

**PROJECT MANUAL**  
**SOUTH SALT LAKE**  
**GATEWAY PARK 2230 S 500 E**  
**South Salt Lake City, UT 84115**

**January 8, 2019**

**BIDDING REQUIREMENTS**

- 00 10 00 Invitation to Bid
- 00 20 00 Instructions to Bidders
- 00 40 00 Bid
- 00 41 00 Bid Schedule
- 00 45 20 Bidder Status Report
- 00 45 30 Subcontractor and Supplier Report

**CONTRACTING REQUIREMENTS**

- 00 50 00 Agreement
- 00 60 50 E-Verify Form
- 00 61 00 Performance Bond
- 00 62 00 Payment Bond
- 00 65 00 Certificate of Insurance
- Certificate of Non-Discrimination and Non-Collusion  
(Salt Lake County Housing & Community Development)

**CONSTRUCTION DOCUMENTS**

- Construction Specifications
- Construction Drawings

**VERIFY THAT ALL PAGES HAVE BEEN RECEIVED**

**DOCUMENT 00 10 00**  
**INVITATION TO BID**

**PART I: GENERAL**

**1.1 CONSTRUCTION CONTRACT**

- A. Bidders are invited to bid on Construction Contract known as GATEWAY PARK.
- B. The location of the work is: 2230 S 500 East in South Salt Lake.
- C. The work to be performed consists of furnishing and installing the equipment, facilities, services and appurtenances thereto as included in the Contract Documents. The Work generally includes, but is not limited to, the following: fitness equipment, surfacing, walls, irrigation, planting soil, lighting, and site furnishings
- D. This project is federally funded through HUD Section 3. Section 3 contract requirements are included herein and provided at the pre-bid meeting. Project compliance is by Nancy Kessel, Salt Lake County, nkessel@slco.org or at (385) 468-4904.
- E. For information about the award of this Construction Contract, contact  
SHAREN HAURI at 801-464-6771.

**1.2 BID LOCATION AND OPENING**

- A. Sealed bids will be received until 3:00 p.m., on Tuesday February 5, 2019 at South Salt Lake City Hall located at 220 East Morris Avenue, South Salt Lake City, Utah 84115. Sealed bids will be received local prevailing time, as conclusively established by the clock at the Bid opening location. Bids received after 3:00 p.m. will not be accepted. Bids will be publicly opened and read at that time by the OWNER.
- B. On the outside of the envelope, the bidder shall indicate the Construction Contract title, the name and address of the Bidder, and the date and time of Bid opening and the Bidder's return mailing address.

**1.3 BID SECURITY**

- A. Bid security in the amount of 5.0 percent of the Bid must accompany each Bid in accordance with the Instructions to Bidders. Bid Security will be returned to each unsuccessful Bidder after tabulation and award of the Construction Contract.

**1.4 PRE-BID CONFERENCE**

- A. A mandatory pre-bid conference will be held at GATEWAY PARK located at 2230 S 500 East at 3:00 p.m. on Wednesday January 23, 2019.

## 1.5 BASIS OF BIDS

- A. Bids shall be on a unit price basis. The low bidder is based on Base Bid total.
- B. Unsealed or segregated Bids will not be accepted.

## 1.6 CONTRACT TIME

- A. The CONTRACTOR shall begin work on a date mutually agreed upon by the CONTRACTOR, and the Owner, but no later than the dates shown below.
  - 1. Begin work no later than February 14, 2019, and complete work within 90 calendar days.

## 1.7 EXAMINATION AND PROCUREMENT OF DOCUMENTS

- A. Complete printed sets of Contract Documents may be examined and obtained from:

South Salt Lake City Hall – City Recorder  
220 East Morris Avenue, Suite 200 (Finance Department)  
South Salt Lake City, Utah 84115  
cburton@sslc.com 801.483.6027

\$30.00 will be required for each complete set. Advance notice is required.

- B. Complete digital set of Contract Documents may be obtained from:

Utah's Supplier Portal (SciQuest):  
<https://purchasing.utah.gov/for-vendors/>

## 1.8 RIGHT TO REJECT BIDS

- A. The OWNER reserves the right to reject any or all bids or to waive any informality or technicality in any bid if deemed to be in the best interest of the OWNER.

## 1.9 VALIDITY PERIOD FOR BIDS

- A. Bids shall remain valid for 45 days after the day of Bid opening. Bidders, who withdraw their bid after Bid opening, but before expiration of said period, shall forfeit their bid security if Notice of Intent to Award to the successful Bidder is made by OWNER.

## 1.10 GOVERNING LAWS AND REGULATIONS

- A. This project will be a FEDERALLY FINANCED COMMUNITY DEVELOPMENT PROJECT. All rules and regulations governing such projects will be applicable. The contract is to be awarded to the lowest responsible and responsive bidder, whose bid meets the requirements and criteria set forth in the request for bids. Requirements for

prevailing wage rates and certified payrolls apply as it is subject to the Davis-Bacon Act.

Also, work to be completed under this project is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, the purpose of which is to ensure employment and other economic opportunities generated by HUD-assisted projects shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

All prime contractors participating in this project must have a Data Universal Numbering System (DUNS) number and be registered on the federal System for Award Management (SAM) at sam.gov.

- B. Bidders on this Work will be subject to the applicable provisions of all federal rules, laws and regulations or orders.
- C. A building permit is required from the City of South Salt Lake. The building permit fee is waived for city-owned projects.
- D. In compliance with Americans with Disabilities Act, (ADA) the following information is provided: FAX Number 801-483-6060, TDD Number 801-467-1147, Contact person: Sharen Hauri.

**DOCUMENT 00 20 00  
INSTRUCTIONS TO BIDDERS**

**PART 1 GENERAL**

**1.1 DESCRIPTION OF THE WORK**

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- A. The Work to be performed consists of furnishing and installing the equipment, facilities, services, and appurtenances thereto as included in the Contract Documents. A general description of the Work is set forth in the Invitation to Bid (Document 00 10 00).
- B. General Conditions: as published in Document 00 72 00 in the 2017 Edition of the Manual of Standard Specifications by the Utah Chapter of the American Public Works Association.

**1.2 COPIES OF BID DOCUMENTS**

- A. Bidders must use complete sets of Bid Documents in preparing Bids. OWNER maintains a complete set on file at the address set forth in the Notice to Bidders, and bidders may review the file copy upon request during regular business hours. Bidders are solely responsible to verify whether their sets of Bid Documents are complete.
- B. Bid Documents are made available to bidders only for the purpose of obtaining Bids on the Work. No license or grant for any other use is given.
- C. Bidding Document copyrights shall remain with the OWNER.
- D. All provisions of the Manual of Standard Specifications and Manual of Standard Plans published by the Utah Chapter of the American Public Works Association that are applicable to the Work are hereby made a part of the Contract Documents by reference. The publications may be purchased separately from the Sandy City Public Works 8775 South 700 West Sandy, UT 84070.

**1.3 PRE-BID CONFERENCE**

- A. The time, place and nature of the conference will be stated in the Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. The OWNER shall not be bound by any statements, representations, conclusions, or assumptions made by any party, whether oral or written, except for written statements that are issued in an Addendum by the ENGINEER to all prospective bidders.

**1.4 PHYSICAL CONDITIONS**

- A. **In General:** Prior to submitting a Bid, each Bidder is responsible to review all available explorations, tests and data concerning surface conditions, subsurface conditions and Underground Facilities at or contiguous to the site, or otherwise, which may affect cost, progress, performance or furnishing of the Work in accordance with the time, price and

other terms and conditions of the Contract Documents.

- B. **Surface and Subsurface Conditions:** Provisions concerning surface and subsurface conditions, if any, are set forth in a document titled Geotechnical Report. The document provides the identification of:
1. those reports of explorations and tests of subsurface conditions at the site which have been utilized in preparing the Contract Documents; and
  2. those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site which have been utilized in preparing the Contract Documents.
- C. **Underground Facilities:** Information and data indicated in the Contract Documents regarding Underground Facilities at or contiguous to the site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities. The OWNER does not assume responsibility for the accuracy or completeness thereof other than as provided in paragraph 4.3A-of the General Conditions or unless expressly provided in the Modifications to General Conditions (Document 00810 - 1).
- C. **Additional Explorations and Tests:** If feasible as determined by OWNER, the OWNER will provide each Bidder access to the site to conduct any explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall obtain permits, fill all holes, clean up and restore the site to its former condition upon completion of such explorations. By requesting such an exploration or test, Bidder agrees to release, indemnify, defend, and save the OWNER harmless from all costs damages and liabilities of any kind whatsoever, including reasonable attorneys' fees, which may arise in connection with or as a result of the performance of such explorations or tests.

## 1.5 COMPENSATION AND QUANTITIES

- A. **In General:** The bid price for any lump sum or unit price contract includes all labor, materials, and incidental work to fully complete the Work in a satisfactory manner under the terms of the Contract Documents. Bidders are responsible to inform themselves of the character of the Work to be performed.
- B. **Lump Sum Work:** If the Work is to be paid for on a lump sum basis, the lump sum will be the only sum paid.
- C. **Unit Price Work:** If any portion of the Work is to be paid for on a unit price basis, payment will cover only work actually performed and materials actually supplied at the unit prices bid and on the terms set forth in the Contract Documents, irrespective of any quantity approximations in the Bid Documents. Any quantity approximations in the Bid Documents are stated as a basis for determining bids, and do not fix the amount of Work to be done or materials to be furnished. Stated quantities are estimates for the purpose of doing the class of work required. Actual quantities will vary. The OWNER may deviate in either direction from any indicated quantities. The Bidder shall have no claim for any variation in quantity, except to the extent permitted in the Invitation to bid.

## 1.6 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. **In General:** The OWNER shall not be bound by any statements, representations, conclusions, or assumptions made by any party, whether oral or written, except for written statements that are issued in an Addendum.
- B. **Access:** The Contract Documents designate the site for performance of the Work. Bidder is responsible to investigate the site and understand all access requirements. All additional off site lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Bidder.
- C. **Bidder's Obligations:** In addition to Bidder's other responsibilities and obligations in connection with submitting a Bid, it is the responsibility of the Bidder before submitting a Bid, to:
1. Examine the Contract Documents thoroughly;
  2. Visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work;
  3. Investigate all applicable construction and labor conditions, quantities, and the character of the Work as they affect cost, progress, performance, or furnishing of the Work;
  4. Consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
  5. Study and carefully correlate Bidder's observations with the Contract Documents;
  6. Attend any pre-bid conference, which shall be mandatory if so designated in the Notice to Bidders;
  7. Review all available explorations and data concerning surface and subsurface conditions as set forth in Section 1.4 above; and
  8. Identify and notify OWNER in writing in the manner set forth in article 2.1 below of all specific conflicts, omissions, errors, or discrepancies in the Contract Documents, or if Bidder doubts their meanings.

The failure or omission of any Bidder to take any of the foregoing actions shall not in any way relieve Bidder of its Bid, or its obligation to furnish all material, equipment, labor and services necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work for the consideration set forth in its Bid. Submission of a Bid shall constitute prima facie evidence of compliance with these instructions.

- D. **Deviations from the Terms of the Contract Documents:** OWNER will not accept any deviations whatsoever from the printed terms of the Agreement and the Contract Documents, except by Addendum or Change Order.

## **1.7 EFFECT OF SUBMITTING A BID**

- A. Bidders are responsible to carefully examine the Contract Documents, visit the site, and fully inform themselves so as to include in the Bid a sum to cover the cost of all items. Bidder's failure or omission to receive or examine any form, instrument, addendum or other document, visit the site and become acquainted with existing conditions, or attend any pre-Bid Conference, shall in no way relieve Bidder from any obligations with respect to Bidder's Bid or the Construction Contract.
- B. By submitting a Bid, Bidder represents that Bidder has complied with all requirements of the Bid Documents; that the Bid is premised on properly performing and furnishing the Work required by the Contract Documents within the times specified; that the Bidder is informed of the conditions to be encountered and the character, quality and quantities of the Work; and that the Bidder believes 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.
- C. Submission of a Bid constitutes a promise that the Bidder will enter the Contract Documents in the form presented in the Contract Documents. Bidders should carefully examine all Contract Documents, including the required Bonds and insurance to be provided by the Bidder.
  - 1. The Performance Bond is a guarantee of faithful performance of the requirements of the Contract Documents, including all applicable warranties. The Payment Bond is a guarantee of payment of all labor, materials, or supplies used directly or indirectly in the prosecution of the Work provided in the Construction Documents.
  - 2. The sum of the Performance Bond and the Payment Bond shall be increased or decreased during the course of the Work in the event that Contract Modifications, Change Orders or Addenda increase or decrease the total contract price. The sum of each bond shall be in an amount equal to the completed contract price at the completion of the Work.
  - 3. OWNER does not provide any release of Performance Bonds or Payment Bonds. The bonds are in effect throughout all periods during which a suit may be brought under the provisions of applicable law.
- D. By submitting a Bid, Bidder represents that the matters stated therein are true and correct.

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## **PART 2 BIDDING PROCEDURES**

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### **2.1 INTERPRETATIONS AND ADDENDA**

- A. All requests for interpretation of the Contract Documents shall be made in writing and delivered to the OWNER no later than five (5) calendar days prior to opening of Bids. In the OWNER's discretion, OWNER will send the written interpretation to all persons receiving a set of Bid Documents in the form of an Addendum. If the OWNER does not



respond to a Bidder's request for interpretation the Bidder shall comply with the intent and terms of the Contract Documents.

- B. No oral interpretations shall be made to any Bidder. The OWNER shall not be responsible for or bound by any statements, interpretations, explanations, representations, conclusions or assumptions made by any party, whether oral or written, except for written statements that are issued in an Addendum by the ENGINEER to all prospective bidders.
- C. Each statement made in an Addendum is part of the Contract Documents at the location designated in the Addendum. A statement issued in an Addendum shall have the effect of modifying a portion of the Bid Documents when the statement in the Addendum specifies a particular section, paragraph or text and states that it is to be so modified. Only the specified section, paragraph or text shall be so modified, and all other portions of the Bid Documents shall remain in effect.
- D. Bidders shall sign to acknowledge their receipt of all Addenda issued. Bidders shall also acknowledge receipt of all Addenda in the space provided in the Bid.
- E. Except to postpone the Bid opening, no Addenda shall be issued within 48 hours of the Bid opening.

## 2.2 EQUIPMENT AND MATERIAL OPTIONS PRIOR TO BID OPENING

- A. If a Bidder or Supplier wishes to supply a product other than that identified in the Contract Documents, said Bidder or Supplier shall submit a written request for approval to the ENGINEER at least seven (7) calendar days prior to the date set for opening of bids.
- B. The procedure for submission of any such product option shall be as set forth in Article 6.4 of the General Conditions. It is the sole responsibility of the Bidder or Supplier to submit complete descriptive and technical information so that ENGINEER can make a proper appraisal.
- C. ENGINEER's failure to act upon such a request within three (3) days after receipt shall be deemed a denial thereof.
- D. Any such approval is at the sole discretion of the ENGINEER and will be in the form of an Addendum issued to all Bidder's holding Bid Documents indicating that the additional equipment or materials are approved as equal to those specified for the Project.
- E. The Construction Contract, if awarded, will be on the basis of materials and equipment specified in the Drawings and Specifications and any changes permitted in any Addenda.

## 2.3 BID SECURITY

- A. **Amount of Bid Security:** A Bid Security must accompany each Bid. The total amount of the Bid on which Bid security is to be based shall be the sum of all items of the Bid constituting the maximum amount of the possible award to the Bidder. The Bid Security amount must equal at least five (5) percent of the total amount of the Bid.

- B. **Form of Bid Security:** The Bid Security may be in the form of a certified check, cashier's check, cash, or Bid Bond. No other form of Bid Security will be accepted. A Bid Bond must be issued by a licensed Utah agency on behalf of a surety company licensed to do business in the State of Utah. A cashier's check must be drawn on a bank doing business in the State of Utah and made payable to OWNER. If a cashier's check is used in lieu of a Bid Bond, or if the Bid Bond does not specifically so provide, a certificate from an approved surety company guaranteeing execution of performance and payment bonds in the full amount of the bid must accompany the bid.
- C. **Purpose of Submission.** By submitting a Bid Bond Bidder assures OWNER it will take all steps necessary to properly execute the Contract Documents.
- D. **Return of Bid Security:** OWNER will return Bid securities to Bidder within 7 days after award of the Construction Contract. Bid Bonds and cashier's checks of all Bidders will be held until the Construction Contract is awarded or all bids have been rejected. The liability of OWNER in regards to the checks shall be limited only to the return of the checks.
- E. **Default:** In the event of failure or refusal of the Bidder to enter into the Construction Contract and the delivery to the OWNER a Performance Bond, Payment Bond and any other Bonds or documents required by the Contract Documents after Notice of Intent to Award by the OWNER, the Bidder forfeits the sum of the Bid Bond or cashier's check as liquidated damages to the OWNER.

