractor should neglect, fail, or refuse to either Substantially Complete or Finally Complete the work within the time herein specified, or any proper extension thereof granted by the City's Representative pursuant to the terms of Paragraph 22 of this Agreement, then the Contractor does hereby agree as part of the consideration for the awarding of this Agreement that the City may permanently withhold from the Contractor's total compensation the sum of 500 /100 DOLLARS (\$) for each and every calendar day that the Contractor shall be in default after the time stipulated for Substantial Completion and/or Final Completion, not as a penalty, but as liquidated damages for the breach of this Agreement. It being specifically understood that the assessment of liquidated damages may be made for any failure to meet either or both of the deadlines specified for Substantial Completion and/or Final Completion.

24. CHARGERS FOR INJURY OR REPAIR

- 24.01. The Contractor shall be liable for any damages incurred or repairs made necessary by reason of its work and/or caused by it. Repairs of any kind required by the City will be made and charged to the Contractor by the City.
- 24.02. The Contractor shall take the necessary precautions to protect any areas adjacent to its work.
- 24.03. The work specified consists of all work, materials, and labor required by the City to repair any damage to the property of the City, including but not limited to structures, roadways, curbs, parking areas, and sidewalks.

25. WARRANTY

25.01. Upon issuance of a certificate of Final Completion, the Contractor warrants for a period of one (1) year as follows:
The Contractor warrants that all materials provided to the City under this Agreement shall be new unless otherwise approved in advance by City's Representative and that all work will be of good quality, free from faults and defects, and in conformance with this Agreement, the other Contract Documents, and recognized industry standards.

25.02. All work not conforming to these requirements, including but not limited to unapproved substitutions, may be considered defective.

25.03. This warranty is in addition to any rights or warranties expressed or implied by law and in addition to any consumer protection claims arising from misrepresentations by the Contractor.

25.04. Where more than a one (1) year warranty is specified for individual products, work, or materials, the longer warranty shall govern.

25.05. This warranty obligation shall be covered by any performance or payment bonds tendered in compliance with this Agreement.

25.06. **Defective Work Discovered During Warranty Period.** If any of the work is found or determined to be either defective, including obvious defects, or otherwise not in accordance with this Agreement within one (1) year after the date of the issuance of a certificate of Final Completion of the work or a designated portion thereof, whichever is longer, or within one (1) year after acceptance by the City of designated equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this Agreement, the Contractor shall promptly correct the defective work at no cost to the City.

25.07. After receipt of written notice from the City to begin corrective work, the Contractor shall promptly begin the corrective work. The obligation to correct any defective work shall survive the termination of this Agreement. The guarantee to correct the defective work shall not constitute the exclusive remedy of City, nor shall other remedies be limited to the terms of either the warranty or the guarantee.

25.08. If within ten (10) calendar days after the City has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by the Contractor or its surety.

25.09. The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for the replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

25.10. The guarantee shall be extended to cover all repairs and replacements furnished, and the term of the guarantee for each repair or replacement shall be one (1) year after the installation or completion. The one (1) year warranty shall cover all work, equipment, and materials that are part of this Project, whether or not a warranty is specified in the individual section of the Contract Documents that prescribe that particular aspect of the work.

26. PAYMENT OF EMPLOYEES, SUBCONTRACTORS & SUPPLIERS

26.01. **Wage Rates.** Pursuant to Section 2258.023(a) of the Texas Government Code, wage rates paid by the Contractor and any subcontractor on this Project shall be not less than the general prevailing rate of per diem wages for work of a similar character in this locality as specified in the schedule of general prevailing rates of per diem wages attached hereto as Exhibit A.

26.02. **Statutory Penalty.** Pursuant to Section 2258.023(b) of the Texas Government Code, if the Contractor or any subcontractor violates the requirements of Paragraph 26.01, the Contractor or subcontractor as the case may be shall pay the City **Sixty Dollars (\$60.00)**

for each worker employed for each calendar day or part of the day that the worker is paid less than the stipulated wage rates.

- 26.03. The Contractor and each subcontractors shall pay all of their employees engaged in work on the Project in full (less mandatory legal deductions) in cash or by check readily cashable, without discount, no less than once each week.
- 26.04. No later than the seventh (7th) calendar day following the payment of wages, the Contractor must file with City's Representative a certified, sworn, legible copy of such payroll. This shall contain the name of each employee, their classification, the number of hours worked on each day, rate of pay, and net pay. The affidavit shall state that the copy is a true and correct copy of such payroll and that no rebates or deductions (except as shown) have been made or will be made in the future from the wages therein shown.
- 26.05. **Payment of Subcontractors.** The Contractor shall be solely and exclusively responsible for compensating any of the Contractor's employees, subcontractors, materialmen and/or suppliers of any type or nature whatsoever and for insuring that no claims or liens of any type arising out of or incidental to the performance of any services performed pursuant to this Agreement are filed against any property owned by the City. In the event a statutory lien notice is sent to the City, the Contractor shall, where no payment bond covers the work, upon written notice from the City, immediately obtain a bond at its expense and hold the City harmless from any losses that may result from the filing or enforcement of any said lien notice. In the event that the Contractor defaults in the provision of the bond, the City may withhold such funds as are necessary to assure the payment of such claim until litigation determines to whom payment shall be made.
- 26.06. **Affidavit of Bills Paid.** Prior to Final Acceptance of the Project, the Contractor shall provide a notarized affidavit stating that all bills for labor, materials, and incidentals incurred have been paid in full, that any claims from manufacturers, materialmen, and subcontractors have been released, and that there are no claims pending of which the Contractor has been notified.

27. INSURANCE

- 27.01. The Contractor shall procure and maintain at its sole cost and expense for the duration of this Agreement insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, volunteers, employees or subcontractors. The policies, coverages, limits and endorsements required are as set forth in Exhibit B.

28. BOND PROVISIONS

- 28.01. Pursuant to Section 2253.021 of the Texas Government Code, for all public works contracts with governmental entities, a payment bond is required if the Contract Amount exceeds \$50,000, and a performance bond is required if the Contract Amount exceeds \$100,000. Below those amounts, the City *may* require payment and/or performance bonds. In the event a performance or payment bond or both is required either by law or in the City's discretion, such bonds shall be executed in accordance with all requirements of Article 7.19-1 of the Texas Insurance Code, all other applicable law, and the following:
 - (a) The Contractor shall execute performance and payment bonds for the full Contract Amount.
 - (b) The bond surety shall be authorized under the laws of the State of Texas to provide a performance and payment bond and shall have attached proof of authorization of the surety to act in the performance and payment of bonds.
 - (c) The Contractor shall provide original, sealed, and complete counterparts of the executed bonds in the forms required by the Contract Documents, which are attached as Exhibit C, together with valid original powers of attorney, **at the time of execution of this Agreement and prior** to the commencement of work. Copies of the executed bonds shall be attached hereto as **Exhibit C**.

- (d) The performance and payment bonds shall remain in effect for a period of one (1) year after Final Completion of the work and shall be extended for any warranty work to cover the warranty period.
- (e) If at any time during the execution of this Agreement in the required period thereafter, the bond or bonds become invalid or ineffective for any reason, the Contractor shall promptly supply within ten (10) days such other bond or bonds, which bond or bonds shall assure performance or payment as required.

28.02. The Contractor may make such changes and alterations as the City may require in the work or any part thereof without affecting the validity of this Agreement and any accompanying bond. If such changes or alterations diminish the quantity of the work to be done, they shall not constitute the basis for any claim for damages or anticipated profits. If the City makes changes or alterations that render useless any work already done or material already used in said work, then the City shall compensate the Contractor for any material or labor so used, and for any actual loss occasioned by such change due to actual expenses incurred in preparation for the work as originally planned, in accordance with the provisions of Article 17.

29. SURETY

29.01. If the Contractor has abandoned the Project or the City has terminated the contract for cause and the Contractor's Surety, after notice demanding completion is sent, fails to commence the completion of the work in compliance with this Agreement, then the City at its option may provide for completion of the work in either of the following manners:

- 1. The City may employ such force of men and use of instruments, machinery, equipment, tools, materials, and supplies as said the City may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials, and supplies to said the Contractor, and the expense so charged shall be deducted and paid by the City out of such monies as may be due or that may thereafter at any time become due to the Contractor and Surety.
- 2. The City may, after notice published as required by law, accept sealed bids and let this Agreement for the completion of the work under substantially the same terms and conditions that are provided in this Agreement. In case of any increase in cost to the City under the new agreement as compared to what would have been the cost under this Agreement, such increase together with all of the City's damages due to Contractor's abandonment and/or default, including liquidated damages, as provided pursuant to Paragraph 38, entitled "TERMINATION FOR CAUSE" shall be charged to the Contractor and the surety shall be and remain bound therefor. However, should the cost to complete such new agreement prove to be less than that which would have been the cost to complete the work under this Agreement, the Contractor shall be credited therewith after all deductions are made in accordance with this Agreement.

29.02. Should the cost to complete the work exceed the Contract Amount and the Contractor fails to pay the amount due to the City within the time designated and there remains any machinery, equipment, tools, materials, or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the Contractor at its respective address designated in this Agreement; provided, however, that actual written notice given in any manner shall satisfy this condition. After mailing, or otherwise giving such notice, such property shall be held at the risk of the Contractor subject only to the duty of City's Representative to exercise ordinary care to protect such property. After fifteen (15) calendar days from the date of said notice, City's Representative may sell such machinery, equipment, tools, materials, or supplies and apply the net sum derived from such sale to the credit of the Contractor. Such sale may be made at either public or private sale, with or without notice, as City's Representative may elect. City's Representative shall release any machinery, equipment, tools, materials,

or supplies which remain on the job site and belong to persons other than the Contractor to their proper owners.

29.03. In the event the account shows that the cost to complete the work is less than that which would have been the cost to City had the work been completed by the Contractor under the terms of this Agreement, or when the Contractor shall pay the balance shown to be due by them to the City, then all machinery, equipment, tools, materials, or supplies left on the site of the work shall be turned over to the Contractor.

30. COMPLIANCE WITH LAW

30.01. The Contractor's work and materials shall comply with all state and federal laws, municipal ordinances, regulations, codes, and directions of inspectors appointed by proper authorities having jurisdiction.

30.02. The Contractor shall perform and require all subcontractors to perform the work in accordance with applicable laws, codes, ordinances, and regulations of the State of Texas and the United States and in compliance with OSHA and other laws as they apply to its employees. In the event any of the conditions of the specifications violate the code for any industry, then such code conditions shall prevail.

30.03. The Contractor shall follow all applicable state and federal laws, municipal ordinances, and guidelines concerning soil erosion and sediment control throughout the Project and warranty term.

31. SAFETY PRECAUTIONS

31.01. All safety measures, policies and precautions at the site are a part of the construction techniques and processes for which the Contractor shall be solely responsible. The Contractor is solely responsible for handling and use of hazardous materials or waste, and informing employees of any such hazardous materials or waste. The Contractor shall provide copies of all hazardous materials and waste data sheets to the South Padre Island Fire Department marked "Attn.: Assistant Chief".

31.02. The Contractor has the sole obligation to protect or warn any individual of potential hazards created by the performance of the work set forth herein. The Contractor shall, at its own expense, take such precautionary measures for the protection of persons, property, and the work as may be necessary.

31.03. The Contractor shall be held responsible for all damages to property, personal injuries and/or death due to failure of safety devices of any type or nature that may be required to protect or warn any individual of potential hazards created by the performance of the work set forth herein; and when any property damage is incurred, the damaged portion shall immediately be replaced or compensated for by the Contractor at its own cost and expense.

31.04. Contractor agrees that it shall not transport to, use, generate, dispose of, or install at the Project site any Hazardous Substance (as defined in Paragraph 31.07, except in accordance with applicable Environmental Laws. Further, in performing the Work, Contractor shall not cause any release of Hazardous Substances into, or contamination of, the environment, including the soil, the atmosphere, any water course or ground water, except in accordance with applicable Environmental Laws (as hereafter defined at Paragraph 31.07). **In the event Contractor engages in any of the activities prohibited in this Paragraph 31.04 to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its respective officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from the activities prohibited in this Paragraph 31.04.**

31.05. In the event Contractor encounters on the Project site any Hazardous Substance, or what Contractor may reasonably believe to be a Hazardous Substance, and which is being

introduced to the Work, or exists on the Project site, in a manner violative of any applicable Environmental Laws, Contractor shall immediately stop work in the area affected and report the condition to City in writing. The Work in the affected area shall not thereafter be resumed except by written authorization of City if in fact a Hazardous Substance has been encountered and has not been rendered harmless. In the event Contractor fails to stop the Work upon encountering a Hazardous Substance at the Project site, **to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from Contractor's failure to stop the Work.**

- 31.06. City and Contractor may enter into a separate agreement and/or Change Order for Contractor to remediate and/or render harmless the Hazardous Substance, but Contractor shall not be required to remediate and/or render harmless the Hazardous Substance absent such agreement. Contractor shall not be required to resume work in any area affected by the Hazardous Substance until such time as the Hazardous Substance has been remediated and/or rendered harmless.
- 31.07. For purposes of this Agreement, the term "Hazardous Substance" shall mean and include any element, constituent, chemical, substance, compound, or mixture, which are defined as a hazardous substance by any local, state or federal law, rule, ordinance, by-law, or regulation pertaining to environmental regulation, contamination, clean-up or disclosure, including, without limitation, The Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), The Resource Conservation and Recovery Act ("RCRA"), The Toxic Substances Control Act ("TSCA"), The Clean Water Act ("CWA"), The Clean Air Act ("CAA"), and the Marine Protection Research and Sanctuaries Act ("MPRSA"), The Occupational Safety and Health Act ("OSHA"), The Superfund Amendments and Reauthorization Act of 1986 ("SARA"), or other state superlien or environmental clean-up or disclosure statutes including all state and local counterparts of such laws (all such laws, rules and regulations being referred to collectively as "Environmental Laws"). It is the Contractor's responsibility to comply with this Paragraph 31.07 based on the law in effect at the time its services are rendered and to comply with any amendments to those laws for all services rendered after the effective date of any such amendments.

32. TRENCH SAFETY

The Contractor must comply with Texas law regarding trench excavation exceeding five feet in depth and in accordance with the following items:

- 32.01. The Contractor must comply with the requirements of Tex. Health & Safety Code Ann. §756.022-023 (Vernon 1992), as amended, and the requirements of 29 C.F.R., Sections 1926.650 through 1926.653 inclusive, "Excavation, Trenching and Shoring," of the Occupational Safety and Health Administration Standards, as amended.
- 32.02. The Contractor must include a separate pay item for trench safety complying with trench safety requirements, stating a unit price per linear foot of trench safety systems, as measured along the centerline of trench including manholes and other line structures.
- 32.03. Before beginning work on this project, the Contractor must submit to the City a complete trench safety program that complies with state and federal regulations. It is the sole duty, responsibility and prerogative of the Contractor, not the City, to determine the specific applicability of the designed trench safety systems to each field condition encountered on the project.
- 32.04. The Contractor must provide the City the name of the "competent person" required by OSHA standards to perform the trench safety inspections. The Contractor must make daily inspections to ensure that the systems comply with all applicable laws and

regulations, and must maintain a permanent record of daily inspections available for examination by the City or other government authority.

32.05. If evidence of possible cave-ins or slides is apparent, the Contractor must cease all work in the trench and surrounding area until the necessary precautions have been taken by the Contractor to safeguard personnel entering the trench.

33. INDEMNITY

33.01. **CONTRACTOR SHALL PROTECT, DEFEND, HOLD HARMLESS AND INDEMNIFY THE CITY FROM ANY AND ALL CLAIMS, DEMANDS, EXPENSES, LIABILITY OR CAUSES OF ACTION FOR INJURY TO ANY PERSON, INCLUDING DEATH, AND FOR DAMAGE TO ANY PROPERTY, TANGIBLE OR INTANGIBLE, OR FOR ANY BREACH OF CONTRACT ARISING OUT OF OR IN ANY MANNER CONNECTED WITH THE WORK DONE BY ANY PERSON UNDER THIS CONTRACT. IT IS THE INTENT OF THE PARTIES THAT THIS PROVISION SHALL EXTEND TO, AND INCLUDE, ANY AND ALL CLAIMS, CAUSES OF ACTION OR LIABILITY CAUSED BY THE CONCURRENT, JOINT AND/OR CONTRIBUTORY NEGLIGENCE OF THE CITY, AN ALLEGED BREACH OF AN EXPRESS OR IMPLIED WARRANTY BY THE CITY OR WHICH ARISES OUT OF ANY THEORY OF STRICT OR PRODUCTS LIABILITY.**

33.02. The indemnifications contained in paragraphs 33.01 shall include but not be limited to the following specific instances:

- (a) In the event the City is damaged due to the act, omission, mistake, fault or default of the Contractor, then the Contractor shall indemnify and hold harmless and defend the City for such damage.
- (b) The Contractor shall indemnify and hold harmless and defend the City from any claims for payment for goods or services brought by any material suppliers, mechanics, laborers, or other subcontractors.
- (c) The Contractor shall indemnify and hold harmless and defend the City from any and all injuries to or claims of adjacent property owners caused by the Contractor, its agents, employees, and representatives.
- (d) The Contractor shall be responsible for any damage to the floor, walls, etc., caused by the Contractor's personnel or equipment during installation.
- (e) The Contractor shall also be responsible for the removal of all related debris.
- (f) The Contractor shall also be responsible for subcontractors hired by it.
- (g) The Contractor shall indemnify, hold harmless, and defend the City from any liability caused by the Contractor's failure to comply with applicable federal, state, or local regulations, that touch upon or concern the maintenance of a safe and protected working environment and the safe use and operation of machinery and equipment in that working environment, no matter where fault or responsibility lies.

33.03. The indemnification obligations of the Contractor under this section shall not extend to include the liability of any professional engineer, the architect, their consultants, and agents or employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the professional engineer, the architect, their consultants, and agents and employees of any of them, provided such giving or failure to give is the primary cause of the injury or damage.

33.04. It is agreed with respect to any legal limitations now or hereafter in effect and affecting the validity or enforceability of the indemnification obligation under Paragraph 33.01, such legal limitations are made a part of the indemnification obligation and shall operate to amend the indemnification obligation to the minimum extent necessary to bring the provision into conformity with the requirements of such limitations, and as so modified, the indemnification obligation shall continue in full force and effect.

34. RELEASE

The Contractor assumes full responsibility for the work to be performed hereunder, and hereby releases, relinquishes, and discharges the City, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person (whether employees of either party or other third parties) and any loss of or damage to any property (whether property of either of the parties hereto, their employees, or of third parties) that is caused by or alleged to be caused by, arising out of, or in connection with the Contractor's work to be performed hereunder. This release shall apply regardless of whether said claims, demands, and causes of action are covered in whole or in part by insurance, and in the event of injury, death, property damage, or loss suffered by the Contractor, any subcontractor, or any person or organization directly or indirectly employed by any of them to perform or furnish work on the Project, this release shall apply regardless of whether such injury, death, loss, or damage was caused in whole or in part by the negligence of the City.

35. PERMITS AND LICENSES

The Contractor shall secure and pay for all necessary permits and licenses, governmental fees, and inspections necessary for the proper execution and completion of the work. During this Agreement term and/or period during which the Contractor is working, it shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

36. ROYALTIES AND LICENSING FEES

The Contractor shall pay all royalties and licensing fees. The Contractor shall hold the City harmless and indemnify the City from the payment of any royalties, damages, losses or expenses including attorney's fees for suits, claims or otherwise, growing out of infringement or alleged infringement of patents, materials and methods used in the Project. It shall defend all suits or claims for infringement of any patent rights. Further, if the Contractor has reason to believe that the design, service, process, or product specified is an infringement of a patent, it shall promptly give such information to City's Representative.

37. BREACH OF CONTRACT & DAMAGES

- 37.01. The City shall have the right to declare the Contractor in breach of this Agreement for cause when the City determines that this Agreement is not being performed according to its understanding of the intent and meaning of this Agreement. Such breach shall not in any way invalidate, abrogate, or terminate the Contractor's obligations under this Agreement.
- 37.02. Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to damages for breach of contract, upon but not limited to the following occurrences:
 - (a) If the Contractor shall fail to remedy any default after written notice thereof from City's Representative, as City's Representative shall direct; or
 - (b) If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or
 - (c) If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

38. TERMINATION FOR CAUSE

Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to terminate this Agreement in its entirety at any time for any of the following:

- 38.01. If the Contractor becomes insolvent, commits any act of bankruptcy, makes a general assignment for the benefit of creditors, or becomes the subject of any proceeding

commenced under any statute or law for the relief of debtors and, after notice, fails to provide adequate assurance that it can remedy all of its defaults; or

- 38.02. If a receiver, trustee, or liquidator of any of the property or income of the Contractor shall be appointed; or
- 38.03. If the Contractor shall fail to prosecute the work or any part thereof with diligence necessary to insure its progress and completion as prescribed by the time schedules; or
- 38.04. If the Contractor shall fail to remedy any default within ten (10) calendar days after written notice thereof from City's Representative, as City's Representative shall direct; or
- 38.05. If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or
- 38.06. If the Contractor abandons the Work.
- 38.07. If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

39. TERMINATION FOR CONVENIENCE

- 39.01. The performance of the work may be terminated at any time in whole or, from time to time, in part, by the City for its convenience. Any such termination shall be effected by delivery to the Contractor of a written notice (notice of termination) specifying the extent to which performance of the work is terminated, and the date upon which termination becomes effective.
- 39.02. In the event of termination for convenience, the Contractor shall only be paid the reasonable value of the Work performed prior to the effective date of the termination notice and shall be further subject to any claim the City may have against the Contractor under other provisions of this Agreement or as a matter of law. In the event of termination for convenience, Contractor Waives and Releases any claim for lost profit, other than profit on Work performed prior to the effective date of such termination.

40. RIGHT TO COMPLETE

If this Agreement is terminated for cause, the City shall have the right but shall not be obligated to complete the work itself or by others; and to this end, the City shall be entitled to take possession of and use such equipment, without rental obligation therefor, and materials as may be on the job site, and to exercise all rights, options, and privileges of the Contractor under its subcontracts, purchase orders, or otherwise; and the Contractor shall promptly assign such rights, options, and privileges to City. If the City elects to complete the work itself or by others, pursuant to the foregoing, then the Contractor and/or Contractor's surety will reimburse City for all costs incurred by the City (including, without limitation, applicable, general, administrative expenses, field overhead, the cost of necessary equipment, materials, field labor, additional fees paid to architects, engineers, attorneys or others to assist the City in connection with the termination and liquidated damages) in completing and/or correcting work by the Contractor that fails to meet any requirement of this Agreement or the other Contract Documents.

41. CLOSEOUT

- 41.01. After receipt of a notice of termination, whether for cause or convenience, unless otherwise directed by City's Representative, the Contractor shall, in good faith and to the best of its ability, do all things necessary in the light of such notice to assure the efficient and proper closeout of the terminated work (including the protection of City's property). Among other things, the Contractor shall, except as otherwise directed or approved by City's Representative, do the following:
 - (a) Stop the work on the date and to the extent specified in the notice of termination;
 - (b) Place no further orders or subcontracts for services, equipment, or materials, except as may be necessary for completion of such portion of the work as is not terminated;
 - (c) Terminate all orders and subcontracts to the extent that they relate to the performance of the work terminated by the notice of termination;

- (d) Assign to City's Representative, in the manner and to the extent directed by it, all of the right, title, and interest of the Contractor under the orders or subcontracts so terminated; in which case, City's Representative shall have the right to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
- (e) With the approval of City's Representative, settle all outstanding liabilities and all claims arising out of such termination, orders, and subcontracts;
- (f) Deliver to City's Representative, when directed by City's Representative, all documents and all property, which if the work had been completed, Contractor would have been required to account for or deliver to City's Representative, and transfer title to such property to City's Representative to the extent not already transferred; and/or

42. TERMINATION CONVERSION

Upon determination of Court of competent jurisdiction that termination of the Contractor pursuant to Paragraph 38 was wrongful and/or otherwise improper, such termination will be deemed converted to a termination for convenience pursuant to Paragraph 39 and Contractor's remedy for such termination shall be limited to the recovery of the payments permitted for termination for convenience as set forth in Paragraph 39.

43. HIRING

During the term of this Agreement and for a period of one (1) year thereafter, the Contractor agrees not to solicit for hire any employee or employees of the City that were associated with work specified under this Agreement. In the event that this provision is breached by the Contractor, the Contractor agrees to pay the City damages in the amount equal to twelve (12) months of the employee's total compensation plus any legal expenses associated with enforcement of this provision.

44. ASSIGNMENT

This Agreement and the rights and obligations contained herein may not be assigned by the Contractor without written approval of the City.

45. EFFECTIVE DATE

The effective date of this contract shall be the date of award of the contract.

46. OTHER TERMS

- 46.01. **Invalidity.** If any provision of this Agreement shall be held to be invalid, illegal or unenforceable by a court or other tribunal of competent jurisdiction, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The parties shall use their best efforts to replace the respective provision or provisions of this Agreement with legal terms and conditions approximating the original intent of the parties.
- 46.02. **Written Notice.** Unless otherwise specified, written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to any officer of the corporation for whom it is intended or if it is delivered or sent certified mail to the last business address as listed herein. Each party will have the right to change its business address by at least thirty (30) calendar days written notice to the other parties in writing of such change.
- 46.03. **Entire Agreement.** It is understood that this Agreement contains the entire agreement between the parties and supersedes any and all prior agreements, arrangements, or understandings between the parties relating to the subject matter. No oral understandings, statements, promises or inducements contrary to the terms of this Agreement exist. This Agreement cannot be changed or terminated orally. No verbal agreement or conversation with any officer, agent or employee of the City, either before

or after the execution of this Agreement, shall affect or modify any of the terms or obligations hereunder.

