



Procurement Department

INVITATION FOR BIDS (IFB)

FOR

Phillis Wheatley Park Hardscape Construction

FOR

**HOUSING AUTHORITY OF THE
CITY OF SAN ANTONIO, TEXAS
AND
AFFILIATED ENTITIES**

IFB# 1810-912-31-4851

Prepared by:

**Department of Procurement
Of the
San Antonio Housing Authority
818 South Flores Street
San Antonio, Texas 78204**

President & CEO David Nisivoccia

Invitation For Bids For **Phillis Wheatley Park Hardscape Construction**

The Housing Authority of the City of San Antonio, Texas and its affiliated entities d/b/a San Antonio Housing Authority ("SAHA") hereby invites qualified independent Contractors to submit bids to provide Construction Services for the Phillis Wheatley Park, including sidewalks, pavilion, shade structures, irrigation and other site improvements.

As a part of our social mission and federal mandate, SAHA is committed to providing economic, training and educational opportunities to the low income individuals in the communities we serve. All contractors are required to recruit and hire low income individuals for new positions and provide training & educational opportunities to the greatest extent feasible for these individuals.

The Invitation for Bids can be obtained by calling 210-477-6059 or online at

www.saha.org

<http://nahro.economicengine.com>

<http://www.publicpurchase.com/gems/saha.tx/buyer/public/home>

Notice: Contact with members of the SAHA Board of Commissioners, or SAHA officers and employees other than the contact person listed herein, by any prospective Bidder, after publication of the IFB and prior to the execution of a contract with the successful bidder(s) could result in disqualification of your bid. In fairness to all prospective bidder(s) during the IFB process, if SAHA meets in person with anyone representing a potential provider of these services to discuss this IFB other than at the pre-submittal meeting, an addendum will be issued to address all questions so as to insure no Bidder has a competitive advantage over another. This does not exclude meetings required to conduct business not related to the IFB or possible personal presentations after written qualifications have been received and evaluated.

HOUSING AUTHORITY OF THE
CITY OF SAN ANTONIO, TEXAS

By: _____
Muriel Rhoder
Contracting Officer

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IFB INFORMATION AT A GLANCE

POINT OF CONTACT	Charles Bode Assistant Director of Procurement Phone: (210) 477-6703 Fax: (210) 477-6167 charles_bode@saha.org
DATE ISSUED	October 5, 2018
NON-MANDATORY PRE-SUBMITTAL MEETING	October 12, 2018 at 10:00 a.m. SAHA Central Office, 818 S. Flores, San Antonio, TX 78204
LAST DATE FOR QUESTIONS	October 15, 2018 at 3:00 p.m.
BID DUE DATE	October 23, 2018 at 2:00 p.m. SAHA Procurement Dept. 818 S. Flores, San Antonio, TX 78204
ANTICIPATED APPROVAL BY THE BOARD	November/December 2018
SUBMITAL REQUIREMENTS	1 (one) Original signature document marked "ORIGINAL" and 2 (two) exact copies marked "COPY" in a sealed envelope or container.

INTRODUCTION

The San Antonio Housing Authority (SAHA) is a public housing agency created by resolution of the City of San Antonio in 1938 pursuant to the Texas Housing Authorities Law (now Chapter 392 of the Texas Local Government Code) and federal law. SAHA is a unit of government and its functions are essential governmental functions. The property of SAHA is used for essential public and governmental purposes and is exempt from all taxes, including sales tax on all its purchases of supplies and services.

SAHA enters into and executes contracts and other instruments that are necessary and convenient to the exercise of its powers. SAHA maintains contractual arrangements with United States Department of Housing and Urban Development (HUD) to manage and operate its low rent public housing program and administers the Section 8 Housing Assistance Payments Programs. SAHA programs are federally funded along with development and modernization grants and rental income.

Its primary activity is the ownership and management of over 6,300 public housing units. It also administers rental assistance for almost 12,000 privately owned rental units through the Section 8 program. It operates and manages its housing developments to provide decent, safe, sanitary and affordable housing to low income families, the elderly, and the disabled, and implements various programs designed and funded by HUD.

SAHA has created a number of affiliated public facility corporations ("PFCs") pursuant to Chapter 303 of the Texas Local Government Code (the Public Facility Corporation Act). In some instances, these PFCs own projects. In other cases, PFCs or other related entities serve as partners in partnerships that have been awarded low-income housing tax credits. SAHA's affiliated entities own and operate over 3,000 units of affordable housing.