### 2.3 COMPLETING BID DOCUMENTS

- A. The General Conditions identify all forms comprising the Bid Documents. Additional copies may be obtained from the OWNER. The Bidder shall make no stipulations or alterations on the Bid forms. The Bidder must use and execute only the Bid Form and Bid Schedules bound in the Contract Documents. The complete Contract Documents (excluding the Drawings) should be submitted as the Bidder's Bid, and Bidder shall complete and submit all forms included in the Bid Form, Document No. 00 40 00.
- B. The Bidder must fill in all items in the Bid Form in ink, typewriter, or digital printer. If applicable, furnish both the unit and total costs for each item. The total Bid price is the full price for the performance of all Work under the Contract Documents. Bidder shall initial in ink any corrections, interlineations, alterations, or erasures made by the Bidder on Bidder's entries in the Bid Documents.
- C. Any work or material which is specified in the Contract Documents or which is necessary because of the nature of the Work, but which is not listed separately in the Bid Form shall not be measured or paid for separately. The cost of such work or material shall be considered as included in the Contract Price.
- D. Bids by corporations must be executed in the corporate name by a corporate officer authorized to sign and must be properly attested to as an official act of the corporation. At the OWNER's request, authority to sign shall be submitted.

- E. Bids by partnerships or joint ventures must be executed in the partnership or joint venture name and signed by a partner or joint venture whose title and official address must be shown. If a partnership or joint venture is the low bidder, the partnership or joint venture must also submit evidence to the OWNER of the responsibility of the partnership or joint venture as a bidder in the manner directed by the ENGINEER.
- F. Where the Bidder is wholly owned subsidiary of another company, the Bid must so state, and the owner or parent corporation also must agree to sign and be bound with the Bidder.
- G. All names must be typed or printed under or near the signature. Signatures shall be in longhand.
- H. The Bid shall contain an acknowledgment of receipt of all Addenda. The Addenda numbers must be filled in on the Bid Form.
- I. The Bidder's address, telephone number, and facsimile number for communications regarding the Bid must be shown on the first page of the Bid Form.
- J. The divisions and sections of the specifications, and the identifications of any Drawings, shall not control Bidder in dividing the Work among subcontractors or suppliers, or delineating the Work to be performed by any specific trade.
- K. The Base Bid and Add Alternates shall include all Work required to be performed by the Contract Documents.

#### **2.4 CONFLICT OF INTEREST, SUBCONTRACTORS**

- A. Conflict of interest pertaining to Subcontractors is described in paragraph 6.5H of the General Conditions.
- B. Bidder shall not subcontract more than 75 percent of the dollar value of the total contemplated Work (exclusive of the supply of materials and equipment to be incorporated in the Work) without OWNER's prior written approval.

#### **2.5 SUBMISSION OF BIDS**

- A. Bids shall be submitted at the time and place indicated in the Invitation to Bid and should be enclosed in an opaque sealed envelope, marked with the Construction Contract name and number, the name and address of the Bidder, and the date and the opening time for Bids. If the Bid is sent through the mail or other delivery system, the sealed envelope should be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it. It is the sole responsibility of the Bidder to deliver the Bid before the scheduled time.
- B. The complete Contract Documents must be submitted with the Bid. Bidder will make no recapitulations, stipulations, alterations, alternate submissions, or modifications in any manner to any of the Contract Documents.
- C. Bidder must submit a Bid by completing all of the Bid Form documents, which are:

1. The Bid portion of the Bid Form which is included in these Contract Documents, which shall be in the form of a lump sum, or in the form of unit pricing pursuant to the Bid Schedule, as called for in the Bid Form.
  2. The Bid Security.
- D. Alternate bids, other than those called for in the Bid form, will not be considered.
- E. No oral, telegraphic, telephonic, facsimile or modified bids will be considered.

## 2.6 MODIFICATION AND WITHDRAWAL OF BIDS

- A. At any time prior to the opening of Bids, Bids may be modified or withdrawn if a written notice of modification or withdrawal is signed by Bidder and delivered to the place where Bids are to be submitted. Bid Security will be returned upon proper withdrawal of a Bid prior to the time for Bid opening.
- B. Within 24 hours after Bids are opened, any Bidder may file written notice with OWNER that there was a substantial mistake made in the preparation of its Bid. Bidder must thereafter promptly demonstrate Bidder's mistake. The OWNER has sole discretion to determine whether to permit any modification or withdrawal or the return of any Bid Security.
- C. When it appears a mistake has been made, or when the OWNER desires an assurance of any matter, the OWNER may request a Bidder to confirm the Bid in writing.

## 2.7 OPENING OF BIDS

- A. Bids will be opened and read aloud publicly unless obviously non-responsive. An abstract of the amounts of the base schedule of prices and any alternate schedules will be made available for review after the opening of Bids.
- B. Any Bids received after the time specified in the Invitation to Bid will be returned unopened.

## 2.8 BIDS SUBJECT TO ACCEPTANCE FOR 45 DAYS

- A. All bids remain subject to acceptance for 45 days after the day of the Bid opening. OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

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## **PART 3 EVALUATION AND AWARD**

### 3.1 SUBMITTALS REQUIRED FOR EVALUATION

- A. After Bid opening, the Bidder, whose Bid is under consideration, must submit the following at the times specified:
  1. **Bidder Status Report:** Document 00 45 20. One completed form shall be submitted after Bidder receives Notice of Intent to Award.

2. **Subcontractor and Supplier Report:** Document 00 45 30. The Bidder shall submit this report form within 24 hours of ENGINEER's request.

### 3.2 EVALUATION OF BIDDER'S QUALIFICATIONS

- A. Within seven (7) calendar days of OWNER's request, a Bidder, whose Bid is under consideration for award shall submit to the OWNER the following information for the Bidder. OWNER may request like information on Bidder's Subcontractors, Bidder's Suppliers or any other information the OWNER may require.
  1. A current financial statement for the Work (as provided to bonding company);
  2. A chronological list of "in progress" and "completed" construction work done by Bidder during the last 3 years; including project name, address, owner, contract name, and current telephone number;
  3. Present construction commitments other than items listed in paragraph 2 above;
  4. Proposed organizational structure such as firm ownership, project manager, progress scheduler, and superintendent for the Work of this Project;
  5. Owned and rented equipment which is to be used to do the Work;
  6. Investigations, arbitration, litigation or claims which are pending, threatened, settled or otherwise disposed of within the last three (3) years;
  7. Evidence of ability to perform and complete the Work in a manner and within the time limit specified. As a minimum, identify specific experience on projects similar to the Work in physical size, cost, and commercial nature. If the work experiences of the project manager and superintendent designated to construct this project are different than that of the company, provide resumes of their work history. Include their actual project titles and indicate their actual responsibilities on each given project;
  8. All matters consistent with federal, state and local Laws and Regulations;
  9. Such other data as may be called by the OWNER.
- B. If Bidder believes any information should be held confidential for business reasons, Bidder must submit a written claim of business confidentiality for that particular information and include a specific statement of the reasons supporting the claim pursuant to Utah Code Ann. 63-2-308.
- C. Untimely response or failure to provide the requested information by Bidder will release OWNER of any obligation to further consider the Bidder's Bid.

### 3.3 EVALUATION OF BIDS

- A. OWNER reserves the right: to reject any and all Bids or any part thereof; to waive any informalities in the Bid Schedule and elsewhere; to negotiate and agree to contract terms with the successful Bidder; to disregard non-conforming, non-responsive, unbalanced or

conditional Bids; and to withhold the award for any reason deemed in the best interests of the OWNER.

- B. OWNER reserves the right to reject any Bid if OWNER believes that it would not be in the best interest of the Project or the OWNER. Without limitation, such rejection may be because the Bid is not responsive, or the Bidder is unqualified or of doubtful ability or the Bid or Bidder fails to meet any other pertinent standard or criteria established by OWNER.
- C. If the OWNER intends to make an award to a Bidder, a Notice of Intent to Award will be issued.
- D. OWNER may consider all information which OWNER believes is relevant when evaluating a Bid, including, without limitation:
  - 1. The qualifications and experience of the Bidder and of the Subcontractors, Suppliers, and other persons and organizations proposed (whether or not the Bid otherwise complies with the prescribed requirements).
  - 2. Such alternates, unit prices and other data, as may be requested in the Bid Form, Bid Schedule, or written requests issued prior to OWNER's Notice of Intent to Award the Construction Contract.
  - 3. Operating costs, maintenance requirements, performance data, and guarantees of ability to provide the required materials and equipment.
  - 4. Corporate organization and capacity for any party.
  - 5. Ability to perform and complete the Work in the manner and within the time specified.
  - 6. Pending litigation.
  - 7. The amount of the Bid.
  - 8. Proper licensing to do the Work in compliance with licensing laws of the State of Utah for contractors and subcontractors.
  - 9. All other relevant matters, consistent with OWNER's procurement code and administrative rules, OWNER's ordinances and program policies.
- E. To establish qualifications of Bidder, OWNER may request such data indicated in the Bid Documents, conduct such investigations as OWNER deems appropriate, and consider any other information (whether obtained from the Bid, the Bidder, or any other source).
- F. If the Construction Contract is to be awarded, it will be awarded to the most responsive qualified, and responsible Bidder as determined by the OWNER. Alternates may be accepted depending upon availability of OWNER's funds and as determined by the OWNER. Accepted alternates will be considered in determining the most responsive, qualified, and responsible Bidder.
- G. Bid Schedules will be evaluated as follows:

1. Discrepancies in the multiplication of quantities of Work items and unit prices will be resolved in favor of the unit prices. OWNER may correct Bid Schedule calculation errors accordingly.
  2. Prices written out in words shall govern over prices written out in numbers.
  3. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
  4. Bids shall not contain any recapitulations of or changes in the work to be done.
- H. The OWNER, in the OWNER's sole discretion, shall make determinations as to disqualification of Bidders or rejection of Bids. Such matters may include, without limitation, submission of more than one Bid by the Bidder (whether under the same or different names); evidence of collusion among Bidders; other commitments of Bidder which, in the OWNER's sole judgment, might hinder the Work; previous defaults; Bid irregularities when not waived in the best interests of the OWNER; delays or poor performance by Bidder on any project; official action against Bidder; and any other cause which, in the OWNER's sole discretion and judgment, is sufficient to justify disqualification of a Bidder or rejection of a Bid.
- I. The following firms have been under contract to the OWNER in the design phase of the Work. They shall not be used as subcontractors by the CONTRACTOR.
1. Design Consultant: Io Design.
  2. Civil Engineer: Ward Engineering.
  3. Lighting and Electrical Consultant: Spectrum Engineers.

### **3.4 ADJUSTMENTS TO THE COST OF THE WORK AFTER OPENING OF BIDS**

- A. The Contract Price identified in the Agreement represents the cost of the work which is to be paid by the OWNER to the CONTRACTOR.
- B. Adjustments to the Contract Price which are agreed to between the OWNER and the successful Bidder shall be affected by signing an Agreement Supplement.

### **3.5 SUBSTITUTIONS**

- A. The Construction Contract, if awarded, will be on the basis of materials and equipment described in the Drawings, Specifications and any Addenda.
- B. After the Effective Date of the Construction Contract, the procedure for submitting an application for substitution is set forth in Article 6.4 of the General Conditions.

### **3.6 SUBMITTALS REQUIRED FOR AWARD OF CONTRACT**

- A. **Performance and Payment Bonds:** The OWNER's requirements as to Performance

and Payment Bonds are as set forth in the Modifications to General Conditions (Document 00 80 10). Specific requirements are set forth in the Performance Bond (Document 00 61 00) and the Payment Bond (Document 00 62 00).

1. The form of the Bonds should be carefully examined by the Bidder.
  2. When the successful Bidder delivers the executed Construction Contract to OWNER, it must be accompanied by the required Performance and Payment Bonds.
- B. **Other Information:** When a determination has been made to award the Construction Contract, Bidder is required, prior to the award or after the award, or both, to furnish such other information as the ENGINEER requests.

### 3.7 SIGNING OF AGREEMENT

- A. Within five (5) days after OWNER gives Notice of Intent to Award the Construction Contract to the successful Bidder, the Bidder shall pick up, sign and return to OWNER, the required number of copies of the Construction Contract, bonds and insurance. A minimum of six (6) originals will be signed and returned to the OWNER. One executed original will be returned to the Bidder. Bidder shall comply with all execution requirements.
- B. All of Bidder's executions and submittals must be delivered to the OWNER before OWNER will execute the Construction Contract. The Construction Contract will not be deemed awarded and shall not be binding on the OWNER until it has been approved and executed by the OWNER, and a fully executed copy is formally delivered to the CONTRACTOR. The OWNER reserves the right to rescind its Notice of Intent to Award without liability, except for the return of Bidder's Bid Security, at any time before the Construction Contract has been fully executed by all parties and delivered to the CONTRACTOR.
- C. Transfers, delegations or assignments of interests in the Contract Documents are prohibited, unless prior written authorization is received from the OWNER.
- D. At the time of Bidding, and the signing of the Agreement, and at all times during the Work, Bidder shall be properly licensed to do the Work and shall be in compliance with the license laws of the State of Utah, South Salt Lake City and Salt Lake County. The Bidder shall also require all Subcontractors to do the same.
- E. If a Bidder fails to fully and properly execute the Construction Contract and provide all submittals required therewith within five (5) days after the date of the Notice of Intent to Award, the OWNER may elect to rescind the Notice of Intent to Award, and the OWNER shall be entitled to the full amount of Bidder's Bid Security, not as a penalty, but in liquidation of and compensation for damages sustained. In the OWNER's sole discretion, a Notice of Intent to Award may then be provided to another bidder whose Bid is most advantageous to the OWNER, price and other factors considered.

END OF DOCUMENT



**DOCUMENT 00 40 00  
BID**

**PART 1 GENERAL**

**1.1 BID PROPOSAL**

- A. After having personally and carefully examined all conditions surrounding the Work and the Contract Documents, the undersigned proposes to furnish all labor, equipment, tools and machinery and to furnish and deliver all materials not specifically mentioned as being furnished by the OWNER, which is required in and about the construction of the Construction Contract known as  
GATEWAY PARK.
- B. The undersigned proposes to complete the Work for the price or prices listed in the Bid Schedule (Document 00 41 00) and understands that quantities for Unit Price Work are not guaranteed.
- C. The undersigned proposes to furnish bonds with the Contract, signed by a surety company satisfactory to the OWNER, in an amount equal to the Contract amount conditioned to insure compliance with all requirements of the Contract Documents.
- D. The undersigned encloses a certified check, cashier's check, cash, or a Bid Bond for \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) which is (five (5) percent of the Bid amount) payable to the OWNER, as a guarantee of good faith, and which it is agreed will be forfeited to the OWNER as liquidated damages in the event of the failure of the undersigned to enter into a contract and furnish satisfactory bonds to the OWNER.
- D. The undersigned proposes to execute the attached contract within five (5) days after the Notice of Intention to Award, and to begin work within ten (10) days after being notified to do so by the OWNER.
- E. If OWNER finds it necessary to further define the Work, Contract Price, Contract Time or some other portion of the Construction Contract, after Bid opening, the Bidder promises to execute an Agreement Supplement prior to or concurrent with the execution of the Agreement, if the Agreement Supplement is acceptable to the Bidder.
- F. It is understood that the OWNER has the right to reject this proposal or to accept it at the prices listed in the Bid Schedule.
- H. During the contracting process, the following shall be submitted:
- a. Performance and Payment Bonds
  - b. Proof of Liability and Workman's Compensation Insurance
  - c. Proof of employment eligibility through the E-Verify system.

**PART 2 EXECUTION**

**2.1 BIDDER**

A. The Bidder is as follows

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone number: \_\_\_\_\_

Facsimile number: \_\_\_\_\_

Tax identification number: \_\_\_\_\_

B. Bidder holds license number \_\_\_\_\_, issued on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by the Utah State Department of Commerce, Division of Occupational and Professional Licensing. Bidder is licensed to practice as a \_\_\_\_\_ Contractor. License renewal date is the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

C. The undersigned hereby acknowledges receipt of the following Addenda:

Addenda # \_\_\_\_\_ Addenda name \_\_\_\_\_ Initial \_\_\_\_\_

Addenda # \_\_\_\_\_ Addenda name \_\_\_\_\_ Initial \_\_\_\_\_

Addenda # \_\_\_\_\_ Addenda name \_\_\_\_\_ Initial \_\_\_\_\_

Addenda # \_\_\_\_\_ Addenda name \_\_\_\_\_ Initial \_\_\_\_\_

**2.2 BIDDER'S SUBSCRIPTION**

A. Date: \_\_\_\_\_

B. Bidder's Signature: \_\_\_\_\_

C. Please print Bidder's name here: \_\_\_\_\_

D. Title: \_\_\_\_\_

## 2.3 REFERENCES

Please provide 3 references for similar work completed within the last year, with the same project manager/foreman.