- 46.04. **Amendment.** No amendment to this Agreement shall be effective and binding unless and until it is reduced to writing and signed by duly authorized representatives of both parties.
- 46.05. **Mediation.** After receipt of a Notice of Claim, the Owner may elect to refer the matter to the Architect, Owner's Representative or another party for review. Contractor will attend meetings called to review and discuss the Claims and mitigation of the problem, and shall furnish any reasonable factual backup for the Claim requested. The Owner may also elect to defer consideration of the Claim until the Work is completed, in which case the same review options shall be available to the Owner at the completion of the Work. At any stage, the Owner, at its sole discretion, is entitled to refer a Claim to mediation under the Construction Industry Mediation Rules of the American Arbitration Association, and, if this referral is made, Contractor will take part in the mediation process. The filing, mediation or rejection of a Claim does not entitle Contractor to stop performance of the Work. The Contractor shall proceed diligently with performance of the Contract during the pendency of any claim, excepting termination or under Owner's direction to stop the Work. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof. The parties shall share the Mediator's fee and any filing fees equally and the Mediation shall be held in South Padre Island, Texas.
- 46.06. **Arbitration.** In the event of a dispute and upon the mutual written consent of both parties, the parties may agree to arbitration without waiving any of their other rights hereunder.
- 46.07. **Choice of Law and Place of Performance.** This Agreement has been made under and shall be governed by the laws of the State of Texas. Performance and all matters related thereto shall be in Cameron County, Texas, United States of America.
- 46.08. **Authority to do business.** The Contractor represents that it has a certificate of authority, authorizing it to do business in the State of Texas, a registered agent and registered office during the duration of this contract.
- 46.09. **Authority to Contract.** Each party has the full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each party has been properly authorized and empowered to enter into this Agreement. The persons executing this Agreement hereby represent that they have authorization to sign on behalf of their respective corporations.
- 46.10. **Waiver.** Failure of any party, at any time, to enforce a provision of this Agreement shall in no way constitute a waiver of that provision nor in any way affect the validity of this Agreement, any part hereof, or the right of the City thereafter to enforce each and every provision hereof. No term of this Agreement shall be deemed waived or breach excused unless the waiver shall be in writing and signed by the party claimed to have waived. Furthermore, any consent to or waiver of a breach will not constitute consent to or waiver of or excuse of any other different or subsequent breach.
- 46.11. **Headings, Gender, Number.** The article headings are used in this Agreement for convenience and reference purposes only and are not intended to define, limit, or describe the scope or intent of any provision of this Agreement and shall have no meaning or effect upon its interpretation. Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, and vice versa, unless the context requires otherwise.
- 46.12. **Agreement Read.** The parties acknowledge that they have had opportunity to consult with counsel of their choice, have read, understand and intend to be bound by the terms and conditions of this Agreement.
- 46.13. **Multiple Originals.** It is understood and agreed that this Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes.

46.14. **Notice of Indemnification.** City and Contractor hereby acknowledge and agree that this Agreement contains certain indemnification obligations and covenants.

46.15. **Federal Compliances.** Contractor will be required to comply with the following items:

1. President's Executive Order Numbers 11246 and 11375 which prohibit discrimination in employment regarding race, creed, color, sex, or national origin.
2. Title VI of the Civil Rights Act of 1964 which prohibits discrimination on the basis of race, color, or national origin.
3. Davis Bacon Act, the Anti-Kickback Act, and the Contract Work Hours Standard Act regarding labor standards for federally assisted construction sub agreements.
4. Contractor must also make positive efforts to utilize small and minority owned businesses and women business enterprises.

[INSERT NAME OF CONTRACTOR]

Signature: _____

Name: _____

Title: _____

Date: _____

CITY OF SOUTH PADRE ISLAND

Signature: _____

Name: _____

Title: _____

Date: _____

EXHIBIT B: DAVIS BACON WAGE RATES

Notes for the DB wage rates for Heavy/Highway Construction. Rates follow this page (5 pages).

1. Payment greater than prevailing wage rate as listed within this document not prohibited per Texas Government Code, Chapter 2258, Prevailing Wage Rates, Subchapter A. General Provisions.
2. Not less than the following hourly rates shall be paid for the various classifications of work required by this project. Workers in classifications where rates are not identified shall be paid not less than the general prevailing rate of "laborer" for the various classifications of work therein listed.
3. The hourly rate for legal holiday and overtime work shall not be less than one and one-half (1 & 1/2) times the base hourly rate.
4. The rates listed are journeyman rates. Helpers may be used on the project and may be compensated at a rate determined mutually by the worker and employer, commensurate with the experience and skill of the worker but not at a rate less than 60% of the journeyman's wage as shown. Apprentices (enrolled in a federally certified apprentice program) may be used at the percentage rates of the journeyman scale stipulated in their apprenticeship agreement. At no time shall a journeyman supervise more than two (2) apprentices or helpers. All apprentices or helpers shall be under the direct supervision of a journeyman working as a crew.

Superseded General Decision Number: TX20250003

State: Texas

Construction Type: Heavy

Counties: Cameron, Hidalgo and Webb Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

Modification Number Publication Date
0 01/02/2026

SUTX2011-003 08/02/2011

	Rates	Fringes
--	-------	---------

CEMENT MASON/CONCRETE
FINISHER (Paving & Structures)....\$ 12.46

FORM BUILDER/FORM SETTER
(Structures).....\$ 12.30

FORM SETTER (Paving & Curb).....\$ 12.16

LABORER

Asphalt Raker.....	\$ 10.61
Flagger.....	\$ 9.10
勞工, Common.....	\$ 9.86
勞工, Utility.....	\$ 11.53
Pipelaying.....	\$ 11.87
Work Zone Barricade	
Servicer.....	\$ 12.88

POWER EQUIPMENT OPERATOR:

Asphalt Distributor.....	\$ 13.48
Asphalt Paving Machine.....	\$ 12.25
Broom or Sweeper.....	\$ 10.33
Crane, Lattice Boom 80	
Tons or Less.....	\$ 14.39
Crawler Tractor.....	\$ 16.63
Excavator, 50,000 lbs or	
less.....	\$ 12.56
Excavator, over 50,000 lbs..	\$ 15.23
Foundation Drill, Truck	
Mounted.....	\$ 16.86
Front End Loader Operator,	
Over 3 CY.....	\$ 13.69
Front End Loader, 3 CY or	
less.....	\$ 13.49
Loader/Backhoe.....	\$ 12.77
Mechanic.....	\$ 15.47
Milling Machine.....	\$ 14.64
Motor Grader Operator,	
Rough.....	\$ 14.62
Motor Grader, Fine Grade....	\$ 16.52
Scraper.....	\$ 11.07

Servicer.....\$ 12.34

Steel Worker (Reinforcing).....\$ 14.07

TRUCK DRIVER

Lowboy-Float.....	\$ 13.63
Single Axle.....	\$ 10.82
Single or Tandem Axle Dump..	\$ 14.53
Tandem Axle Tractor with	
Semi Trailer.....	\$ 12.12

WELDER.....\$ 14.02

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.30 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 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007

01/03/2024⁵⁷SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

=====

END OF GENERAL DECISION

"

EXHIBIT C: INSURANCE REQUIREMENTS

During the term of this Agreement Contractor's insurance policies shall meet the following requirements:

- I. Standard Insurance Policies Required:**
 - a. Commercial General Liability
 - b. Business Automobile Liability
 - c. Umbrella / Excess Liability – required for contract amounts exceeding \$1,000,000
 - d. Workers' Compensation
 - e. Builder's Risk – provides coverage for contractor's labor and materials for a project during construction that involves a structure such as a building or garage. builder's risk policy shall be written on "all risks" form.
- II. General Requirements Applicable to All Policies:**
 - a. Only Insurance Carriers licensed and admitted to do business in the State of Texas will be accepted.
 - b. Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
 - c. "Claims Made" policies are not accepted.
 - d. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City of South Padre Island.
 - e. Upon request, certified copies of all insurance policies shall be furnished to the City of South Padre Island.
 - f. The City of South Padre Island, its officials, employees and volunteers, are to be named as "Additional Insured" to the Commercial General, Umbrella and Business Automobile Liability policies. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees or volunteers.
- III. Commercial General Liability**
 - a. General Liability insurance shall be written by a carrier with a "A:VIII" or better rating in accordance with the current Best Key Rating Guide.
 - b. Limit of \$1,000,000.00 per occurrence for bodily injury and property damage with an annual aggregate limit of \$2,000,000.00 which limits shall be endorsed to be per Project.
 - c. Coverage shall be at least as broad as ISO form GC 00 01.
 - d. No coverage shall be excluded from the standard policy without notification of individual exclusions being attached for review and acceptance.
 - e. The coverage shall include but not be limited to the following: premises/operations with separate aggregate; independent contracts; products/completed operations; contractual liability (insuring the indemnity provided herein) Host Liquor Liability, Personal & Advertising Liability; and Explosion, Collapse, and Underground coverage.
- IV. Business Automobile Liability**
 - a. Business Automobile Liability insurance shall be written by a carrier with a "A:VIII" or better rating in accordance with the current Best Key Rating Guide.
 - b. Minimum Combined Single Limit of \$1,000,000.00 per occurrence for bodily injury and property damage.
 - c. Coverage shall be at least as broad as Insurance Service's Office Number CA 00 01.
 - d. The Business Auto Policy must show Symbol 1 in the Covered Autos Portion of the liability section in Item 2 of the declarations page.
 - e. The coverage shall include owned autos, leased or rented autos, non-owned autos, any autos and hired autos.

f. Pollution Liability coverage shall be provided by endorsement MCS-90, with a limit of \$1,000,000.00.

V. Excess Liability

a. Umbrella form excess liability coverage following the form of the underlying coverage with a minimum limit of \$5,000,000.00 or the total value of the contract, whichever is greater, per occurrence/aggregate when combined with the lowest primary liability coverage, is required for contracts exceeding \$1,000,000 in total value.

VI. Those policies set forth in Paragraphs III, IV, and V shall contain an endorsement naming the City as Additional Insured and further providing that the Contractor's policies are primary to any self-insurance or insurance policies procured by the City. The additional insured endorsement shall be in a form at least as broad as ISO form GC 2026. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement. Contractor shall be responsible for all deductibles which may exist on any policies obtained in compliance with the terms of this Agreement. All coverage for subcontractors shall be subject to the requirements stated herein. All Certificates of Insurance and endorsements shall be furnished to the City's Representative at the time of execution of this Agreement, attached hereto as Exhibit D, and approved by the City before work commences.

VII. Workers Compensation Insurance

a. Pursuant to the requirements set forth in Title 28, Section 110.110 of the Texas Administrative Code, all employees of the Contractor, all employees of any and all subcontractors, and all other persons providing services on the Project must be covered by a workers compensation insurance policy: either directly through their employer's policy (the Contractor's or subcontractor's policy) or through an executed coverage agreement on an approved Texas Department of Insurance Division of Workers Compensation (DWC) form. Accordingly, if a subcontractor does not have his or her own policy and a coverage agreement is used, contractors and subcontractors must use that portion of the form whereby the hiring contractor agrees to provide coverage to the employees of the subcontractor. The portion of the form that would otherwise allow them not to provide coverage for the employees of an independent contractor may not be used.

b. Workers compensation insurance shall include the following terms:

- Employer's Liability minimum limits of \$1,000,000.00 for each accident/each disease/each employee are required.
- "Texas Waiver of Our Right to Recover From Others Endorsement, WC 42 03 04" shall be included in this policy.
- Texas must appear in Item 3A of the Workers Compensation coverage or Item 3C must contain the following: All States except those listed in Item 3A and the States of NV, ND, OH, WA, WV, and WY.

c. Pursuant to the explicit terms of Title 28, Section 110.110(c) (7) of the Texas Administrative Code, the bid specifications, this Agreement, and all subcontracts on this Project must include the following terms and conditions in the following language, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

i. *Definitions:*

- Certificate of coverage ("certificate") – An original certificate of insurance, a certificate of authority to self-insure issued by the Division of Workers Compensation, or a coverage agreement (DWC-81, DWC-83, or DWC-84), showing statutory workers' compensation insurance coverage*

for the person's or entity's employees providing services on a project, for the duration of the project.

2. *Duration of the project - includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the governmental entity.*
3. *Persons providing services on the project ("subcontractors" in § 406.096 [of the Texas Labor Code]) - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent Contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.*

- ii. *The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.*
- iii. *The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.*
- iv. *If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.*
- v. *The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:*
 1. *A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and*
 2. *no later than seven calendar days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.*
- vi. *The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.*
- vii. *The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the Contractor knew or should have known, or any change that materially affects the provision of coverage of any person providing services on the project.*
- viii. *The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Division of Workers Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.*
- ix. *The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:*
 1. *Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the*

statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

2. *Provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;*
3. *Provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
4. *Obtain from each other person with whom it contracts, and provide to the Contractor:*
 - a. *A certificate of coverage, prior to the other person beginning work on the project; and*
 - b. *A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
5. *Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;*
6. *Notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and*
7. *Contractually require each person with whom it contracts to perform as required by paragraphs (a) - (g), with the certificates of coverage to be provided to the person for whom they are providing services.*

x. *By signing this contract, or providing, or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project; that the coverage will be based on proper reporting of classification codes and payroll amounts; and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.*

xi. *The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor that entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten calendar days after receipt of notice of breach from the governmental entity."*

VIII. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain the following provisions and warranties:

- a. The company is licensed and admitted to do business in the State of Texas.
- b. The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas State Board of Insurance or ISO.
- c. All endorsements and insurance coverages according to requirements and instructions contained herein.
- d. The form of the notice of cancellation, termination, or change in coverage provisions to the City of South Padre Island.
- e. Original endorsements affecting coverage required by this section shall be furnished with the certificates of insurance.

EXHIBIT D: PERFORMANCE AND PAYMENT BONDS

PERFORMANCE BOND

Project No. _____

THE STATE OF TEXAS §
THE COUNTY OF CAMERON §

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____, as Principal, hereinafter called "Contractor" and the other subscriber hereto _____, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of South Padre Island, a municipal corporation, in the sum of _____ (\$_____) for the payment of which sum, well and truly to be made to the City of South Padre Island and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the Contractor has on or about this day executed a Contract in writing with the City of South Padre Island for _____ all of such work to be done as set out in full in said Contract Documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein.

NOW THEREFORE, if the said Contractor shall faithfully and strictly perform Contract in all its terms, provisions, and stipulations in accordance with its true meaning and effect, and in accordance with the Contract Documents referred to therein and shall comply strictly with each and every provision of the Contract, including all warranties and indemnities therein and with this bond, then this obligation shall become null and void and shall have no further force and effect; otherwise the same is to remain in full force and effect.

It is further understood and agreed that the Surety does hereby relieve the City of South Padre Island or its representatives from the exercise of any diligence whatever in securing compliance on the part of the Contractor with the terms of the Contract, including the making of payments thereunder and, having fully considered its Principal's competence to perform the Contract in the underwriting of this Performance Bond, the Surety hereby waives any notice to it of any default, or delay by the Contractor in the performance of his Contract and agrees that it, the Surety, shall be bound to take notice of and shall be held to have knowledge of all acts or omissions of the Contractor in all matters pertaining to the Contract. The Surety understands and agrees that the provision in the Contract that the City of South Padre Island shall retain certain amounts due the Contractor until the expiration of thirty days from the acceptance of the Work is intended for the City's benefit, and the City of South Padre Island shall have the right to pay or withhold such retained amounts or any other amount owing under the Contract without changing or affecting the liability of the Surety hereon in any degree.

It is further expressly agreed by Surety that the City of South Padre Island or its representatives are at liberty at any time, without notice to the Surety, to make any change in the Contract Documents and in the Work to be done thereunder, as provided in the Contract, and in the terms and conditions thereof, or to make any change in, addition to, or deduction from the work to be done thereunder; and

that such changes, if made, shall not in any way vitiate the obligation in this bond and undertaking or release the Surety therefrom.

It is further expressly agreed and understood that the Contractor and Surety will fully indemnify and hold harmless the City of South Padre Island from any liability, loss, cost, expense, or damage arising out of or in connection with the work done by the Contractor under the Contract. In the event that the City of South Padre Island shall bring any suit or other proceeding at law on the Contract or this bond or both, the Contractor and Surety agree to pay to the City the actual amounts of attorneys' fees incurred by the city in connection with such suit.

This bond and all obligations created hereunder shall be performable in Cameron County, Texas. This bond is given in compliance with the provisions of Chapter 2253 of the Texas Government Code, as amended, which is incorporated herein by this reference. However, all of the express provisions hereof shall be applicable whether or not within the scope of said statute.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on the third day following deposit in a United State Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective other party at the address prescribed in the Contract Documents, or at such other address as the receiving party may hereafter prescribe by written notice to the sending party.

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

ATTEST and SEAL: (if a corporation)

_____ (Name of Contractor)

WITNESS: (if not a corporation)

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

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

ATTEST/WITNESS

(SEAL)

_____ (Full Name of Surety)

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

_____ (Address of Surety for Notice)

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

REVIEWED:

THE FOREGOING BOND IS ACCEPTED ON BEHALF OF
THE CITY OF SOUTH PADRE ISLAND, TEXAS:

City Attorney's Office

City Manager

NOTE: Date of bonds must be equal to or after the date of execution by City.

City of South Padre Island
2026-SL02 Wind and Water Sports Venue

TEXAS STATUTORY PAYMENT BOND

Project No. _____

THE STATE OF TEXAS §

§ KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF CAMERON §

THAT WE, _____, as Principal, hereinafter called "Principal" and the other subscriber hereto _____, a corporation organized and existing under the laws of the State of _____, licensed to business in the State of Texas and admitted to write bonds, as Surety, herein after called "Surety", do hereby acknowledge ourselves to be held and firmly bound to the City of South Padre Island, a municipal corporation, in the sum of _____ (\$_____) for payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, Principal has entered into a certain contract with the City of South Padre Island, dated the _____ day of _____, 200____, for _____

which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW THEREFORE, the condition of this obligation is such that if Principal shall pay all claimants supplying labor and material to him or a subcontractor in the prosecution of the work provided for in said contract, then, this obligation shall be null and void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of said Code to the same extent as if it were copied at length herein.

IN WITNESS THEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST and SEAL: (if a corporation)

(Name of Contractor)

WITNESS: (if not a corporation)

By: _____

Name:

Title:

Date:

By: _____

Name:

Title:

Date:

ATTEST/WITNESS

(SEAL)

(Full Name of Surety)

By: _____

Name:

Title:

Date:

(Address of Surety for Notice)

By: _____

Name: _____

Title: _____

Date: _____

REVIEWED:

THE FOREGOING BOND IS ACCEPTED
ON BEHALF OF
THE CITY OF SOUTH PADRE ISLAND,
TEXAS:

City Attorney's Office

City Manager

NOTE: Date of bonds must be equal to or after the date of execution by City.

EXHIBIT E: CERTIFICATES OF INSURANCE AND ENDORSEMENTS

CERTIFICATES OF INSURANCE TO BE ADDED WITH SIGNED CONTRACT

EXHIBIT F: TECHNICAL SPECIFICATIONS AND PLANS

Section 01010 – SUMMARY OF WORK

PART 1 G E N E R A L

1.01 PROJECT INTENT

- (A) This is a general description of the work as outlined by the Engineer. It is by no means a complete summary of all conditions to be encountered nor is it a complete listing of the work required to complete the project. This project consists of approximately 86,850 SF of permeable plastic pavers, 2,833 CY of aggregate fill, 302 CY of riprap, 10,406 SY of woven geotextile, and 2,312 CY of subgrade. The approximate quantities are subject to change depending on the additives chosen for construction.
- (B) are the Engineer's best information on the location of the existing and proposed utilities. Contractor shall verify the existing, and proposed facilities, locations, dimensions, angles and alignments prior to ordering materials and/or replacing any utilities. The contractor will also be responsible for coordinating all adjustments/relocations with the other utilities companies if applicable. Any variation in the planned quantities shall be transmitted to the Engineer for approval prior to commencing work.

1.02 WORK SEQUENCE

- (A) General
 - 1) See Article 2 of the General Conditions regarding preliminary matters.
 - 2) ~~DELETED~~
 - 3) Contractor is responsible for construction sequencing. Below is a suggested Sequencing of Work. The Contractor has the option of following the Sequencing of Work or providing one for approval.
 - a. Install Erosion Control Devices.
 - b. Coordinate spotting of underground service with utility providers.
 - c. Rough grading
 - d. Install underground improvements, surface improvements, final grading.
 - e. Final clean up.
- (B) Survey
 - 1) The reference points and benchmark are shown on the construction plans. The Contractor must notify the engineer at least 48 hours prior to starting work on any sector or part of the work where controls have not been established or are not identifiable or visible to the Contractor. The Engineer will upon such advance notice, replace any control points that have been destroyed by others prior to beginning of the Contractor's operations. After

control points are established and / or identified as outlined above, maintenance of such control points shall be the responsibility of the Contractor. Any re-staking required for any reason thereafter shall be the responsibility of the Contractor. The Contractor will provide all other construction staking (cut stakes, blue topping, intermediate string line control, etc.) Required to verify grades, depths, thickness, and alignment of the various items of construction. The Contractor shall provide BPUB with "cut-sheets" prior to approval for beginning construction projects. The "cut-sheets" will be used to verify pipe elevations.

- 2) Concurrent with performance of contract work, each Contractor shall prepare and maintain one neat and legible set of full-size contract drawings indicating "as-built" conditions, including but not limited to changes in type, location, length, or size, for any item of work. "As-built" drawing mark-ups shall be prepared at the time the applicable item of work is constructed or installed. The preparation of "as-built" drawings shall be as required by the Engineer and drawings shall be reviewed with the Engineer each month during construction. Prior to the final acceptance of contract work the Contractor shall submit to the Engineer one complete set of drawings showing all "as-built" work modifications.

(C) TESTS AND INSPECTIONS

- 1) All materials, equipment, installation and workmanship included in this contract, if so required by the Engineer, shall be tested and inspected to prove compliance with the contract requirements.
- 2) No tests specified herein shall be applied until the item to be tested has been inspected and approval given for the application of such test by an authorized representative of the manufacturer of the equipment.
- 3) Acceptance Tests and Inspection
 - a. With the exception of those construction material testing services provided by the Owner in Section 01450 – Testing Laboratories, the acceptance tests shall be at the Contractor's expense for any materials or equipment specified herein. This is to include test of items during the process of manufacture and on completion of manufacture, comprising material test, hydraulic pressure tests, electric tests, performance and operating tests and inspections in accordance with the relevant standards of the industry, and more particularly as detailed in individual clauses of these specifications, or as may be required by the Engineer to satisfy himself that the items tested and inspected comply with the requirements of this contract.
 - b. All items delivered at the site shall be inspected in order that the Engineer may be satisfied that such items are of the specified quality and workmanship and are in good order and condition at the time of delivery.
- 4) Installed Tests and Inspection

- a. All mechanical, electrical, and instrumentation equipment shall be tested by the Contractor installing the equipment to the satisfaction of the Engineer before any facility is put into operation. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned, adjusted, and connected. Any changes, adjustments or replacements required to make the equipment operate as specified shall be carried out by the Contractor as part of the work.
- b. At least 30 days before the time allowed in his construction schedule for commencing testing and start-up procedures, the Contractor shall submit to the Engineer, details of the procedures he proposes to adopt for testing and start-up of all mechanical, electrical and instrumentation equipment to be operated singly and together, except when such procedures have been covered in the specification
- c. During the testing of mechanical, electrical, and instrumentation equipment the contractor shall make available experienced factory trained representatives of the manufacturers of all the various pieces of equipment, or other qualified persons who shall instruct the Owner's personnel in the operation and care thereof. Instruction shall include step-by-step troubleshooting procedures with all necessary test equipment and a presentation to plant operating personnel.
- d. If under test, any portion of the work shall fail to fulfill the contract requirements and is altered, renewed, or replaced, tests on that portion when so altered, renewed or replaced, tests on that portion when so altered, removed or replaced, together with all other portions of the work as are affected thereby shall if so required by the Engineer, be repeated within reasonable time and in accordance with the specified conditions, and the Contractor shall refund to the Owner all reasonable expenses incurred by the Owner as a result of the carrying out of such tests.
- e. Where, in the case of an otherwise satisfactory installed test, any doubt, dispute or difference should arise between the Engineer and the Contractor regarding the test results or the methods of equipment used in the carrying out by the Contractor as such test, then the Engineer may order the test to be repeated. If the repeat test using such modified methods or equipment as the Engineer may require substantially conforms the previous test then all costs in connection with the repeat test will be paid by the Owner, otherwise the costs shall be borne by the Contractor. Where the results of any installed test fail to comply with the contract requirements for such test, the repeat tests as may be necessary to achieve the contract requirements shall be made by the Contractor at his own expense.

1.03 CONTRACTOR USE OF PREMISES

(A) The Contractor shall limit the use of the premises to construction activities in areas indicated in the design plans. The Contractor's responsibilities include:

- 1) The Contractor shall confine operations to areas designated by the Owner and Engineer.
- 2) Keep areas serving public clear and available at all times. Do not use these areas for parking or storage of materials, except as approved. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- 3) The Contractor shall provide street sweeping equipment and perform, on a regular basis, street sweeping for construction debris on the streets, roadways, parking lots along the haul route, construction site, and staging area. The Contractor shall also follow all TPDES Erosion Control Measures.
- 4) The Contractor is responsible for coordinating use of public/private areas with local authorities and private landowners.
- 5) The Contractor shall notify the Engineer 14 days in advance of the time that is necessary to take out of service an existing facility.
- 6) The Contractor shall repair or replace, without delay, any and all damage to existing structures, surfaces, equipment, controls or systems resulting from his operations which are required to put the facility back in operation upon completion of the project.
- 7) The Contractor's attention is particularly directed to the dust, abrasive, particles, debris and dirt generated by the placement, chipping, cutting, finishing and grinding of new or existing concrete terrazzo and metal; and the fumes particulate matter, and splatter from welding, brazing and painting of new or existing piping and equipment; and provide filters, protective shielding, and other dust suppression methods at all times to adequately protect existing motors, pumps and electrical equipment.
- 8) Storage of Equipment: During the Interval between the delivery of equipment to the site, and installation, all equipment shall be safely stored in a manner acceptable to the Engineer. Equipment shall be stored in an enclosed space affording protection from weather, dust and mechanical damage, or loss, and providing favorable temperature, humidity, and ventilation conditions to ensure against equipment deterioration.
- 9) Protection of Equipment after Installation: After installation, all equipment shall be protected against weather, dust, moisture and mechanical damage. During concrete operations, including finishing, all equipment that may be affected by cement must be completely covered. During painting operations, all grease fittings, nameplates and similar features, shall be covered to prevent the entry of paint. Electrical switchgear, instrumentation, and motor control centers shall not be installed until after all concrete work in those areas has been completed and accepted and ventilation system installed.

1.04 CLEAN UP

- A. The Contractor shall not allow the site of the work to become littered with trash and waste material but shall maintain the site of the work in a neat and orderly condition throughout the construction period. The Contractor shall repair all pavement structures, utilities, and any other improvements damaged during construction on a like-for-like basis or as shown on the design plans.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

Section 01025 – Measurement and Payment

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Measurement and payment criteria applicable to the Work performed under a unit price payment method.
- B. Defect assessment and non-payment for rejected work.