SAHA staff also manages the San Antonio Housing Finance Corporation ("Finance Corporation"), which is primarily a conduit issuer of bonds for developers of affordable housing projects. The Finance Corporation was created pursuant to Chapter 394 of the Texas Local Government Code (the Texas Housing Finance Corporations Act). When used herein, "SAHA" shall include its affiliated entities.

INVITATION FOR BID

1.0 **GENERAL INFORMATION**

- 1.1 Statement of Purpose:** The Housing Authority of the City of San Antonio and its affiliated entities (SAHA) are seeking bids from independent contractors with demonstrated professional competence and experience to provide construction services for the improvements to the Phillis Wheatley Park as specified herein.
- 1.2** Bidders acknowledge that submitting a bid to SAHA is not a right to be awarded a contract, but only an offer by the Bidder to perform the requirements of the IFB documents in the event SAHA decides to award a contract to that Bidder.
- 1.3 Non-Mandatory Pre-Bid Conference:** A pre-bid conference will be held at SAHA Central Office, located at 818 South Flores, San Antonio, Texas 78204 as indicated herein. The purpose of this conference is to assist Bidders in understanding of the IFB documents and required submittal documents. At this conference, SAHA will conduct an overview of the IFB documents, including attachments. Any questions concerning the scope must be presented in writing (e-mail is acceptable) to the contact person listed herein and will be answered in an addendum.
- 1.4 Bidder's Responsibilities-Contact with SAHA:** Bidders shall address all communication and correspondences pertaining to this IFB process to contact listed herein only. Bidders must not inquire or communicate with any other SAHA staff member or official (including members of the Board of Commissioners) pertaining to this IFB. Failure to abide by this requirement is cause for a bid to be disqualified. During the IFB solicitation process, SAHA will not conduct any ex parte conversations which may give one prospective Bidder an advantage over other prospective Bidders.

2.0 **SAHA'S RESERVATION OF RIGHTS**

- 2.1** SAHA reserves the right to reject any or all bids, to waive any informality in the IFB process, or to terminate the IFB process at any time, if deemed by SAHA to be in its best interests.
- 2.2** SAHA reserves the right not to award a contract pursuant to this IFB.
- 2.3** SAHA reserves the right to terminate a contract awarded pursuant to this IFB, at any time for its convenience upon 30 days written notice to the successful Bidder(s).
- 2.4** SAHA reserves the right to determine the days, hours and locations that the successful Bidder(s) shall provide the services called for in this IFB.

- 2.5** SAHA reserves the right to retain all bids submitted and not permit withdrawal for a period of 90 days subsequent to the deadline for receiving bids without the written consent from SAHA.
- 2.6** SAHA reserves the right to reject and not consider any bid that does not meet the requirements of this IFB, including but not necessarily limited to incomplete bids and/or bids offering alternate or non-requested services and from individuals deemed non responsible.
- 2.7** SAHA shall have no obligation to compensate any Bidder for any costs incurred in responding to this IFB.
- 2.8** SAHA reserves the right to at any time during the IFB or contract process to prohibit any further participation by a Bidder or reject any bids submitted that does not conform to any of the requirements detailed herein. Each prospective Bidder further agrees that he/she will inform SAHA in writing within five (5) days of the discovery of any item that is issued thereafter by SAHA that he/she feels needs to be addressed. Failure to abide by this timeframe shall relieve SAHA, but not the prospective Bidder, of any responsibility pertaining to such issue.
- 2.9** SAHA reserves the right to, prior to award, revise, change, alter or amend any of the instructions, terms, conditions, and/or specifications identified within the IFB documents issued, within any attachment or drawing, or within any addenda issued. All addenda will be posted on SAHA's website www.saha.org, www.publicpurchase.com and <https://nahro.economicengine.com>. Such changes that are issued before the bid submission deadline shall be binding upon all prospective Bidders.
- 2.10** In the case of rejection of all bids, SAHA reserves the right to advertise for new bids or to proceed to do the work otherwise.
- 2.11** SAHA reserves the right to, without any liability; cancel the award of any bid(s) at any time before the execution of the contract documents by all parties.
- 2.12** SAHA reserves the right to add or delete to the estimated or actual quantities, shown herein, in whatever amount necessary, including complete properties, without prejudice or liability to SAHA, if:
- 2.12.1** Funding is not available,
- 2.12.2** Legal restrictions are placed upon the expenditure of monies for this category of service or supplies; or,
- 2.12.3** SAHA's requirements in good faith change after award of the contract.
- 2.13** SAHA reserves the right to make an award to more than one Bidder based on cost and the Bidder being considered responsive and responsible.