1. Owner:

Contact Name:

Project Location:

Project Description:

Phone number:

Email:

2. Owner:

Contact Name:

Project Location:

Project Description:

Phone number:

Email:

3. Owner:

Contact Name:

Project Location:

Project Description:

Phone number:

Email:

END OF DOCUMENT

**DOCUMENT 00 41 00  
BID SCHEDULE**

---

**PART 1 GENERAL**

**1.1 DOCUMENT INCLUDES**

- A. Price schedules.
- B. Measurement and payment provisions.

**1.2 CONSTRUCTION CONTRACT**

- A. The Construction Contract is known as GATEWAY PARK.

**1.3 REFERENCES**

- A. APWA 01 29 00: Payment Procedures.
- B. Document 00 50 00: Agreement.

**1.4 SCHEDULE TO BE ADDED TO THE AGREEMENT**

- A. Submit bid in format of the table on the following page. Write all prices in numerical format. This document will be added to the Agreement by reference.

**1.5 MILESTONES / SCHEDULE**

- A. Attach a schedule with milestones for initiating and completing the project.

---

**PART 2 PRICE SCHEDULES**

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**2.1 BASE BID and ADDITIVE ALTERNATES**

- A. The Base Bid covers park construction.
- B. Additive Alternates covers bollard lighting.

---

**PART 3 MEASUREMENT AND PAYMENT**

---

**3.1 GENERAL**

- A. Units of measurement are listed above in the Bid Schedule
- B. Measurement and payment procedures follow APWA Section 01 29 00.
- C. ENGINEER will take all measurements and compute all quantities.
- D. CONTRACTOR will provide all equipment, workers, and survey crews to assist ENGINEER in making measurements.
- E. CONTRACTOR will verify measurement and quantities.
- F. Award of Contract will be based on Base Bid price not including Additive Alternates.

END OF DOCUMENT

BID SCHEDULE - GATEWAY PARK					
		QTY	UNITS	UNIT PRICE	EXTENSION
<b>SECTION 1: INFRASTRUCTURE AND HARDSCAPE</b>					
1	CLEARING AND GRUBBING	6,700	SF		
2	GRADING	103	SF		
3	EXCAVATION AND HAULING	76	CY		
4	STORMWATER	1	LS		
5	DECOMPOSED GRANITE SURFACE	1,543	SF		
6	PAVER STEPS	50	LF		
7	TIMBER WALLS	300	FF		
8	TIMBER BLOCKS	3	EA		
	SUBTOTAL				
<b>SECTION 2: LIGHTING</b>					
9	METER	1	EA		
10	TRENCHING	500	LF		
11	CONCRETE POLE BASE	4	EA		
12	OVERHEAD LIGHTING	4	EA		
13	SIGNAGE WELL UPLIGHTING	1	EA		
14	LED TAPE LIGHTING ON WALLS	275	LF		
	SUBTOTAL				
<b>SECTION 3: FITNESS AREA</b>					
15	Burke Equipment and Freight	1	LS		
16	Kompan-Super Nova Spinner	1	EA		
17	Fitness Equipment installation	1	LS		
18	Playground Surface - Burke Turf system	2342	SF		
	SUBTOTAL				
<b>SECTION 4: SITE FURNISHINGS</b>					
19.2	TABLES	2	EA		
20	CHAIRS	4	EA		
21	BENCHES	2	EA		
22	BIKE RACK	2	EA		
	SUBTOTAL				
<b>SECTION 5: PLANTING AND IRRIGATION</b>					
23	PLANTING SOIL	33	CY		
24	IRRIGATION	1	LS		
	SUBTOTAL				
<b>SECTION 6: OTHER</b>					
19	MOBILIZATION	1	LS		
20	BONDS	1	LS		
21	INSURANCE	1	LS		
22	MATERIALS TESTING	1	LS		
	SUBTOTAL				
	<b>BASE BID TOTAL</b>				
<b>ADD ALTERNATIVES</b>					
	BOLLARD LIGHTING		EA		

**DOCUMENT 00 45 20  
BIDDER STATUS REPORT**

**PART 1 GENERAL**

**1.1 BIDDER**

A. Name: \_\_\_\_\_

B. Address: \_\_\_\_\_  
\_\_\_\_\_

C. Telephone number: \_\_\_\_\_

**1.2 CONSTRUCTION CONTRACT**

A. The Construction Contract is known as GATEWAY PARK.

**PART 2 REPORT**

**2.1 BIDDER STATUS REPORT**

A. Bidder affirms the following information is true and correct.

1. Number of employees: \_\_\_\_\_

2. Bidder's firm is: (check the following as applicable)

[ \_\_\_ ] Independently owned and operated.

[ \_\_\_ ] An affiliate of\*

[ \_\_\_ ] A subsidiary of\*

[ \_\_\_ ] A division of\*

[ \_\_\_ ] A business with gross revenue in excess of \$ \_\_\_\_\_

[ \_\_\_ ] A business with gross revenue below \$ \_\_\_\_\_

\* PARENT COMPANY:

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

**PART 3 EXECUTION**

**3.1 EFFECTIVE DATE**

A. Bidder executes this status report and declares it to be a supplement to the Bid and in effect as of \_\_\_\_\_, \_\_\_\_\_.

**3.2 BIDDER'S SUBSCRIPTION**

A. Bidder's Signature: \_\_\_\_\_

B. Please print Bidder's name here: \_\_\_\_\_

C. Title: \_\_\_\_\_

END OF DOCUMENT



**DOCUMENT 00 45 30**  
**SUBCONTRACTOR AND SUPPLIER REPORT**

**PART 1 GENERAL**

**1.1 BIDDER**

A. Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B. Telephone Number: \_\_\_\_\_

**1.2 CONSTRUCTION CONTRACT**

A. The Construction Contract is known as GATEWAY PARK.

**PART 2 REPORT**

**2.1 SUBCONTRACTOR AND SUPPLIER REPORT**

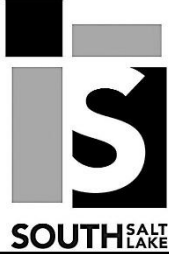
- A. Failure of the Bidder to specify a Subcontractor for any portion of the Work constitutes an agreement by the Bidder that the Bidder is fully qualified to perform that portion, and that Bidder shall perform that portion.
- B. Bidder will be fully responsible to OWNER for the acts and omissions of Subcontractors and Suppliers and of persons either directly or indirectly employed by them, as Bidder is for the acts and omissions of persons employed by Bidder directly.
- C. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor or Supplier and the OWNER. Bidder agrees each subcontract with Bidder's Subcontractor will disclaim any third party or direct relationship between OWNER and any Subcontractor or Supplier.
- D. The names and addresses of the Subcontractors and Suppliers who will work under the terms of the Contract Documents and the estimated dollar amount of each subcontract (in excess of 2 percent of the Bid sum) are set forth in Table 1, which follows.

**Table 1: Subcontractors and Suppliers**

<b>SUBCONTRACTORS</b>		
<b>Name and Address</b>	<b>Nature and Extent of Work to be Sublet</b>	<b>Amount</b>
1.		
2.		
3.		
4.		
5.		
6.		
<b>SUPPLIERS</b>		
<b>Name and Address</b>	<b>Nature and Extent of Work to be Sublet</b>	<b>Amount</b>
1.		
2.		
3.		
4.		
5.		
6.		
7.		

**DOCUMENT 00 50 00  
AGREEMENT**

AGREEMENT ON FOLLOWING PAGES



City of South Salt Lake  
220 E. Morris Ave., Suite 200  
South Salt Lake City, Utah 84115  
Phone: (801) 483-6000

## AGREEMENT

### 2019 South Salt Lake \_\_\_\_\_ Project

ON this \_\_\_\_ day of \_\_\_\_\_, 2019, this Agreement (“Agreement”) is entered into between the City of South Salt Lake (“CITY”) and \_\_\_\_\_ (“CONTRACTOR”) regarding the “\_\_\_\_\_” (“Project”). CITY and CONTRACTOR agree as follows:

**1. THE PROJECT.**

CONTRACTOR shall complete the Project that is generally described as:

\_\_\_\_\_

The CONTRACTOR responded to an Invitation to Bid with a Bid Schedule, both of which are attached to this Agreement as **Exhibit A**, and which are incorporated into this Agreement by this reference.

**2. TIME TO COMPLETION OF AGREEMENT**

The Project shall be completed by \_\_\_\_\_. The Project shall begin upon execution of this Agreement.

**3. TIME OF THE ESSENCE/LIQUIDATED DAMAGES.**

Time is of the essence to complete the Project. CITY will suffer financially if the Project is not completed on time. Due to the difficulty to quantify the damage to CITY if the Project is not completed on schedule, CONTRACTOR agrees to pay CITY **\$500.00** as liquidated damages for each day the Project continues beyond the date set forth in paragraph 2 without substantial completion (unless the date is extended by amendment to this Agreement).

**4. CONTRACT PRICE/PAYMENT.**

The contract price is \$\_\_\_\_\_. CITY reserves the right, pursuant to Utah Code Ann. § 13-8-5 to hold as retainage up to five percent (5%) of the contract price until all work is completed to its satisfaction. The Contractor agrees to receive payment only upon completion of the Project.

**5. CONTRACTOR’S AWARENESS OF CONTRACT TERMS AND SITE CONDITIONS.**

CONTRACTOR acknowledges the following: (1) it has reviewed this Agreement with all its addenda and agrees that it is generally sufficient to furnish understanding of all terms and conditions necessary to perform the Project; (2) it understands the rising and falling price of goods and materials, and by accepting the contract price above, it accepts the risk or the benefit of such market shifts; (3) it has visited the Project site, is familiar with it and is satisfied with site conditions and weather conditions that may affect the cost, progress or performance of the Project; (4) it is familiar with all local, state and federal laws and regulations that may affect the cost, progress or performance of the Project; (5) it has performed any explorations or tests necessary to become familiar with the subsurface conditions at the site that may affect the cost, progress or performance of the Project; and (6) it is familiar with all physical conditions relating to existing surface and subsurface conditions, including utilities, which are at or contiguous to the site that may affect the cost, progress or performance of the Project and assumes all responsibility for timely and accurate location of all underground facilities.

## **6. INSURANCE & BONDS.**

A. Before the Project is initiated CONTRACTOR shall deliver to CITY a certificate of insurance demonstrating that CONTRACTOR has in effect liability and other insurance appropriate to provide protection from claims arising from the Project resulting from the acts or omissions of CONTRACTOR, its agents or employees and all subcontractors or suppliers as well as their agents or employees, for whom CONTRACTOR may be liable. The certificate of insurance will demonstrate that CONTRACTOR has, at minimum the following types of insurance coverage:

- i. workers' compensation;
- ii. liability insurance providing protection for claims arising from bodily injury, sickness or disease, death, damage to property, damage from business interruption and motor vehicle accidents. CONTRACTOR shall maintain coverage in the minimum amount of one million dollars (\$1,000,000.00) per occurrence and two million dollars (\$2,000,000.00) in the aggregate, and must include a waiver of subrogation and name the City as an additional insured.

The insurance shall be provided by an insurance carrier with a rating of A- or better as rated by AM Best. The certificate(s) of insurance shall be attached to this Agreement as **Exhibit B** and incorporated by this reference.

B. CONTRACTOR shall be required to post a Payment Bond and Performance Bond to cover this project, in the event of non-performance by CONTRACTOR, or non-payment by CONTRACTOR to a supplier or subcontractor. Bonds are attached to this Agreement as **Exhibit C** and incorporated by this reference.

## **7. CITY'S DUTY TO PROVIDE THE SITE.**

CITY shall furnish the site. CITY will notify CONTRACTOR of any encumbrances or restrictions specifically related to the use of the site with which CONTRACTOR must comply. CITY will obtain any necessary easements. CITY will obtain permission required for CONTRACTOR to have access to the site.

## **8. PROTECTION OF PERSON AND PROPERTY.**

CONTRACTOR is solely responsible for safety measures in connection with the Project. CONTRACTOR shall take appropriate measures to prevent damage, injury or loss to: (1) all persons on the site or who may be affected by the Project; (2) all labor, materials and equipment to be incorporated into the Project; (3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities. CONTRACTOR shall comply with all applicable laws and regulations relating to the safety and protection of persons or property. CONTRACTOR shall erect and maintain all necessary safeguards for such safety and protection. If CONTRACTOR must enter a confined space, it shall have all personnel and monitoring equipment on site necessary to comply with all Federal, State, Local and any other applicable regulatory agency's safety guidelines (such as OSHA). A Confined Space Entry Permit shall be properly completed before entering a confined space. CONTRACTOR shall be responsible to erect and maintain all necessary traffic barricades and to provide all necessary traffic control. CONTRACTOR shall notify owners of adjacent property, including Blue Stakes notification to underground utility owners and shall cooperate with them in the protection, removal, relocation or replacement of their property. Any damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by CONTRACTOR, any subcontractor, supplier, individual or entity performing the Project, shall be remedied by CONTRACTOR.

## **9. SUPERVISION/LABOR/SUBCONTRACTORS.**

CONTRACTOR shall supervise the Project competently, devoting such attention and applying such skill and expertise as may be necessary to perform the Project in accordance with the Agreement. CONTRACTOR is responsible for the means, methods, techniques, sequences and procedures of performing the Project. CONTRACTOR shall assign a competent superintendent who will be its representative at the site and shall have the authority to act on its behalf. All communications given to or received from the superintendent shall be binding on CONTRACTOR. CONTRACTOR shall provide qualified and competent personnel to complete the Project. CONTRACTOR shall at all times maintain good discipline and order at the site. CONTRACTOR shall not employ any subcontractor or supplier if CITY reasonably objects. CONTRACTOR shall be fully responsible to CITY for its own acts and

omissions as well as the acts and omissions of all subcontractors and suppliers performing the Project. This Agreement does not create a contractual relationship between CITY and any subcontractor or supplier. CITY's only payment obligation under this Agreement is to CONTRACTOR. CONTRACTOR shall require all subcontractors and suppliers to communicate with the CITY through CONTRACTOR.

**10. MATERIAL AND EQUIPMENT/WARRANTY.**

All materials and equipment incorporated into the Project shall be as specified or, if not specified, shall be of good quality and new, unless otherwise provided in this Agreement. CONTRACTOR warrants and guarantees to CITY that all workmanship, material and equipment will be in accordance with this Agreement and will not be defective. In recognition of the difficulties that may arise in proving the cause of a defect in materials or workmanship, CITY and CONTRACTOR agree that any such defect which manifests itself within one year of completion of this Agreement will have been caused by the improper workmanship, material or equipment of CONTRACTOR.

**11. INDEMNIFICATION.**

To the fullest extent permitted by law, CONTRACTOR agrees to indemnify and hold harmless CITY from and against all claims, costs, losses and damages, including attorney fees, arising out of the performance of this Agreement, provided that any such claim, cost, loss, or damage: (1) is attributable to bodily injury, sickness, disease, death, injury to tangible property, loss of use of property, including interruption of business; and (2) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any subcontractor or supplier for whom CONTRACTOR is responsible, regardless of whether caused in part by any negligent act or omission of CITY.

**12. CITY REPRESENTATIVE.**

CITY will assign a project supervisor to oversee the daily progress of the Project. CONTRACTOR may communicate with CITY through the assigned project supervisor; however, only the City Mayor shall have authority to approve a Change Order.

**13. VARIATIONS IN THE PROJECT.**

CITY's project supervisor may authorize minor variations in the Project from this Agreement that do not involve adjustment in the contract price or time and that are consistent with the intended design of the completed Project.

**14. CHANGE ORDERS.**

CITY may order additions, deletions, or revisions to the Project by a written amendment to this Agreement or by Change Order. Upon receipt of such document, CONTRACTOR shall promptly perform the work involved. There will be no increase in the contract price or time for any work performed that is not required by this Agreement, written modification to this Agreement, or Change Order. Change Orders shall be in writing, signed by CITY's Mayor and CONTRACTOR, specify the precise change and any adjustment in the contract price and/or time.