1.02 AUTHORITY

- A. This Section is the authority for measurement methods and definitions of pay items, and supersedes any such direction which may be stated or implied in the Drawings or in individual sections of the technical specifications (Divisions 2 and higher).
- B. Take all measurements and compute quantities. The OWNER will verify measurements and quantities.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.

1.03 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Bid Proposal are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the OWNER determine payment.
- B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit sum/prices contracted.

1.04 MEASUREMENT OF QUANTITIES

- A. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- B. Measurement by Area: Measured by square dimension using mean length and width or radius.
- C. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

D. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.05 PAYMENT

A. Payment Includes: Full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals, erection, application or installation of an item of the Work, including overhead and profit.

B. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the OWNER multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.

1.06 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction for defective Work.

C. The authority of the OWNER to assess the defect and identify payment adjustment is final.

1.07 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the 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.

1.08 STANDARDS FOR COMPUTING PAY ITEMS

A. See the General Conditions Article 15, for additional direction regarding use and application of pay items.

B. The intent of Pay Items is to address all items shown, specified, required, reasonably implied, or otherwise necessary for the completion of the Work indicated in the Contract Documents. No separate payment will be made for costs (including, but not necessarily limited to labor, equipment, materials, or other CONTRACTOR expenses) arising from the completion of the Work which was indicated in the Contract Documents, whether or not a Pay Item expressly includes such costs. Should the Work include costs not expressly included in any Pay Item, CONTRACTOR is presumed to have included such costs in his bid under related pay items.

1. Other Pay Items not specifically listed in the Pay Item Descriptions below, which are for specific work (such as decommissioning or demolition of an existing facility), may be identified in the Bid Form. These items are provided in order to establish a basis for payment upon completion of work including and related to that described for the Pay Item in the Bid Form.

2. For items not specifically listed in the bid schedule shall be considered subsidiary to other items.

C. Excavation is unclassified, and construction requiring excavation is paid under the appropriate Pay Item value regardless of the character of ground encountered during Construction.

D. Earthwork classified as payable a cubic yard or other volume measurement shall be determined only by comparing the preexisting surface elevations, based on the Engineer's surveying data, in comparison to the final surveyed elevations. All earthwork is based on in-place volumes and not excavated or hauled volumes.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

Section 01039 – Coordination and Meetings

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination.
- B. Preconstruction Conference.
- C. Progress Meetings.
- D. Equipment Pre-Install Conference.
- E. Substantial Completion Meeting
- F. Final Inspection Meeting
- G. Field Engineering.

1.02 COORDINATION

- A. Inform OWNER and ENGINEER of the address for sending to which official correspondence and the address and telephone number of CONTRACTOR's representative who will be Project Manager for the Contract and responsible and available outside of normal working hours for emergency repairs and maintenance of safety devices.
- B. During periods of construction and testing keep OWNER and ENGINEER informed in writing with name, address, and telephone number of CONTRACTOR's representative who will be responsible and available outside of normal working hours for emergency repairs and the maintenance of safety devices.
- C. Identify correspondence, drawings, data and materials, packing slips or other items associated with this Contract as that identified on the Cover.
- D. Coordinate scheduling, submittals, and Work for the various Sections of Specifications to an effectively and orderly sequence for installing interdependent construction elements, with provisions for accommodating items installed later.
- E. Coordinate Work of various Sections with interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- F. Coordinate space requirements and installation of mechanical and electrical work, which are indicated by diagram on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and repairs.

- G. In finished areas (except as otherwise indicated), conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- H. 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.
- I. After OWNER occupancy of premises, coordinate access to site for correction of defective Work and/or incomplete Work to minimize disruption of OWNER's activities.
- J. Provide coordination in accordance with Article 7 of the General Conditions.

1.03 PRECONSTRUCTION CONFERENCE

- A. OWNER to schedule a preconstruction conference in accordance with General Conditions Article 2.
- B. Agenda:
 - 1. Distribute Contract Documents.
 - 2. Finalize preliminary Progress Schedule, submittal schedule and schedule of values.
 - 3. Designate personnel representing each party.
 - 4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, testing, Change Orders and Contract closeout procedures.
 - 5. Scheduling.
 - 6. Use of premises by OWNER and CONTRACTOR.
 - 7. OWNER's requirements
 - 8. Temporary utilities provided by OWNER.
 - 9. Survey.
 - 10. Security and housekeeping procedures.
 - 11. Procedures for testing.
 - 12. Procedures for maintaining record documents.
 - 13. Requirements for start-up of equipment.

14. Inspection and acceptance of equipment put into service during construction period.

1.04 PROGRESS MEETINGS

A. OWNER to schedule a progress meeting no later than 60 days after the Preconstruction Conference and monthly, or as necessary, as agreed upon by OWNER and CONTRACTOR, throughout progress of the Work. Make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

B. Attendance: CONTRACTOR, major Subcontractors and Suppliers, OWNER, ENGINEER, as appropriate to agenda topics for each meeting.

C. Agenda:

1. Review minutes of previous meetings.
2. Unresolved issues.
3. Review Work progress.
4. Observations, problems, and decisions.
5. Identification of problems that impede planned progress.
6. Review of submittals schedule and status of submittals.
7. Review of off-site fabrication and delivery schedules.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.
10. Planned progress during succeeding Work period.
11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to Work.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 FIELD ENGINEERING

A. Surveying: All surveying shall be performed Land Surveyor registered in the State of Texas.

1. Existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other utilities and construction. Use “One-Call,” 1-800-DIG-TESS or (800) 344-8377.
2. The Engineer will provide project reference points and benchmarks, as shown on the design plans. The Contractor shall notify the Engineer at least 48 hours prior to working in an area needing marking of such control points. The Contractor will provide all construction staking (cut stakes, blue topping, intermediate string line control, cut sheet calculations, etc.) required to verify grades, depths, thickness, and alignment of the various items of construction.
3. Furnish all surveys necessary to perform the Work. Maintain surveyor’s log of control and other survey work. Keep log available for reference.
4. Verify layout information shown on the Drawings in relation to existing benchmarks before laying out of the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
5. Promptly report lost or destroyed reference points, benchmarks, or control points. Promptly report requirements relocate reference and control points due to changes in grades. Promptly replace lost or destroyed control points based on the original survey control points.

END OF SECTION ERROR! REFERENCE SOURCE NOT FOUND.

Section 01300 - Submittal Procedures

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Submittal procedures for:
 1. Schedule of Values.
 2. Construction Schedules.
 3. Shop Drawings, Product Data, and Sampler.
 4. Operations and Maintenance Data.
 5. Manufacturer's Certificates.
 6. Construction Photographs.
 7. Project Record Documents.
 8. Video Tapes.
 9. Design Mixes.

1.2 SUBMITTAL PROCEDURES

1. Scheduling and Handling:

1. Schedule submittals well in advance of the need for the material or equipment for construction. Allow time to make delivery of material or equipment after submittal is approved.
2. Develop a submittal schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. The Owner will review and return submittals to the Contractor as expeditiously as possible but the amount of time required for review will vary depending on the complexity and quantity of data submitted. In no case will a submittal schedule be acceptable which allows less than 10 days for initial review by the Owner. This time for review shall in no way be justification for delays or additional compensation to the Contractor.
3. The Owner's review of submittals covers only general conformity to the Drawings, Specifications and dimensions which affect the layout. The Contractor is responsible for quantity determination. No quantities will be verified by the Owner. The Contractor is responsible for any errors, omissions or deviations from

the Contract requirements; review of submittals in no way relieves the Contractor from his obligation to furnish required items according to the Drawings and Specifications.

4. Submit 4 copies of documents unless otherwise specified in the following paragraphs or in the Specifications.
5. Revise and resubmit submittals as required. Identify all changes made since previous submittal.
6. The Contractor shall assume the risk for material or equipment which is fabricated or delivered prior to approval. No material or equipment shall be incorporated into the Work or included in periodic progress payments until approval has been obtained in the specified manner.

2. Transmittal Form and Numbering:

1. Transmit each submittal to the Owner with a Transmittal Form.
2. Sequentially number each transmittal form beginning with the number 1. Resubmittals shall use the original number with an alphabetic suffix (i.e., 2A for first resubmittal of Submittal 2 or 15C for third resubmittal of Submittal 15). Each submittal shall only contain one type of work, material, or equipment. Mixed submittals will not be accepted.
3. Identify variations from requirements of Contract Documents and identify product or system limitations.
4. For submittal numbering of video tapes, see paragraph 1.10 Video.

3. Contractor's Stamp:

1. Apply Contractor's stamp, certifying that the items have been reviewed in detail and are correct and in accordance with Contract Documents, except as noted by any requested variance.
2. As a minimum, Contractor's Stamp shall include:
 1. Contractor's name.
 2. Job number.
 3. Submittal number.
 4. Certification statement that the Contractor has reviewed the submittal and it complies with the Contract Documents.
 5. Signature line for Contractor.

1.3 MANUFACTURER'S CERTIFICATES

1. When specified in Specification sections, submit manufacturers' certificate of compliance for review by the Owner.
2. Contractor's Stamp, as described in paragraph 1.02C, shall be placed on front page of the certification.
3. Submit supporting reference data, affidavits, and certifications as appropriate.
4. Certificates may be recent or previous test results on material or product, but must be acceptable to the Owner.

1.4 DESIGN MIXES

1. When specified in Specifications, submit design mixes for review.
2. Contractor's Stamp, as described in paragraph 1.02C, shall be placed on front page of each design mix.
3. Mark each design mix to identify proportions, gradations, and additives for each class and type of design mix submitted. Include applicable test results on samples for each mix.
4. Maintain a copy of approved design mixes at mixing plant.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

Section 01380 – Construction Photos and Video

PART 1 - GENERAL

1.01 PHOTOGRAPHY

- A. CONTRACTOR shall be responsible for the production of pre-construction, during-construction (construction progress) and post-construction photographs as provided herein. OWNER's Representative may also designate additional subjects for photographs in addition to the general guidelines identified below.
- B. All photographs must be produced by a competent photographer and shall be digital color photography of commercial quality. All CONTRACTOR-generated photographs must be stored in a jpeg file format. The prints shall be accompanied by digital photographs in zip drive format. Each photograph shall be submitted in duplicate as two 3-inch by 5-inch prints of professional quality enclosed in clear plastic binders (if requested by the Owner or Engineer). Each print shall be marked with the name and number of Contract, name of CONTRACTOR, description and location of view and identity of photographer.
- C. Each photograph submittal must include a Photo Log that includes the name and number of Contract, name of CONTRACTOR, the name of the photographer, company of the photographer, photograph number, the date of the photograph and the filename that the camera assigns to the photo (e.g. MVC-001.jpg). In addition, appropriate descriptive information to properly identify the location of view must be entered into the Photo Log to assist in maintaining a concise project record (e.g. location of MH 5 - Line A or Sta. 2+00 - Line A or location of Sedimentation Basin 5, sludge pump A).
- D. All pre-construction photographs must be submitted prior to the CONTRACTOR beginning any Work that may cause site disturbance. All construction progress photographs shall be submitted with the monthly progress payment. All post-construction photographs shall be submitted prior to release of final payment to the CONTRACTOR.
 - 1. Pre-construction photographs must be taken at sufficient intervals to be able to fully document the pre-construction conditions of the Work, but in no case less than 100 feet along the street, right-of-way or water/wastewater line route before commencement of Work. Each photograph location shall be taken from a minimum of two (2) views (one forward station view and one backward station view along the street or pipeline route) within the limits of construction. Particular attention must be devoted to pre-existing damage to streets, curbs, sidewalks, driveways, signs, mailboxes, etc. for which the CONTRACTOR

could be blamed following construction. An identification marker such as houses, businesses, signs, property numbers, mailboxes, landscaping, etc. must be included in each view to properly confirm its location for ease of later identification. At a minimum, photographs must be taken of the following views:

- the entire street (full width and length)
- all curbs (both sides of street) – all pre-existing curb damage not called for replacement within the Work must be documented, including major cracks
- all driveways, steps, and curbs (both sides of street)
- fence and gate conditions
- trees, ornamental shrubs, plantings/planter boxes and evidence of irrigation features
- other privately owned features that might be disturbed by the construction
- prominent utility features, such as: guy wires, poles, signs, valves, meters, pull boxes, etc.
- streams and stream banks within the limits of construction
- other significant or prominent features in order to protect the OWNER and CONTRACTOR following construction (e.g. close up photographs of pre-existing broken curbs, cracked/failed pavement, damaged adjacent retaining walls, etc.)
- views of structures in areas where CONTRACTOR will be working within five (5) feet of said structure
- other views as requested by the OWNER

2. For street, right-of-way and/or pipeline alignment documentation, construction progress photographs shall be taken from a minimum of two (2) views (one forward station view and one backward station view along the street and/or pipeline route, and one front view and one side view for fittings and appurtenances of pipeline projects) within the limits of construction. Additional photographs shall be taken at stations of significant features and, for pipeline projects at dead ends, tees, bends, valves, manholes, connections, at locations of concrete placement, at stations which will potentially affect adjacent property owners, and at other such times and locations as requested by the OWNER.

E. Construction progress photographs of the same views taken during pre-construction photography must be taken during the progress of the Work and shall be submitted monthly with the CONTRACTOR's monthly progress payments. Post-construction photographs must be taken of the same views taken during pre-construction photography to fully document the completed project. Post-construction photographs must be taken after cleanup and site restoration, and must be submitted prior to release of final payment.

1.02 PRE-CONSTRUCTION VIDEO

- A. All CONTRACTOR-generated videos must be stored in an .avi or .mp4 file format.
- B. For all horizontal projects (streets and water & wastewater lines) the CONTRACTOR shall also document by video, within the limits of construction, all pre-existing site conditions / elements as documented in above.
- C. The video documentation shall provide a clear and continuous view of the project alignment and everything within the limits of construction.
- D. The video shall not be taken from inside a vehicle that is moving. The video shall be taken standing within the limits of construction, as applicable.
- E. The pre-construction video shall be digital and submitted to the OWNER in zip drive format prior to the occurrence of any site disturbance.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION Error! Reference source not found.

Section 01400 – Quality Control

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Quality Assurance and Control of Installation.
- B. Tolerances.
- C. References.
- D. Field Samples and Mockups.
- E. Inspection and Testing Services.
- F. Manufacturers' Field Services and Reports.

1.02 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control of Suppliers, manufacturers, material, equipment, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' installation instructions, including each step in sequence.
- C. If manufacturers' instructions conflict with Contract Documents, request clarification from ENGINEER before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work using persons qualified to produce workmanship of specified quality.
- F. Secure material and equipment in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.03 TOLERANCES

- A. Monitor tolerance of installed material and equipment in order to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Request clarification from ENGINEER before proceeding, should manufacturers' tolerances conflict with Contract Documents.
- C. Adjust material and equipment to appropriate dimensions. Position before securing material and equipment in place.

1.04 REFERENCES

- A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or Laws or Regulations of any governmental authority are used in accordance with the General Conditions.

1.05 FIELD SAMPLES AND MOCKUPS

- A. Install field samples and mockups at the site as required by individual Specifications Sections for review.
- B. Acceptable samples and mockups represent a quality level for the Work.
- C. Where field sample or mockup is specified in individual Specification Sections to be removed, clear area after field sample or mockup has been accepted by ENGINEER or after Work is complete when mockup is to serve as a control reference.

1.06 INSPECTION AND MATERIALS TESTING SERVICES

- A. OWNER shall provide inspection and materials testing services.
- B. Reports will be submitted by the independent firm to ENGINEER, in duplicate indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- C. Inspection, testing, and source quality control may occur on or off the project site. Perform off-site inspecting or testing as required by ENGINEER or OWNER.
- D. Cooperate with independent firm. Furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify ENGINEER and independent firm 24 hours before expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for CONTRACTOR's use.
- E. Retesting required because of non-conformance to specified requirements will be performed by the same independent firm if instructed by ENGINEER. Payment for retesting will be charged to CONTRACTOR by deducting inspection or testing charges from the Contract Price.
- F. Testing or inspecting does not relieve CONTRACTOR from performing Work in accordance with requirements of the Contract Documents.

1.07 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual Specification Sections, arrange and pay for material or equipment Suppliers or manufacturers to provide qualified staff personnel (field representative) to perform the following services.

1. Observe site conditions, conditions of surfaces and installation, quality of workmanship.
2. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
3. Assist with field assembly as required.
4. Supply required test equipment.
5. Perform and record results of manufacturer recommended inspections and tests, and tests specified for material and equipment.
6. Be responsible for protection of material and equipment and safety of all personnel during testing.
7. Perform any other services normally provided by field representative's company.
8. Instruct operating personnel in proper use of material and equipment.
9. Instruct and supervise field repairs before acceptance by OWNER.
10. Submit reports of activities, actions taken and test results to ENGINEER within 30 days of completion.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01400

Section 01450 - Testing Laboratory Services

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Testing laboratory services and Contractor responsibilities related to those services.

1.2 REFERENCES

1. ASTM C 1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. ASTM D 3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.
3. ASTM D 3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
4. ASTM E 329 - Specification for Minimum Requirements for Agencies Engaged the Testing and/or Inspection of Materials Used in Construction.
5. ISO/TEC Guide 25 - General Requirements for the Competence of Calibration and Testing Laboratories.

1.3 SELECTION AND PAYMENT

1. The Owner will select, employ, and pay for services of an independent testing laboratory to perform inspection and testing.
2. Employment of a testing laboratory by the Owner shall not relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.
3. The Contractor will have the cost of retesting deducted from the estimate for payment whenever failed work must be removed and replaced and retested.

1.4 QUALIFICATION OF LABORATORY

1. Meet laboratory requirements of ASTM E 329 and applicable requirements of ASTM C 1077, ASTM D 3666, and ASTM D 3740.
2. Meet the ISO/TEC Guide 25 conditions for accreditation by the American Association for Laboratory Accreditation (A2LA) in specific fields of testing required in individual Specification sections.

- 3. Where a laboratory subcontracts any part of the testing services, such work shall be placed with a laboratory complying with the requirements of this Section.

1.5 LABORATORY REPORTS

- 1. The testing laboratory shall provide and distribute copies of laboratory reports to the following: the Owner, the Engineer, and the Contractor. Other copies of the reports may be required to be submitted to other parties. The testing laboratory will be informed of any other persons that required laboratory reports.
- 2. Before close of business on the working day following test completion and review, reports which indicate failing test results shall be transmitted immediately via fax from the testing laboratory to the Owner, Contractor, and Engineer.

1.6 LIMITS ON TESTING LABORATORY AUTHORITY

- 1. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- 2. Laboratory may not approve or accept any portion of the Work.
- 3. Laboratory may not assume any duties of the Contractor.
- 4. Laboratory has no authority to stop the Work. The laboratory's representative shall immediately inform the Engineer and the Owner of any conflicts with the Contractor or Contractor's construction methods.

1.7 CONTRACTOR RESPONSIBILITIES

- 1. Provide safe access to the Work and to manufacturer's facilities for the Owner, Engineer, and testing laboratory personnel.
- 2. Provide to the testing laboratory a copy of the construction schedule and a copy of each update to the construction schedule.
- 3. Notify the Engineer and the testing laboratory during normal working hours of the day previous, but not less than 24 hours prior notice, to the expected time for operations requiring inspection and testing services. If the Contractor fails to make timely prior notification, then the Contractor shall not proceed with the operations requiring inspection and testing services.
- 4. Notify the Engineer 24 hours in advance if the Specification requires the presence of the Engineer for sampling or testing.
- 5. Request and monitor testing as required to provide timely results and to avoid delay to the Work. Provide samples to the laboratory in sufficient time to allow the required test to be performed in accordance with specified test methods before the intended use of the material.

6. Cooperate with laboratory personnel in collecting samples on site. Provide incidental labor and facilities for safe access to the Work to be tested; to obtain and handle samples at the site or at source of products to be tested; and to facilitate tests and inspections including storage and curing of test samples.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N

3.01.1 CONDUCTING TESTING

1. Laboratory sampling and testing specified in individual Specification sections shall conform to the latest issues of ASTM standards, TxDOT methods, or other recognized test standards as approved by the Engineer.
2. The requirements of this section shall also apply to those tests for approval of materials, for mix designs, and for quality control of materials as performed by the testing laboratories employed by the Contractor.
3. The Contractor may not influence any field testing conducted by the Laboratory.

END OF SECTION

Section 01500 - Temporary Facilities

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

Drawings and General provisions of Contract, including General Conditions and Supplementary General Conditions, and Division 1 requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 OFFICE AT THE WORK SITE (JOB SHACK)

A. CONTRACTOR shall furnish temporary office facilities and other necessary appurtenances if needed by the CONTRACTOR. Office facilities are not a mandatory component. If the CONTRACTOR elects to provide an office facilities, all costs shall be borne on by the CONTRACTOR, no separate payment.

3.2 WATER FOR CONSTRUCTION

A. All water required for and in connection with the Work to be performed shall be furnished by and at the expense of the CONTRACTOR through meters (an Utility Owner approved backflow prevention) installed on hydrants. CONTRACTOR shall supply all necessary tools, backflow preventers, hose and pipe, and shall make necessary arrangements for securing and transporting such water and shall take water in such a manner, and at such times, that will not produce a harmful drain or decrease of pressure in the OWNER's water system. It shall be the CONTRACTOR's responsibility to make arrangements with the Utility Owner for the metering and reporting of the amount of water used. Water shall not be used in a wasteful manner. Standard hydrant wrenches shall be used for opening and closing of fire hydrants. In no case shall pipe wrenches be used for this purpose. Temporary lines shall be removed when no longer required.

3.3 TELEPHONE SERVICE

A. CONTRACTOR shall make all necessary arrangements and pay all installation charges for telephone lines in his offices at the site and shall provide all telephone instruments.

3.4 SANITARY FACILITIES

- B. CONTRACTOR shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing Work or furnishing services on the Project.
- C. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet shall be furnished for each 20 employees. CONTRACTOR shall enforce the use of such sanitary facilities by all personnel at the site.

3.5 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

- A. CONTRACTOR shall protect, shore, brace, support and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by the CONTRACTOR's operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards, parkways, and medians, shall be restored to their original condition, whether within or outside the easement/right-of-way. All replacements shall be made with new materials.
- B. CONTRACTOR shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or men to or from the Work, whether by him or his Subcontractors. CONTRACTOR shall make satisfactory and acceptable arrangements with the OWNER of, or the agency having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.
- C. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

3.6 TREE AND PLANT PROTECTION

- A. All trees and other vegetation which must be removed to perform the Work shall be removed and disposed of by the CONTRACTOR; however, no trees or cultured plants shall be unnecessarily removed unless their removal is indicated on the Drawings. All trees and plants not removed shall be protected against injury from construction operations.
- B. No tree shall be removed outside of permanent easement(s), except where authorized by the ENGINEER. Whenever practicable, CONTRACTOR shall tunnel beneath trees in yards and parking lots when on or near the line of trenching operations. Hand excavations shall be employed as necessary to prevent injury to trees. Care shall be taken with exposed roots, unearthed during construction, so that roots do not dehydrate causing tree damage.

3.7 SECURITY

- A. CONTRACTOR shall be responsible for protection of the site, and all Work, materials, equipment, and existing facilities hereon, against vandals and other unauthorized persons.
- B. No claim shall be made against OWNER by reason of any act of an employee or trespasser, and CONTRACTOR shall make good all damage to the OWNER's property resulting from CONTRACTOR's failure to provide security measures as specified.
- C. Security measures shall be at least equal to those usually provided by OWNER to protect existing facilities during normal operations, and shall also include such additional security fencing, barricades, lighting, and other measures as required to protect the site. When required, the CONTRACTOR shall provide a security plan to the OWNER for review as to appropriateness of the security measures proposed.

3.8 ACCESS ROADS

- A. CONTRACTOR shall establish and maintain temporary access roads to various parts of the site as required to complete the Project. Such roads shall be available for the use of all others performing Work or furnishing services in connection with the Project.

3.9 PARKING

- A. CONTRACTOR shall provide and maintain suitable parking areas for the use of all construction workers and others performing Work or furnishing services in connection with the Project, as required, to avoid any need for parking personal vehicles where they may interfere with public traffic, the OWNER's operations, or construction activities.

3.10 DUST CONTROL

- A. Dust Control during construction of this Project shall be performed daily, as directed by the OWNER's representative. No direct payment will be made for dust control. Dust Control shall be considered subsidiary work relating to various Bid items of the Contract.

3.11 TEMPORARY DRAINAGE PROVISIONS

- A. CONTRACTOR shall be responsible for providing for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the Work. CONTRACTOR shall obtain ENGINEER approval for temporary drainage

facilities which will handle, carry through, or divert around his Work all drainage flow, including storm flow and flows created by construction activity, to prevent silting of waterways or flooding damage to the property and adjacent property.

3.12 EROSION CONTROL

- A. CONTRACTOR shall prevent erosion of soil on the site and adjacent property resulting from his construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations which will disturb the natural protection.
- B. CONTRACTOR shall use controls developed from successful techniques elsewhere as approved by ENGINEER. Siltation and/or sedimentation controls shall include dams, berms, and dikes.
- C. Reference Section 01571 – TPDES Requirements for rules and regulations governing erosion control permitting and construction means and methods.

3.13 POLLUTION CONTROL

- A. CONTRACTOR shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and the substances resulting from construction activities. No sanitary wastes will be permitted to enter any drain or watercourse. No sediment, debris or other substance will be permitted to enter sanitary sewers and reasonable measures shall be taken by CONTRACTOR to prevent such materials from entering any drain or watercourse.
- B. CONTRACTOR shall observe the rules and regulations of the State of Texas and agencies of the U.S. Government prohibiting the pollution of any lake, stream, river, or wetland by the dumping of any refuse, rubbish, dredge material, or debris therein.
- C. CONTRACTOR is specifically cautioned that disposal of materials into any water of the State must conform to the requirements of the Texas Commission on Environmental Quality (TCEQ), and any applicable permit from the U.S. Army Corps of Engineers.

3.14 NOISE CONTROL

- A. CONTRACTOR shall comply with the applicable Noise Ordinances. CONTRACTOR shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound level in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work.

3.15 VIBRATIONS

- A. The CONTRACTOR shall use proper equipment for their work being performed to minimize construction vibrations to adjacent properties.

3.16 FENCES

- A. All existing fences affected by the Work shall be maintained by the CONTRACTOR until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the OWNER of the fence, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across any construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.
- B. Upon completion of the Work across any tract of land, CONTRACTOR shall restore all fences to preconstruction, or to a better, condition and to their preconstruction location.