- 2.14 SAHA reserves the right to require additional information from all Bidders to determine level of responsibility. Such information shall be submitted in the form and time frame required by SAHA.
- 2.15 SAHA reserves the right to require the Contractor to keep accurate timesheets for all employees assigned to perform any project, task, or assignment resulting from this IFB and any resulting contract.
- 2.16 SAHA reserves the right to contact any individuals, entities, or organizations that have had a business relationship with the Bidder regardless of their inclusion in the reference section of the bid submittal.
- 2.17 In the event any resulting contract is prematurely terminated due to non-performance and/or withdrawal by the Contractor, SAHA reserves the right to seek monetary restitution (to include but not limited to withholding of monies owed) from the Contractor to cover costs for interim services and/or cover the difference of a higher cost (difference between terminated Contractor's rate and new company's rate) beginning the date of Contractor's termination through the contract expiration date.
- 2.18 SAHA reserves the right to amend the contract any time prior to contract execution.

3.0 **GENERAL CONDITIONS:**

- 3.1 **SPECIFICATIONS:** The Contractor shall provide the goods or services as specified in this IFB and any attached HUD Documents. Specifications are in Attachment A.
- 3.2 **REGULATORY/LICENSING:** Contractor shall comply with all applicable federal, state and local laws, rules, regulations, ordinances and codes and obtain any licenses or permits required to provide the services under this IFB. Obtaining licenses and permits shall be the sole responsibility of the successful Bidder whether or not they are known to either the SAHA or the Bidders at the time of the submittal deadline or the award.
- 3.3 **SECTION 3: Contractor is required to prepare and submit monthly reports on Section 3.** Contractor shall utilize Section 3 residents and businesses as defined in Attachment D to perform the requirements under this IFB to the greatest extent feasible and shall document such efforts monthly. There is a 30% goal for hiring Section 3 residents on any contract resulting from this IFB, a subcontracting goal of 10% for Section 3 Businesses for construction contracts and a subcontracting goal of 3% with Section 3 Businesses for non-construction contracts. Contractors will be evaluated on their performance at achieving this goal and such evaluation shall be a factor in future awards.
FAILURE TO PROVIDE A SECTION 3 PLAN MAY CAUSE THE SUBMITTAL TO BE DISQUALIFIED AS NON-RESPONSIVE.

- 3.4 SMALL, WOMAN, MINORITY BUSINESS ENTERPRISES (SWMBE):** The Proposer is required to include a plan identifying the Proposer's good faith efforts to assist SAHA in its responsibility to foster the development of small and historically under-utilized business enterprises including woman owned, minority owned, disabled veteran owned business enterprises and other business enterprises owned and recognized by HUD as having privileged status. **All subcontracting opportunities shall be outlined in this plan and any subcontractors listed on the Subcontractor's form provided in Attachment C. FAILURE TO PROVIDE A SWMBE PLAN MAY CAUSE THE SUBMITTAL TO BE DISQUALIFIED AS NON-RESPONSIVE.**
- 3.5 RESPONSIBILITY FOR SUBCONTRACTORS:** All requirements for the "Prime" contractor shall also apply to any and all subcontractors. It is the Prime Contractors' responsibility to insure the compliance by the subcontractors. Regardless of subcontracting, the Prime Contractor remains liable to SAHA for the performance under this IFB or any resulting contract.
- 3.6 CRIMINAL HISTORY/DRUG TESTING;** Contractor shall perform criminal history checks and drug screening tests on all employees performing work under this IFB and any resulting contract and if requested provide summaries of the results to SAHA. Prospective employees whose criminal history checks discloses a misdemeanor or felony conviction involving crimes of moral turpitude or harm to persons or property shall not be used to perform work under this IFB or any resulting contract. Contractor is required to perform drug screening of all employees and to insure acceptable test results. Criminal history and drug screening checks will be completed at the sole expense of the Contractor.
- 3.7 LIQUIDATED DAMAGES:** For each day that performance under a resulting contract from this IFB is delayed beyond the time specified for completion, the successful Bidder shall be liable for liquidated damages in the amount of \$100.00 per day. However, the timeframe for performance may be adjusted at SAHA's discretion in writing and received by the successful Bidder prior to default under any resulting contract.
- 3.8 UNACCEPTABLE EMPLOYEES:** If any employee of the Contractor is deemed unacceptable by SAHA, Contractor shall immediately replace such personnel with a substitute acceptable to SAHA.
- 3.9 UNIFORMS/BADGES:** Contractor shall provide uniforms and/or ID badges for all employees working on SAHA's properties. No employee will be allowed on SAHA's properties out of uniform and/or without an ID badge.
- 3.10 WARRANTY:** All items installed/provided under any contract resulting from this IFB must include a minimum of a two (2) year warranty from the Contractor for labor, materials, and installation except as specified otherwise herein. This period will begin on the date of "FINAL" acceptance by SAHA.