**15. DELAYS.**

CONTRACTOR shall not be responsible for delays due to neglect of utility owners, fire, floods, epidemics, abnormal weather conditions or acts of God. The contract time shall not be extended due to delays within the control of CONTRACTOR, subcontractors or suppliers. Where CONTRACTOR is prevented from completing any part of the Project within the contract time due to delay beyond the control of CONTRACTOR, an extension of the contract time in an amount equal to the time lost due to the delay shall be the sole remedy.

**16. INSPECTIONS.**

CITY's representatives shall have access to the site and the Project at all reasonable times. CONTRACTOR shall give CITY timely notice of readiness of the Project for all required tests and inspections. CITY will not charge CONTRACTOR a fee for tests and inspections it performs itself unless requested after normal work hours or on Saturdays or Sundays. If any work that is to be inspected, tested or approved is covered by CONTRACTOR without the approval of CITY it must, if requested, be uncovered for inspection at CONTRACTOR's expense.

**17. STOPPING THE PROJECT.**

CITY, at its sole discretion, may order CONTRACTOR to stop the Project if any of the following occur: (1) workmanship, material or equipment is defective; (2) CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment; or (3) CONTRACTOR fails to perform the Project in such a way that the completed Project will conform to this Agreement.

**18. DEFECTIVE WORK.**

CITY's representative will have authority to reject workmanship, material, or equipment which CITY reasonably concludes: (1) is defective; (2) will not produce a completed Project that conforms to this Agreement; or (3) will prejudice the integrity of the Project as a functioning whole. CONTRACTOR shall correct all defective workmanship or, if rejected by CITY, remove it from the project and replace it with workmanship, material or equipment that is not defective.

**19. COMPLETION.**

When CONTRACTOR considers the Project ready for its intended use, it shall notify CITY that the Project is substantially complete. Promptly upon receiving notice, CITY shall make an inspection. If CITY does not agree that the Project is substantially complete, it will notify CONTRACTOR giving the specific reasons. If CITY does consider the Project substantially complete, it will so certify in writing and provide a written list of items that remain to be corrected or completed. Upon notice from CONTRACTOR that the entire Project is complete, CITY will promptly make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of any aspect of the Project that remains incomplete or defective. CONTRACTOR shall immediately take such steps as are necessary to make such corrections.

**20. STATUS VERIFICATION SYSTEM.**

CONTRACTOR hereby certifies that it is registered and participates in a Status Verification System, as defined by Utah Code Ann. § 63G-12-301, in order to verify the work eligibility of its employees. CONTRACTOR is solely responsible for ensuring registration and participation in the Status Verification System. CONTRACTOR also certifies that any subcontractor employed by CONTRACTOR is also enrolled and participates in a Status Verification System. CONTRACTOR will provide, within five days of request by the CITY, proof of enrollment and participation in the system.

**21. FINAL PAYMENT.**

After CONTRACTOR has satisfactorily completed all corrections identified during the final inspection, it may make application for final payment. Upon receipt of the application for final payment, if CITY verifies that all corrections identified in the final inspection have been completed, final payment will become due within thirty (30) days of the application.

**22. ELECTRONIC COPIES.**

The Parties agree that electronic copies of this Agreement, including the signature page, shall be sufficient evidence of the contents of this Agreement, without reference to the original, signed copy.

**23. RESOLVING DISPUTES.**

This Agreement shall be governed by the laws of the state of Utah.

**24. THE AGREEMENT.**

This Agreement shall consist of the following documents:

- (1) Agreement;
- (2) Bid Documents (Exhibit A);
- (3) Certificate(s) of Insurance (Exhibit B); and
- (4) Bonds (Exhibit C).

If there are any conflicting provisions between the Agreement and the Exhibits, then the Agreement controls.

[Signatures appear on next page]

WHEREFORE, CITY and CONTRACTOR, through their duly authorized representatives, execute this Agreement:

For CONTRACTOR:

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
(signature)

\_\_\_\_\_  
(type or print)

Title: \_\_\_\_\_

Witness: \_\_\_\_\_  
(signature)

\_\_\_\_\_  
(type or print)

For CITY:

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
(signature)

Cherie Wood, Mayor

Attest: \_\_\_\_\_  
(signature)

Craig Burton, City Recorder

Approved as to form:

\_\_\_\_\_  
Hannah Vickery, Deputy City Attorney



**Bid Documents**  
**Exhibit A**

**Insurance Certificate(s)  
Exhibit B**

**Performance & Payment Bonds  
Exhibit C**

**DOCUMENT 00 60 50**

**E-VERIFY CERTIFICATION**

WHEREAS, the undersigned proposes to furnish labor and materials under a contract to provide Engineering, Design and Construction services for The City of South Salt Lake, in the South Salt Lake, County of Salt Lake, State of Utah of which the City of South Salt Lake is the Owner.

NOW THEREFORE, this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, the undersigned contractor, verifies its compliance with Utah Code Ann. § 63G-12-301 and 13-47-201, stating affirmatively that the individual, firm, or corporation which is contracting with the City of South Salt Lake has registered with and is participating in a federal work authorization program in accordance with the applicability provisions and deadlines established in Utah Code Ann. § 63G-12-301 and 13-47-201.

The undersigned contractor further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to the contract with the City of South Salt Lake, of which this certification is a part, the undersigned contractor will secure from such subcontractor(s) similar verification of \_\_\_\_\_ compliance with Utah Code Ann. § 63G-12-301 and 13-47-201. The undersigned contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the City of South Salt Lake at the time the subcontractor(s) is retained to perform such service.

E-Verify Number \_\_\_\_\_

{AFFIX}

{CORPORATE}

{SEAL}

{HERE}

\_\_\_\_\_  
Contractor (Name of sole ownership, corporation or partnership)

(Signature of Authorized Representative)

Title: \_\_\_\_\_

END OF DOCUMENT

**DOCUMENT 00 61 00  
PERFORMANCE BOND**

---

**PART 1 GENERAL**

---

**1.1 BOND**

A. Number: \_\_\_\_\_.

B. Amount: \_\_\_\_\_

\_\_\_\_\_ dollars (\$ \_\_\_\_\_).

**1.2 SURETY**

A. Name: \_\_\_\_\_

B. Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C. Telephone number: \_\_\_\_\_.

D. Facsimile number: \_\_\_\_\_.

**1.3 CONTRACTOR**

A. Name: \_\_\_\_\_

B. Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C. Telephone number: \_\_\_\_\_.

D. Facsimile number: \_\_\_\_\_.

**1.4 OWNER**

A. The City of South Salt Lake.

**1.5 CONSTRUCTION CONTRACT**

A. The Construction Contract is known as GATEWAY PARK.

## 1.6 DEFINED TERMS

- A. Terms used in this Performance Bond which are defined in Article 1.1 of the General Conditions will have the meanings indicated in the General Conditions.

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## PART 2 COVENANTS

---

### 2.1 SURETY'S AND CONTRACTOR'S RELATIONSHIP

- A. Surety as surety, and CONTRACTOR as principal, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER as obligee, for the performance of the Construction Contract, whether awarded or about to be awarded.
- B. If CONTRACTOR performs the Construction Contract, the Surety and the CONTRACTOR shall have no obligation under this Bond, except to participate in conferences indicated in Article 2.3.

### 2.2 NOTICE

- A. Notice to the Surety, the OWNER or the CONTRACTOR shall be sent by certified mail, facsimile, or hand delivered to the address shown on this Bond agreement.
- B. Notices sent as required by paragraph 2.2A shall be effective on the date on which such notice was sent.
- C. If any notice requires a period of less than seven (7) days for response, the notice shall be sent by facsimile.
- F. If the time for response to any notice expires on a Saturday, Sunday or a legal holiday in the State of Utah, the time shall be extended to the next working day.

### 2.3 PROCEDURE TO INVOKE SURETY'S OBLIGATION

- A. If the CONTRACTOR fails to perform or to comply with the terms of the Construction Contract, and such failure to perform or to comply has not been waived by the OWNER, the OWNER may notify the CONTRACTOR and the Surety, at their addresses described above, that the OWNER is considering declaring the CONTRACTOR in default.
- B. Before declaring the default, the OWNER shall request and attempt to arrange a conference with the CONTRACTOR and the Surety to be held at a time and place required by the OWNER to discuss methods of performing the Work.

- C. If the CONTRACTOR does not attend the conference or agree to cure any deficiencies in the CONTRACTOR's performance of the Work to the satisfaction of the OWNER, the OWNER may declare the CONTRACTOR in default and formally terminate the CONTRACTOR's right to complete the Work. Such default shall not be declared earlier than 10 days after the CONTRACTOR and the Surety have received notice as provided in article 2.2.
- D. If the Contract with the CONTRACTOR is terminated, the OWNER agrees to pay the unpaid Balance of the Contract Price to the Surety for completion of the Work in accordance with the terms of the Construction Contract or to a contractor selected by the Surety to perform the Work in accordance with the terms of the Construction Contract.

#### **2.4 SURETY'S OPTIONS AT CONTRACTOR TERMINATION**

- A. Surety Completes the Work: The Surety may undertake to perform and complete the Work itself, through its agents or through independent contractors.
- B. Surety Obtains Bids or Proposals: The Surety may obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Work.
  - 1. Such bids or proposals shall be prepared by the Surety for execution by the OWNER and the completion contractor selected.
  - 2. Surety shall secure the contract with Performance and Payment Bonds executed by a qualified surety equivalent to this Performance Bond and the Payment Bond (Document 00 62 00); and
  - 3. Surety shall pay to the OWNER the amount of damages as described in paragraph 2.6 in excess of the balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR's default.
- C. Surety to Pay OWNER: Surety may determine the amount not to exceed the amount of this bond specified in paragraph 1.1B, for which Surety believes it may be liable to pay, and tender payment therefor to the OWNER. OWNER has sole discretion to accept payment. If the OWNER refuses the payment tendered, or the Surety has denied liability in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

#### **2.5 PROCEDURE FOR OWNER TO DECLARE SURETY IN DEFAULT**

- A. The OWNER may declare the Surety to be in default upon the following procedures.
  - 1. The OWNER shall issue an additional written notice to the Surety, after declaring the CONTRACTOR in default as provided in Article 2.3, demanding that the Surety perform its obligations under this Bond.

2. Surety shall respond to the OWNER within 15 days after receipt of the OWNER's additional notice, either denying the claim or accepting liability and exercising its' options under Article 2.4.

## **2.6 SURETY'S OBLIGATIONS**

- A. After the OWNER has terminated the CONTRACTOR's right to complete the Construction Contract, and if the Surety elects to complete the Construction Contract as provided in Article 2.4, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Construction Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Construction Contract.
- B. To the limit of the amount of this Bond, but subject to commitment by the OWNER to pay all valid and proper payments made to or on behalf of the CONTRACTOR under the Construction Contract, the Surety is obligated, without duplication, for:
  1. the responsibilities of the CONTRACTOR for correction of Defective Work and completion of the Construction Contract;
  2. design professional and delay costs resulting from the CONTRACTOR's default, and resulting from the actions or failure to act of the Surety under article 2.4; and
  3. liquidated damages which are or may become due for any reason.

## **2.7 UNRELATED OBLIGATIONS OF THE CONTRACTOR**

- A. The Surety and the OWNER shall not be liable to others for obligations of the CONTRACTOR that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or changed on account of any such unrelated obligations.
- B. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.

## **2.8 SURETY WAIVES NOTICE OF ANY CHANGE**

- A. Surety hereby waives notice of any change, including changes of Contract Time, Contract Price and scope of Work, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

## **2.9 VENUE**

- A. Any suit or action commenced by OWNER under this Bond shall be for action in a court of competent jurisdiction in the State of Utah.



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**PART 3 EXECUTION**

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**3.1 EFFECTIVE DATE**

A. Surety and CONTRACTOR execute this Bond agreement and declare it to be in effect as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**3.2 CONTRACTOR'S SUBSCRIPTION AND ACKNOWLEDGMENT**

A. Type of organization: \_\_\_\_\_  
(corporation, partnership, individual, etc.)

B. If CONTRACTOR is a corporation, attach a corporate resolution evidencing CONTRACTOR's authority to sign.

C. CONTRACTOR's signature: \_\_\_\_\_

D. Please print name here: \_\_\_\_\_

E. Title: \_\_\_\_\_

F. Notary Acknowledgement: In the County of \_\_\_\_\_,  
State of \_\_\_\_\_, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
the foregoing instrument was acknowledged before me

---

(person acknowledging and title or representative capacity, if any).

---

Notary's signature

---

Residing at

---

My commission expires:

Notary's seal

**3.3 SURETY'S SUBSCRIPTION AND ACKNOWLEDGMENT**

- A. Attach evidence of Surety's corporate authority to sign.
- B. Surety's signature: \_\_\_\_\_
- C. Please print name here: \_\_\_\_\_
- D. Title: \_\_\_\_\_
- E. **Acknowledgment:** In the County of

\_\_\_\_\_, State of \_\_\_\_\_, on  
the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned  
notary, personally appeared \_\_\_\_\_, who proved to me his/her  
identity through documentary evidence in the form of a \_\_\_\_\_ -  
\_\_\_\_\_ to be the person whose name is signed  
as the authorized Surety and acknowledged to me that this document was signed  
voluntarily for its stated purpose.

\_\_\_\_\_  
Notary Public signature

Notary Public seal

END OF DOCUMENT

**DOCUMENT 00 62 00  
PAYMENT BOND**

**PART 1 GENERAL**

**1.1 BOND**

A. Number: \_\_\_\_\_.

B. Amount: \_\_\_\_\_  
\_\_\_\_\_ dollars (\$ \_\_\_\_\_).

**1.2 SURETY**

A. Name: \_\_\_\_\_

B. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Telephone number: \_\_\_\_\_.

D. Facsimile number: \_\_\_\_\_.

**1.3 CONTRACTOR**

A. Name: \_\_\_\_\_

B. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Telephone number: \_\_\_\_\_.

D. Facsimile number: \_\_\_\_\_.

**1.4 OWNER**

A. The City of South Salt Lake \_\_\_\_\_.

**1.5 CONSTRUCTION CONTRACT**

A. The Construction Contract is known as GATEWAY PARK.

## 1.6 DEFINED TERMS

- A. Terms used in this Payment Bond, which are defined in article 1.1 of the General Conditions, will have the meanings indicated in the General Conditions.

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## **PART 2 COVENANTS**

### 2.1 SURETY'S AND CONTRACTOR'S RELATIONSHIP

- A. Surety as surety, and CONTRACTOR as principal, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER as obligee, for the performance of the Construction Contract, whether awarded or about to be awarded.
- B. If CONTRACTOR performs the Construction Contract, the Surety and the CONTRACTOR shall have no obligation under this Bond.

### 2.2 NOTICE

- A. Notice to the Surety, the OWNER or the CONTRACTOR shall be sent by certified mail, facsimile, or hand delivered to the address shown on this Bond agreement.
- B. Notices sent as required by paragraph 2.2A shall be effective on the date on which such notice was sent.
- C. Notice may be sent by facsimile. Facsimile notice shall be effective on the date of transmission provided that a confirmation establishing the successful transmission of the notice is sent by first-class mail, postage prepaid, along with a copy of the notice transmitted, no later than twenty-four (24) hours after the facsimile notice is transmitted.
- D. If any notice requires a period of less than seven (7) days for response, the notice shall be sent by facsimile.
- E. If the time for response to any notice expires on a Saturday, Sunday or a legal holiday in the State of Utah, the time shall be extended to the next working day.

### 2.3 CONDITIONS OF SURETY'S LIABILITY

- A. With respect to the OWNER, this Bond agreement shall be null and void if the CONTRACTOR promptly takes the following actions:
  - 1. promptly makes payment, directly or indirectly, for all sums due Claimants, and
  - 2. defends, indemnifies and saves harmless the OWNER from all claims, demands, Liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Work, provided the OWNER has tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety.

### 2.4 PROCEDURE TO INVOKE SURETY'S OBLIGATION

- A. **Concerning Claimants who have a Direct Contract with the CONTRACTOR:** The Surety shall have no obligation to Claimants under this Bond who are employed by or

have a direct contract with the CONTRACTOR until Claimants have given notice to the Surety at the address shown on this Bond agreement and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

**B. Concerning Claimant who does not have a Direct Contract with the CONTRACTOR:** The Surety shall have no obligation to Claimant under this Bond who does not have a direct contract with the CONTRACTOR until Claimant takes the following actions.

1. The Claimant shall furnish written notice to the CONTRACTOR and send a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed.
2. The Claimant shall have either received a rejection in whole or in part from the CONTRACTOR, or not received within 15 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR has indicated the claim will be paid directly or indirectly.
3. Not having been paid within the above 15 days, the Claimant shall have sent a written notice to the Surety at the address described on this Bond agreement and sent a copy, or notice thereof, to the OWNER stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

## **2.5 SURETY'S OPTION TO SETTLE CLAIMS**

- A. When the Claimant has satisfied the conditions of article 2.4, the Surety shall promptly and at the Surety's expense take the following actions.
1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  2. Pay or arrange for payment of any undisputed amounts.