3.17 MAIL BOXES

- A. CONTRACTOR shall remove, reset temporarily, and relocate permanently all mail boxes that are within construction site limits conforming to requirements of United States Postal Service. Mailboxes shall not be laid on the ground, but shall be temporarily reset the same day as removed. Payment for removing and resetting of mail boxes will not be paid for directly, but will be considered subsidiary to the various Bid items. Any damage to mail boxes or posts shall be the responsibility of the CONTRACTOR.

3.18 EMERGENCY FACILITIES

- A. Free access shall be maintained at all times to fire lanes and emergency and utility control facilities such as fire hydrants, fire alarm boxes, police call boxes, and utility valves, manholes, junction boxes, etc. In the event that it is necessary to make one of these facilities temporarily inaccessible, CONTRACTOR shall obtain approval of such action, and schedule, of Work from the OWNER. CONTRACTOR shall also provide at least 24 hours prior notice to the Fire Department, Police Department, and City Department governing the affected utility. The same Department(s) shall be promptly notified by the CONTRACTOR when such facilities are placed back in unobstructed service.

3.19 MAINTENANCE OF TRAFFIC

- A. CONTRACTOR is responsible for developing the Traffic Control Plan and obtaining any permits or approvals from the City of Brownsville, OWNER, and ENGINEER prior to commencing any Work.
- B. CONTRACTOR shall conduct his Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks whether public or private, the CONTRACTOR shall provide and maintain suitable safe bridges, detours or other temporary measures to accommodate public and private travel, and shall provide reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when CONTRACTOR has obtained written permission from the OWNER and the tenant of the private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designated point. A copy of the initial written permission shall be provided to the OWNER's Representative.
- C. Safety and conveyance of traffic shall be regarded as prime importance. Unless otherwise directed, all portions of streets associated with this Project shall be kept open and provided a dust free, smooth and comfortable ride to traffic. It shall be the responsibility of the CONTRACTOR to ensure that two-way traffic may safely bypass the construction site and that access is provided to abutting private property. In making open cut street crossings, the CONTRACTOR shall not block more than one-half of the street at one time without approval of the OWNER. Whenever possible, CONTRACTOR shall widen the shoulder on the opposite side to facilitate traffic control. Temporary surfacing shall be provided as necessary on shoulders.
- D. Prior to beginning Work, CONTRACTOR shall designate, in writing, a competent person who will be responsible and available on the Project site, or in the immediate area, to ensure compliance with the traffic control plan. CONTRACTOR shall provide documentation to demonstrate the sufficient training in Traffic Control for his competent person. OWNER will designate a qualified person to observe implementation and who will have authority to assure compliance with the traffic control plan.
- E. The CONTRACTOR shall perform the necessary cleanup and finishing immediately after all or a portion of the Work is completed. When the Work includes paving operations, the entire site shall be kept clean to facilitate placement of required traffic control devices. Temporary and permanent striping lay-out shall be approved by the Transportation Department prior to placement, when included in the Work.
- F. Barricades and Lights: CONTRACTOR shall place and maintain in good condition, standard barricades at each end of the Project and at other locations where traffic is rerouted or blocked from using regular traffic lanes. Barricades and warning signs shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (MUTCD). Signs, barricades, and warning devices informing the public of construction features will be placed and maintained by the CONTRACTOR, who shall be solely responsible for their maintenance. The decision to use a particular

device at a particular location as indicated in the traffic control plan or as determined by the CONTRACTOR, shall be the sole responsibility of the CONTRACTOR.

- G. All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions, such as material piles and equipment shall be provided with similar warning signs and lights.
- H. All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on, or along side, public streets and highways shall cause a minimum obstruction and inconvenience of the traveling public.

END OF SECTION 01500

Section 01550 - Traffic Control and Regulation

PART 1 G E N E R A L

1.01 SECTION INCLUDES

1. Requirements for signs, signals, control devices, flares, lights and traffic signals, as well as construction parking control, designated haul routes and bridging of trenches and excavations.

2. Requirement for and qualifications of flagmen.

1.02 SUBMITTALS

1. The contractor shall submit for approval by the Owner and prior to the beginning of work a Traffic Control Plan responsive to the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by a Registered Professional Engineer.

2. For both the traffic control plan and flagmen use, submit schedules of values within 30 days following the Notice to Proceed.

3. Make submittals in accordance with Section 01300 - Submittal Procedures.

PART 2 P R O D U C T S

2.01 SIGNS, SIGNALS, AND DEVICES

1. Comply with Texas State Manual on Uniform Traffic Control Devices.

2. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.

PART 3 E X E C U T I O N

3.01 PUBLIC ROADS

1. Abide by laws and regulations of governing authorities when using public roads. If the Contractor's work requires that public roads be temporarily impeded or closed, approvals shall be obtained from governing authorities and permits paid for before starting any work. Coordinate activities with the appropriate governing authorities.

2. Contractor shall maintain at all times a 10-foot-wide all-weather lane adjacent to work areas which shall be kept free of construction equipment and debris and shall be for the use of emergency vehicles, or as otherwise provided in the traffic control plan.

3. Contractor shall not obstruct the normal flow of traffic from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on designated major arterials or as directed by the governing authority.

4. Contractor shall maintain local driveway access to residential and commercial properties adjacent to work areas at all times.

5. Cleanliness of Surrounding Streets: Keep streets used for entering or leaving the job area free of excavated material, debris, and any foreign material resulting from construction operations.

3.02 CONSTRUCTION PARKING CONTROL

1. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Governing Authority's operations.

2. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

3. Prevent parking on or adjacent to access roads or in non-designated areas.

3.03 FLARES AND LIGHTS

1. Provide flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.04 HAUL ROUTES

1. Utilize haul routes designated by authorities or shown on the Drawings for construction traffic.

2. Confine construction traffic to designated haul routes.

3. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

3.05 TRAFFIC SIGNS AND SIGNALS

1. Install traffic control devices at approaches to the site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.

2. Install and operate traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control and areas affected by Contractor's operations.

3. Relocate traffic signs and signals as Work progresses to maintain effective traffic control.

3.06 BRIDGING TRENCHES AND EXCAVATIONS

1. Whenever necessary, bridge trenches and excavation to permit an unobstructed flow of traffic.
2. Secure bridging against displacement by using adjustable cleats, angles, bolts or other devices whenever bridge is installed:
 1. On an existing bus route;
 2. When more than five percent of daily traffic is comprised of commercial or truck traffic;
 3. When more than two separate plates are used for the bridge; or
 4. When bridge is to be used for more than five consecutive days.
3. Install bridging to operate with minimum noise.
4. Adequately shore the trench or excavation to support bridge and traffic.
5. Extend steel plates used for bridging a minimum of one foot beyond edges of trench or excavation. Use temporary paving materials (premix) to feather edges of plates to minimize wheel impact on secured bridging.
6. Use steel plates of sufficient thickness to support H-20 loading truck or lane that produces maximum stress.

3.07 REMOVAL

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings to a depth of 2 feet.

END OF SECTION

Section 01571 - TPDES Requirements

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section describes the required documentation to be prepared and signed by the Contractor before conducting construction operations, in accordance with the terms and conditions of the General Permit Number TXR150000 for discharges of storm water runoff from small construction sites.
- B. The Contractor shall be responsible for providing and implementing a Storm Water Pollution Prevention Plan (SWPPP), prepared by and sealed by a registered professional engineer, for this project. Any information or details provided in the design plans are for reference purposes only and does not represent a complete SWPPP.
- C. Contractor shall review implementation of the SWPPP in a meeting with the Owner and Engineer prior to start of construction.

1.02 REFERENCES

- A. Part II.E.2 of TCEQ General Permit Number TXR150000.
- B. Part II.F.3 of TCEQ General Permit Number TXR150000 (notification of MS4 operator)

PART 2 PRODUCTS - As required by Storm Water Pollution Prevention Plan.

PART 3 EXECUTION

3.01 SMALL CONSTRUCTION SITE NOTICE

- A. The Contractor shall complete and sign the attached Small Construction Site Notice. Copies of the signed notice shall be submitted to TCEQ, the Owner, Engineer, and any local governing body. Copy of the signed notice shall also be posted at the construction site, as specified.

3.02 STORM WATER POLLUTION PREVENTION PLAN

- A. Prior to start of construction activities, the Contractor shall provide a Storm Water Pollution Prevention Plan, prepared by and sealed by a registered professional engineer, for this project.
- B. Contractor shall be responsible for implementation, maintenance, and inspection of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal,

off-site vehicle tracking, and other practices shown on the Storm Water Pollution Prevention Plan, or as specified by TCEQ or elsewhere in this or other Specifications.

3.03 RETENTION OF RECORDS

- A. The Contractor shall keep a copy of the Storm Water Pollution Prevention Plan at the construction site or at the Contractor's office from the date that it became effective to the date of project completion.
- B. At project closeout, the Contractor shall submit to Owner all TPDES forms and certifications, as well as a copy of the SWPPP. Storm water pollution prevention records and data will be retained by Owner for a period of 3 years from the date of project completion.

3.04 REQUIRED NOTICES

- A. The following notices shall be posted from the date that this SWPPP goes into effect until the date of final site stabilization:
 1. Copies of the Small Construction Site Notice completed, signed and submitted by Contractor shall be posted at the construction site or at Contractor's office in a prominent place for public viewing. Also, see Paragraph 3.01 A. above.
 2. Notice to drivers of equipment and vehicles, instructing them to stop, check, and clean tires of debris and mud before driving onto traffic lanes. Post such notices at every stabilized construction exit area.
 3. In an easily visible location on site, post a notice of waste disposal procedures.
 4. If applicable, notice of hazardous material handling and emergency procedures shall be posted on site. Keep copies of Material Safety Data Sheets at a location on site that is known to all personnel.
 5. Keep a copy of each signed certification at the construction site or at Contractor's office.

END OF SECTION

Section 01578 - Control of Ground Water and Surface Water

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Dewatering, depressurizing, draining, and maintaining trenches, shaft excavations, structural excavations, and foundation beds in a stable condition, and controlling ground water conditions for tunnel excavations.
2. Protecting work against surface runoff and rising flood waters.
3. Disposing of removed water.

1.2 METHOD OF PAYMENT

- A. No separate payment will be made for control of ground water and surface water. Costs associated with this item are subsidiary to other items.

1.3 REFERENCES

1. ASTM D 698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49 kg) Rammer and 12-inch (304.8 mm) Drop.
2. Federal Regulations, 29 CFR Part 1926, Standards-Excavation, Occupational Safety and Health Administration (OSHA).
3. Federal Register 40 CFR (Vol. 55, No. 222) Part 122, EPA Administered Permit Programs (NPDES), Para.122.26(b)(14) Storm Water Discharge.

1.4 DEFINITIONS

1. Ground water control includes both dewatering and depressurization of water-bearing soil layers.
 1. Dewatering includes lowering the water table and intercepting seepage which would otherwise emerge from slopes or bottoms of excavations, or into tunnels and shafts, and disposing of removed water. The intent of dewatering is to increase stability of tunnel excavations and excavated slopes; prevent dislocation of material from slopes or bottoms of excavations; reduce lateral loads on sheeting and bracing; improve excavating and hauling characteristics of excavated material; prevent failure or heaving of the bottom of excavations; and to provide suitable conditions for placement of backfill materials and construction of structures and other installations.

2. Depressurization includes reduction in piezometric pressure within strata not controlled by dewatering alone, as required to prevent failure or heaving of excavation bottom or instability of tunnel excavations.
2. Excavation drainage includes keeping excavations free of surface and seepage water.
3. Surface drainage includes use of temporary drainage ditches and dikes and installation of temporary culverts and sump pumps and well point systems with discharge lines as required to protect the Work from any source of surface water.
4. Equipment and instrumentation for monitoring and control of the ground water control system includes piezometers and monitoring wells, and devices, such as flow meters, for observing and recording flow rates.

1.5 PERFORMANCE REQUIREMENTS

1. Conduct subsurface investigations to identify groundwater conditions and to provide parameters for design, installation, and operation of groundwater control systems.
2. Design a ground water control system, compatible with requirements of Federal Regulations 29 CFR Part 1926 and Section 01561 - Trench Safety Systems, to produce the following results:
 1. Effectively reduce the hydrostatic pressure affecting:
 1. Excavations.
 2. Tunnel excavation, face stability or seepage into tunnels.
 2. Develop a substantially dry and stable subgrade for subsequent construction operations.
 3. Preclude damage to adjacent properties, buildings, structures, utilities, installed facilities, and other work.
 4. Prevent the loss of fines, seepage, boils, quick condition, or softening of the foundation strata.
 5. Maintain stability of sides and bottom of excavations.
3. Provide ground water control systems may include single-stage or multiple-stage well point systems, eductor and ejector-type systems, deep wells, or combinations of these equipment types.
4. Provide drainage of seepage water and surface water, as well as water from any other source entering the excavation. Excavation drainage may include placement of drainage materials, such as crushed stone and filter fabric, together with sump pumping.

5. Provide ditches, berms, pumps and other methods necessary to divert and drain surface water from excavation and other work areas.
6. Locate ground water control and drainage systems so as not to interfere with utilities, construction operations, adjacent properties, or adjacent water wells.
7. Assume sole responsibility for ground water control systems and for any loss or damage resulting from partial or complete failure of protective measures and any settlement or resultant damage caused by the ground water control operations. Modify ground water control systems or operations if they cause or threaten to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells, or affect potentially contaminated areas. Repair damage caused by ground water control systems or resulting from failure of the system to protect property as required.
8. Provide an adequate number of piezometers installed at the proper locations and depths as required to provide meaningful observations of the conditions affecting the excavation, adjacent structures, and water wells.
9. Provide environmental monitoring wells installed at the proper locations and depths as required to provide adequate observations of hydrostatic conditions and possible contaminant transport from contamination sources into the work area or into the ground water control system.
10. Decommission piezometers and monitoring wells installed during design phase studies and left for Contractors monitoring and use.

1.6 SUBMITTALS

1. Submittals shall conform to requirements of Section 01330 - Submittals.
2. Submit a Ground Water and Surface Water Control Plan for review by the Owner and Engineer prior to start of any field work. The Plan shall be signed by a Professional Engineer registered in the State of Texas. Submit a plan to include the following:
 1. Results of subsurface investigation and description of the extent and characteristics of water bearing layers subject to ground water control.
 2. Names of equipment suppliers and installation subcontractors.
 3. A description of proposed ground water control systems indicating arrangement, location, depth and capacities of system components, installation details and criteria, and operation and maintenance procedures.
 4. A description of proposed monitoring and control system indicating depths and locations of piezometers and monitoring wells, monitoring installation details and criteria, type of equipment and instrumentation with pertinent data and characteristics.

5. A description of proposed filters including types, sizes, capacities and manufacturer's application recommendations.
6. Design calculations demonstrating adequacy of proposed systems for intended applications. Define potential area of influence of ground water control operation near contaminated areas.
7. Operating requirements, including piezometric control elevations for dewatering and depressurization.
8. Excavation drainage methods including typical drainage layers, sump pump application and other necessary means.
9. Surface water control and drainage installations.
10. Proposed methods and locations for disposing of removed water.

3. Submit the following records upon completed initial installation:

1. Installation and development reports for well points, eductors, and deep wells.
2. Installation reports and baseline readings for piezometers and monitoring wells.
3. Baseline analytical test data of water from monitoring wells.
4. Initial flow rates.

4. Submit the following records on a weekly basis during operations:

1. Records of flow rates and piezometric elevations obtained during monitoring of dewatering and depressurization. Refer to Paragraph 3.02, Requirements for Eductor, Well Points, or Deep Wells.
2. Maintenance records for ground water control installations, piezometers, and monitoring wells.

5. Submit the following records at end of work. Decommissioning (abandonment) reports for monitoring wells and piezometers installed by other during the design phase and left for Contractor's monitoring and use.

1.7 ENVIRONMENTAL REQUIREMENTS

1. Comply with requirements of agencies having jurisdiction.

2. Comply with Texas Natural Resource Conservation Commission regulations and Texas Water Well Drillers Association for development, drilling, and abandonment of wells used in dewatering system.
3. Obtain a TCEQ GENERAL PERMIT TO DISCHARGE WASTE, under provisions of Section 402 of the Clean Water Act and Chapter of the Texas Water Code (TPDES), for storm water discharge from construction sites. Refer to Section 01571 - TPDES Permit Requirements.
4. Obtain all necessary permits from agencies with control over the use of groundwater and matters affecting well installation, water discharge, and use of existing storm drains and natural water sources. Because the review and permitting process may be lengthy, take early action to pursue and submit for the required approvals.
5. Monitor ground water discharge for contamination while performing pumping in the vicinity of potentially contaminated sites.

PART 2 P R O D U C T S

1.8 EQUIPMENT AND MATERIALS

1. Equipment and materials are at the option of Contractor as necessary to achieve desired results for dewatering. Selected equipment and materials are subject to review by the Owner and Engineer through submittals required in Paragraph 1.6, Submittals.
2. Educators, well points, or deep wells, where used, must be furnished, installed and operated by an experienced contractor regularly engaged in ground water control system design, installation, and operation.
3. All equipment must be in good repair and operating order.
4. Sufficient standby equipment and materials shall be kept available to ensure continuous operation, where required.

PART 3 E X E C U T I O N

1.9 GROUND WATER CONTROL

1. Perform a subsurface investigation by borings as necessary to identify water bearing layers, piezo-metric pressures, and soil parameters for design and installation of ground water control systems. Perform pump tests, if necessary to determine the drawdown characteristics of the water bearing layers. The results shall be presented in the Ground Water and Surface Water Control Plan (See Paragraph 1.06.2.1).

2. Provide labor, material, equipment, techniques and methods to lower, control and handle ground water in a manner compatible with construction methods and site conditions. Monitor effectiveness of the installed system and its effect on adjacent property.
3. Install, operate, and maintain ground water control systems in accordance with the Ground Water and Surface Water Control Plan. Notify the Engineer in writing of any changes made to accommodate field conditions and changes to the Work. Provide revised drawings and calculations with such notification.
4. Provide for continuous system operation, including nights, weekends, and holidays. Arrange for appropriate backup if electrical power is primary energy source for dewatering system.
5. Monitor operations to verify that the system lowers ground water piezo-metric levels at a rate required to maintain a dry excavation resulting in a stable subgrade for prosecution of subsequent operations.
6. Where hydrostatic pressures in confined water bearing layers exist below excavation, depressurize those zones to eliminate risk of uplift or other instability of excavation or installed works. Allowable piezo-metric elevations shall be defined in the Ground Water and Surface Water Control Plan.
7. Remove ground water control installations.
 1. Remove pumping system components and piping when ground water control is no longer required.
 2. Remove piezometers, including piezometers installed during the design phase investigations and left for Contractor's use, upon completion of testing.
 3. Remove monitoring wells when directed by the Engineer.
 4. Grout abandoned well and piezometer holes. Fill piping that is not removed with cement-bentonite grout or cement-sand grout.
8. During backfilling, dewatering may be reduced to maintain water level a minimum of 5 feet below prevailing level of backfill. However, do not allow that water level to result in uplift pressures in excess of 80 percent of downward pressure produced by weight of structure or backfill in place. Do not allow water levels to rise into cement stabilized sand until at least 48 hour after placement.
9. Provide a uniform diameter for each pipe drain run constructed for dewatering. Remove pipe drain when it has served its purpose. If removal of pipe is impractical, provide grout connections at 50-foot intervals and fill pipe with cement-bentonite grout or cement-sand grout when pipe is removed from service.

10. Extent of construction ground water control for structures with a permanent perforated underground drainage system may be reduced, such as for units designed to withstand hydrostatic uplift pressure. Provide a means of draining the affected portion of underground system, including standby equipment. Maintain drainage system during operations and remove it when no longer required.
11. Remove system upon completion of construction or when dewatering and control of surface or ground water is no longer required.
12. Compact backfill to not less than 95 percent of the maximum dry density in accordance with ASTM D 698.

1.10 REQUIREMENTS FOR EDUCTOR, WELL POINTS, OR DEEP WELLS

1. For aboveground piping in ground water control system, include a 12-inch minimum length of clear, transparent piping between every educator well or well point and discharge header so that discharge from each installation can be visually monitored.
2. Install sufficient piezometers or monitoring wells to show that all trench or shaft excavations in water bearing materials are predrained prior to excavation. Provide separate piezometers for monitoring of dewatering and for monitoring of depressurization. Install piezometers and monitoring wells for tunneling as appropriate for Contractor's selected method of work.
3. Install piezometers or monitoring wells not less than one week in advance of beginning the associated excavation.
4. Dewatering may be omitted for portions of underdrains or other excavations, but only where auger borings and piezometers or monitoring wells show that soil is pre-drained by an existing system such that the criteria of the ground water control plan are satisfied.
5. Replace installations that produce noticeable amounts of sediments after development.
6. Provide additional ground water control installations, or change the methods, in the event that the installations according to the ground water control plan does not provide satisfactory results based on the performance criteria defined by the plan and by the specification. Submit a revised plan according to Paragraph 1.06.2.

1.11 EXCAVATION DRAINAGE

1. Contractor may use excavation drainage methods if necessary to achieve well-drained conditions. The excavation drainage may consist of a layer of crushed stone and filter fabric, and sump pumping in combination with sufficient wells for ground water control to maintain stable excavation and backfill conditions.

1.12 MAINTENANCE AND OBSERVATION

1. Conduct daily maintenance and observation of piezometers or monitoring wells while the ground water control installations or excavation drainage are operating in an area or seepage into tunnel is occurring. Keep system in good condition.
2. Replace damaged and destroyed piezometers or monitoring wells with new piezometers or wells as necessary to meet observation schedule.
3. Cut off piezometers or monitoring wells in excavation areas where piping is exposed, only as necessary to perform observation as excavation proceeds. Continue to maintain and make observations, as specified.
4. Remove and grout piezometers inside or outside the excavation area when ground water control operations are complete. Remove and grout monitoring wells when directed by the Engineer.

1.13 MONITORING AND RECORDING

1. Monitor and record average flow rate of operation for each deep well, or for each wellpoint or eductor header used in dewatering system. Also monitor and record water level and ground water recovery. These records shall be obtained daily until steady conditions are achieved, and twice weekly thereafter.
2. Observe and record elevation of water level daily as long as ground water control system is in operation, and weekly thereafter until the Work is completed or piezometers or wells are removed, except when Engineer determines that more frequent monitoring and recording are required. Comply with Engineer's direction for increased monitoring and recording and take measures as necessary to ensure effective dewatering for intended purpose.

1.14 SURFACE WATER CONTROL

1. Intercept surface water and divert it away from excavations through use of dikes, ditches, curb walls, pipes, sumps or other approved means. The requirement includes temporary works required to protect adjoining properties from surface drainage caused by construction operations.
2. Divert surface water and seepage water into sumps and pump it into drainage channels or storm drains, when approved by agencies having jurisdiction. Provide settling basins when required by such agencies.

END OF SECTION

Section 01600 - Material And Equipment

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shipping.
- B. Transportation and handling.
- C. Storage and protection.
- D. Equivalent material and equipment.

1.02 DEFINITIONS

- A. Material and equipment shall mean the Goods as defined in the Procurement General Conditions.

1.03 SHIPPING

- A. Ship material and equipment only after receiving written acknowledgment by OWNER of receipt of certified test reports.
- B. Mark parts for ease of field assembly.
- C. Give notices required by the Procurement General and Supplementary Conditions.
- D. Accompany each shipment with a packing list of articles included in the shipment.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle material and equipment in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that material and equipment comply with requirements, quantities are correct, and material and equipment are undamaged.
- C. Furnish equipment and personnel to handle material and equipment by methods to prevent soiling, disfigurement, or damage.
- D. Uncrate material and equipment and dispose of packing material properly.

1.05 STORAGE AND PROTECTION

- A. Store and protect material and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive material and equipment in weather-tight, climate controlled enclosures.
- B. Cover material and equipment subject to deterioration with impervious sheet covering. Furnish ventilation to avoid condensation or potential degradation of material and equipment.
- C. Furnish equipment and personnel to store material and equipment by methods to prevent soiling, disfigurement, or damage.
- D. Arrange storage of material and equipment to permit access for inspection. Periodically inspect to assure material and equipment are undamaged and are maintained in acceptable conditions.
- E. Assume responsibility for loss and damage including but not limited to breakage, corrosion, weather damage, and distortion until delivered to OWNER.

1.06 EQUIVALENT MATERIAL AND EQUIPMENT

- A. Material and equipment have been specified in accordance with Article 6 of the General Conditions.
- B. ENGINEER to consider requests for substitutions only within fourteen (14) calendar days after Effective Date of the Agreement.
- C. Substitutions will be considered when material and equipment becomes unavailable through no fault of CONTRACTOR.
- D. Document each substitution request with complete data substantiating compliance of proposed substitution with the Procurement Documents.
- E. A substitution request constitutes representation that CONTRACTOR:
 - 1. has investigated proposed substitution and determined that it meets or exceeds the quality level of the specified material and equipment;
 - 2. will provide the same warranty for the proposed substitution as for the specified material and equipment; and
 - 3. waives claims for additional costs or time extension which may subsequently become apparent.

- F. Substitutions will not be considered when indicated or implied on shop drawing or material and equipment data submittals without separate written request, or when acceptance will require revision to the Contract Documents.
- G. Submit four (4) copies of each request for substitution separately in accordance with Section 01300 – Submittals with shop drawings, data, and certified test results attesting to the proposed material or equipment equivalence.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

Section 02316 - Excavation and Backfill for Structures

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Excavation, backfilling, and compaction of backfill for structures.

1.02 DEFINITIONS

A. Unsuitable Material: Unsuitable soil materials are the following:

1. Materials that are classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D 2487.
2. Materials that cannot be compacted to the required density due to either gradation, plasticity, or moisture content.
3. Materials that contain large clods, aggregates, stones greater than 4 inches in any dimension, debris, vegetation, waste or any other deleterious materials.
4. Materials that are contaminated with hydrocarbons or other chemical contaminants.

B. Suitable Material: Suitable soil materials are those meeting specification requirements. Unsuitable soils meeting specification requirements for suitable soils after treatment with lime or cement shall be considered suitable, unless otherwise indicated.

C. Select Material: Material as defined in Section 02320 - Utility Backfill Materials.

D. Backfill: Select material meeting specified quality requirements, placed and compacted under controlled conditions around structures.

E. Foundation Backfill Materials: Refer to the Architectural plans and specifications.

F. Foundation Base: Refer to the Architectural plans and specifications.

G. Foundation Subgrade: Refer to the Architectural plans and specifications.

H. Ground Water Control Systems: Installations external to the excavation such as well points, eductors, or deep wells. Ground water control includes dewatering to lower the ground water, intercepting seepage which would otherwise emerge from the side or bottom of the excavation, and depressurization to prevent failure or heaving of the excavation bottom. Refer to Section 02240 - Control of Ground Water and Surface Water.