- 3.10.1** The services provided under the contract shall conform to all information contained within the IFB documents as well as applicable Industry Published Technical Specifications, and if one of the above mentioned Specifications contains more stringent requirements than the other, the more stringent requirements shall apply.
- 3.10.2** In addition to all other warranties, the warranty shall include the warranty for merchantability and the warranty of fitness for a particular purpose.
- 3.10.3** Contractor shall assign any warranties and guarantees to SAHA and provide the Contractor's Warranty for Labor and Installation to SAHA along with all Manufacturers' Warranty documents.
- 3.11 SUBMISSIONS:** Late submissions will not be accepted. Submissions received prior to the opening will be held in confidence until the opening.
- 3.12 PROPOSED COST:**
- 3.12.1 Base Costs:** Your proposed fee for each item is inclusive of all necessary costs to provide the proposed services, including, but not limited to: employee costs and benefits; clerical support; overhead; profit; supplies; materials; licensing; insurance, vehicle fuel, etc. Each fee proposed shall be fully "burdened" with profit and overhead costs.
- 3.12.2 Unit Prices:** Your proposed unit price for each item listed on the Unit Price Sheet, if required, shall be inclusive of all expenses incurred to perform the service under this IFB and any resulting contract. Unit Price shall include but not be limited to, employee costs and benefits, clerical support, overhead, profit, supplies, materials, equipment, licensing, insurance, bonding, vehicle fuel, etc. In case of a discrepancy between a unit price and an extension the unit price prevails.
- 3.12.3** Contractor shall provide at contractor's own expense all equipment, labor, materials, supplies, and tools unless specified otherwise.
- 3.13 Taxes:** SAHA, as a governmental entity, is exempt from Texas State Sales and Use Taxes and Federal Excise Taxes. A letter of Tax Exemption will be provided upon request.
- 3.14 Delivery:** All costs submitted by the successful Bidder shall reflect the cost of delivering the proposed items and/or services to the locations specified within the IFB documents or within the Agreement. All costs in the bid submittal shall be quoted as FOB Destination, Freight Prepaid and allowed unless otherwise stated in this IFB.