## **2.6 SURETY'S OBLIGATION**

- A. Surety's total obligations under this bond shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

## **2.7 USE OF FUNDS**

- A. Amounts owed by OWNER to CONTRACTOR under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, against the Performance Bond (Document 00610). By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Work are dedicated as follows:
1. The OWNER has first priority to use the funds for the completion of the Work.

2. The CONTRACTOR and the Surety have second priority to use the funds to satisfy the obligations of the CONTRACTOR and the Surety under this Bond.

**2.8 UNRELATED OBLIGATIONS OF THE CONTRACTOR**

- A. The Surety and the OWNER shall not be liable to Claimants or others for obligations of the CONTRACTOR that are unrelated to the Construction Contract.
- B. The OWNER shall not be liable for payment of any damages, costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

**2.9 SURETY WAIVES NOTICE OF ANY CHANGE**

- A. Surety hereby waives notice of any change to the Construction Contract including changes of Contract Time, Contract Price, and scope of Work, or to related subcontracts, purchase orders or other obligations.

**2.10 VENUE**

- A. Any suit or action commenced by a Claimant under this Bond shall be for action in a court of competent jurisdiction in the State of Utah.

**2.11 COPIES OF THIS BOND**

- A. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR or OWNER shall promptly furnish a copy of this Bond or shall permit a copy to be made.

**PART 3 EXECUTION**

**3.1 EFFECTIVE DATE**

- A. Surety and CONTRACTOR executed this Bond agreement and declared it to be in effect as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**3.2 CONTRACTOR'S SUBSCRIPTION AND ACKNOWLEDGMENT**

- A. Type of organization: \_\_\_\_\_  
(corporation, partnership, individual, etc.)
- B. If CONTRACTOR is a corporation, attach a corporate resolution evidencing CONTRACTOR's authority to sign.
- C. CONTRACTOR's signature: \_\_\_\_\_
- D. Please print name here: \_\_\_\_\_

E. Title: \_\_\_\_\_

F. Notary Acknowledgement: In the County of \_\_\_\_\_,  
State of \_\_\_\_\_, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
the foregoing instrument was acknowledged before me

\_\_\_\_\_  
(person acknowledging and title or representative capacity, if any).

\_\_\_\_\_  
Notary's signature

\_\_\_\_\_  
Residing at

\_\_\_\_\_  
My commission expires:

Notary's seal

### 3.3 SURETY'S SUBSCRIPTION AND ACKNOWLEDGMENT

A. Attach evidence of Surety's corporate authority to sign.

B. Surety's signature: \_\_\_\_\_

C. Please print name here: \_\_\_\_\_

D. Title: \_\_\_\_\_

E. Notary Acknowledgment: In the County of \_\_\_\_\_,  
State of \_\_\_\_\_, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
before me, the undersigned notary, personally appeared \_\_\_\_\_,  
who proved to me his/her identity through documentary evidence in the form of a  
\_\_\_\_\_ to be the  
person whose name is signed as the authorized Surety and acknowledged to me that  
this document was signed voluntarily for its stated purpose.

\_\_\_\_\_  
Notary's signature

\_\_\_\_\_  
Residing at

\_\_\_\_\_  
My commission expires:

Notary's seal

END OF DOCUMENT

PAYMENT BOND

00 62 00 - 5

**DOCUMENT 00 65 00  
CERTIFICATE OF INSURANCE**

**PART 1 GENERAL**

**1.1 PROCEDURE**

- A. For filing purposes, add Certificates of Insurance to the Contract Documents following this page.

END OF DOCUMENT





**CERTIFICATE OF NON-DISCRIMINATION AND NON-COLLUSION**  
**SALT LAKE COUNTY HOUSING & COMMUNITY DEVELOPMENT**

*This certificate must be completed and attached to project contract.*

**PROJECT NAME** \_\_\_\_\_ **PROJECT NUMBER** \_\_\_\_\_

As a condition precedent to the award by \_\_\_\_\_

of the Project identified above, I, \_\_\_\_\_,  
(PRINT NAME OF AUTHORIZED AGENT)

of \_\_\_\_\_,  
(PRINT NAME OF FIRM)

do certify that neither I, nor to the best of my knowledge, any member or members of my firm or company discriminates against any employee or applicant for employment of the firm, because of race, religion, color, sex, ancestry, age, disability or national origin. I will take necessary action to ensure the process of employment and application for employment is free from discrimination on these bases. Such action shall include, but not be limited to the following: hiring, upgrading, promotion, discipline, transfer, recruitment or recruitment advertising, layoffs, terminations, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

I agree to post in a conspicuous place, available to employees and applicants for employment, notices provided by appropriate government agencies setting forth the provisions of this certificate. Further, I will, in all solicitations or advertisement for employment placed by or on behalf of myself and my company, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, ancestry, age, disability or national origin.

Furthermore, I do certify that neither I, nor to the best of my knowledge, any member or members of my firm or company have either directly or indirectly restrained free and competitive bidding on this project by entering into any agreement, participating in any collusion, scheme, or otherwise taking any action in violation of law or regulations, or doing any act otherwise prohibited by Salt Lake County.

I am aware that any contract awarded my firm for this project may be terminated in the event of a finding of non-compliance by Salt Lake County with any requirements of this certificate.

Under UCA Section 78B-5-705, *I declare under criminal penalty of the State of Utah that the foregoing is true and correct. **Initials [\_\_\_\_].***

Further, under 28 U.S.C. Section 1746, *I declare under penalty of perjury that foregoing is true and correct. **Initials [\_\_\_\_].***

**Certified By** \_\_\_\_\_

**Title** \_\_\_\_\_ **Date** \_\_\_\_\_

END OF DOCUMENT

**GATEWAY PARK  
CONSTRUCTION SPECIFICATIONS**

January 10, 2019

2230 S 500 East  
South Salt Lake, Utah 84115

**GENERAL NOTES:**

1. All work and materials shall conform to the latest editions of the Manual of Standard Plans and Manual of Standard Specifications prepared by the Utah Chapter of the American Public Works Association unless noted otherwise.
2. Supplementary specifications and project drawings supersede APWA plans and specifications as noted.

## TABLE OF CONTENTS

**Refer to 2017 Utah APWA Manual of Standard Specifications except where otherwise specified or noted.**

*Division            Section Title*

DIVISION 01 GENERAL REQUIREMENTS

DIVISION 02 EXISTING CONDITIONS

DIVISION 03 CONCRETE

DIVISION 26 ELECTRICAL

DIVISION 31 EARTHWORK

DIVISION 32 EXTERIOR IMPROVEMENTS

### SUPPLEMENTARY SPECIFICATIONS

00 81 00            MODIFICATIONS TO GENERAL CONDITIONS

061063            EXTERIOR ROUGH CARPENTRY

116813            FITNESS AND PLAYGROUND EQUIPMENT

311000            SITE CLEARING

321816.13        PLAYGROUND PROTECTIVE SURFACING

323300            SITE FURNISHINGS

328400            PLANTING IRRIGATION

329113            SOIL PREPARATION

IB PIPE

UNDERGROUND DRAINAGE TANK

END OF TABLE OF CONTENTS

DOCUMENT 00 81 00 - MODIFICATIONS TO GENERAL CONDITIONS

This document changes provisions specified in the General Conditions in the Manual of Standard Specifications published by the Utah Chapter of the American Public Works Association.

Add the following paragraphs to Article 2.2 (page 20).

**2.2 COPIES OF DOCUMENTS**

- B. OWNER shall not furnish to CONTRACTOR published Contract Documents which include the Manual of Standard Plans and the Manual of Standard Specifications. Such documents shall be purchased separately by the CONTRACTOR.
- C. Copies of all Contract Documents including the Manual of Standard Plans and the Manual of Standard Specifications shall be provided on site by the CONTRACTOR.

Modify paragraph 2.5C of the General Conditions (page 21) to read as follows.

**2.5 BEFORE STARTING CONSTRUCTION**

- C. Field Office: An on-site field office is not required, however, CONTRACTOR shall provide and maintain a telephone in the field during performance of the Work such that ENGINEER may always contact CONTRACTOR for transmittal of plans, instructions and dissemination of project information.

Modify Article 5.1 (page 28) to read as follows.

**5.1 PERFORMANCE, PAYMENT AND OTHER BONDS**

- A. Prior to OWNER executing the Agreement, CONTRACTOR shall file with the OWNER a good and sufficient performance Bond and a payment Bond, each in the sum of not less than 100 percent of the Contract Price.
- B. The Bonds shall be executed by the CONTRACTOR and secured by a company duly and regularly authorized to do a general surety business in the State of Utah and either (i) named in the current U.S. Treasury Department's listing of approved sureties (Department Circular 570) (as amended) with an underwriting limitation equal to or greater than the Contract Price which the Bond guarantees, or (ii) with a current "A-" rating or better in A.M. Best Co., Inc's. Best Insurance Reports, Property and Casualty Edition.
- C. The Performance Bond shall guarantee the faithful performance of the Construction Contract by the CONTRACTOR and the payment Bond shall guarantee the payment of labor and materials. The Bonds shall inure by their terms to the benefit of the OWNER. Neither this nor

any other provision requiring a performance Bond shall be construed to create any rights in any third party Claimant as against the OWNER for performance of the Work under the Construction Contract.

- D. If the surety on any Bond furnished by CONTRACTOR is subject to any proceeding under the Bankruptcy Code (Title 11, United States Code) or becomes insolvent or its right to do business is terminated in the State of Utah or it ceases to meet the requirements of this Article, CONTRACTOR shall, within 15 days thereafter, substitute another Bond and surety, both of which must be acceptable to OWNER.

Modify Article 5.2 (page 28) to read as follows.

## 5.2 INSURANCE

- A. In General: All policies of insurance provided shall be issued by insurance companies qualified to do business in the State of Utah and listed on the U.S. Treasury Department's current listing of approved sureties (Department of Circular 570) (as amended), or having a general policy holder's rating of not less than "A-" in the most current available A.M. Best Co, Inc.'s, Best Insurance Report. Except in the case of worker's compensation insurance, the City shall be included as an additional named insured in all insurance policies. CONTRACTOR shall furnish copies of certificates of insurance concurrent with or prior to the signing of the Agreement. The certificates shall name the OWNER as the certificate holder and as an additional insured (except in the case of workers compensation insurance). If requested, CONTRACTOR shall also furnish copies of the insurance policies secured for the Work.
- B. Worker's Compensation Insurance: In addition to other required insurance, the CONTRACTOR shall obtain and maintain during the life of the Construction Contract worker's compensation insurance as required by Laws and Regulations for all of CONTRACTOR's employees employed at the site of the Work, and in case any Work is subcontracted, the CONTRACTOR shall require the Subcontractor similarly to provide worker's compensation insurance for all of the latter's employees, unless such employees are covered by protection as required by Laws and Regulations.
- C. Public Liability and Property Damage Insurance: CONTRACTOR shall secure and maintain during the life of the Construction Contract and at all times thereafter when CONTRACTOR may be correcting, removing or replacing Defective Work, a comprehensive general public liability and property damage insurance policy. The policy shall protect the CONTRACTOR, the OWNER, the ENGINEER, and any Subcontractor performing work covered by the Construction Contract from claims for damages for personal injury, including accidental death, and from claims for property damage which may arise from CONTRACTOR's operations under this Construction Contract, whether such operations be by the CONTRACTOR itself or by any Subcontractor or by anyone directly or indirectly employed by either of them. Unless specified otherwise in the Supplementary Conditions, the minimum amounts of such insurance shall be \$1,000,000 for each occurrence, and \$2,000,000 general aggregate and \$2,000,000 products/completed operations aggregate. **The insurance for this Project is not required to include specific insurance for environmental liabilities.**

- D. Automotive Public Liability Insurance: Whenever CONTRACTOR or any Subcontractor shall use and operate owned, hired, or non-owned automobiles, trucks or other vehicles on public streets and highways in complying with the terms and conditions of the Construction Contract, CONTRACTOR or each Subcontractor shall carry automobile public liability insurance with limits not less than \$1,000,000.00 per occurrence.
- E. Insurance Non-cancelable for 30 Days: Each policy of insurance provided pursuant to the Contract Documents shall be absolutely non-cancelable for a period of not less than 30 days after notice of cancellation and shall contain the following provision or one substantially the same as the following:
- "This policy shall not be subject to cancellation, change, or reduction of coverage by the other party or parties hereto, unless notice, as defined herein, is sent to the OWNER, with a copy to the ENGINEER and the OWNER's attorney."
- F. Builder's Risk: CONTRACTOR agrees to and assumes the risk of loss for any damage or loss to the Work and Project by any means or occurrence until Substantial Completion. CONTRACTOR further agrees to obtain builder's risk or course of construction insurance in the total amount of the Contract Price.

Modify paragraph 6.7 of the General Conditions (page 34) to read as follows.

**6.7 PERMITS**

- H. Salt Lake City Engineering: Traffic control permit and Engineering permit to utilize 500 East roadway and sidewalk as a staging area. Obtain from SLC Engineering Department at 349 S 200 East Suite 150.
- I. UTA: Coordination with UTA safety on visibility through city property to streetcar stop.

## SECTION 061063 - EXTERIOR ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Wood Wall Caps (Dimensional)
  - 2. Wood Timber Walls

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For preservative-treated wood products.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Product Data: Wood species used

### PART 2 - PRODUCTS

#### 2.1 LUMBER, GENERAL

- A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.
  - 1. Factory mark each item with grade stamp of grading agency.
  - 2. For items that are exposed to view in the completed Work, omit grade stamp and provide certificates of grade compliance issued by grading agency.
  - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content:
  - 1. Dimension Lumber: 19 percent.
  - 2. Timber. 19 percent.

#### 2.2 LUMBER

- A. Dimension Lumber: grade and the following species:
  - 1. Redwood, Heart Clear Heart B or Select Heart; RIS.
  - 2. Western red cedar, Grade A Grade B; NLGA, WCLIB, or WWPA.



## 2.3 POSTS

- A. Timber Posts: Balsam fir, Douglas fir-larch, Douglas fir-larch (North), eastern hemlock tamarack (North), hem-fir, southern pine, western hemlock, or western hemlock (North); No. 1 No. 2, NeLMA, NLGA, SPIB, WCLIB, or WWPA.

## 2.4 PRESERVATIVE TREATMENT

- A. Pressure treat boards and dimension lumber with waterborne preservative according to AWWA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
- B. Pressure treat timber with waterborne preservative according to AWWA U1; Use Category UC4a.
  - 1. Treatment with CCA shall include post-treatment fixation process.
- C. Preservative Chemicals: Acceptable to authorities having jurisdiction.
  - 1. Do not use chemicals containing arsenic or chromium .
- D. After treatment, re-dry boards dimension lumber to 19 percent maximum moisture content.
- E. Mark treated wood with treatment quality mark of an inspection agency approved by ALSC's Board of Review.
  - 1. For items indicated to receive a stained or natural finish, mark each piece on surface that will not be exposed or omit marking and provide certificates of treatment compliance issued by inspection agency.
- F. Application: Treat all wood unless otherwise indicated.

## 2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
  - 1. Use stainless steel unless otherwise indicated.
  - 2. For pressure-preservative-treated wood, use stainless-steel fasteners.
- B. Post-installed Anchors: Stainless-steel, torque-controlled expansion anchors with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing according to ASTM E 488, conducted by a qualified independent testing and inspecting agency.

1. Stainless-steel bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

## 2.6 METAL ACCESSORIES

- A. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
- B. Stainless-Steel Sheet: ASTM A 666, Type 304 Type 316.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.
- B. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.
- C. Apply copper naphthenate field treatment to comply with AWPA M4, to cut surfaces of preservative-treated lumber.
- D. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  1. ICC-ES AC70 for power-driven fasteners.
  2. "Fastening Schedule" in ICC's International Building Code.
  3. "Fastener Schedule for Structural Members" and "Alternate Attachments" in ICC's International Residential Code for One- and Two-Family Dwellings.

END OF SECTION 061063

## SECTION 116813- FITNESS AND PLAYGROUND EQUIPMENT

### 1. QUALITY ASSURANCE

A. **INSTALLER QUALIFICATIONS** - An experienced installer familiar with local building codes and with the latest safety guidelines, who has completed installation of playground structures similar in material, design, and extent to that indicated for this project, and whose work has resulted in construction with a record of successful in-service performance.