- I. Surface Water Control: Diversion and drainage of surface water runoff and rain water away from the excavation. Remove rain water and surface water which accidentally enters the excavation as a part of excavation drainage.
- J. Excavation Drainage: Removal of surface and seepage water in the excavation by sump pumping and using French drains surrounding the foundation to intercept the water.
- K. Over-Excavation and Backfill: Excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials below the foundation as shown on Drawings, and backfilled with foundation backfill material.
- L. Shoring System: A structure that supports the sides of an excavation to maintain stable soil conditions and prevent cave-ins.

1.03 REFERENCES

- A. ASTM D 558 - Test Methods for Moisture-Density Relations of Soil Cement Mixtures.
- B. ASTM D 698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Rammer and 12-in. (304.88-mm) Drop.
- C. ASTM D 1556 - Density of Soil in Place by the Sand-Cone Method.
- D. ASTM D 2487 - Classification of Soils for Engineering Purposes.
- E. ASTM D 2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- F. ASTM D 3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depths).
- G. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- H. TxDOT Tex-101-E - Preparation of Soil and Flexible Base Materials for Testing.
- I. TxDOT Tex-110-E - Determination of Particle Size Analysis of Soils.
- J. Federal Regulations, 29 CFR, Part 1926, Standards - Excavation, Occupational Safety and Health Administration (OSHA).

1.04 SUBMITTALS

- A. Conform to requirements of Section 01300 - Submittal Procedures.
- B. Submit a work plan for excavation and backfill for each structure with complete written description which identifies details of the proposed method of construction and the sequence of operations for construction relative to excavation and backfill activities. The descriptions,

with supporting illustrations, shall be sufficiently detailed to demonstrate to the Owner that the procedures meet the requirements of the Specifications and Drawings.

- C. Submit excavation safety system plan.
 - 1. The excavation safety system plan shall be in accordance with applicable OSHA requirements for all excavations.
 - 2. The excavation safety system plan shall be in accordance with the requirements of Section 02260 - Trench Safety System, for all excavations that fall under State and Federal trench safety laws.
- D. Submit a ground and surface water control plan in accordance with requirements in this Section and Section 02240 - Control of Ground Water and Surface Water.
- E. Submit backfill material sources and product quality information in accordance with requirements of Section 02320 - Utility Backfill Materials.

1.05 TESTS

- A. Testing and analysis of backfill materials for soil classification and compaction during construction will be performed by an independent laboratory provided by the Owner in accordance with requirements of Section 01400 – Quality Control and as specified in this Section.
- B. Contractor shall perform embedment and backfill material source qualification testing in accordance with requirements of Section 02320- Utility Backfill Materials.

PART 2 P R O D U C T S

2.01 EQUIPMENT

- A. Perform excavation with equipment suitable for achieving the requirements of this Specification.
- B. Use equipment which will produce the degree of compaction specified. Backfill within 3 feet of walls shall be compacted with hand operated equipment. Do not use equipment weighing more than 10,000 pounds closer to walls than a horizontal distance equal to the depth of the fill at that time. Use hand operated power compaction equipment where use of heavier equipment is impractical or restricted due to weight limitations.

2.02 MATERIAL CLASSIFICATIONS

- A. Backfill materials shall conform to the classifications and product descriptions of Section 02320 - Utility Backfill Materials. The classification or product description for backfill applications shall be as shown on the Drawings and as specified.

PART 3 E X E C U T I O N

3.01 PREPARATION

- A. Conduct an inspection to determine condition of existing structures and other permanent installations.
- B. Set up necessary street detours and barricades in preparation for excavation if construction will affect traffic. Conform to State and local government requirements. Maintain barricades and warning devices at all times for streets and intersections where work is in progress, or where affected by the Work, and is considered hazardous to traffic movements.
- C. Perform work in accordance with OSHA standards. Employ an excavation safety system as specified in Section 02260 - Trench Safety Systems.
- D. Remove existing pavements and structures, including sidewalks and driveways, in accordance with requirements of Section 02200 - Removing Existing Pavements and Structures.
- E. Install and operate necessary dewatering and surface water control measures in accordance with requirements of Section 02240 - Control of Ground Water and Surface Water.

3.02 PROTECTION

- A. Protect trees, shrubs, lawns, existing structures, and other permanent objects outside of grading limits and within the grading limits as designated on the Drawings.
- B. Protect and support above-grade and below-grade utilities which are to remain.
- C. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities are indicated on the Drawings.
- D. Prevent erosion of excavations and backfill. Do not allow water to pond in excavations.
- E. Maintain excavation and backfill areas until start of subsequent work. Repair and re-compact slides, washouts, settlements, or areas with loss of density at no additional cost to the Owner.

3.03 EXCAVATION

- A. Perform excavation work so that the underground structure can be installed to depths and alignments shown on Drawings. Use caution during excavation work to avoid disturbing surrounding ground and existing facilities and improvements. Keep excavation to the

absolute minimum necessary. No additional payment will be made for excess excavation not authorized by Owner.

- B. Upon discovery of unknown utilities, badly deteriorated utilities not designated for removal, or concealed conditions, discontinue work at that location. Notify the Owner and obtain instructions before proceeding in such areas.
- C. Immediately notify the agency or company owning any line which is damaged, broken or disturbed. Obtain approval from the Owner and agency for any repairs or relocations, either temporary or permanent.
- D. Avoid settlement of surrounding soil due to equipment operations, excavation procedures, vibration, dewatering, or other construction methods.
- E. Provide surface drainage during construction to protect work and to avoid nuisance to adjoining property. Where required, provide proper dewatering and piezo-metric pressure control during construction.
- F. Conduct hauling operations so that trucks and other vehicles do not create a dirt nuisance in streets. Verify that truck beds are sufficiently tight and loaded in such a manner that objectionable materials will not spill onto streets. Promptly clear away any dirt, mud, or other materials that spill onto streets or are deposited onto streets by vehicle tires.
- G. Maintain permanent benchmarks, monumentation, and other reference points. Unless otherwise directed, replace those which are damaged or destroyed by the Work.
- H. Provide sheeting, shoring, and bracing where required to safely complete the Work, to prevent excavation from extending beyond limits indicated on Drawings, and to protect the Work and adjacent structures or improvements. Sheet, shoring, and bracing used to protect workmen and the public shall conform to requirements of Section 02260 - Trench Safety Systems.
- I. Prevent voids from forming outside of sheeting. Immediately fill voids with grout, concrete fill, cement stabilized sand, or other material approved by the Owner.
- J. After completion of the structure, remove sheeting, shoring, and bracing unless shown on Drawings to remain in place or directed by the Owner in writing that such temporary structures may remain. Remove sheeting, shoring and bracing in such a manner as to maintain safety during backfilling operations and to prevent damage to the Work and adjacent structures or improvements.
- K. Immediately fill and compact voids left or caused by removal of sheeting with cement stabilized sand or material approved by the Owner.

3.04 HANDLING EXCAVATED MATERIALS

- A. Classify excavated materials. Place material which is suitable for use as backfill in orderly piles at a sufficient distance from excavation to prevent slides or cave-ins.
- B. Provide additional backfill material if adequate quantities of suitable material are not available from excavation and trenching operations at the site.

3.05 DEWATERING

- A. Provide ground water control per Section 02240 - Control of Ground Water and Surface Water.
- B. Keep ground water surface elevation a minimum of 2 feet below the bottom of the foundation base.
- C. Maintain ground water control as directed by Section 02240 - Control of Ground Water and Surface Water and until the structure is sufficiently complete to provide the required weight to resist hydrostatic uplift with a minimum safety factor of 1.2.

3.06 FOUNDATION EXCAVATION

- A. Notify Owner at least 48 hours prior to plan completion of foundation excavations. Do not place the foundation base until the excavation is accepted by the Owner.
- B. Excavate to elevations shown on Drawings, as needed to provide space for the foundation base, forming a level undisturbed surface, free of mud or soft material. Remove pockets of soft or otherwise unstable soils and replace with foundation backfill material or a material as directed by the Owner. Prior to placing material over it, re-compact the subgrade where indicated on the Drawings, scarifying as needed, to 95 percent of the maximum Standard Dry Density according to ASTM D 698. If the specified level of compaction cannot be achieved, moisture condition the subgrade and re-compact until 95 percent is achieved, over-excavate to provide a minimum layer of 24 inches of foundation backfill material, or other means acceptable to the Owner.
- C. Fill unauthorized excessive excavation with foundation backfill material or other material as directed by the Owner.
- D. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in a satisfactory, undisturbed condition. Keep excavations free of standing water and completely free of water during concrete placement.
- E. Soils which become unsuitable due to inadequate dewatering or other causes, after initial excavation to the required subgrade, shall be removed and replaced with foundation backfill material, as directed by Owner, at no additional cost to the Owner.

- F. Place foundation base, or foundation backfill material where needed, over the subgrade on same day that excavation is completed to final grade. Where base of excavations are left open for longer periods, protect them with a seal slab or cement-stabilized sand.
- G. Crushed aggregate, and other free draining Class I materials, shall have a filter fabric separating it from native soils or select material backfill. The fabric shall overlap a minimum of 12 inches beyond where another material stops contact with the soil.
- H. Crushed aggregate, and other Class I materials, shall be placed in uniform layers of 8-inch maximum thickness. Compaction shall be by means of at least two passes of a vibratory compactor.

3.07 FOUNDATION BASE

- A. After the subgrade is properly prepared, including the placement of foundation backfill where needed, the foundation base shall be placed. The foundation base shall consist of a 12-inch layer of crushed stone aggregate or cement stabilized sand. Alternately, a seal slab with a minimum thickness of 4 inches may be placed. The foundation base shall extend a minimum of 12 inches beyond the edge of the structure foundation, unless shown otherwise on the Drawings.
- B. Where the foundation base and foundation backfill are of the same material, both can be placed in one operation.

3.08 BACKFILL

- A. Complete backfill to surface of natural ground or to lines and grades shown on Drawings. Use existing material that qualifies as select material, unless indicated otherwise. Deposit backfill in uniform layers and compact each layer as specified.
- B. Do not place backfill against concrete walls or similar structures until laboratory test breaks indicate that the concrete has reached a minimum of 85 percent of the specified compressive strength. Where walls are supported by slabs or intermediate walls, do not begin backfill operations until the slab or intermediate walls have been placed and concrete has attained sufficient strength.
- C. Remove concrete forms before starting backfill and remove shoring and bracing as work progresses.
- D. Maintain fill material at no less than 2 percent below nor more than 2 percent above optimum moisture content. Place fill material in uniform 8-inch maximum loose layers. Compaction of fill shall be to at least 95 percent of the maximum Standard Dry Density according to ASTM D 698 under paved areas. Compact to at least 90 percent around structures below unpaved areas.

- E. Where backfill is placed against a sloped excavation surface, run compaction equipment across the boundary of the cut slope and backfill to form a compacted slope surface for placement of the next layer of backfill.

3.09 FIELD QUALITY CONTROL

- A. Testing will be performed under provisions of Section 01400 – Quality Control.
- B. Tests will be performed initially on minimum of one different sample of each material type for plasticity characteristics, in accordance with ASTM D 4318, and for gradation characteristics, in accordance with Tex-101-E and Tex-110-E. Additional classification tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- C. In-place density tests of compacted subgrade and backfill will be performed according to ASTM D 1556, or ASTM D 2922 and ASTM D 3017, and at the following frequencies and conditions:
 1. A minimum of one test for every 100 cubic yards of compacted backfill material.
 2. A minimum of three density tests for each full work shift.
 3. Density tests will be performed in all placement areas.
 4. The number of tests will be increased if inspection determines that soil types or moisture contents are not uniform or if compacting effort is variable and not considered sufficient to attain uniform density.
- D. At least one test for moisture-density relationships will be initially performed for each type of backfill material in accordance with ASTM D 698. Additional moisture-density relationship tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- E. If tests indicate work does not meet specified compaction requirements, recondition, recompact, and retest at Contractor's expense.

3.10 DISPOSAL OF EXCESS MATERIAL

Remove from the site debris resulting from work under this section in accordance with local and state laws and the responsibility of the Contractor.

END OF SECTION

SECTION 02485

SEEDING

PART 1 - GENERAL

1.1 Scope

- A. This specification shall govern all work necessary for furnishing all material and labor for growing and maintaining, until the work is accepted by the Owner, new grass on the areas disturbed by the construction activities of the Contractor, at locations as shown on the drawings, and as required to complete the project.
- B. The Contractor shall provide all labor, materials and equipment required by this specification. All areas disturbed by construction of gravity sanitary sewers, manholes, force mains, lift stations, and waterlines, service connections, water connections to the existing system shall be seeded.
- C. Water required for maintenance of seeded areas shall be provided by the Contractor.

1.2 Related Work

Refer to the following sections of these specifications for related work:

- A. Section 02110, "Clearing and Grubbing"
- B. Section 02221, "Excavation and Backfill for Structures"
- C. Section 02226, "Trench Excavation and Backfill"
- D. Section 02260, "Site Grading"

1.3 Submittals

- A. Refer to Section 01300, "Submittals" for other requirements.
- B. Seed Analysis: The Vendor shall supply to the Engineer copies of the official seed analysis or official seed tags.
- C. Water Analysis: Submit water analysis data if test is performed.

1.4 Inspection and Test

A. Water: In the event there is a question about the suitability of the water used, the Contractor at his own expense, shall have an analysis made by an approved laboratory to determine the nature and concentration of impurities present.

1.5 Measurement and Payment

If no item for "Seeding" is provided for in Section 00105, "Proposal," no separate measurement and payment will be made for this work, and the work shall be considered subsidiary to the project.

PART 2 - PRODUCTS

2.1 Seed

All seed used shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitation for bids. All seed shall be furnished in sealed standard containers unless exception is granted in writing by the Engineer. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. The type of seed by weight shall be as follows, and the seed shall be planted at the rate per acre as indicated below.

Type of Seed (Wetland Mixture)	Salt Marsh Bulrush (<i>Scirpus pungens</i>)
.....	Salt meadow cordgrass (<i>Spartina patens</i>)
Application Rate Required Per Acre	50 lbs./acre

Type of Seed (Dune Mixture)	
.....	Seacoast Bluestem (<i>Schizachyrium Scoparium</i> var. <i>Littorale</i>)
.....	Gulf Dune Paspalum (<i>Paspalum Monostachyum</i>)
.....	Sea Oats (<i>Uniola Paniculata</i>)
Application Rate Required Per Acre	50 lbs./acre

Weed seed shall not exceed 10 percent by weight of the total bulrush and cordgrass seed in the mixture. Johnson grass, nutgrass or other noxious weed seed will not be allowed.

2.2 Cellulose Fiber Mulch

Cellulose fiber mulch should be applied to areas where finished grades have been attained and area has been cleared of all vegetation. If the area is on predominantly sandy soil or on slopes greater than 3:1, then a tackifier (glue) shall

be applied at a rate of 1/2 pound per 1,000 sf. Cellulose fiber mulch should be mixed as follows for a 1,000 sf area:

Fifty (50) Pounds Virgin Wood Cellulose Fiber

Two (2) Pounds Seed Mixture

Ten (10) Pounds 19-19-19 Granular Fertilizer or Equal

2.3 Fertilizer

All fertilizer used shall be delivered in bags or containers with clearly marked analysis. A granulated fertilizer shall be used with an analysis of 10-20-10. These figures represent the percent of nitrogen, phosphoric acid, and potash nutrients respectively, as determined by the methods of the Association of Official Agricultural Chemists. The rate of application shall be not less than 350 lb/acre (7.23 lb per 100 sq yd). In the event it is necessary to substitute a fertilizer with a different analysis, it shall be granulated fertilizer with a lower concentration. The total nutrients applied per unit area shall not be less than the specified amount of each nutrient.

2.4 Water

Water shall be free from oils, acids, alkalies, and salts, and other substances which may inhibit grass growth. The water source shall be subject to approval prior to use.

PART 3 - EXECUTION

3.1 General

- A. The seeding work shall be accomplished to such an extent that satisfactory growth results are obtained. The Engineer may at his own discretion, stop any phase of the work, if in the opinion of the Engineer, the desired growth rates are not obtained.
- B. All seeding operations shall be conducted by broadcast seeding or cellulose fiber mulch across the areas disturbed by the construction activities.
- C. Seeding and spreading fertilizer shall be accomplished as specified herein on areas disturbed by construction. Fertilizer shall be distributed over entire area seeded in the quantities specified.
- D. Equipment necessary for the proper handling and spreading of the seed shall be on hand, in good condition, and shall be approved before the work

is started. The Contractor shall demonstrate to the Engineer before starting work that the application of the materials required will be made at the specified rates.

E. After seeding the seeded area shall be fertilized and watered.

3.2 Seed Bed Preparation

Prior to planting, the area to be seeded shall be graded and shaped. Grades on the areas to be seeded shall be maintained in a true and even condition. Maintenance shall include any necessary repairs to previously graded areas.

3.3 Planting Seed

A. Seeding Rates: The Contractor shall conduct seeding equipment calibration tests in the presence of the Engineer as a means of determining the coverage per load to plant the seed at the specified rates. If unplanted skips and areas are noted after germination and growth of the grass, the Contractor shall be required to seed the unplanted areas with additional seed at no additional cost to the Owner.

B. Seeding: The equipment to be used and the methods of broadcast seeding shall be subject to inspection and approval of the Engineer prior to commencement of planting operations.

3.4 Fertilization

Apply commercial fertilizer within 7 days of seeding applying 1.5 pounds of nitrogen per 1000 square feet. For 15-5-10 fertilizer use 400 pounds per acre. Incorporate fertilizer with the soil distributing thoroughly to a depth of 3 inches by discing or other approved method. Fertilized areas shall be watered within 24 hours after applying fertilizer.

3.5 Watering

All areas seeded shall be kept moist for the first 30 days with a fine spray irrigation system (temporary or permanent) which should be in place prior to seeding or mulching.

3.6 Maintenance

A. General: Maintenance shall begin immediately following completion of seeding and continue until final acceptance by Engineer. It shall be the responsibility of the Contractor to maintain all areas during and after seeding for a period of three weeks and to provide 90 percent establishment of

seeded areas. Maintenance shall include protection, watering, replanting, maintaining existing grades and repair of erosion damage, mowing, and the application of fertilizers, herbicides and pesticides, if deemed necessary by the Engineer.

- B. Watering: The Contractor shall be responsible for watering the newly seeded areas for a period of three weeks or thereafter until contract is closed. During the first week after seeding, the Contractor shall water the seeded area once daily. For the following two week period, the Contractor shall water the seeded area once every two days. Water application rates shall be at least 4000 gal/ac or sufficient to thoroughly soak the ground surface and promote proper seed germination and subsequent grass growth.
- C. Replanting: If necessary, the Engineer will designate areas to be replanted. Areas on which a stand of growing grass is not present in a reasonable length of time (Coastal Bermuda grass seed should be germinating in six to eight days) shall be prepared, reseeded and watered at no additional cost to the Owner. Replanting required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to the Owner.
- D. Maintenance of Grades and Repair of Erosion Damage: It shall be the responsibility of the Contractor to maintain the original grades of the slopes after commencement of the seeding operation and during the three week maintenance period following the seeding operation. Any damage to the finished surface from Contractor's operations shall be promptly repaired. In the event erosion occurs from rainfall or other causes such damage shall be promptly repaired. Ruts, ridges, tracts, and other surface irregularities shall be corrected and areas replanted where required prior to acceptance.

*** END OF SECTION ***

Section 02950 – Restoration of Site Improvements

PART 1 G E N E R A L

1.01 SECTION INCLUDES

1. Restoration of the Work site in public rights-of-way or easements and adjacent public or private property affected by construction operations, including pavement, esplanades, sidewalks, driveways, fences, lawns and landscaping.

1.02 DEFINITIONS

1. Site Restoration. Replacement or reconstruction of site improvements to rights-of-way, easements, public property, and private property that are affected or altered by construction operations, with the improvements restored to a condition which is equal to, or better than, that which existed prior to construction operations.
2. Site Improvements. Includes but is not limited to pavement, curb and gutter, esplanades, sidewalks, driveways, fences, lawns, irrigation systems, and landscaping.
3. Line Segment. The length of sewer from centerline to centerline of manholes, inline junction structure, and bends as designated on the Drawings, and to the end of stubs or the termination of the pipe.
4. Maximum Trench Width. The allowable trench width for a corresponding pipe outside diameter as defined in the design plans or in Section 02317 - Excavation and Backfill for Utilities.

1.03 SUBMITTALS

1. Make submittals in conformance with Section 01300 - Submittal Procedures.

1.04 SCHEDULING

1. After paving or utility work is completed on a line segment and the segment is submitted on the monthly estimate for payment, complete site restoration for that segment before the next monthly estimate for payment is submitted, unless extended in writing by the Owner or Engineer.
2. For utility work requiring testing or post-installation TV inspection, completion of the segment is not considered to include testing or TV inspection. The schedule for completion of site restoration is not determined by completion of testing or TV inspection.

PART 2 P R O D U C T S

2.01 MATERIALS

1. Pavement, Sidewalks and Driveways. Use materials as specified in Section 02965 - Pavement Repair and Resurfacing and Section 03305 - Concrete Curb and Gutter, Driveways, and Sidewalks.

PART 3 E X E C U T I O N

3.01 EXAMINATION

1. Construction Site Photographs. Document pre-existing conditions on and adjacent to the construction site with construction photographs and /or video recordings.

3.02 PREPARATION

1. Removing Pavements and Structures.

1. Remove the minimum pavement, curb and gutter, and other structures as required to perform the Work. Perform removals in accordance with Section 02200 - Removing Existing Pavements and Structures.
2. Remove concrete and asphaltic concrete material by saw cutting the existing pavement with methods approved by the Owner and Engineer.

2. Remove or relocate existing fencing, if required, for construction operations. Maintain the integrity of the private property owner's fencing if needed for protection of children, pets or property. Notify the property owner 72 hours in advance before removing fencing and coordinate security needs.

3.03 INSTALLATION

1. Pavement, Sidewalk, and Driveway Restoration.

1. Replace pavement, curb and gutter, sidewalks, and driveways removed or damaged as the result of construction operations. Reconstruct in accordance with Section 02965 - Pavement Repair and Resurfacing and Section 03305 - Concrete Curb and Gutter, Driveways, and Sidewalks.
2. Where replacement sidewalks terminate at a street curb radius, construct a wheelchair ramp according standard detail drawing or as directed by the Engineer.

2. Fence Removal and Replacement.

1. Replace fencing removed or damaged, including, but not limited to, posts, caps, concrete footings, concrete curb under fence, wire mesh, wood panels, top and bottom railing.
2. Reconstruct any portion of the fence disturbed by construction which is not equal to or better than that which existed prior to construction operations as evidenced by pre-construction photographs or videos.
3. Remove and dispose of damaged or substandard material.

3.04 CLEANING

1. Remove debris and trash which is the result of the Contractor's operation to maintain a clean and orderly site.

END OF SECTION



Special Specification 5033

Bollards

1. DESCRIPTION

Furnish, install, remove and replace bollards as shown on the plans.

2. MATERIALS

Assure that bollards meet retroreflectivity requirements as shown on the plans and specified by the Texas MUTCD and the ATSSA (American Traffic Safety Services Association) Brochure on Retroreflectivity.

- 2.1. **Fixed bollards.** Provide fixed bollards consisting of 6 in. diameter galvanized standard weight steel pipe filled with concrete and with form domed cap. Provide steel such as pipe, plates, and other required parts in accordance with Item 442, "Metal for Structures." Paint or galvanize pipe, plates, and other required steel parts in accordance with the plans and meeting the requirements of Item 441, "Steel Structures" and Item 445, "Galvanizing." Provide foundation concrete meeting the requirements of Item 421, "Hydraulic Cement Concrete." Perform welding in accordance with Item 448, "Structural Field Welding."
- 2.2. **Removable Bollards.** Provide removable bollards consisting of 6 in. diameter galvanized standard weight steel pipe with form domed cap. Provide steel such as pipe, plates, and other required parts in accordance with Item 442, "Metal for Structures." Paint or galvanize pipe, plates, and other required steel parts in accordance with the plans and meeting the requirements of Item 441, "Steel Structures" and Item 445, "Galvanizing." Provide foundation concrete meeting the requirements of Item 421, "Hydraulic Cement Concrete." Perform welding in accordance with Item 448, "Structural Field Welding."
- 2.3. **Treated Timber Bollards.** Provide treated timber bollards consisting of timber in accordance with Item 491, "Timber for Structures" and Item 492, "Timber Preservative and Treatment."

3. CONSTRUCTION

Install bollards to the depth as shown on the plans or as directed. Clean bollard holes free of loose dirt and debris, and thoroughly compact bottom of hole to the correct elevation for placement of the bollards. Place bollards to the correct alignment, elevation, and plumb. Backfill around fixed and timber bollards and thoroughly tamp in 4 in. layers.

Remove and replace existing bollards of the type shown on the plans or as directed. Remove and dispose of existing bollards as shown on the plans or as directed. Install bollard foundation of the size and depth as shown on the plans.

4. MEASUREMENT

This Item will be measured by each bollard installed, removed and replaced, or removed as shown on the plans.

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 the various types of "Bollards" specified as follows:

"Fixed Bollards," "Removable Bollards," "Treated Timber Bollards," "Remove and Replacing Bollards," and "Removing Bollards" of the type shown on the plans. This price is full compensation for furnishing, preparing, hauling and installing materials; for excavation and backfill, and for labor, tools, equipment and incidentals.

SECTION 02 37 20
DRILLED PIER FOUNDATION

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. This section covers requirements for the construction of drilled pier foundations, including layout of piers, excavation for piers, temporary steel casings, furnishing and placing reinforcing steel, furnishing and placing concrete, and disposal of excavated material.
- B. The extent of drilled piers is shown on the Drawings, including locations, diameters, top and estimated bottom elevations, reinforcement, and details of construction.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Cast-in-Place Concrete: Section 033000

1.3 SUBMITTALS

- A. Provide submittals as specified in Section 033000, Cast-in-Place Concrete.
- B. Drilling Record: Upon completion of the drilled pier foundation work, submit two copies of the drilling records to the Engineer. Maintain a copy of the drilling records at the construction site. Do not construct superstructure on top of drilled pier foundation until after the drilling records have been reviewed by the Engineer. Records must show the following as-built information (where applicable):
 - 1. Pier identification mark and location.
 - 2. Deviation from plan location and alignment.
 - 3. Date of drilling.
 - 4. Size of pier.
 - 5. Elevation of bearing stratum.
 - 6. Elevation of bottom and top of each layer.
 - 7. Length and location of any casing used.
 - 8. Nature and location of any obstructions encountered.
 - 9. Water conditions during drilling and concrete operations.