- 3.14.1** The successful Bidder agrees to deliver to the designated location(s) on or before the date as specified in the finalized contract. Failure to deliver on or before the specified date constitutes an event of default by the successful Bidder. Upon default, the successful Bidder agrees that SAHA may, at its option, rescind the finalized contract under the termination clause herein and seek compensatory damages as provided by law.
- 3.15 “Or Equal”:** Catalogs, brand names or manufacturer’s references where provided are descriptive only and indicate type and quality desired. Bids on brands of like nature and quality will be considered unless specified otherwise. If bidding other than the referenced manufacturer, brand or trade name, Bidder must provide a complete description of product offered, and illustrations and must be included in the bid submittal. Failure to include the above referenced data will require Contractor to furnish the specified brand names, numbers, etc.
- 3.16 TYPE OF CONTRACT:** Firm fixed contract with the option to extend at the sole discretion of SAHA.
- 3.17 BONDING:** All Surety Bonds shall be issued by companies licensed to do business in the State of Texas, approved by the U.S. Treasury and “A” rated or better by A. M. Best. Acceptable Payment & Performance Bonds shall be provided to SAHA within ten (10) days after Contract execution by both parties. Individual Sureties will not be accepted.
- 3.17.1 Bid Bond:** SAHA requires a Bid Bond for this bid in the amount of 5% of the Base Bid. Bid Bond shall be submitted with the Proposal Fee Sheet. Bid Bond must be submitted with proposal. Proposals without Bid Bond will be rejected.
- 3.17.2 Performance Bond:** The Contractor must provide SAHA a 100% Performance Bond for total contract value, however if the Contractor is unable to acquire the equitable bonding that is acceptable to SAHA within ten (10) days of signed contract, then the Contractor will be deemed in breach of contract.
- 3.17.3 Payment Bond:** The Contractor must provide SAHA a 100% Payment Bond for each Project Contract executed by SAHA, however if the Contractor is unable to acquire the equitable bonding that is acceptable to SAHA within ten (10) days of signed contract, then the Contractor will be deemed in breach of contract.
- 3.18 Notice to Proceed:** Start work date will be determined by the SAHA Project Manager and Contractor’s Manager. Contractor shall not begin work until a Notice to Proceed is received from SAHA signed by the contracting officer.

- 3.19 Calculations:** The Contractor is responsible for field verifying the conditions and quantities required to deliver a complete and functional project. This shall include but is not limited to: demolition, disposal, preparation, installation, overhead, profit, bonding, general liability, labor burden, weather conditions, field verified quantities, and encumbrances. All Proposers' submitted Unit Price Items must include these variables. SAHA shall not pay additional sums for a Proposer's failure to factor these conditions into the Bids. Failure to consider any of the factors listed shall not negate the Contractor's responsibility to perform if awarded a contract under this IFB.
- 3.19.1 Estimated Quantities:** Any quantities provided herein are strictly estimates unless specified otherwise. It is the Proposer's responsibility to determine the exact quantities required to provide a complete, finished, functional, and operational product. Unit prices, if requested, are to be utilized only for additional work requested by SAHA.
- 3.20 Project Occupancy:** For the purposes of this solicitation each development shall be considered fully occupied. The project site may also have various construction zones, phasing, mobilization, as well as other Contractors working on-site. Bidders must include these variables in their proposed fees. SAHA shall not pay additional sums for a proposer's failure to factor these conditions into their submittal.
- 3.21 Time for Completion:** The Contractor shall immediately mobilize and commence work at the time stipulated Notice to Proceed and the Contractor shall be fully complete the project within **180 days** unless specified otherwise.
- 3.22 Safety:** Subject to prior approval by SAHA as to size, design, type and location, and to local regulations, the Contractor and his / her subcontractors shall erect Temporary Safety Signs for purposes of identification and controlling traffic. The Contractor shall furnish, erect, and maintain such signs as may be required by safety regulations and as necessary to safeguard life and property.
- 3.23 Builders Risk:** Contractor is required to acquire Builder's Risk Insurance for any project or projects resulting from this solicitation. In any case SAHA will not be responsible for any loss to Contractor's tools, materials, supplies, the building or project or any other coverage normally covered under Builder's Risk Insurance. See HUD form 5370 attached.
- 3.24 Storage:** The Contractor and his/her subcontractors may maintain with approval by the SAHA Property & Project Managers various Storage Facilities on the site as may be necessary in the proper conduct of the work. These shall be located to cause no interference with any work to be performed on the site by the Contractor or others. The Contractor shall consult with SAHA regarding the location(s) of these facilities on each site.
- 3.25 Removal of Temporary Facilities:** Upon completion of the project, or as directed by SAHA, the Contractor shall remove all temporary structures and facilities they installed from the site and leave the premises in equal or better condition than it was at turnover.

3.26 Final Inspection:

3.26.1 Notice: The Contractor shall provide prompt written notification to SAHA when all work is completed. A final project inspection shall be made when all work is completed. Until the final inspection has been made and project accepted by SAHA, SAHA shall not advance any of the retainage or make the final payment to the Contractor without the approval and concurrence of the Contracting Officer.

3.26.2 Inspection Date: Upon receipt of the Contractor's notification of the date when the work has been completed, SAHA shall conduct a final Inspection within 2 calendar days.