B. **ACCEPTABLE MANUFACTURERS** - Provide play structure/components as specified from the following manufacturers:

1. BCI Burke Company, LLC, P.O. Box 549, 600 Van Dyne Road, Fond du Lac, Wisconsin 54936-0549, Tel: (920) 921-9220, Fax: 920-921-9566, Toll Free: 800-266-1250, [www.bciburke.com](http://www.bciburke.com).
2. Kompan Inc., 605 W Howard Ln – Suite 101; Austin, TX 78753; Tel: 800-426-9788; <https://www.kompan.us>

C. **QUALITY STANDARDS:** Certified Playground Safety Inspector (CPSI), Consumer Product Safety Commission (CPSC), ASTM, the Americans with Disabilities Act (ADA) and industry regulations shall be followed.

2. **PRODUCT** - Drawing indicates size, components and dimensional requirements of playground structure and is based on the specific system indicated.

#### A. KoreKconnect Direct Bolt System

1. KoreKconnect™ clamp castings shall be cast aluminum heat-treated alloy A356-T6 with a tensile strength of at least 34,000 psi, yield strength of at least 24,000 psi, shear of 20,700 psi, and elongation of 3.50% minimum. Each casting shall clamp to the post with two connection bolts. Clamp casting shall encapsulate the component attached to support surge loads, preventing surge loads being supported by only the hardware. Clamp shall be finished with a baked on powder coating

#### B. Fasteners

1. Button head cap screws and socket head cap screws shall be 302HQ corrosion resistant, passivated, stainless steel, tamper resistant, and pretreated with a locking/sealing adhesive.
2. Other stainless steel hardware shall be 302HQ corrosion resistant stainless steel
3. Non stainless steel hardware shall be zinc plated grade 5 steel.
4. Threaded Post Nut Inserts [Nucleus, Voltage, Little Buddies] shall be a corrosion resistant threaded insert crimped into post. Inserts shall be precision CNC located and factory installed for all attachment points.

#### C. Panels

1. HDPE plastic panel parts shall be precision cut from a single solid sheet of either .50” or .75” thick UV-stabilized extruded high-density polyethylene with colors molded in, with a durable matte finish. The material will have a density of 59.6 lbs/ cu.ft. and a tensile strength of 4000psi. All edges shall be rounded or chamfered for safe play.

9. Light fastness: No less than Grade 7 (tested per EC ISO 105-B02)

C. Equipment

1. Cross Bar [Burke] One piece all welded construction consisting of 1.315" OD x 14 GA galvanized steel tubing and formed 3/16" stainless steel plates. Finished with a baked on powder coating. Hardware shall be Stainless steel.
2. Parallel Bars [Burke] One piece all welded construction consisting of formed 1.900" OD x 11 GA galvanized steel tubing and 7 GA galvanized steel sheet. Finished with a baked on powder coating. Hardware shall be Stainless steel.
3. Wall with Net [Kompan] Posts shall be pre galvanized and powder coated steel tube Ø101X2 mm. Tube elements like incline press pull, pull up tubes, overhead ladder, crossbars, parallel bars, dip bench, rungs, handrails, Ø32X2, Ø38X2 and Ø48,3X4 mm. Net and rope elements like multi-net: Ø16 mm PP covered steel rope.
4. Horizontal Ladder 6ft [Burke] Elbow and lug casting shall be Hot-dipped galvanized, grade 32510, malleable iron. Horizontal support ladder 8' shall be One piece all welded construction, with 2 3/8" OD x .134 wall and 1 1/32" OD x .083" wall galvanized tubing. All welds painted with a cold galvanize compound. Horizontal top ladder 11' 8" shall be One piece all welded construction consisting of 2 3/8" OD x .134 wall and 1 1/32" OD x .083" wall galvanized tubing. All welds painted with a cold galvanize compound. Hardware shall be Zinc plated.
5. FS Quad Wheel Deal [Burke] Free standing end support shall be one piece all welded construction consisting of 2 7/8" OD x 8 GA, 2 3/8" x 12 GA, 1.315" OD x 12 GA, and 1.029" OD x 14 GA galvanized steel tubing. Finished with a baked on powder coating. Hardware shall be Stainless steel. Wheel deal assembly: Assembly consisting of: a main beam made of 2.375" OD x 10 GA galvanized steel tubing and stainless steel threaded pins; turning wheels made of 1.315 OD x 14 GA & 1.315 OD x 12 GA galvanized steel tubing and a machined stainless steel hub; two deep groove roller bearings; zinc plated washers and nuts; and stainless steel set screws. Main beam and turning wheels finished with a baked on powder coating.
6. Supernova – Night Sky Blue [Kompan] The Supernova shall be a rotating play event oriented at an approximate 10 degree angle from horizontal. In lieu of a full platform, there shall be a circular ring, which children can sit or stand upon. The product can either be operated by users sitting on the ring while another person rotates the ring or by all children standing and moving relative to the ring. As the children move about the ring and move closer together or further apart, the ring will rotate in response such that the rotational speed and direction is controlled by all of the children working together to coordinate their movements. The item shall consist of rotomolded polyethylene upper segments connected together via a hot-dip galvanized flat metal ring. Attached to this ring shall be polyamide housings that contain wheels with maintenance-free ball bearings. For reduced wear and increased product longevity, there shall be at least 14 housings and the wheels shall be constructed of polyamide. These wheels shall ride along an angled ring of hot-dip galvanized steel that is footed into the ground via 5 hot-dip galvanized footing pipes. These footing pipes shall contain flanges on the bottom to ensure positive retention in the concrete footings. PVC (vinyl, plastisol) shall not be present on any portion of the play equipment. This product shall contain no powder-coated or painted items

D. Posts, steel [Nucleus, Voltage, Little Buddies]

1. Posts shall be cold-formed steel tubing with a yield test of at least 42,000 psi and a tensile strength of at least 58,000 psi. Tube members shall comply with ASTM A-135 and ASTM A-500 Grade B minimum and shall be tested according to ASTM E-8.
2. Tubing Exteriors shall be triple coated for maximum exterior protection: galvanized, then coated with a chromate conversion coating and finished with a baked-on powder coat.
3. Tubing interiors shall be coated with a corrosion resistant zinc-rich coating.
4. Tubing and cap finished with a baked-on powder coating.
5. Standard posts shall be an assembly consisting of the galvanized steel tubing with a cast aluminum cap factory installed in the post with 1/8" x 15/32" stainless steel pinned aluminum drive rivets.
6. Posts [Nucleus, Intensity] shall be 5" OD x 11 GA galvanized steel tubing.
7. Posts [Little Buddies] shall be 2 3/8" OD x 12 GA galvanized steel tubing.
8. Posts [Voltage] Post shall be 3 1/2" OD x 11 GA galvanized steel tubing.

E. Coatings

A. PVC Coating (Poly-Vinyl Chloride): Prior to coating, each part shall be chemically washed, submerged in a heat-activated primer and dried. After drying, each part shall be pre-heated to a temperature no less than 350° F and immersed in liquid PVC. Play/usage surfaces shall have coating thickness of .085-.150 in. Park and site surfaces (i.e. benches, picnic tables) shall have coating thickness of .050-.080 in. PVC shall comply with California Assembly Bill #1108 by having a concentration that does not exceed 0.1% of the following phthalates; DINP, DIDP, DnOP, DEHP, or BBP. This formulation is also free of heavy metals such as Lead and Cadmium. The PVC shall have:

1. Tensile strength of no less than 1830 psi per ASTM 412.
2. Elongation of no less than 350% per ASTM 412.
3. Tear strength of no less than 250 lb./in. per ASTM 624.
4. Hardness of 75 +/- 3 (Durometer, Shore A) per ASTM 2240.
5. UV stabilizer shall be added to PVC to withstand one year in a QUV panel tester without any significant color drift.
6. Burn Rate will meet or exceed Federal Safety Standard MVSS 302. This is the same as a UL 94 HB rating.

B. Powder Coating - Super Durable: Prior to powder coating, all parts shall be cleaned, and pretreated with a non-phosphate and non-chromic process. A polyester/TGIC powder coating with superior color-, gloss-, and UV-stabilizing qualities shall be 3.0 – 6.0 mils thick and shall be cured in an oven at temperatures no less than 356° F and no more than 392° F. The powder-coat shall have the following properties:

1. Adhesion: No less than 5B [The edges of the cuts are completely smooth; none of the squares of the lattice is detached.] (cross hatch/tape adhesion test per ASTM D3359 Method B).
2. Hardness: No less than 2H (pencil hardness test per ASTM B3363).
3. Resistance to Impact: Cracking at the perimeter of the concave area, but no cracking pick off from 80 in/lb direct or reverse impact (ASTM D2794).
4. Resistance to Bending: No visible cracking (1/8" bending test per ASTM 522).
5. Resistance to Acid Salt Spray: No more than 1/32" undercutting and no blistering in 3000 hours (salt spray test per ASTM G85 Annex 5).
6. Resistance to Humidity: No more than 1/32" undercutting and no blistering in 3000 hours (humidity test per ASTM D2247)
7. Degree of Gloss: No less than 80% reflected (specular gloss test at 60° per ASTM D523).
8. Weathering: No less than 4 (tested per EN 20105-A02)

7. Tetherball [Burke] Rod 3/8" OD X 6": 3/8" dia. HR steel round. Tetherball with rope: 8" diameter ball with a nylon rope. Tetherball upright post assembly: Assembly consisting of a one piece all welded center post consisting of 2 3/8" OD x 12 GA galvanized steel tubing and 10 GA galvanized steel plate, and zinc plated steel hardware.

### 3. SUBMITTALS

- A. Schematic drawings and diagrams shall be submitted to the owner for their review after receipt of order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the work to be done.

### 4. INSTALLATION

- A. Install per manufacturer's specification.
- B. Concrete on all foundations shall have a minimum compressive strength of 3000 psi at 28 days.

END OF SECTION 116813

## SECTION 311000 - SITE CLEARING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping or sealing, and.
7. Temporary erosion and sedimentation control.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

- C. Related Requirements:

1. Section 01500 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

#### 1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.

- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.5 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Topsoil stripping and stockpiling program.
- B. Burning: Documentation of compliance with burning requirements and permitting of authorities having jurisdiction. Identify location(s) and conditions under which burning will be performed.

#### 1.7 QUALITY ASSURANCE

- A. Topsoil Stripping and Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the work. Include dimensioned diagrams for placement and protection of stockpiles.

#### 1.8 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- C. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.



- D. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- E. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
  - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

### 3.3 TREE AND PLANT PROTECTION

- A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

### 3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.
  - 1. Arrange with utility companies to shut off indicated utilities.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Landscape Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Landscape Architect's written permission.
- C. Excavate for and remove underground utilities indicated to be removed.

### 3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
  - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
  - 2. Grind down stumps and remove roots larger than 3 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.
  - 3. Use only hand methods or air spade for grubbing within protection zones.
  - 4. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

### 3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
1. Limit height of topsoil stockpiles to 72 inches.
  2. Do not stockpile topsoil within protection zones.
  3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.

### 3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

### 3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Burning tree, shrub, and other vegetation waste is permitted according to burning requirements and permitting of authorities having jurisdiction. Control such burning to produce the least smoke or air pollutants and minimum annoyance to surrounding properties. Burning of other waste and debris is prohibited.

END OF SECTION 311000

## SECTION 321816.13 - PLAYGROUND PROTECTIVE SURFACING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Organic loose-fill surfacing.
  - 2. Synthetic Grass

#### 1.3 DEFINITIONS

- A. Definitions in ASTM F 2223 apply to work of this Section.
- B. Critical Height: Standard measure of shock attenuation according to ASTM F 2223; same as "critical fall height" in ASTM F 1292. According to ASTM F 1292, this approximates "the maximum fall height from which a life-threatening head injury would not be expected to occur."

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of protective surfacing.
  - 1. Include plans, sections, placement and penetration details, and attachment to substrates.
  - 2. Include accessories and edge terminations.
  - 3. Include patterns made by varying colors of surfacing.
  - 4. Include fall heights and use zones for equipment and structures specified in Section 116800 "Play Field Equipment and Structures," coordinated with the critical heights for protective surfacing.
- C. Samples for Initial Selection: For each type of exposed finish.
  - 1. Include Samples of accessories involving color selection.
  - 2. Samples: Submit samples of synthetic grass, infill, pad underlayment.
- D. Samples for Verification: For each type of protective surfacing and exposed finish.

1. Include Samples of accessories to verify color and finish selection.
2. Loose-Fill Surfacing: Minimum 1 quart.
3. Edging: 6 inches long by full width and cross section.
4. Drainage/Separation Geotextile: Minimum 12 by 12 inches.
5. Drainage Panel: Minimum 6 by 6 inches.

E. Product Schedule: For protective surfacing. Use same designations indicated on Drawings.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and testing agency.
- B. Material Certificates: For each type of loose-fill surfacing.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For playground protective surfacing to include in maintenance manuals.

#### 1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  1. Loose Fill: Amount equal to 1 percent of amount installed, but no fewer than 3 units
  2. Edging Units: 3 full-size units.

#### 1.8 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain protective surfacing materials, including loose-fill accessories, from single source from single manufacturer.
  1. Provide geosynthetic accessories of each type from source recommended by manufacturer of protective surfacing materials.

#### 2.2 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Minimum surfacing performance according to ASTM F 1951.

### 2.3 ORGANIC LOOSE-FILL SURFACING

- A. Engineered Wood Fiber: ASTM F 2075; containing no bark, leaves, twigs, or foreign or toxic materials; tested for accessibility according to ASTM F 1951.
1. See drawings for manufacturer and product type
  2. Critical Height: 4 feet.
  3. Uncompressed Material Depth: Not less than as required for critical height indicated.

### 2.4 SYNTHETIC GRASS SAFETY SURFACE

1. Aggregate Base – Crushed angular hard stone, 3/4” minus compactible stone (not clean) or clean stone with top layer of compacted fines. (Refer to Section 3.2-4).
2. Synthetic grass: 1.55” XGrass<sup>®</sup> Prime Synthetic Turf from XGrass, 1224 Riverbend Dr. Dalton, GA 30721, Phone (877) 881-8477
  - a. Face Weight: 53 oz/sy
  - b. Face Yarn Type: Polyethylene
  - c. Yarn Size: 10800/7300
  - d. Pile Height: 1.55”
  - e. Color: Summer Blend (Heat Block)
  - f. Construction: Broadloom tufted
  - g. Stitch Rate: 8 per 3 inches
  - h. Tufting Gauge: 3/8”
  - i. Tuft Bind: 13.1 lbs
  - j. Permeability: 405.7 inches/hour
  - k. Primary Backing: Stabilized dual layered woven polypropylene
  - l. Secondary Backing: 10 oz. DuraFlo
  - m. Total Product Weight: 72.7 oz/sy
  - n. Finished Roll Width: 180” untrimmed
  - o. Warranty: 10 Year
  - p. Manufactured in the USA, Internationally manufactured products will not be accepted
3. Pad Underlayment System: SofPad<sup>™</sup> 100% recycled, non-contaminated, Post industrial cross-link, closed cell Polyethylene – polyolefin foam pad from XGrass.
  - a. Foam Type: Polyethylene – Polyolefin
  - b. Bulk Density: 5.0-8.0 lb/cu ft
  - c. Effective Size: 24 sq ft (net coverage)
  - d. Tensile Strength: 34-36 psi
4. Synthetic Grass Infill: EnviroFill<sup>®</sup> from XGrass, 1224 Riverbend Dr. Dalton, GA 30721, Phone (877) 881-8477. Coating: Priority acrylic with Microban<sup>®</sup>, iron oxide and chromi-

um oxide.

- a. Grain shape: Hardness: 6-8 Mohs
  - b. Curvature: 0.7+
  - c. Specific Gravity: 1.76 g/cm<sup>3</sup>
  - d. Bulk Density: 110 lb/cu ft
  - e. Uniform Coefficient: 1.10 to 1.40
  - f. Effective Size: .84 –1.68 mm
5. Splicing Material: 1000 denier coated nylon (Cordura®) 12” wide minimum.
  6. Adhesive: Synthetic Turf Adhesive (from XGrass)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for subgrade elevations, slope, and drainage and for other conditions affecting performance of the work.
  1. Verify that substrates are sound and without high spots, ridges, holes, and depressions.
- B. Hard-Surface Substrates: Verify that substrates are satisfactory for loose-fill surfacing, protective surfacing installation and that substrate surfaces are dry, cured, and uniformly sloped to drain within recommended tolerances according to protective surfacing manufacturer's written requirements for cross-section profile.
  1. Asphalt Substrates: Verify that substrates are dry, sufficiently cured to bond with adhesive, and free from surface defects, dust, dirt, loose particles, grease, oil, and other contaminants incompatible with protective surfacing or that may interfere with adhesive bond.
  2. Concrete Substrates: Verify that substrates are dry and free from surface defects, laitance, glaze, efflorescence, curing compounds, form-release agents, hardeners, dust, dirt, loose particles, grease, oil, and other contaminants incompatible with protective surfacing or that may interfere with adhesive bond. Determine adhesion, dryness, and acidity characteristics by performing procedures recommended in writing by protective surfacing manufacturer.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Prepare substrates to receive surfacing products according to protective surfacing manufacturer's written instructions.
- B. Hard-Surface Substrates: Clean surface free of laitance, efflorescence, curing compounds, and other contaminants incompatible with protective surfacing.