1.4 INSPECTION AND TESTING PROVIDED BY OWNER

- A. A qualified independent testing laboratory and/or geotechnical engineering service, selected by the Engineer, approved and paid for by the Owner, shall provide the following inspection and testing:
 - 1. Provide continuous inspection during drilling operations.
 - 2. Verify that proper bearing stratum is obtained.
 - 3. Maintain a log of each drilled pier, identifying pier location, diameter, top and bottom elevations, casing requirements, and actual penetration into bearing stratum.
 - 4. Visually inspect the bottom of the shaft to verify that loose soil has been removed and for the presence of water.
 - 5. Inspect reinforcing steel (size, number, and placement of bars).
- B. The Contractor shall notify the Owner's testing laboratory at least 48 hours prior to drilling operations.

1.5 QUALIFICATIONS AND EQUIPMENT

- A. Excavation under this section must be executed by a foundation driller experienced and equipped to perform drilled pier foundation work as required. Use equipment and tools specially designed for drilling and shaping foundations to depth, size and section shown.

1.6 EXISTING UTILITIES

- A. Notify the Engineer when any sewer, water, gas, electric or other utility lines are encountered during drilling operations. Protect such utility lines from damage. Suspend drilling operations until satisfactory arrangements are made with the proper authorities for removal, relocation, or tapping of the line.

PART 2 – PRODUCTS

2.1 CONCRETE

- A. Concrete shall have a minimum 28-day compressive strength of 3000 psi and shall conform to the requirements as noted in the Drawings. Air entraining will not be required for concrete in drilled shaft foundations. Where concrete is placed in a temporary casing, provide concrete with a minimum slump of 6 inches and a retarder admixture to prevent arching of concrete during pulling of the casing or setting of concrete until after the casing has been pulled.

2.2 REINFORCING STEEL

- A. Reinforcing steel shall conform to Section 03300, Cast-in-Place Concrete.

2.3 CASINGS

- A. Temporary Steel Casing. Use watertight circular steel tubes with ample wall thickness and strength to withstand handling stresses, the pressure of concrete, and the pressure of the surrounding earth and water without distortion. The outside diameter of the casing shall be at least as large as the nominal shaft diameter. Casings to be removed after placement of concrete shall be smooth and well oiled.

2.4 REINFORCING HOLDING DEVICES

- A. Furnish concrete spacer blocks as required to hold reinforcing cage in proper position, maintaining required clearances to sides and bottom of hole.

PART 3 – EXECUTION

3.1 WEATHER CONDITIONS

- A. Drill only when weather permits. Do not start drilling during inclement weather or when weather conditions will prevent completion of the excavation and placement of concrete within the specified time.

3.2 DRILLING

- A. Excavate for drilled piers, of required diameters, to bearing stratum indicated on the Drawings and as confirmed by the testing laboratory representative at the site.
- B. Excavate into bearing stratum the required penetration depths indicated on the Drawings.
- C. Drill piers within the following tolerances:
 1. Drilled pier diameter: -1/2 inch, +2 inches
 2. Top of pier elevation: -3 inches, +1 inch
 3. Shaft centerline location: 1/24 of shaft diameter or 3 inches, whichever is less
 4. Shaft variation from plumb: One percent of length
- D. When the as-built foundation is not within specified tolerances, the foundation may require modifications, by adding drilled pier foundations or other methods, to properly resist the design forces. Corrective measures must be approved by the Engineer and provided by the Contractor at no additional cost.
- E. Notify the Engineer of any unusual conditions encountered during drilling operations.
- F. Maintain a drilling record for each drilled shaft foundation. The drilling record shall contain the information specified in the Submittals paragraph of this section.
- G. Temporary Steel Casings
 1. Use temporary steel casings wherever needed to prevent sloughing or caving of the excavation or to prevent the inflow of ground water. The casings shall extend sufficiently into the bearing stratum to ensure a watertight seal. The casings shall extend sufficiently above the top elevation of the finished shaft to allow excess concrete to be placed for the anticipated slump due to the casing removal.
 2. The diameter of excavation for temporary steel casings shall be such as to create a minimum of void space outside the casing. Driving of casing prior to drilling of shafts will not be permitted.
 3. Drilling of the bearing stratum shall be done in the dry. All water shall be removed from the hole prior to and during drilling of the required penetration.

H. Fill excavations that are damaged by cave-ins or that are not within specified tolerances with select material compacted to at least the density of adjacent soil. Redrill, using temporary casing, as directed by the Engineer. Corrective work shall be provided without additional cost to the Owner.

I. Should ground water inadvertently enter the excavation, clean out the hole, install a steel casing and, if required, deepen the excavation as directed by the Engineer to undisturbed soil without additional cost to the Owner.

3.3 CLEANING AND INSPECTION

- A. Immediately after completing an excavation, clean all loose earth and water from the sides and bottom.
- B. Provide suitable access and lighting to permit inspection of the completed foundation excavation, including checking dimensions and alignment of drilled shaft excavation. All excavations shall be inspected from the top. No workmen or laboratory personnel shall be permitted to enter the pier hole due to the potential for caving soil.

3.4 REINFORCEMENT

- A. Fabricate a reinforcing steel unit for each shaft consisting of longitudinal bars and continuous ties as shown on the drawings. Completely assemble and place in position as a unit.
- B. Exercise care in placing reinforcement in the excavation. Prevent displacement of earth from excavation sides. If displacement occurs, remove reinforcing and clean the excavation.
- C. Support the lower end of each vertical bar on a concrete spacer block or suspend the reinforcing cage from the top to maintain the clear cover required at the bottom of the shaft. Provide side concrete spacer blocks wired at intervals along the reinforcing cage to ensure concentric cage location for the entire depth of the shaft.
- D. Where the foundation bottom elevation is lowered from planned depth, splice vertical bars as shown on the Drawings.

3.5 CONCRETE PLACEMENT

- A. Fill drilled pier excavations with concrete immediately after inspection and approval, and within the time limit stated on the Drawings.
- B. Concrete may be placed by free fall provided it is directed through a hopper such that the fall is down the center of the shaft without hitting the sides or the reinforcing. When concrete cannot be placed by free fall without hitting the sides or reinforcing, or where a drop of more than 25"-0" is required, place concrete through a delivery tube which limits concrete free fall from the end of the tube to a maximum of 5 feet. Do not start placement until sufficient concrete is available to completely fill the excavation. Place concrete continuously from start to completion.
- C. Provide mechanical vibration for consolidation of at least the upper 10"-0" of each shaft. Where shafts are encased in temporary casing, do not vibrate the concrete until after the casing has been removed.
- D. Screeed the top of pier level and apply a scoured, rough finish. Keep exposed concrete surfaces moist by fog sprays, wet burlap, or other effective means of curing.
- E. Depositing concrete in water will not be permitted. No more than 2" of standing water is permitted at time of pouring.
- F. During placement of concrete, and until concrete has set, provide protection around the top of excavation to prevent entry of soil or other foreign matter.
- G. Removal of Casings:
 1. Temporary casings may be withdrawn using one of the following methods:
 - a. Withdraw casing after all concrete has been placed in the shaft.
 - b. Withdraw casing as shaft is filled with concrete. Maintain a head of concrete approximately 5'-0" above the bottom of the casing to balance outside soil and water pressure at all times during withdrawal.
 2. Avoid vibrating concrete until after casing is pulled.

3. Pull casing before slump decreases below 5 inches as determined by testing. The casing may be broken free of the bottom seal by a 2- to 4-inch jerk. The casing shall then be extracted at a slow, uniform rate using a truly vertical pull.

3.6 **DISPOSAL OF EXCAVATED MATERIAL**

A. Dispose of excavated material not used as backfill around foundations in accordance with the Structural Excavation, Backfill and Compaction general notes on the Drawings.

3.7 **CLEANUP**

A. Clean up all debris caused by the work of this Section, keeping the area clean and neat at all times.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Concrete formwork.
- B. Slabs on grade.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.

1.2 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2010.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2009).
- C. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2015.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
- G. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- H. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2014.
- I. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2014.
- J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Billet-Steel Bars for Concrete Reinforcement; 2015.
- K. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- L. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- M. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2015.
- N. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.
- O. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2015.
- P. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- Q. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2014.
- R. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
- S. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 2014.
- T. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.

1.3 SUBMITTALS

- A. See Section 013000 – Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
 - 1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.

- C. Shop Drawings, Concrete Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Except as may be modified by the Contract Drawings, comply with the ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules; stirrup spacing; diagrams of bent bars; arrangement of concrete reinforcement; and types and placement of supporting accessories. Include special reinforcement required at openings through concrete structures. Indicate proposed construction joint locations.
- D. Mix Design: Submit proposed concrete mix design.
 - 1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
 - 2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.
- E. Samples: Submit samples of underslab vapor retarder to be used.
- F. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.
- G. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.4 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.

1.5 PRE-CONCRETE CONFERENCE

- A. At least 35 days prior to start of the concrete construction schedule, the Contractor shall conduct a meeting to review the proposed mix designs and to discuss the required methods and procedures to achieve the required concrete construction. Coordination of the slab finish procedure will need to be discussed at this time. The finish procedure shall take into account the size of the slab and the temperature at the time of concrete placement. The Contractor shall send a pre-concrete conference agenda to all attendees 20 days prior to the scheduled date of the conference.
- B. The Contractor shall require responsible representatives of every party who is concerned with the concrete work to attend the conference, including but not limited to the Contractor's superintendent, laboratory responsible for the concrete design mix, the laboratory responsible for field quality control, the concrete placement and finishing subcontractor, the ready-mix concrete producer, the admixture manufacturer's, and the concrete pumping contractor. The Architect/Engineer shall also be notified so that he may be present at the conference.
- C. Minutes of the meeting shall be recorded, typed and printed by the Contractor and distributed by him to all parties concerned within 5 days of the meeting. Copies of the minutes shall also be transmitted to the Owner and Architect/Engineer for information purposes.
- D. The minutes shall include a statement by the Contractor's Superintendent, Concrete Placement and Finishing Subcontractor, Ready-mix Concrete Supplier, Admixture Manufacturer(s), and the Concrete Pumping Subcontractor (if applicable) indicating that the proposed mix designs, placing, finishing, and curing techniques will meet the requirements of these specifications.

PART 2 – PRODUCTS

2.1 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Plywood complying with U. S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-

oiled and edge-sealed, with each piece bearing legible trademark of an approved inspection agency.

2. Form Coating: Release agent that will not adversely affect concrete.
3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.2 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M Grade 60 (420); except stirrups and ties may be grade 40 (280).
 1. Type: Deformed billet-steel bars.
 2. Finish: Unfinished, unless otherwise indicated.
- B. Reinforcement Accessories:
 1. Tie Wire: Annealed, minimum 18 gage.
 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 3. Provide plastic or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I or III - Normal Portland type.
 1. Acquire all cement for entire project from same source
- B. Fine and Coarse Aggregates: ASTM C 33.
- C. Fly Ash: ASTM C618, Class C or F.
- D. Water: Clean and not detrimental to concrete.

2.4 ADMIXTURES

- A. General: Admixtures shall not contain more chloride ions than are present in municipal drinking water.
- B. Water Reducing Admixture: "Eucon WR-75 or WR-89" by The Euclid Chemical Co., "Pozzolith 200N" by Master Builders or "Plastocrete 160" by Sika Chemical Corp. The admixture shall conform to ASTM C494, Type A.
- C. Water Reducing, Retarding Admixture: "Eucon Retarder-75" by the Euclid Chemical Co., "Pozzolith 100XR" by Master Builders or "Plastiment" by Sika Chemical Corp. The admixture shall conform to ASTM C494, Type D.
- D. High Range Water-Reducing (HRWR) Admixture (Superplasticizer): "Eucon 37" by the Euclid Chemical Co., "Rheobuild 1000" by Master Builders or "Sikament" by Sika Chemical Corp. The admixture shall conform to ASTM C494, Type F or G.
- E. Non-Corrosive, Non-Chloride Accelerator: "Accelguard 80" by The Euclid Chemical Company or "Daraset" by Master Builders (or approved equal). The admixture shall conform to ASTM C494, Type C or E. The admixture manufacturer must have long-term non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures.
- F. Air Entraining Admixture: Conform to ASTM C260. Product shall be "Air-Mix" by the Euclid Chemical Co., "MB-VR" by Master Builders or "Sika AER" by Sika Corp.
- G. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.
- H. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review the Engineer.

2.5 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder: Multi-layer, polyethylene or equivalent, complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.
 1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.

2. Products:
 - a. Stego Industries, LLC; Stego Wrap Vapor Barrier 15-mil (Class A):
www.stegoindustries.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- 2.6 BONDING AND JOINTING PRODUCTS
 - A. Bonding and Repair Materials:
 1. Low Shrinkage Structural Repair Mortar: One component polymer, microsilica modified, high strength concrete repair mortar. Product shall be "SR-93" by The Euclid Chemical Company or approved substitute.
 2. Epoxy Adhesive: The compound shall be a two (2) component, 100% solids, 100% reactive compound suitable for use on dry or damp surfaces, "Euco Epoxy No. 452MV or No. 620" by The Euclid Chemical Co. or "Sikadure Hi-Mod" by The Sika Chemical Corp.
 3. Repair Topping: Self-leveling, polymer modified high strength or approved substitute topping. Product shall be "Thin Top SL" by The Euclid Chemical Co.
 4. Polymer patching Mortar: "Euco Thin Coat, Concrete Coat" (horizontal repairs), "Verticoat LPL" (vertical and overhead repairs) by The Euclid Chemical Co. or "Sikatop 121 or 122" (horizontal repairs), "Sikatop 123" vertical and overhead repairs) by Sika Chemical Corp.
- 2.7 CURING MATERIALS
 - A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound, that dissipates within 3 to 5 weeks; complying with ASTM C309.
 1. Provide product containing fugitive red dye.
 2. Products:
 - a. SpecChem, LLC; SpecRez: www.specchemllc.com.
 - b. W.R. Meadows, Inc.; 1100-Clear: www.wrmeadows.com
 - c. Substitutions: See Section 01 60 00 - Product Requirements
 - B. Polyethylene Film: ASTM D2103, 6 mil thick, clear.
 - C. Water: Potable, not detrimental to concrete.
- 2.8 CONCRETE MIX DESIGN
 - A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
 1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.
 - B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
 - C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
 - D. Foundation Slab – Normal Weight Concrete:
 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 5,000 pounds per square inch.
 2. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
 3. Maximum Water-Cement Ratio: 0.40
 4. Maximum Slump: 9 inches maximum if high range water reducing admixtures are added to the mixture. Otherwise, slump shall be 5" maximum.
 5. Maximum Aggregate Size: 1-1/2 inch.
 6. Mix design to include a rust-inhibiting admixture conforming to ASTM 494 Type C or E.
 - E. Piers – Concrete for drilled pier placement shall attain a 28-day compressive strength of 3,000 psi.
 1. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
 2. Water-Cement Ratio: 0.50
 3. Maximum Slump: 9 inches maximum if high range water reducing admixtures are added to the mixture. Otherwise, slump shall be 5" maximum.

4. Maximum Aggregate Size: 1-1/2 inch.
5. Mix design to include a rust-inhibiting admixture conforming to ASTM 494 Type C or E.

2.9 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
- E. Slab on Grade: Install vapor retarder under slab. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.3 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Unless otherwise noted, all 90, 135, and 180 degree hooks shown on the drawings shall be standard ACI hooks.
- C. All continuous reinforcement shall lap 40 bar diameters at splices. Splice locations for continuous reinforcement shall be at the supports for bottom bars and at mid-span for all other bars.
- D. Verify that anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.
- E. See Drawings for reinforcement clearances.

3.4 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Notify Architect not less than 24 hours prior to commencement of placement operations.
- D. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- E. Ensure reinforcement, inserts, and embedded parts will not be disturbed during concrete placement.
- F. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.
- G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.5 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Maximum Variation of Surface Flatness (All Concrete Floors): 1/8 inch in 10 ft.
- B. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
 1. All Concrete Floors: F(F) of 25; F(L) of 20.

- C. Measure F(F) and F(L) in accordance with ASTM E1155, within 48 hours after slab installation; report both composite overall values and local values for each measured section.
- D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 17/F(L) 15.
- E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.6 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/8 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
- C. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, thin set quarry tile, and thin set ceramic tile; etc.
 - 2. Other Surfaces to Be Left Exposed: "Steel trowel" as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.7 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal Concrete: Not less than 7 days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
- D. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days.
 - a. Spraying: Spray water over floor slab areas and cover with a moisture-retaining sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges. Provide and maintain adequate weights/anchors to prevent sheeting from blowing off of slab prior to the end of initial 3 day curing period.
 - 2. Final Curing: Begin after initial curing but before surface is dry.
 - a. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.8 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- E. Compressive Strength Tests: ASTM C39/C39M. For each test, mold and cure four concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.
- F. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.9 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

- B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.10 PROTECTION

- A. Do not permit traffic over unprotected concrete surface until fully cured.

END OF SECTION

Project Name: South Padre Island Wind & Water Sports Park
Project Number:

Section 31 32 19

Specification for Geotextile Used in Soil Stabilization and Layer Separation

1. GENERAL

1.1 SECTION INCLUDES

- A. Geotextile to stabilize and reinforce an aggregate cover material (subbase, base, select embankment, etc.) of an unpaved roadway. The stabilization and reinforcement application is appropriate for unpaved roadways constructed over soft subgrade soils with a California Bearing Ratio (CBR) less than 3 (CBR < 3) (shear strength less than approximately 90 kPa).

1.2 RELATED SECTIONS

- A. Section 02 50 00 - Site Remediation
- B. Section 01 89 13 - Site Preparation Performance Requirements
- C. Section 31 00 00 - Earthwork
- D. Section 32 10 00 - Bases, Ballasts, Pavements, and Appurtenances

1.3 UNIT PRICES

- A. Method of Measurement: By the square yard (or square meter - as indicated in contract documents) including seams, overlaps, and wastage.
- B. Basis of Payment: By the square yard (or square meter - as indicated in contract documents) installed.

1.4 REFERENCES

- A. AASHTO Standards:

1. T088-10-UL - Particle Size Analysis of Soils
2. T090-00-UL - Determining the Plastic Limit and Plasticity Index of Soils
3. T099-10-UL - The Moisture-Density Relations of Soils Using a 5.5lb (2.5 kg) Rammer and a 12in (305 mm) Drop.
4. M288- Geotextile Specification for Highway Applications

- B. American Society for Testing and Materials (ASTM):

1. D123 - Standard Terminology Relating to Textiles
2. D276 - Test Method for Identification of Fibers in Textiles
3. D4354 - Practice for Sampling of Geosynthetics for Testing
4. D4355 - Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
5. D4439 - Terminology for Geotextiles
6. D4491 - Test Methods for Water Permeability of Geotextiles by Permittivity

- 7. D4533 - Test Method for Index Trapezoid Tearing Strength of Geotextiles
- 8. D4595 - Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
- 9. D4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles
- 10. D4751 - Test Method for Determining Apparent Opening Size of a Geotextile
- 11. D4759 - Practice for Determining the Specification Conformance of Geosynthetics
- 12. D4873 - Guide for Identification, Storage, and Handling of Geotextiles
- 13. D6241 - Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

- C. Federal Highway Administration (FHWA) - Geosynthetic Design and Construction Guidelines, Publication No. FHWA HI-95-038, April 1998.
- D. Geosynthetic Accreditation Institute (GAI) - Laboratory Accreditation Program (LAP).
- E. National Transportation Product Evaluation Program (NTPEP)
- F. International Standards Organization (ISO) – 9001:2015

1.5 DEFINITIONS

- A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

1.6 SUBMITTALS

- A. Submit the following:
 - 1. Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, and chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The Certification shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer. Certifications from Private Label distributors will not be accepted.
 - 2. If an alternate product is submitted full scale performance testing performed by an Independent testing agency shall be provided.
 - 3. Coefficient of Interaction (C_i) test results performed by a lab with GRI accreditation should be provided to confirm conformance to the specified value.
 - 4. Manufacturer's installation Guidelines shall be provided.
 - 5. One 1' x 1' sample shall be provided.
 - 6. Quality Standards: The contractor shall provide to the Engineer the

Manufacturer's Quality Control Plan along with their current GAI-LAP and ISO 9001:2015 certificates.

7. Alternate products must be submitted 15 days prior to bid date to engineer and should include information on five similar projects in size and scope.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. The geotextile manufacturer shall have all the following credentials:
 - a. ISO 9001:2015 Quality Management System
 - b. Geosynthetic Accreditation Institute (GAI)- Laboratory Accreditation Program (LAP)

B. The geotextile manufacturer shall have a GAI-LAP accredited laboratory at the location of production capable of performing the ASTM tests as outlined in the specification.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Geotextiles labeling, shipment, and storage shall follow ASTM D4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.**
- B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.**
- B. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geotextile.**

2. PRODUCTS

2.1 MANUFACTURERS

- A. TenCate™ Geosynthetics Americas
365 South Holland Drive
Pendergrass, GA, USA 30567
1-800-685-9990
1-706-693-2226
1-706-693-4400, fax
www.tencategeo.us**

2.2 MATERIALS

A. Geotextile:

1. The geotextile shall be woven from high-tenacity long-chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.
2. The geotextile shall meet the requirements of Table 1. All numeric values in Table 1 except AOS represent MARV in the specified direction. Values for AOS represent maximum average roll values.

TABLE 1 - SUBGRADE STABILIZATION GEOTEXTILE

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Tensile Strength (at ultimate)	ASTM D4595	lbs/ft (kN/m)	2640 (38.5)	2460 (35.9)
Tensile Strength (at 2% strain)	ASTM D4595	lbs/ft (kN/m)	504 (7.4)	600 (8.8)
Tensile Strength (at 5% strain)	ASTM D4595	lbs/ft (kN/m)	1272 (18.6)	1440 (21.0)
			Minimum Roll Value	
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	40 (1630)	
Permittivity	ASTM D4491	sec ⁻¹	0.6	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	30 (0.60)	
			Typical Test Value	
Pore Size 0 ₉₅ ¹	ASTM D6767	microns	386	
Pore Size 0 ₅₀ ¹	ASTM D6767	microns	294	
			Minimum Test Value	
Factory Sewn Seam	ASTM D4884	lbs/ft (kN/m)	1260 (18.4)	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	80	

¹ When sewn seams are required. Refer to **Section 3 - Execution** for overlap / seam requirements.

3. Approved geotextiles are as follows:

Mirafi® HP270

2.3 QUALITY CONTROL

- A. Manufacturing Quality Control: Testing shall be performed at an on-site laboratory accredited by GAI-LAP for tests required for the geotextile, at frequency meeting or exceeding ASTM D4354.

B. Manufacturer's certifications and testing of quality assurance samples obtained using Procedure B of ASTM D4354. A lot size for conformance or quality assurance sampling shall be the shipment quantity of the given product or a truckload of the given product, whichever is smaller.

3. EXECUTION

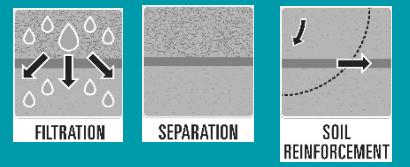
3.1 See Manufacturer's Installation guidelines provided in the submittal.

END OF SECTION

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Mirafi® HP270



Mirafi® HP270 geotextile is composed of high-tenacity polypropylene yarns, which are woven into a network such that the yarns retain their relative position. Mirafi® HP270 geotextile is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

TenCate Geosynthetics Americas Laboratories are accredited by Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Tensile Strength (at ultimate)	ASTM D4595	lbs/ft (kN/m)	2640 (38.5)	2460 (35.9)
Tensile Strength (at 5% strain)	ASTM D4595	lbs/ft (kN/m)	1272 (18.6)	1440 (21.0)
Minimum Roll Value				
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	40 (1630)	
Permittivity	ASTM D4491	sec ⁻¹	0.6	
Maximum Opening Size				
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	30 (0.60)	
Minimum Test Value				
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	80	

Physical Properties	Unit	Roll Size		
Roll Dimensions (width x length)	ft (m)	12.5 x 375 (3.81 x 114)	15 x 300 (4.5 x 91)	17 x 375 (5.2 x 114)
Roll Area	yd ² (m ²)	521 (436)	500 (418)	708 (592)

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GAI-LAP-25-97

RKCI Project No. ABA20-003-00
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PRODUCT GUIDE SPECIFICATION

SECTION 32 14 33.13 – PERMEABLE PLASTIC PAVING

REV 10-15-2024 v5

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Base material, over sub base prepared by others.
- B. Porous pavement system with S-flexural joints for seasonal expansion and contraction.
- C. Parking, fire lane, and traffic delineation.
- D. Gravel fill.
- E. Grass fill.

1.2 RELATED REQUIREMENTS

- A. Section 31 20 00 – Earth Moving: Subgrade Preparation.
- B. Section 33 41 00 – Subdrainage: Subsurface Drainage.
- C. Section 32 10 00 – Bases, Ballasts, and Paving.
- D. Section 32 80 00 – Irrigation: Irrigation System.
- E. Section 32 30 00 – Site Improvements.
- F. Section 32 92 00 – Turf and Grasses.

1.3 PREINSTALLATION MEETINGS

- A. Convene pre-installation meeting a minimum of two weeks prior to start of porous paving systems Specifier Notes:
- B. Verify project requirements, subbase and base conditions, manufacturer's installation instructions and coordinate with other related work.
- C. Require attendance of parties directly affecting work of this section, including the contractor, architect, engineer, and installer. Manufacturer's representative may attend by phone conference as needed.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01.
- B. Product Data: Submit manufacturer's product data.
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop drawings: Submit manufacturer's shop drawings including laying pattern and parking delineation locations.
- D. Samples: Submit two square samples of TRUEGRID Paver units.
- E. LEED and other Sustainable Design Submittals: Provide documentation of how the requirements for credit/certification will be met including, but not limited to: Recycled content, stormwater management, heat-island mitigation, water use reduction, site development, and regional materials.
- F. Manufacturer's Certificates: Certify products meet or specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic fertilizing and maintenance.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer with a minimum of five years documented experience with products specified.
- B. Installer Qualifications: Installer experienced in performing work of this section that has specialized in installation of work similar to that required for this project. Installer must also be able to provide skilled workman with satisfactory record of performance on landscaping or paving projects of comparable size and quality.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect porous paver units from damage during delivery and store under tarp when the time from delivery to installation exceeds 30 days.
- C. Protect materials during handling and installation to prevent damage.

1.7 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions recommended by manufacturer for desired results. Do not install products under conditions outside manufacturer's absolute limits.
- B. Do not begin installation of porous pavements until all hard surface paving adjacent to porous pavement areas, including concrete walks and asphalt paving, is completed.
- C. Install turf when ambient air temperature is at least 55 degrees F.
- D. In wet weather, do not build on wet, saturated or muddy subgrade.

- E. In cold weather, do not use frozen materials or materials coated with ice or frost, and do not build on frozen base or wet, saturated or muddy subgrade.
- F. Protect partially completed porous paving against damage from other construction traffic when work is in progress.
- G. Protect grass fill / sodded paving areas from traffic until grass root system has matured for at least 3 to 4 weeks. Use barricades to only permit access by emergency and fire equipment.

1.9 WARRANTY

- A. Provide the manufacturer's 10-year limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Airlite Plastics Co. DBA TRUEGRID Pavers, 6110 Abbott Dr, Omaha, NE 68110. Phone: 1-855-355-GRID. Email: info@truegridpaver.com Website: www.truegridpaver.com.
- B. Substitutions: Not permitted.

2.2 PRODUCTS

- A. Permeable Pavers, TRUEGRID PRO PLUS for grass or gravel applications.
 - 1. AASHTO H20, HS20 Rated.
 - 2. Manufactured in the USA.
 - 3. High density polyethylene (HDPE): 100 percent post-consumer recycled materials
 - 4. Recycled and recyclable content: 100 percent.
 - 5. S-Flexural joints molded in for soil seasonal expansion and contraction.
 - 6. Color: black- carbon black additive for long-term UV stabilization.
 - 7. Paver size: 24 inches by 24 inches by 1.8 inches.
 - 8. Pre-assembled: 4-foot by 4-foot sections.
 - 9. Cylindrical cell design for column strength.

10. Cell size: 3.30 inch inside diameter.
11. Co-joined cells at 48 places for strength.
12. Wall thickness: 0.150 inches /.250-inch nominal.
13. A minimum of 2 co-joined common walls per cell for structural integrity.
14. Connections:
 - a. No clips or stakes necessary.
 - b. No additional parts or tools needed.
 - c. Integral male-female three-point locking system.
 - d. Wall thickness at tabs: 0.290 inch.
15. Molded in X-anchors to stabilize pavers.
16. Nominal Coverage per Paver: 4 square feet.
17. Weight per paver: 5.25 lbs.
18. Permeability of System: 100 percent.
19. Compressive Strength (filled): 17,729 psi.
20. Material Safety: Groundwater neutral, 100 percent inert.
21. Chemical Resistant: Excellent: highly resistant to hydrocarbons, oils.

B. Parking Delineators: TRUEGRID SuperSpots for grass or gravel applications.

1. H20, HS20 rated.
2. Domed for high visibility and ribbed for high strength.
3. 0.90-inch profile above grid.
4. Long-term UV stabilized.
5. 3.25-inch diameter.
6. Available Colors: Yellow, white, blue, and red.

C. Parking Delineators: TRUEGRID SnowSpots for grass or gravel applications.

1. H20, HS20 rated.
2. Snow plowable and ADA compliant.
3. Level (0.00-inch) profile above grid.
4. Long-term UV stabilized.
5. 3.25-inch diameter.
6. Available Colors: Yellow, white, blue, and red

D. Reflective Parking Delineators: TRUEGRID Reflectors for grass or gravel applications.

1. H20, HS20 rated.

2. Long-term UV stabilized.
3. 0.90-inch profile above grid.
4. 3.25-inch diameter.
5. Available Colors: Translucent yellow, white, and red.

E. Surface Signage, ADA, Traffic, and Parking Identifiers: TRUEGRID Plates for grass or gravel applications.

1. Durable, long lasting, weather resistant and highly visible.
2. Snap-fit into TRUEGRID PRO PLUS grid.
3. 0.20-inch profile above grid
4. ADA compliant.

F. Base Material: TRUEGRID PRO PLUS was developed to accept multiple acceptable base materials. Locally sourced angular stone/clean for base material. Crushed granite, sandy gravel material, crushed concrete, and limestone rock are some of the acceptable materials. Common base materials include:

1. Hard, clean, angular, and open-graded (uniform size) drain rock -- from 1" to 1-1/2" (19mm to 38mm). Commonly #4 stone when size limits are met.
2. Base Course: Graded aggregate base course conforming to the following sieve analysis and requirements:
 - a. Percent Passing: 100 - Sieve Size: 3/4 – 1 inch
 - b. Percent Passing: 85 - Sieve Size: 3/8 inch
 - c. Percent Passing: 60 - Sieve Size: #4
 - d. Percent Passing: 30 - Sieve Size: #40
 - e. Percent Passing: <3 - Sieve Size: #200, or 3 to 8 Percent for Grass Infill

G. Gravel Fill: Obtain clean, washed angular rock to fill the 1.8-inch-tall TRUEGRID PRO PLUS cells and spaces between. TRUEGRID PRO PLUS should be filled level to the top of the cells or only slightly above for compaction and settling. Fill rock should be 5/8 inch to 3/4-inch diameter.

H. Base Course for Grass Filled TRUEGRID: Use base course from above *Section 2.2 F 2* or comparable base material suitable for grass growth and traffic loads. Choose materials with neutral pH ranges and avoid sources from recycled/reclaimed concrete or asphalt.

- I. Grass Surface with Soil Fill: A sandy loam or loam soil should be used to fill the empty TRUEGRID PRO PLUS grid. The selection of sandy loam or loam soil should be made based upon the soil requirements of the turf variety selected for the project. Other soils if compatible with type of seed or sod are acceptable.
 - 1. Choose turf grasses with deep-growing vertical roots, high wear capacity, and for the local growing zone and climate.
 - 2. Grass – Choose either sod or seed:
 - a. Seed – The Preferred Method: Hydro-seeding/mulching is recommended with a wood or paper cellulose commercial mulch.
 - b. Sod shall be grown in sand or sandy loam soils only. Sod grown in soils of clay, silt, or high organic materials such as peat, will not be accepted.
- J. Base Course for Sloped Areas Above 3 degrees (5%): Use base course from above *Section 2.2 F 2* or other dense-graded base common for road use.
- K. Geotextile Fabric, Geomembrane, or Geogrid by Others.
 - 1. Choose for properties suitable for soil conditions, loading requirements, and permeability / impermeability requirements.
- L. Anchor Nails by others.
 - 1. 3/8-inch by 10-inch galvanized ring shank nail common for landscape use.
 - a. Choose for high frequency traffic areas, areas with breaking and acceleration, transitions, and areas subject to surface water from other sources.
 - b. For sloped areas above 3 degrees (5%).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Before beginning installation, verify site conditions are as indicated on the drawings. Notify the Architect if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.
- B. Ensure that adjacent hard-surfaced paving work is completed before installing porous pavement system.

3.2 PREPARATION

- A. Subgrade:
 1. Prepare subgrade as specified in Section 33 41 00. Verify subgrade in accordance with porous paving system manufacturer's instructions.
 2. Excavate area allowing for unit thickness and the engineered base depth (where required).
 3. Provide adequate drainage from excavated area if area has potential to collect water when working with in-place soils that have poor permeability.
 4. Ensure in-place soil is relatively dry and free from standing water.
 5. Uniformly grade base.
 6. Level and clear base of large objects, such as rocks and pieces of wood.
 7. Install irrigation, if applicable, in accordance with Section 32 80 00.
 8. Install and secure geotextile fabric, geomembrane, or geogrid mesh as needed for soil stabilization and loading requirements.
- B. Install Base as specified in Section 32 10 00. Verify engineered base is installed in accordance with porous paving system manufacturer's instructions.
 1. Coordinate base installation and preparation with subdrains specified in Section 33 41 00.
 2. If required, place a geotextile separation layer between the natural ground and the engineered base.
 3. Place base course material over prepared sub base to grades indicated on the drawings or from manufacturer's recommended depths per application type.
 4. Place in lifts not to exceed 4 inches, compacting each lift separately to 95 percent Modified Proctor for non-open grade material. Open grade base material to be leveled and heavily compacted in 4-inch lifts to settle and lock in angular stone.
 5. If required, install irrigation in accordance with Section 32 80 00.
 6. Leave minimum 1.8 inches for Permeable Paver unit for final elevation.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install TRUEGRID PRO PLUS Permeable Paver units by placing cells face up. Sheets are preassembled in 4-foot by 4-foot sheets are connected with friction fit interlocking

NOTES:

1. LINE UP TAB AND SLOT. PUSH IN TO LOCK IN SUPERSPOT OR SNOWSPOT.
2. SUPERSPOT AND SNOWSPOT PATTERNS AND SPACING OPTIONS ARE UNLIMITED AND CAN BE RECONFIGURED AS PREFERRED.
3. SUPERSPOTS CAN BE USED IN MALE TO FEMALE CONNECTION POINT CELLS IF YOU SLIGHTLY MODIFY THE SUPERSPOT.
4. SUPERSPOTS AND SNOWSPOTS ARE TYPICALLY INSTALLED BEFORE FINAL TRUEGRID PAVER FILL.

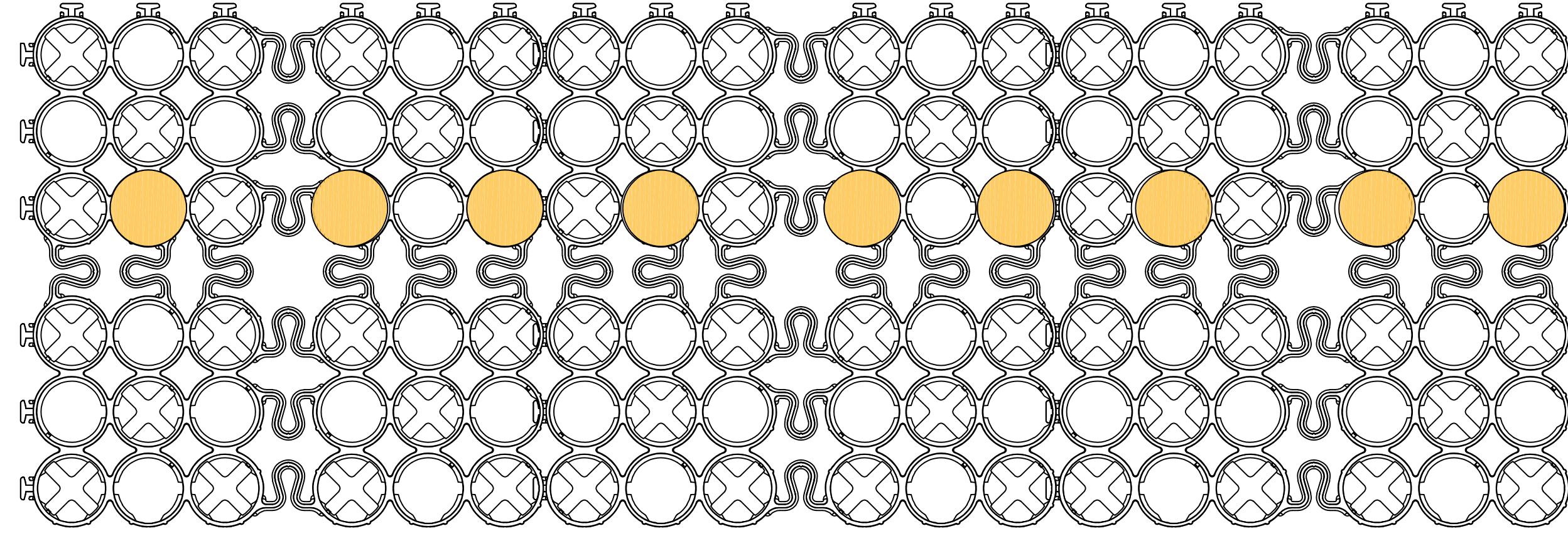
TRUEGRID
SUPERSPOTS
OR
SNOWSPOT

28 SUPERSPOT
OR SNOWSPOT
PER STRIPE

9.0ft
TYP

TYP

18.0"



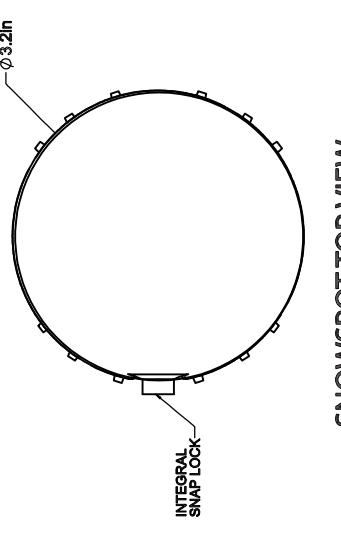
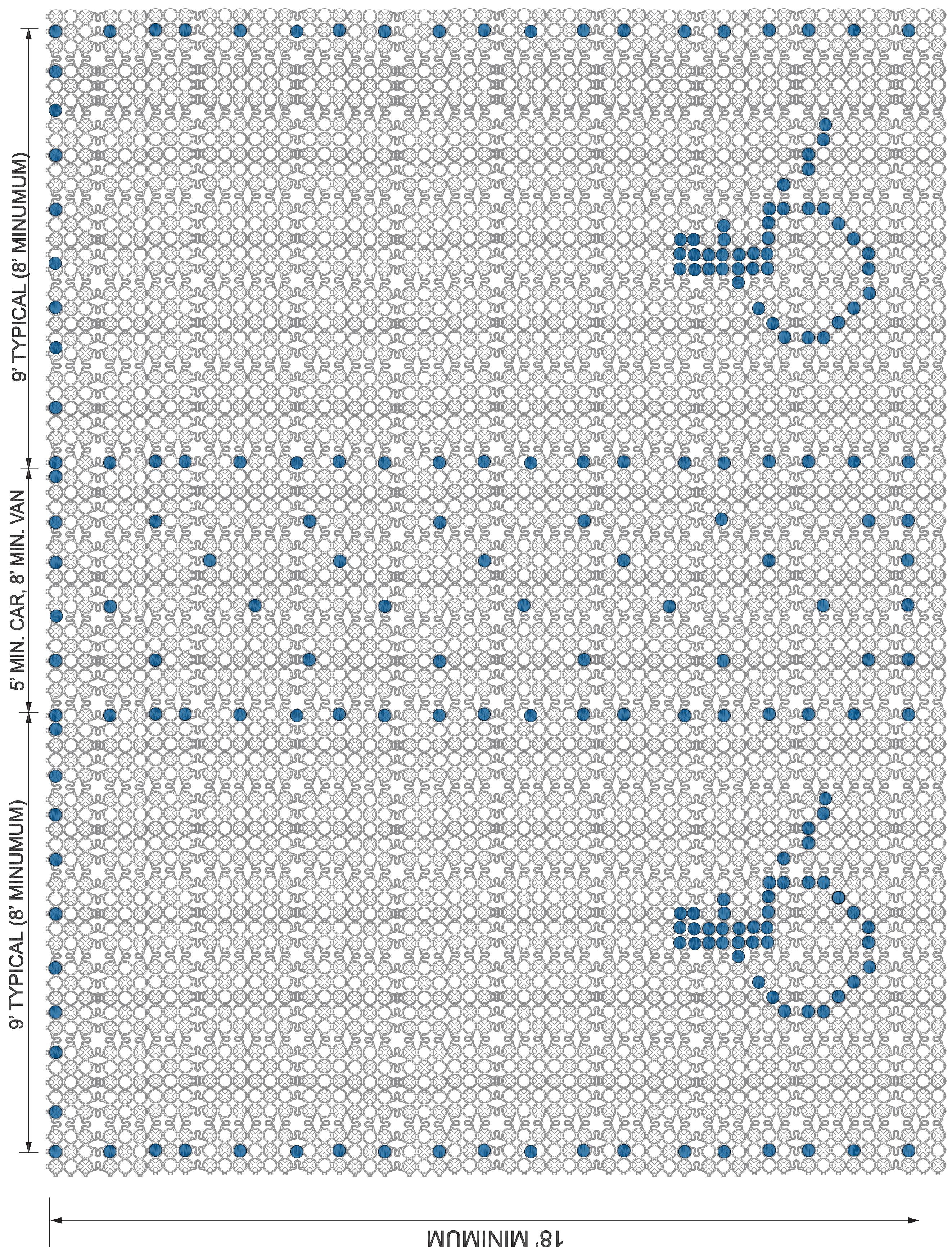
90° STALL OPTION

TRUEGRID®
FOX
BLOCKS

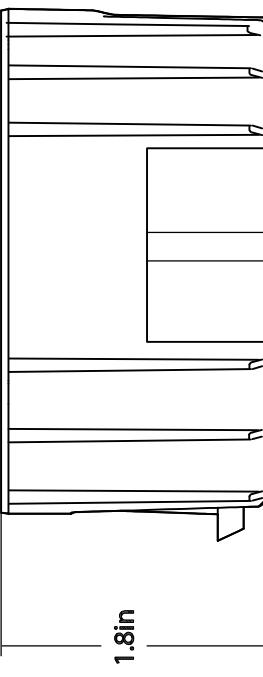
TRUEGRID PRO PLUS
SUPERSPOT AND SNOWSPOT
90 DEG PARKING SPOT

REV	REvised Notes	REVISION	1	2	3	4	5	6	7	8
02		REVISION	1	2	3	4	5	6	7	8

1 OF 1



SNOWSPOT ADA PARKING PATTERN FOR TRUEGRID PRO PLUS® PERMEABLE PAVERS



SNOWSPOT PROFILE VIEW

MANUFACTURED IN NORTH AMERICA		CLIENT / PROJECT	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		APPROVAL INFORMATION	
<p>PROPRIETARY DESIGN RIGHTS NOTICE:</p> <p>THIS DESIGN WAS ORIGINATED BY AND IS THE EXCLUSIVE PROPERTY OF TRUEGRID.</p> <p>IT IS DISCLOSED IN CONFIDENCE WITH THE UNDERSTANDING THAT NO REPRODUCTION NOR OTHER USE OF THE INFORMATION IS AUTHORIZED WITHOUT SPECIFIC AGREEMENT IN WRITING BY TRUEGRID.</p>		<p>DRAWN BY: ANGUILERA TECHNOLOGIES</p> <p>DATE: 3/1/2016</p> <p>CHECKED BY: TRUE GRID</p> <p>DATE: 3/24/2016</p>	
1-855-355-4743		<p>000 ORIGINAL ISSUE</p> <p>TRUE GRID</p> <p>TRUE GRID</p> <p>TRUE GRID</p> <p>TRUE GRID</p>	
TRUEGRIDPAVER.com		DO NOT SCALE DRAWING	REV/ TG-SS-SN-ADA
		SCALE 1:20	REV 00
		WEIGHT:	SHEET 10F1



**ENVIRONMENTAL
PRODUCTS, LLC™**

Hydraulically Applied Slope Stabilization & Re-Vegetation

1. Temporary Stabilization

If temporary cessation of earth disturbance activities occurs in an area or on stockpiles where the cessation will exceed 4 days, the site shall be immediately stabilized utilizing EarthGuard Fiber Matrix to prevent accelerated erosion. Seed is not required as the treatment is designed to prevent erosion on its own. See application rates below. For local distributor information, please contact.

2. Final Stabilization & Re-Vegetation

Apply soil stabilization hydraulic product to any disturbed areas where final grade has been established within 4 days of restoration to initiate final restoration.

- A. Spring, summer, fall application: use the chart below to determine proper application rates. If only temporary stabilization is required, do not add seed and seeds amendments.
- B. Late fall seeding (Oct 15th – Nov 20th): seeding should not occur from October 15 through November 20th unless weather is warmer than normal. During this time, seeds are likely to germinate but not grow sufficient root mass to survive during the winter. To achieve proper re-vegetation, EarthGuard Fiber Matrix shall be applied at two different time intervals unless project requirements demand otherwise. From the period Oct 15th – Nov 20th, apply EarthGuard Fiber Matrix without seed. After November 20th, and if weather permits (due to the possibility of freezing water and its application through a hydroseeder), apply a second application of EarthGuard Fiber Matrix along with seed, lime and amendments.
- C. Site winterization/dormant seeding: to winterize a site that is in interim construction throughout the winter or for dormant seeding after Nov 20th refer to the chart below for appropriate application rate. Seed not required for winterization. For dormant seeding, increase seed quantity by 50%.

3. Materials

- A. EarthGuard Fiber Matrix: the sprayed-on hydraulic product shall be EarthGuard Fiber Matrix manufactured by LSC Environmental Products, LLC. (800) 800-7671 or sales@LSCenv.com or approved equivalent. If alternate product is proposed it must at a minimum demonstrate a cover factor of ≤ 0.001 when tested utilizing ASTM 6459 modified large-scale erosion control testing, be applied at the manufacturer's recommended rate as outlined in product literature and be demonstrated to show effective performance on past projects in area. Alternate product proposal shall be made to the on-site engineer for approval.

2183 Pennsylvania Avenue, Apalachin, NY 13732



- i. EarthGuard Liquid Soil Stabilizer: the soil stabilizing emulsion blend to be applied shall be "EarthGuard Liquid" as manufactured by LSC Environmental Products, LLC. (800) 800-7671 and shall be applied at the rates found in the table below.
- ii. Wood Fiber: The Fiber to be used shall be Mesic Wood Fiber as manufactured by LSC Environmental Products, LLC.

B. HydroLime: HydroLime as manufactured by LSC Environmental Products, LLC. and shall be applied to acidic soils as recommended by soils tests (laboratory or portable field test) and can be applied in combination with hydroseed slurry.

Ph	APPLICATION RATE (lb/ac)
≤ 4.9	250
5.4 – 5.0	150
5.9 - 5.5	100
6.5 - 6.0	50
≥ 6.6	35

4. Seedbed Preparation

Compacted soils should be broken up to allow for maximum water infiltration unless located in a slip-prone area. Track-walk all areas, if possible, perpendicular to the flow of water. If track-walking is not possible use some other type of implement to roughen the areas to be treated. Utilize slope interruption devices, water bars or other water diversion techniques when possible and when slope lengths are greater than 100 feet in length.

5. Installation

Strictly comply with manufacturer's application rates and installation instructions. Apply in a manner to achieve optimum soil surface coverage. Roughened surfaces (track-walked, rocky terrain, etc.) May require higher application rates to achieve optimal coverage of soil. Hydraulic applications are not recommended for channel or concentrated flow areas. Areas with sandy-sandy loam soils, very little organic matter in the soil, poorly compacted slopes, very intense rain storms (3-4 inches at a time), high wind exposure, etc. May require increasing the EarthGuard and/or fiber rates.

For proper installation, determine appropriate application rate (par) per chart below. Next determine how many pounds of fiber can be loaded into the hydroseeder tank load (ht). Perform calculation below to determine area that will be covered by the load.

$$\text{Area to be covered in feet} = (\text{ht}/\text{par}) * 43,560 \text{ sq ft/acre}$$



Stake out the appropriate surface area that the tank load should cover and apply the entire tank within the boundary.

6. Application rates

Application rates are for standard conditions. Contractor may need to increase application rates to account for roughened surfaces.

Normal Conditions. Use Chart 1A & 1B when the project requires a service life of EarthGuard Fiber Matrix to withstand up to 20" of rain over a period of time.

Chart 1A: EarthGuard (Liquid) Fiber Matrix⁺

Maximum Rainfall of ≤ 20"							
SLOPE	6:1	5:1	4:1	3:1	2:1	1½: to 1	1:1
EARTHINGUARD (gals/acre)	4	5	6	7	8	9	10
EARTHINGUARD (liters/hectare)	37.4	46.8	56.1	65.5	74.8	84.2	93.5
Fiber (lb/acre)	1500	1500	1500	1800	2000	2500	3000
Fiber (kg/hectare)	1680	1680	1680	2020	2245	2810	3355

Chart 1B: EarthGuard (Pre-Packaged) Fiber Matrix⁺

Maximum Rainfall of ≤ 20"					
SLOPE	≤ 4:1	3:1	2:1	1½: to 1	1 to 1
Pre-Packaged (lb/acre)	1500	1800	2000	2500	3000
Pre-Packaged (kg/hectare)	1680	2020	2245	2810	3355

3.2. Severe Conditions. Use Chart 2A & 2B when the project requires a service life of EarthGuard Fiber Matrix to withstand over 20" of rain over a period of time.

Chart 2A: EarthGuard (Liquid) Fiber Matrix⁺



Maximum Rainfall of > 20"			
SLOPE	$\leq 5:1$	4:1	$\geq 3:1$
EARTHGUARD (gals/acre)	6	8	10
EARTHGUARD (liters/hectare)	56.1	74.8	93.5
FIBER (lb/acre)	2000	2500	3000
Fiber (kg/hectare)	2245	2810	3335

Chart 2B: EarthGuard (Pre-Packaged) Fiber Matrix⁺

Maximum Rainfall of > 20"				
SLOPE	$\leq 5:1$	4:1	$\geq 3:1$	
Pre-Packaged (lb/acre)	2,000	2,500	3,000	
Pre-Packaged (kg/hectare)	2245	2810	3335	

+ SOME SITUATIONS WITH: SANDY-SANDY LOAM SOILS, VERY LITTLE ORGANIC MATTER IN THE SOIL, POORLY COMPACTED SLOPES, HEAVY RAINFALL LOCATIONS (OVER 19 INCHES PER YEAR), VERY INTENSE RAIN STORMS (2-3 INCHES AT A TIME), HIGH WIND EXPOSURE, ETC. MAY REQUIRE INCREASING THE EARTHGUARD AND/OR FIBER RATES.

7. Repair

Damaged hydroseeded areas shall be repaired within 4 days.



Latest independent performance study

**NTPEP ASTM 6459
Soil Loss Testing –
Impartial 3rd party
testing shows
EarthGuard outperforms:**

- Curlex®
- Single and Double Net Straw™ Blankets
- Single and Double Net Coconut™ Blankets
- Double Net Straw / Coconut™ Blankets
- ProMatrix™
- Flexterra®
- And Other Commonly Used Hydraulic or Rolled Erosion Control Products

Top Performance & Cost Savings

Why not go with the best?

Use EarthGuard® Fiber Matrix™ and get the highest returns on your investment. This hydraulically applied, patented technology offers highly rated erosion control along with excellent turbidity reduction and promotes quick growth establishment – all with fast, easy applications and a great price.



Formulated for your success — EarthGuard.



- Lower your material costs.
- Lower your labor costs.
- Boost your results.



Fiber Matrix™

*Two ways to apply.
Same great performance.*



EarthGuard Fiber Matrix Bale

EarthGuard soil stabilizer and 100% wood fiber mulch combined in one easy to use 50 lb. bale.

— OR —



EarthGuard Liquid 5 Gallon Container

EarthGuard soil stabilizing concentrate — ready to mix on site with the mulch of your choice.



EGFM1016

Highly Effective. Cost Efficient.