1. Repair: Fill holes and depressions in unsatisfactory surfaces with leveling and patching material.
  2. Treatment: Mechanically abrade or otherwise prepare concrete substrates according to protective surfacing manufacturer's written instructions to achieve adequate roughness.
  3. Terminal Edges: Saw cut concrete for terminal edges of protective surfacing.
  4. Treat control joints and other nonmoving substrate cracks to prevent telegraphing through protective surfacing.
- C. Ground Preparation:
1. General: The ground area to receive synthetic grass safety surface is indicated on the Drawings.
  2. Leveling and Site Preparation: All organic material and organic debris to be removed. Soil to be graded level and stabilized (compacted) 6-7" below grade, per site requirements. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.

### 3.3 INSTALLATION OF LOOSE-FILL SURFACING

- A. Apply components of loose-fill surfacing according to manufacturer's written instructions to produce a uniform surface.
- B. Edging: Place and permanently secure edging in place, and attach units to each other.
- C. Loose Fill: Place loose-fill materials to required depth after installation of playground equipment support posts and foundations. Include manufacturer's recommended amount of additional material to offset natural compaction over time.
- D. Stabilizing Mats: Coordinate installation of mats and mat anchoring system with placing and compacting loose fill.
- E. Grading: Uniformly grade loose fill to an even surface free from irregularities.
- F. Compaction: After initial grading, mechanically compact loose fill before finish grading.
- G. Finish Grading: Hand rake to a uniformly smooth finished surface and to required elevations.

### 3.4 INSTALLATION OF SYNTHETIC GRASS AND BASE

- A. General: The area to be smooth and graded to allow for proper drainage. Refer to engineered grading plan if available. The overall grade of the playground is not to exceed 3%.



- B. Nailer Board: Installation of pressure treated or composite board per site requirements.
  - 1. Concrete edges: Nailer board attached directly to vertical concrete edge with a Tapcon hardware situated 3/4" below concrete grade.
  - 2. Non-concrete edges: Nailer board installed with round, steel stake, 3 per 10' board. Top of nailer boards to be situated 3/4" below grade.
- C. Optional layer of geotextile fabric
- D. Compacted Aggregate Base: Place 4" of 3/4" clean aggregate base and 1/2" of screening as leveling layer compacted to 90% of max density per AASHTO T99 or 3/4" minus compactible stone. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.
- E. Underlayment Pad: Lay underlayment pad with seam staggered, trimming edge to fit flush against the nailer board.
- F. Synthetic Grass: Place turf and cut to fit configuration as shown on Drawings. Splice seams. All seams must be attached with splicing film/fabric and adhesive as approved by the manufacturer for this type of installation of their product.
- G. Anchoring/Edging: Edges of turf will be secured to nailer board perimeter.
- H. Infill: Apply layers of synthetic grass infill evenly with a drop spreader and broom the turf fibers with stiff bristle broom to stand fibers up and allow infill to settle into the bottom. Broom in infill round quartz silica sand approximately 3 pounds per square foot.

### 3.5 PROTECTION

- A. Prevent traffic over surfacing for not less than 48 hours after installation.

END OF SECTION 321816.13

## 323300 SITE FURNISHINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Seating.
  - 2. Tables.
  - 3. Bicycle racks.
  - 4. Bollards.
- B. Related Requirements:
  - 1. Section 033000 Cast-in-Place Concrete
  - 2. Section 312000 Earth Moving

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For site furnishings manufactured with preservative-treated wood.
  - 1. Indicate type of preservative used and net amount of preservative retained.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For site furnishings to include in maintenance manuals.

#### 1.6 WARRANTY

- 1. Warranty Period: Two years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PRODUCT

- A. Provide site furnishing as specified on Drawings.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and securely anchored at locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.
- F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

END OF SECTION 323300

## SECTION 328400 - PLANTING IRRIGATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Piping.
2. Automatic control valves.
3. Drip Irrigation
4. Quick couplers.
5. Controllers.
6. Boxes for automatic control valves.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Irrigation zone control shall be automatic operation with controller and automatic control valves.
- B. Minimum Working Pressures: The following are pressure requirements for piping, valves, and specialties unless otherwise indicated:
1. Mainline: 80 psi maximum. Lateral lines (drip): 16 psi minimum to 58 psi maximum.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.

#### 1.5 CLOSEOUT SUBMITTALS

- A. As-built drawing of system as installed.

#### 1.6 QUALITY ASSURANCE

- A. Contractor shall warranty all work for a period of 1-year from substantial completion.

## PART 2 - PRODUCTS

### 2.1 PIPES, TUBES, AND FITTINGS

- A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.
- B. PE Pipe with Controlled ID: ASTM F 771, PE 3408 compound and SIDR 15.
  - 1. Insert Fittings for PE Pipe: ASTM D 2609, nylon or propylene plastic with barbed ends. Include bands or other fasteners.
- C. PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 40
  - 1. PVC Socket Fittings: ASTM D 2466, Schedule 40.
  - 2. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket ends.
- D. PVC Pipe, Pressure Rated: ASTM D 2241, PVC 1120 compound.

### 2.2 PIPING JOINING MATERIALS

- A. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.

### 2.3 AUTOMATIC CONTROL VALVES

- A. Plastic, Automatic Control Valves:
  - 1. Description: Molded-plastic body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.

### 2.4 DRIP IRRIGATION

- B. Inline drip emission tubing:
  - 1. Tubing shall be nominally sized to 17mm (½") low-density linear polyethylene tubing. The exterior of the tubing shall be brown in color and conform to an outside diameter (O.D.) of 0.66 inches and an inside diameter (I.D.) of 0.56 inches.
  - 2. Tubing shall be constructed with pressure compensation, continuously self-cleaning, integral emitters with an internal check valve at these spacings (12" or 18" centers).
  - 3. Individual pressure compensating emitters shall be welded to the inside wall of the tubing as an integral part of the manufacturing process. These emitters shall be constructed of a two (2) piece plastic emitter housing containing a continuously self-flushing molded silicone diaphragm. The emitter shall have a built-in check valve that will hold back a 4.6' column of water. The emitter shall be installed into the tubing so that the inlet to the emitter is toward the center of the tubing cross section. The emitter shall also have a built-in physical root barrier whereby the water shall exit the emitter from one location

and shall exit the tubing from a second location. This physical barrier shall create an air gap inside the exit bath of the emitter.

4. Each emitter shall have the ability to independently regulate discharge rates, with an inlet pressure range of 14.5 - 58 pounds per square inch (psi), at a constant flow and with a manufacturer's coefficient of variability (Cv) of 0.03 or less. The emitters shall be capable of continuously cleaning themselves while in operation.
5. Filtration shall be 120 mesh or finer.

C. Point Source Drip Emission Devices:

1. Point source emission devices will consist of a pressure compensating bubblers at 5 gph, with 1/2" threaded inlet.

2.5 QUICK COUPLERS

- A. Description: Factory-fabricated, bronze or brass, two-piece assembly. Include coupler water-seal valve; removable upper body with spring-loaded or weighted, rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet; and operating key.

2.6 CONTROLLERS

A. Description:

1. Controller Stations for Automatic Control Valves: Each station is variable from approximately 5 to 60 minutes. Include switch for manual or automatic operation of each station.

2.7 BOXES FOR AUTOMATIC CONTROL VALVES

A. Plastic Boxes:

1. Description: Box and cover, with open bottom and openings for piping; designed for installing flush with grade.
  - a. Size: As required for valves and service.
  - b. Shape: Round, Square, or Rectangular
  - c. Sidewall Material: PE, ABS, or FRP.
  - d. Cover Material: PE, ABS, or FRP.

- B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 3 inches maximum.

### PART 3 - EXECUTION

#### 3.1 EARTHWORK

- A. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from 3/4 to 3 inches to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.
- B. Provide minimum cover over top of underground piping according to the following:
  - 1. Irrigation Main Piping: Minimum depth of 36 inches below finished grade, or not less than 18 inches below average local frost depth, whichever is deeper.
  - 2. Circuit Piping: 12 inches.
  - 3. Drain Piping: 12 inches.
  - 4. Sleeves: 24 inches.

#### 3.2 PIPING INSTALLATION

- A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.
- B. Install piping at minimum uniform slope of 0.5 percent down toward drain valves.
- C. Install piping free of sags and bends.
- D. Install groups of pipes parallel to each other, spaced to permit valve servicing.
- E. Install fittings for changes in direction and branch connections.
- F. Install underground thermoplastic piping according to ASTM D 2774
- G. Install expansion loops in control-valve boxes for plastic piping.
- H. Lay piping on solid subbase, uniformly sloped without humps or depressions.
- I. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours at temperatures above 40 deg F before testing.

#### 3.3 INLINE DRIP INSTALLATION

- A. Install inline drip tubing on-surface of planting soil and under mulch installations.
- B. 6" metal wire staples shall be installed 3' on center, and two staples shall be installed over every change-of-direction fitting.
- C. Install inline drip tubing so that bending radius shall not be smaller than 7" or tubing kinking may result.

#### 3.4 POINT SOURCE DRIP INSTALLATION

- A. Install pressure compensating threaded bubblers on ½” PVC risers, schedule 80 risers.

### 3.5 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
  - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
  - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Flanged Joints: Select rubber gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- E. PE Piping Fastener Joints: Join with insert fittings and bands or fasteners according to piping manufacturer's written instructions.
- F. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
  - 1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
  - 2. PVC Pressure Piping: Join schedule number, ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
  - 3. PVC Nonpressure Piping: Join according to ASTM D 2855.

### 3.6 VALVE INSTALLATION

- A. Pressure-Reducing Valves: Install in boxes for automatic control valves.
- D. Drain Valves: Install in underground piping in boxes for automatic control valves.

### 3.7 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections.
  - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
  - 2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.



3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Any irrigation product will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

### 3.8 ADJUSTING

- A. Adjust settings of controllers.
- B. Adjust automatic control valves to provide flow rate at rated operating pressure required for each sprinkler circuit.
- C. Adjust emission devices, except those intended to be mounted aboveground, so they will be flush with, or not more than 1/2 inch above, finish grade.

D. Following construction and prior to issuing the approval for occupancy, a Water Audit will be conducted by a IA certified Landscape Irrigation Auditor. The auditor shall be independent of the contractor, design firm, and owner/developer of the project. The water performance audit will verify that the irrigation system complies with the minimum standards required by this ordinance. The minimum efficiency required for the irrigation system is 60% for the distribution efficiency for all fixed spray systems and 70% distribution efficiency for all rotor systems. The auditor shall furnish a certificate to the City, designer, installer, and owner/developer certifying compliance with the minimum distribution requirements, and an irrigation schedule. Compliance with this provision is required before the City will issue the letter of final acceptance.

### 3.9 PIPING SCHEDULE

- A. Install components having pressure rating equal to or greater than system operating pressure.
- B. Piping in control-valve boxes and aboveground may be joined with flanges or unions instead of joints indicated.
- C. Underground irrigation main piping shall be Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.
- D. Circuit piping shall be one of the following:
  1. SIDR 7 PE, controlled ID pipe; insert fittings for PE pipe; and fastener joints.
  2. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.

END OF SECTION 328400

## SECTION 329113 - SOIL PREPARATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.

#### 1.2 DEFINITIONS

- A. Imported Soil: Soil that is transported to Project site for use.
- B. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments to produce a soil mixture best for plant growth.
- D. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- E. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- F. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- G. USCC: U.S. Composting Council.

#### 1.3 ACTION SUBMITTALS

- A. Soil Test: For imported topsoil
- B. Product Data and Samples: For mulch.

### PART 2 - PRODUCTS

#### 2.1 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. Planting-Soil: Imported, naturally formed soil from off-site sources and consisting of sand, silt, and clay according to USDA textures; and modified to produce viable planting soil.
  - 1. Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least 4 inches deep, not from bogs, or marshes; and that do

- not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants.
2. Additional Properties of Imported Soil before Amending:
    - a. Soluble salts: < 2 dS/m.
    - b. pH: 5.5-7.5.
    - c. Sand < 70%, Silt < 70%, Clay < 60%
    - d. Texture: Ideal soil texture shall consist of a loam(L), or silt loam (SiL). Also acceptable are sandy clay loam (SCL), sandy loam (SL), clay loam (CL), silty clay loam (SiCL).
    - e. Organic matter  $\geq$  2%
    - f. Sodium Adsorption Ratio (SAR) < 3
    - g. Friable, and with sufficient structure to give good tilth and aeration.
  3. Unacceptable Properties: Clean soil of the following:
    - a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
    - b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 2 percent by dry weight of the imported soil.
    - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches in any dimension.
  4. Provide analysis of nutrient content of soil, specifically Nitrogen (N), Potassium (P), and Phosphorus (K) and amend as directed by the soil laboratory or the Landscape Architect.
  5. Planting Soil Composition: Blend soil with composted bark mulch at a ratio 1:4 by volume.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Place planting soil and fertilizers according to requirements the drawings and specifications.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

#### 3.2 APPLYING COMPOST TO SURFACE OF PLANTING SOIL

- A. Application: Apply 3 inches of composted bark mulch surface of in-place planting soil, following the installation of plant material.
- B. Finish Grading: Grade surface to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.3 PROTECTION AND CLEANING

- A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Vehicle traffic.
  - 4. Foot traffic.
  - 5. Erection of sheds or structures.
  - 6. Impoundment of water.
  - 7. Excavation or other digging unless otherwise indicated.
  
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

END OF SECTION 329113

## ADS N-12<sup>®</sup> ST IB PIPE (PER AASHTO) SPECIFICATION

### Scope

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 ST IB pipe (per AASHTO) for use in gravity-flow land drainage applications.

### Pipe Requirements

ADS N-12 ST IB pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.

- 4- through 10-inch (100 to 250 mm) pipe shall meet AASHTO M252, Type S or SP.
- 12- through 60-inch (300 to 1500 mm) pipe shall meet AASHTO M294, Type S or SP, or ASTM F2306.
- Manning’s “n” value for use in design shall be 0.012.

### Joint Performance

Pipe shall be joined using a bell & spigot joint meeting the requirements of AASHTO M252, AASHTO M294, or ASTM F2306. The joint shall be soil-tight and gaskets for diameters 12- through 60-inch, shall meet the requirements of ASTM F477. For diameters 4- through 10-inch, the joint shall be soil-tight using an engaging dimple connection. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

### Fittings

Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

### Material Properties

Material for pipe and fitting production shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500 mm) pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

### Installation

Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameter the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), Class 2 (minimum 90% SPD) or Class 3 (minimum 95% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.01. Contact your local ADS representative or visit our website at [www.ads-pipe.com](http://www.ads-pipe.com) for a copy of the latest installation guidelines.

### Pipe Dimensions

	Nominal Diameter, in (mm)												
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.* in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

\*Pipe O.D. values are provided for reference purposes only, values stated for 12 through 60-inch are ±1 inch. Contact a sales representative for exact values

\*\*All diameters available with or without perforations.

## UNDERGROUND DRAINAGE TANK

### **PART 1 – GENERAL**

#### 1.01 Related Documents

- A. Drawings, technical specification and general provisions of the Contract as modified herein apply to this section.

#### 1.02 Description of Work Included

- A. Provide excavation and base preparation per geotechnical engineer's recommendations and/or as shown on the design drawings, to provide adequate support for project design loads and safety from excavation sidewall collapse. Excavations shall be in accordance with the owner's and OSHA requirements.
- B. Provide and install R-Tank<sup>LD</sup>, R-Tank<sup>HD</sup>, R-Tank<sup>SD</sup>, or R-Tank<sup>UD</sup> system (hereafter called R-Tank) and all related products including fill materials, geotextiles, geogrids, inlet and outlet pipe with connections per the manufacturer's installation guidelines provided in this section.
- C. Provide and construct the cover of the R-Tank system including; stone backfill, structural fill cover, and pavement section as specified.
- D. Protect R-Tank system from construction traffic after installation until completion of all construction activity in the installation area.