Application Rates:

Normal Conditions: Maximum Rainfall of < 20" (480 mm) before adequate vegetative establishment								
	≤ 4 to 1 Slope		3 to 1 Slope		2 to 1 Slope		≥ 1 to 1 Slope	
	Per Acre	Per Ha	Per Acre	Per Ha	Per Acre	Per Ha	Per Acre	Per Ha
EarthGuard Fiber Matrix	1500 LB	1680 KG	1800 LB	2020 KG	2000 LB	2245 KG	3000 LB	3355 KG
OR								
EarthGuard Liquid	4-6 GALS	37-56 LITERS	7 GALS	66 LITERS	8 GALS	75 LITERS	10 GALS	94 LITERS
Mulch	1500 LB	1680 KG	1800 LB	2020 KG	2000 LB	2245 KG	3000 LB	3355 KG

Severe Conditions: Maximum Rainfall of > 20" (480 mm) before adequate vegetative establishment						
	≤ 5 to 1 Slope		4 to 1 Slope		≥ 3 to 1 Slope	
	Per Acre	Per Ha	Per Acre	Per Ha	Per Acre	Per Ha
EarthGuard Fiber Matrix	2000 LB	2245 KG	2500 LB	2800 KG	3000 LB	3355 KG
OR						
EarthGuard Liquid	6 GALS	56 LITERS	8 GALS	75 LITERS	10 GALS	94 LITERS
Mulch	2000 LB	2245 KG	2500 LB	2800 KG	3000 LB	3355 KG

EarthGuard Liquid can be used for dust control at 10 gallons per acre.



For technical services or to locate your nearest EarthGuard dealer:



Call: **1-800-800-7671** • Email: **Sales@LSCenv.com**

Visit LSC online at: **www.LSCenv.com**

LSC Environmental Products, LLC

2183 Pennsylvania Ave., Apalachin, NY 13732

Information and statements herein are believed to be reliable but are not to be construed as a warranty or guarantee. Some extreme situations may require higher application rates. LSC Environmental Products, LLC offers no warranties, express or implied. Nothing herein is to be taken as permission to practice any patented invention without a license. EarthGuard® is a registered trademark of LSC Environmental Products, LLC. All rights reserved. © 2016 LSC Environmental Products, LLC



WHICH WOULD YOU
RATHER USE?



FACTORY BUILT &
READY TO INSTALL



360.718.7595
www.greenflushrestrooms.com



 **GREEN FLUSH**
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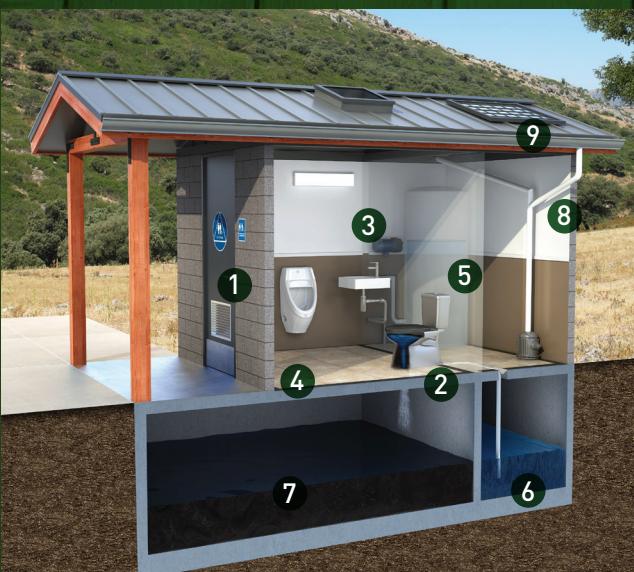
REINVENTING
FLUSH
RESTROOMS



The comfort of
odorless flush restrooms.
Installed anywhere with
or without utilities.

WHY ARE FLUSH RESTROOMS IMPORTANT?

Your visitors expect quality restrooms. Bad restrooms hurt your image and bottom line.



www.greenflushrestrooms.com



FULLY MODULAR

- Factory & Commercial Quality
- Standard Plans Save Time & Money
- Permanently Installed in a Day
- Come With Complete Precast Foundations
- Meets All ADA, Local, and Energy Codes

PLUMBED RESTROOMS

OR

SELF-CONTAINED FLUSH RESTROOMS

HOW DO THEY WORK?

Where sewer and septic are not available, Green Flush's self-contained restrooms can provide the sinks and flush toilets visitors want to find. Each restroom is equipped with a waste tank, as shown in this cutaway image, and able to accommodate thousands of uses before needing service by a standard pump truck.



Item 668

Prefabricated Pavement Markings

1. DESCRIPTION

Furnish and place retroreflectorized or non-reflectorized (contrast) prefabricated pavement markings.

2. MATERIALS

Furnish prefabricated pavement marking materials in accordance with [DMS-8240](#), "Permanent Prefabricated Pavement Markings."

Furnish prefabricated pavement marking materials used for contrast markings in accordance with [DMS-8240](#), "Permanent Prefabricated Pavement Markings," with the exception that the color requirement for the black contrast portion does not have to meet the color requirements specified for white or yellow markings. Store all materials in a weatherproof enclosure and prevent damage during storage.

3. CONSTRUCTION

3.1. **General.** Obtain approval for the sequence of work and estimated daily production. Remove all waste generated from the jobsite before the end of each working day.

Establish guides to mark the lateral location of pavement markings as shown on the plans or as directed, and have guide locations verified. Use guide material that will not leave a permanent mark on the roadway.

Place pavement markings in alignment with the guides without deviating from the alignment more than 1 in. per 200 ft. of roadway or more than 2 in. maximum and with no abrupt deviations.

3.2. **Placement Limitations.** Do not place Type B pavement-marking materials between September 30 and March 1 unless otherwise directed.

3.2.1. **Moisture.** Apply material to pavement that is completely dry. Pavement will be considered dry if, on a sunny day after 15 min., no condensation occurs on the underside of a 1-sq. ft. piece of clear plastic that has been placed on the pavement and weighted on the edges.

3.2.2. **Temperature.** Follow pavement and ambient air temperature requirements recommended by the material manufacturer. Do not place material when the pavement temperature is below 60°F or above 120°F if the material manufacturer does not establish temperature requirements.

3.3. **Dimensions.** Place markings in accordance with the color, length, width, shape, and configuration shown on the plans. Locate alignment as shown on the plans or as directed.

3.4. **Methods.** Place all materials in accordance with the material manufacturer's instructions, as well as the surface condition, moisture and temperature requirements of this Item, unless otherwise directed.

3.5. **Surface Preparation.** Prepare surface by any approved cleaning method that effectively removes contaminants, loose materials, and conditions deleterious to proper adhesion. Abrasive or water-blast cleaning is not required unless shown on the plans. Blast clean, when required, in accordance with Item 678, "Pavement Surface Preparation for Markings." Prepare surfaces further after cleaning by sealing or priming as recommended by the pavement-marking material manufacturer or as directed. Use adhesive, when required, of the type and quality recommended by the pavement-marking material manufacturer. Do not clean concrete pavement surfaces by grinding.

3.6. **Performance Requirements.**

3.6.1. **Adhesion.** Ensure markings do not lift, shift, smear, spread, flow, or tear by traffic action.

3.6.2. **Appearance.** Ensure markings present a neat, uniform appearance that is free of excessive adhesive, ragged edges, and irregular lines or contours.

3.6.3. **Visibility.** Ensure markings have uniform and distinctive retroreflectance when inspected in accordance with [Tex-828-B](#).

3.7. **Performance Period.** All markings must meet the requirements of this Item for at least 30 calendar days after installation. Remove and replace all pavement markings that fail to meet requirements at the Contractor's expense unless otherwise directed. Replace failing markings within 30 days of notification. All replacement markings must also meet all requirements of this Item for a minimum of 30 calendar days after installation.

4. MEASUREMENT

This Item will be measured by the foot or by each word, shape, or symbol.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

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 "Prefabricated Pavement Markings" of the type and color specified and the shape, width, and size specified as applicable. This price is full compensation for cleaning the pavement by any means other than required abrasive or water-blast cleaning or milling; furnishing and placing materials; and equipment, labor, tools, and incidentals.

Abrasive or water-blast cleaning and milling, when shown on the plans, will be paid for under Item 678, "Pavement Surface Preparation for Markings."

AccessMat® Kit – ABA / AODA / ADA compliant Beach Accessibility Routes / Mats (F248) Specifications for Bid.

SUMMARY

Section 1- General

Submittals
Product Data
Samples
Accessibility
Warranty

Section 2 - Products

Vendor
Material Characteristics
Beach Access Matting Design Features
Fabrication
Material
Technical Characteristics
Other Product Accessories

SECTION 1 – GENERAL

SUBMITTALS:

With the bid, provide the following:

PRODUCT DATA:

Submit manufacturer's product literature indicating materials, specification, and other information required to demonstrate compliance with these requirements.

SAMPLES:

Samples must be submitted with the bid including, but not limited to a minimum of 5" x 4" material sample. These samples shall be representative of the actual fabric of the product with appropriate materials as specified.

ACCESSIBILITY:

Materials shall be 100% accessible via wheelchair, beach access chair, walker, stroller, or other wheeled pedestrian assistance vehicles. AccessMat® shall be offered at a minimum of 60" wide. Even though there is no slip resistance requirement when creating an ABA/AODA/ ADA compliant beach access route, AccessMat® shall provide a firm and non-slip surface providing the beach site complies with the ABA/AODA/ADA rules in general.

WARRANTY:

Provide a certificate of warranty that meets or exceeds the requirements below. A three (3) years limited warranty shall be provided from the date of invoice. Should the AccessMat® non-woven fabric fail within the first two years of use, the mat will be replaced or repaired by the product supplier. Cosmetic issues and wear due to normal usage are not considered a defect in material or workmanship. Damage caused by vandalism or vehicular usage (other than that which the product is intended for use) shall not be included in this warranty. Aluminum connector has a three (3) years warranty. Other accessories are not covered under any warranty.

SECTION 2 – PRODUCTS

VENDOR:

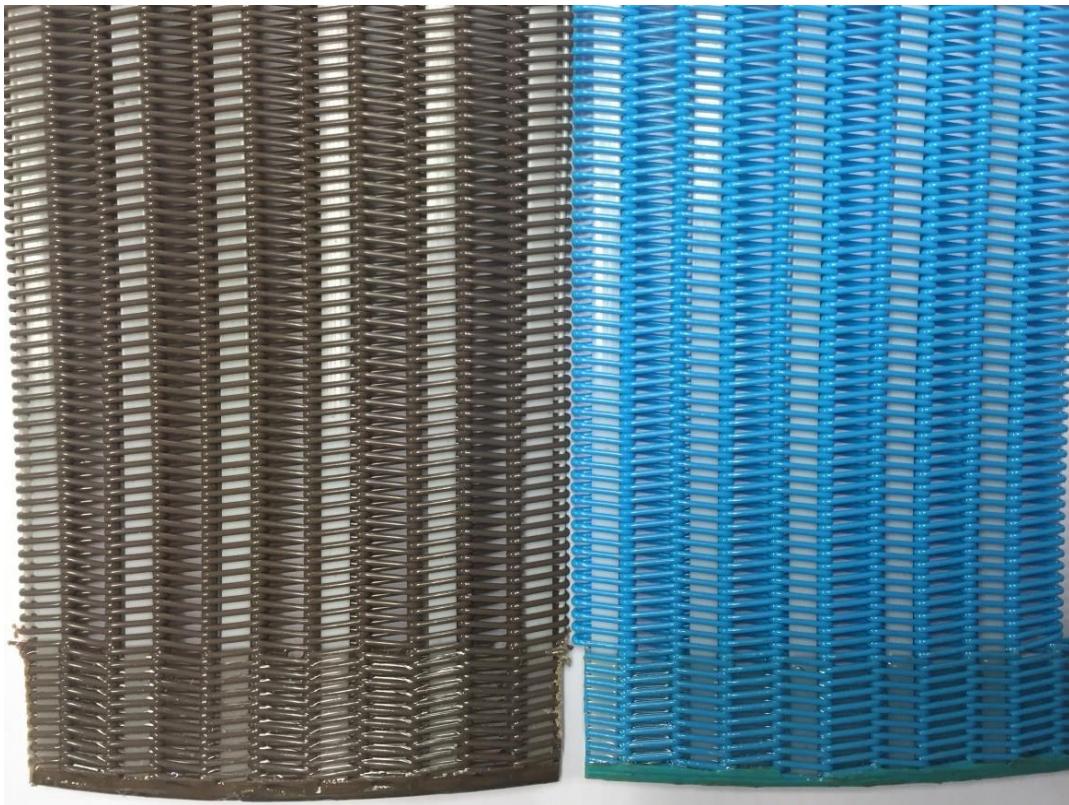
The following beach accessibility mats specifications are based on those provided by **AccessRec LLC**. The brand specified is **AccessMat®**, material used to create ADA/AODA/ABA compliant beach access route as supplied by AccessRec, LLC. - 55 Park Slope – Clifton, NJ 07011 - USA, Tel: +1-973-955-0514 - Fax: +1-201-624-7007. Any proposal shall meet or exceed the specifications herein as determined by the owner or the owner's representative. Submittal packages that do not include all the required information will be returned and will not be considered for use.

MATERIAL CHARACTERISTICS:

PRODUCT: ACCESSMAT® - made of 100% recycled material

DIMENSIONS: 36", 60" or 72" wide by various standard lengths of 33', 50', 75' or 100' with possibility to offer custom lengths.

COLOR: Brown or Blue



BEACH ACCESSIBILITY MATTING DESIGN FEATURES:

ABA BEACH ACCESS ROUTES COMPLIANT (F248):

AccessMat® shall be offered at a minimum of 60" wide. Even though there is no slip resistance requirement when creating an ABA / AODA / ADA compliant beach access route, AccessMat® shall provide a firm and non-slip surface providing the beach site complies with the ABA / AODA / ADA rules in general. AccessMat® material and accessories should be **100% barrier / obstacle free** to meet the ABA / AODA / ADA guidelines.

DURABILITY:

AccessMat® shall be a **durable material** that withstands the environmental elements as well as extensive pedestrian and wheelchair traffic. AccessMat® **will not fray** on its edges **nor show any kind of wear & tear** on the surface during normal use and proper maintenance.

LIGHTWEIGHT AND EASY INSTALLATION:

AccessMat® shall **be lightweight** (0.455 lbs/sqft.) and shall be capable of being installed and removed in a maximum of ten minutes per roll by two people. Rolls shall be of such size and weight that they may be manageably moved by two people **at the end of the beach season**. The material shall be capable of being installed on any type of sand, regardless of the ground surface stability.

MAINTENANCE FREE:

The matting material shall require **little or no maintenance** under normal conditions. The use of a broom, blower or pressure washer shall be the only equipment required to clear the surface of any debris, should any accumulate.

REMOVABILITY:

AccessMat® shall be easily removable to comply with environmental requirements by being viewed as a temporary access material.

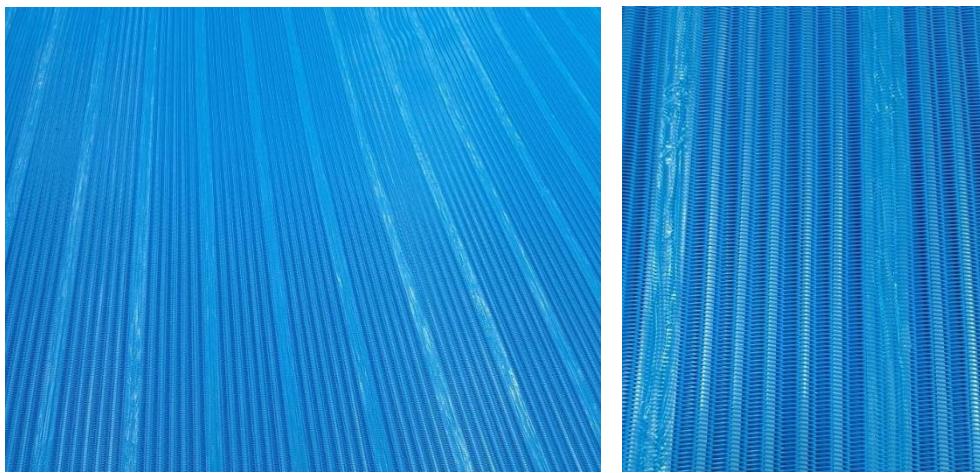
VISIBLE PATHWAY

AccessMat® is offered in blue color to provide a more visible path to people with visible impairments, or in brown color to create a pathway that better blends to the landscape.

FABRICATION: All components shall arrive fully factory fabricated and ready for installation.

MATTING MATERIAL:

All AccessMat® matting materials shall be manufactured of **NON-WOVEN 100% recycled polyester filament**. The material shall provide stability on unstable surfaces such as sand. The material shall also be manufactured to provide **comfort** in the case of bare foot usage. The material shall have a flat structure so that **sand do not get stuck underneath** – making the material too heavy to be quickly removed by man power in case of emergency or at the end of the beach season. The edges of the matting shall be **flat and safe to the staff and to environment**. AccessMat® should be manufactured with **a grip tread of 1" every 4"** and **a white flat mono filament polyester** inserted in every other pocket of the mat itself, enabling better bearing capacity and safety.



TECHNICAL CHARACTERISTICS:

GENERAL:

Weight: 0.455 lbs. per square foot

Thickness: 0.134 in. / 3.41 mm

Composition: 100% Recycled Polyester

High strength

AccessMat® is filled every other pocket with a minimum of a 3/16" width flat white polyester monofilament to achieve different filtration characteristics and provide better bearing capacity.

Completely rot proof & rust proof

MECHANICAL PROPERTIES: test result in accordance with ISO 13934-2

Against abrasion High resistance

Under high pressure Stable

Tensile strength High – Ultimate stress = 4.43 ksi / 30.6 MPa

Elongation at break % minimum of 22.53%

Tenacity High – Ultimate Load = 2380 lbf / 10600 N

CHEMICAL PROPERTIES:

Acid, Alkali, Solvent resistance	Good
UV and weather resistance	Good - no loss of strength from the light over a period of several years
Inorganic Salt	Excellent
Micro-Organism resistance	Excellent
Urea and liquid manure resistance	Excellent

THERMAL PROPERTIES:

Thermal Stability	High
Useable Temperature	-140°F (-40°C) / 176°F (80°C)
Softening Temperature	Te = 446°F (230°C)
Melting Temperature	Ts = 500°F (260°C)
Degradation Temperature	572°F (300°C)
Combustion	Combustion stops burning slowly as flame is taken away

OTHER ACCESSMAT® ACCESSORIES:



DISPOSABLE ANCHORING GROMMETS / CAPS (\$1.49 – min. 8 per ACCESSMAT® Kit):

White HDPE (high density polyethylene) anchoring caps. These caps are made in the USA using UV inhibitor with 2 lines of molding beads to restrain spike from coming out of the ground.



Top cap diameter:	2.37"
Top cap thickness:	0.09"
Hole diameter:	0.87"
Cap depth:	0.5"

Benefits:

- I. *Removing barrier and tripping hazard to AccessMat® pathway to meet AODA/ADA guidelines.*
- II. *Fixing issues with grommets pulling off the mats.*

SPIKES (\$1.99 – min. 22 per ACCESSMAT® Kit):



Spikes shall be provided to facilitate the installation/anchoring of the beach access pathway. Spikes shall be made of galvanized steel or plastic - 10" to 20" long and go easily through the anchoring caps, connector holes and sand. Spikes can be pin down until flush with the top of caps or connector's holes.

Benefits:

- I. *Removing barrier and tripping hazard to AccessMat® pathway to meet ADA/AODA guidelines.*
- II. *Spikes are highly corrosion resistant.*

ACCESSORIES included per KIT

Pdt.	Material	Item #	Color	Weight (lbs/sqft)	Dimensions		Roll Weight (lbs)	Diameter (in)	Accessories & Benefits				
					Width (ft)	Length (ft)			Grommet	Spike	Plug	Carrying Strap	Safe edge
AccessMat®	100% NON WOVEN Polyester roll	AM3-33	Blue or Brown	0.455	3	33	45	10	10	20	7	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM3-50	Blue or Brown	0.455	3	50	68	11	12	22	7	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM3-75	Blue or Brown	0.455	3	75	102	12	16	26	7	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM3-100	Blue or Brown	0.455	3	100	137	13	20	30	7	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM3-SQ	Blue or Brown	0.455	3	3	16	-	0	0	0	0	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM5-33	Blue or Brown	0.455	5	33	75	10	10	24	9	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM5-50	Blue or Brown	0.455	5	50	105	11	12	26	9	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM5-75	Blue or Brown	0.455	5	75	171	12	16	30	9	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM5-100	Blue or Brown	0.455	5	100	228	13	20	34	9	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM5-SQ	Blue or Brown	0.460	5	5	32	-	0	0	0	0	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM6-33	Blue or Brown	0.455	6	33	90	10	10	28	11	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM6-50	Blue or Brown	0.455	6	50	137	11	12	30	11	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM6-75	Blue or Brown	0.455	6	75	205	12	16	34	11	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM6-100	Blue or Brown	0.455	6	100	273	13	20	38	11	2	Yes
AccessMat®	100% NON WOVEN Polyester roll	AM6-SQ	Blue or Brown	0.460	6	6	41	-	0	0	0	0	Yes

EXHIBIT G: PROJECT PERMITTING

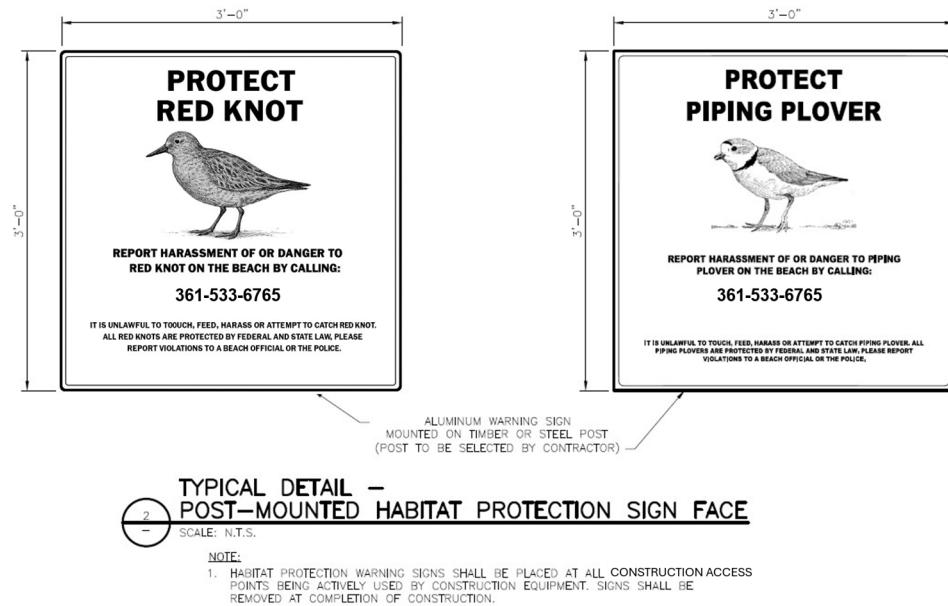
PROJECT PERMITTING TO BE ADDED WITH SIGNED CONTRACT

EXHIBIT G - ENVIRONMENTAL PERMIT REQUIREMENTS

City of South Padre Island – Wind and Water Sports Venue – Environmental Permit Requirements

The following stipulations are requirements of the U.S. Army Corps of Engineers (USACE) permit SWG-2018-00232. The contractor shall adhere to these measures during construction:

- If the Contractor discovers any previously unknown historic or archeological remains during construction, the Contractor must immediately notify the Engineer and City of what they have found.
 - Construction shall avoid ground-disturbing activities in the vicinity of the discovery until further instructions
- Bollards at the Mitigation Site must be installed within 6 months of the start of construction of the Venue.
- Contractor must establish a work corridor, not to exceed 25 feet on either side of the limits of fill of the project.
 - Contractor will enclose the work corridor with straw waddles, silt fence, or similar best management practices (BMP) to limit sediment from leaving the work area.
 - Contractor will not be permitted to operate equipment outside the work corridor.
- Contractor is advised that federally-listed threatened and endangered species may occur within the project area or vicinity. These species, especially the piping plover, red knot, and eastern black rail, are federally protected, and the U.S. Fish and Wildlife Service may issue fines of up to \$25,000 for knowingly taking, harming, or harassing them.



- Avoid vegetation/ground clearing from March 1 to September 30 for eastern black rail habitat. If vegetation/ground clearing must occur during this time, the contractor shall:
 - Limit clearing to daylight hours
 - Designate a biological monitor to verify all equipment moves at 5 miles per hour or slower to allow protected species to vacate the equipment's path.
 - Do not clear vegetation completely in one day. Contractor will leave pockets of suitable habitat for at least 2 days before clearing the remaining vegetation.
 - If active nests are found, a buffer of vegetation at least 100 feet around nests must be preserved until young have fledged and the molting period has ended. Work may proceed outside of the 100-foot buffer zone with implementation of the minimalization measures listed above.
- Contractor will designate a biological monitor to observe for piping plover and red knot during active construction. If a species is identified, Contractor shall stop work and notify the Engineer and City immediately.
 - These species are expected to be in higher abundance during the wintering months, which span July through April.
- Contractor shall conduct a walk-through before the start of each construction day to verify no red knots or piping plovers are located within the working zone, especially around equipment during daily start-up. Should a red knot or piping plover be identified within the work area, construction activities will cease until the bird has left the vicinity of its own volition. The location and activity of these birds will be recorded and reported daily to the Engineer and City, if observed.
- If an eastern black rail, piping plover, or red knot is found in the active work area, work will be stopped until the birds leave the area on their own volition.
- A minimum of a 75-foot avoidance buffer will be implemented for any piping plover or red knot observed in and around the Project construction area for the duration of construction activities, more specifically, during the shorebird wintering season between July 15 of one year and extending through May 15 of the following year.
- Construction equipment and materials will be placed in upland areas as far away from the preferred habitat as feasible. Signage will be erected near the ingress/egress point to educate and aid construction personnel in the identification of endangered species, and a system (radio communication or hand signals) will be implemented by which construction personnel can notify biological observers of eastern black rail, piping plover, and red knot encounters.
- Sick or injured piping plovers, red knots, or eastern black rails will be reported to the Engineer and the City immediately.
- Contractor will restore the tidal flats within the work corridor to preconstruction slope and contours, and level all ruts.
- Contractor will avoid working in important shorebird habitats when winter winds above 20 miles per hour co-occur with temperatures below 40 degrees. These conditions cause the birds to roost, often in ruts, to conserve energy.