#### 1.03 Quality Control

- A. All materials shall be manufactured in ISO certified facilities.
- B. Installation Contractor shall demonstrate the following experience:
  - 1. A minimum of three R-Tank or equivalent projects completed within 2 years; and,
  - 2. A minimum of 25,000 cubic feet of storage volume completed within 2 years.
  - 3. Contractor experience requirement may be waived if the manufacturer's representative provides on-site training and review during construction.
- C. Installation Personnel: Performed only by skilled workers with satisfactory record of performance on bulk earthworks, pipe, chamber, or pond/landfill construction projects of comparable size and quality.
- D. Contractor must have manufacturer's representative available for site review if requested by Owner.

#### 1.04 Submittals

- A. Submit proposed R-Tank layout drawings. Drawings shall include typical section details as well as the required base elevation of stone and tanks, minimum cover requirements and tank configuration.
- B. Submit manufacturer's product data, including compressive strength and unit weight.
- C. Submit manufacturer's installation instructions.
- D. Submit R-Tank sample for review. Reviewed and accepted samples will be returned to the Contractor.
- E. Submit material certificates for geotextile, geogrid, base course and backfill materials.
- F. Submit required experience and personnel requirements as specified in Section 1.03.
- G. Any proposed equal alternative product substitution to this specification must be submitted for review and approved prior to bid opening. Review package should include third party reviewed performance data that meets or exceeds criteria in Table 2.01 B.

#### 1.05 Delivery, Storage, and Handling

- A. Protect R-Tank and other materials from damage during delivery, and store UV sensitive materials under tarp to protect from sunlight when time from delivery to installation exceeds two weeks. Storage of materials should be on smooth surfaces, free from dirt, mud and debris.
- B. Handling is to be performed with equipment appropriate to the materials and site conditions, and may include hand, handcart, forklifts, extension lifts, etc.
- C. Cold weather:
  - 1. Care must be taken when handling plastics when air temperature is 40 degrees or below as plastic becomes brittle.
  - 2. Do not use frozen materials or materials mixed or coated with ice or frost.
  - 3. Do not build on frozen ground or wet, saturated or muddy subgrade.

#### 1.06 Preinstallation Conference.

- A. Prior to the start of the installation, a preinstallation conference shall occur with the representatives from the design team, the general contractor, the excavation contractor, the R-Tank installation contractor, and the manufacturer's representative.

## 1.07 Project Conditions

- A. Coordinate installation for the R-Tank system with other on-site activities to eliminate all non-installation related construction traffic over the completed R-Tank system. No loads heavier than the design loads shall be allowed over the system, and in no case shall loads higher than a standard AASHTO HS20 (or HS25, depending on design criteria) load be allowed on the system at any time.
- B. Protect adjacent work from damage during R-Tank system installation.
- C. All pre-treatment systems to remove debris and heavy sediments must be in place and functional prior to operation of the R-Tank system. Additional pretreatment measures may be needed if unit is operational during construction due to increased sediment loads.
- D. Contractor is responsible for any damage to the system during construction.

## **PART 2 – PRODUCTS**

### 2.01 R-Tank Units

- A. R -Tank - Injection molded plastic tank plates assembled to form a 95% void modular structure of predesigned height (custom for each project).
- B. R-Tank units shall meet the following Physical & Chemical Characteristics:

PROPERTY	DESCRIPTION	R-Tank <sup>LD</sup> VALUE	R-Tank <sup>HD</sup> VALUE	R-Tank <sup>SD</sup> VALUE	R-Tank <sup>UD</sup> VALUE
Void Area	Volume available for water storage	95%	95%	95%	95%
Surface Void Area	Percentage of exterior available for infiltration	90%	90%	90%	90%
Compressive Strength	ASTM D 2412 / ASTM F 2418	30.0 psi	33.4 psi	42.9 psi	134.2 psi
HS-20 Minimum Cover	Cover required to support HS-20 loads	N/A	20"	18"	12" (Stone Backfill)
HS-25 Minimum Cover	Cover required to support HS-25 loads	N/A	24"	19"	15" (Stone Backfill)
Maximum Cover	Maximum allowable cover depth	3 feet	< 7 feet	< 10 feet	5 feet
Unit Weight	Weight of plastic per cubic foot of tank	3.29 lbs / cf	3.62 lbs/cf	3.96 lbs / cf	4.33 lbs / cf
Rib Thickness	Thickness of load-bearing members	0.18 inches	0.18 inches	0.18 inches	N/A
Service Temperature	Safe temperature range for use	-14 – 167° F	-14 – 167° F	-14 – 167° F	-14 – 167° F

- C. Supplier: ACF Environmental 2831 Cardwell Road Richmond, VA 23234  
(T): 800-448-3636; (F): 804-743-7779 [www.acfenvironmental.com](http://www.acfenvironmental.com)

### 2.02 Geosynthetics

- A. Geotextile. A geotextile envelope is required to prevent backfill material from entering the R-Tank modules.
  1. **Standard Application:** The standard geotextile shall be an 8 oz per square yard nonwoven geotextile (ACF N080 or equivalent).
  2. **Infiltration Applications:** When water must infiltrate/exfiltrate through the geotextile as a function of the system design, a woven monofilament (ACF M200 or equivalent) shall be used.
- B. Geogrid. For installations subject to traffic loads and/or when required by project plans, install geogrid (ACF BX12 or equivalent) to reinforce backfill above the R-Tank system. Geogrid is not always required for R-Tank<sup>UD</sup> installations, and is often not required for non-traffic load applications.

### 2.03 Backfill & Cover Materials

- A. **Bedding Materials:** Stone (angular and smaller than 1.5" in diameter) or soil (GW, GP, SW, or SP as classified

by the Unified Soil Classification System) shall be used below the R-Tank system (3" minimum). Material must be free from lumps, debris, and any sharp objects that could cut the geotextile. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation. For infiltration applications bedding material shall be free draining.

- B. **Side and Top Backfill:** Free draining material shall be used adjacent to (24" minimum) and above (for the first 12") the R-Tank system. Material must be free from lumps, debris and any sharp objects that could cut the geotextile. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation.
1. For LD, HD, and SD modules, backfill materials shall be free draining stone (angular and smaller than 1.5" in diameter) or soil (GW, GP, SW, or SP as classified by the Unified Soil Classification System).
  2. For UD modules in traffic loaded (HS-20) applications with less than 14" of top cover, backfill materials shall be free draining stone (angular and smaller than 1.5" in diameter). The use of soil backfill on the sides and top of the UD module is not permitted unless the modules are installed outside of traffic areas or with cover depths of 14" or more. Top backfill material (from top of module to bottom of pavement base or 12" maximum) must be consistent with side backfill.
- C. **Additional Cover Materials:** Structural Fill shall consist of granular materials meeting the gradational requirements of SM, SP, SW, GM, GP or GW as classified by the Unified Soil Classification System. Structural fill shall have a maximum of 25 percent passing the No. 200 sieve, shall have a maximum clay content of 10 percent and a maximum Plasticity Index of 4. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation.

#### 2.04 Other Materials

- A. Utility Marker: Install metallic tape at corners of R-Tank system to mark the area for future utility detection.

### **PART 3 - EXECUTION**

#### 3.01 Assembly of R-Tank Units

- A. Assembly of modules shall be performed in accordance with the R-Tank Installation Manual, Section 2.

#### 3.02 Layout and Excavation

- A. Installer shall stake out, excavate, and prepare the subgrade area to the required plan grades and dimensions, ensuring that the excavation is at least 2 feet greater than R-Tank dimensions in each direction allowing for installation of geotextile filter fabric, R-Tank modules, and free draining backfill materials.
- B. All excavations must be prepared with OSHA approved excavated sides and sufficient working space.
- C. Protect partially completed installation against damage from other construction traffic by establishing a perimeter with high visibility construction tape, fencing, barricades, or other means until construction is complete.
- D. Base of the excavation shall be uniform, level, and free of lumps or debris and soft or yielding subgrade areas. A minimum 2,000 pounds per square foot bearing capacity is required.
1. **Standard Applications:** Compact subgrade to a minimum of 95% of Standard Proctor (ASTM D698) density or as required by the Owner's engineer.
  2. **Infiltration Applications:** Subgrade shall be prepared in accordance with the contract documents. Compaction of subgrade should not be performed in infiltration applications.
- E. **Unsuitable Soils or Conditions:** All questions about the base of the excavation shall be directed to the owner's engineer, who will approve the subgrade conditions prior to placement of stone. The owner's engineer shall determine the required bearing capacity of the R-Tank subgrade; however in no case shall a bearing capacity of less than 2,000 pounds per square foot be provided.
1. If unsuitable soils are encountered at the subgrade, or if the subgrade is pumping or appears excessively soft, repair the area in accordance with contract documents and/or as directed by the owner's engineer.
  2. If indications of the water table are observed during excavation, the engineer shall be contacted to provide recommendations.
  3. Do not start installation of the R-Tank system until unsatisfactory subgrade conditions are corrected and the subgrade conditions are accepted by the owner's engineer.

#### 3.03 Preparation of Base

- A. Place a thin layer (3" unless otherwise specified) of bedding material (Section 2.03 A), over the subgrade to



establish a level working platform for the R-Tank modules. Level to within 1/2" (+/- 1/4") or as shown on the plans. Native subgrade soils or other materials may be used if determined to meet the requirements of 2.03 A and are accepted by the owner's engineer.

1. **Standard Applications:** Static roll or otherwise compact bedding materials until they are firm and unyielding.
  2. **Infiltration Applications:** Bedding materials shall be prepared in accordance with the contract documents.
- B. Outline the footprint of the R-Tank system on the excavation floor using spray paint or chalk line to ensure a 2' perimeter is available around the R-Tank system for proper installation and compaction of backfill.

### 3.04 Installation of the R-Tanks

- A. Where a geotextile wrap is specified on the stone base, cut strips to length and install in excavation, removing wrinkles so material lays flat. Overlap geotextile a minimum 12" or as recommended by manufacturer.
- B. Where an impervious liner (for containment) is specified, install the liner per manufacturer's recommendations and the contract documents. The R-Tank units shall be separated from impervious liner by a non-woven geotextile fabric installed accordance with Section 3.04A.
- C. Install R-Tank modules by placing side by side, in accordance with the design drawings. No lateral connections are required. It is advisable to use a string line to form square corners and straight edges along the perimeter of the R-Tank system. The modules are to be oriented as per the design drawing with required depth as shown on plans..
  1. For LD, HD, and SD installations, the large side plate of the tank should be placed on the perimeter of the system. This will typically require that the two ends of the tank area will have a row of tanks placed perpendicular to all other tanks. If this is not shown in the construction drawings, it is a simple field adjustment that will have minimal effect on the overall system footprint. Refer to R-Tank Installation Guide for more details
  2. For UD installations, there is no perpendicular end row required.
- D. Wrap the R-Tank top and sides in specified geotextile. Cut strips of geotextile so that it will cover the sides and top, encapsulating the entire system to prevent backfill entry into the system. Overlap geotextile 12" or as recommended by manufacturer. Take great care to avoid damage to geotextile (and, if specified, impervious liner) during placement.
- E. Identify locations of inlet, outlet and any other penetrations of the geotextile (and optional liner). These connections should be installed flush (buted up to the R-Tank) and the geotextile fabric shall be cut to enable hydraulic continuity between the connections and the R-Tank units. These connections shall be secured using pipe boots with stainless steel pipe clamps. Support pipe in trenches during backfill operations to prevent pipe from settling and damaging the geotextile, impervious liner (if specified) or pipe. Connecting pipes at 90 degree angles facilitates construction, unless otherwise specified. Ensure end of pipe is installed snug against R-Tank system.
- F. Install Inspection and Maintenance Ports in locations noted on plans. At a minimum one maintenance port shall be installed within 10' of each inlet & outlet connection, and with a maximum spacing of one maintenance port for every 2,500 square feet. Install all ports as noted in the R-Tank Installation Guide.
- G. If required, install ventilation pipes and vents as specified on drawings to provide ventilation for proper hydraulic performance. The number of pipes and vents will depend on the size of the system. Vents are often installed using a 90 degree elbow with PVC pipe into a landscaped area with 'U' bend or venting bollard to inhibit the ingress of debris. A ground level concrete or steel cover can be used.

### 3.05 Backfilling of the R-Tank Units

- A. Backfill and fill with recommended materials as follows:
  1. Place freely draining backfill materials (Section 2.03 B) around the perimeter in lifts with a maximum thickness of 12". Each lift shall be placed around the entire perimeter such that each lift is no more than 24" higher than the side backfill along any other location on the perimeter of the R-Tank system. No fill shall be placed over top of tanks until the side backfill has been completed.
  2. Each lift shall be compacted at the specified moisture content to a minimum of 95% of the Standard Proctor Density until no further densification is observed (for self-compacting stone materials). The side lifts must be compacted with walk behind compaction equipment. Even when "self-compacting" backfill materials are selected, a walk behind vibratory compactor must be used.

3. Take care to ensure that the compaction process does not allow the machinery to come into contact with the modules due to the potential for damage to the geotextile and R-Tank units.
  4. No compaction equipment is permissible to operate directly on the R-Tank modules.
  5. Top Backfill:
    - a. Typical Applications: Install a 12" (or as shown on plans) lift of freely draining material (Section 2.03 B) over the R-Tank Units, maintaining 12" between equipment tracks and R-Tank System.
    - b. Shallow Applications (< 18" total cover): Install top backfill in accordance with plans. Lightly compacted using a walk-behind trench roller. Alternately, a roller (maximum gross vehicle weight of 6 tons) may be used. Roller must remain in static mode until a minimum of 24" of cover has been placed over the modules. Sheep foot rollers should not be used.
  6. If required, install a geogrid as shown on plans. Geogrid shall extend a minimum of 3 feet beyond the limits of the excavation wall.
  7. Following placement and compaction of the initial cover, subsequent lifts of structural fill (Section 2.03 C) shall be placed at the specified moisture content and compacted to a minimum of 95% of the Standard Proctor Density and shall cover the entire footprint of the R-Tank system. During placement of fill above the system, unless otherwise specified, a uniform elevation of fill shall be maintained to within 12" across the footprint of the R-Tank system. Do not exceed maximum cover depths listed in Table 2.01 B.
  8. Place additional layers of geotextile and/or geogrid at elevations as specified in the design details. Each layer of geosynthetic reinforcement placed above the R-Tank system shall extend a minimum of 3 feet beyond the limits of the excavation wall.
- B. Only low pressure tire or track vehicles shall be operated over the R-Tank system during construction. No machinery should drive on top of the tank until a minimum of 18" of backfill and compaction is achieved. Dump Trucks and Pans shall not be operated within the R-Tank system footprint at any time. Where necessary the heavy equipment should unload in an area adjacent to the R-Tank system and the material should be moved over the system with tracked equipment.
  - C. Ensure that all unrelated construction traffic is kept away from the limits of excavation until the project is complete and final surface materials are in place. No non-installation related loading should be allowed over the R-Tank system until the final design section has been constructed (including pavement).
  - D. Place surfacing materials, such as groundcovers (no large trees), or paving materials over the structure with care to avoid displacement of cover fill and damage to surrounding areas.
  - E. Backfill depth over R-Tank system must be within the limitations shown in the table in Section 2.01 B. If the total backfill depth does not comply with this table, contact engineer or manufacturer's representative for assistance.

## **PART 4 – USING THE SYSTEM**

### **4.01 Maintenance Requirements**

- A. A routine maintenance effort is required to ensure proper performance of the R-Tank system. The Maintenance program should be focused on pretreatment systems. Ensuring these structures are clean and functioning properly will reduce the risk of contamination of the R-Tank system and stormwater released from the site. Pretreatment systems shall be inspected yearly, or as directed by the regulatory agency and by the manufacturer (for proprietary systems). Maintain as needed using acceptable practices or following manufacturer's guidelines (for proprietary systems).
- B. Inspection and/or Maintenance Ports in the R-Tank system will need to be inspected for accumulation of sediments at least quarterly through the first year of operation and at least yearly thereafter. This is done by removing the cap of the port and using a measuring device long enough to reach the bottom of the R-Tank system and stiff enough to push through the loose sediments, allowing a depth measurement.
- C. If sediment has accumulated to the level noted in the R-Tank Maintenance Guide or beyond a level acceptable to the Owner's engineer, the R-Tank system should be flushed.
- D. A flushing event consists of pumping water into the Maintenance Port and/or adjacent structure, allowing the turbulent flows through the R-Tank system to re-suspend the fine sediments. If multiple Maintenance Ports have been installed, water should be pumped into each port to maximize flushing efficiency. Sediment-laden water can be filtered through a Dirtbag™ or approved equivalent if permitted by the locality.

**END OF SECTION**