3.26.3 Inspection Participants: The final inspection shall be conducted by a SAHA representative/s, any System Manufacturer's Representative/s, and the Contractor's representative/s at a minimum.

3.26.4 Inspection Conference: The inspection team shall meet after completing the final inspection to determine whether the work has been completed in accordance with these specifications and produce a Punch List Schedule which describes any minor items of incomplete or unsatisfactory work and document if there are any major deficiencies which must be corrected by the Contractor and additional inspections scheduled prior to contract settlement.

3.27 Settlement Documents: The settlement document shall state that the work was completed in accordance with the construction documents, including change orders except any minor items identified on SAHA's proposed certificate of completion, the total amount due the Contractor and a separately stated amount for each unsettled claim against SAHA. It shall also state that SAHA is released of all liens and all claims except those expressly stated in the Contractor's release and that wages paid to laborers or mechanics were consistent with the wage rate requirements of the contract and there are no outstanding claims for unpaid wages, materials, or supplies.

3.28 Wage Rate: The Davis Bacon and Related Acts wage and reporting requirements apply to this project.

4.0 CONDITIONS TO PROPOSE:

4.1 Pre-Qualification: Bidders will not be required to pre-qualify in order to submit a bid. However, all Bidders will be required to submit adequate information showing that the bidder is qualified to perform the required work (i.e. Profile of Firm Form, Attachment C). Failure by the prospective Bidder to provide the requested information may, at SAHA's discretion, eliminate that Bidder from consideration, provided that all Bidders were required to submit the same information.

4.2 IFB Forms, Documents, Specifications and Drawings:

- 4.2.1** It shall be each Bidder's responsibility to examine carefully and, as may be required, properly complete all documents issued pursuant to this IFB.
- 4.2.2** Unless otherwise instructed, specifications and drawings (if provided) do not purport to show all of the exact details of the work. They are intended to illustrate the character and extent of the performance desired under the proposed contract and may be supplemented or revised from time to time.

4.3 Submission and Receipt by SAHA:

- 4.3.1 Time for Receiving Bids:** Bids received prior to the submittal deadline shall be securely kept, unopened, by SAHA. No bid received after the designated deadline shall be considered.

4.3.1.1 Bidders are cautioned that any bid submittal that is time-stamped as being received by SAHA after the exact time set as the deadline for the receiving of bids shall be returned unopened to the Bidder. Any such bids inadvertently opened shall not be considered, but shall be ruled to be invalid. No responsibility will attach to SAHA or any official or employee thereof, for the pre-opening of, or the failure to open a bid not properly addressed and identified.

4.3.1.2 A total of one (1) original signature copy (marked "Original") and 2 exact copies (marked "Copy") shall be forwarded to the Procurement Dept. with the Bidder's name and return address and addressed as follows:

IFB # {Insert Number}
{Insert Exact Title of IFB}
{Insert Month, day, year, Time of Bid Opening}
The Housing Authority of the City of San Antonio
Procurement Department
818 S. Flores
San Antonio, Texas 78204

- 4.3.5 Withdrawal of Bids:** Bids may be withdrawn as detailed in attached HUD Document (Attachment B). Negligence on the part of the Bidder in preparing his/her bid confers no right of withdrawal or modification of his/her bid after such bid has been received and opened.

4.3.5.1 Procedure to withdraw bid submittal: A request for withdrawal of a bid due to a purported error need not be considered by SAHA unless filed in writing by the Bidder within 48 hours after the bid deadline. Any such request shall contain a full explanation of any purported error and shall, if requested by SAHA, be supported by the original calculations on which the bid was computed, together with a certification and notarization thereon that such computation is the original and was prepared by the Bidder or his/her agent, who must be identified on the notarized form. The foregoing shall not be construed that such withdrawal will be permitted, as SAHA retains the right to accept or reject any proposed withdrawal for a mistake.

4.4 Questions/Inquires:

4.4.1 A Bidder may inquire or question any of the bid documents or any part of the information contained therein, by submitting, in writing to the contact person listed herein, at least eight (8) days prior to the bid submission deadline, a complete and specific explanation as to what he/she is requiring clarification. SAHA reserves the right to issue a revision to the applicable IFB requirements or may reject the Bidder's request.

4.4.2 Bidders must propose services that meet the requirements of the IFB documents. Substitutions to the specification and/or approved "equal" requests may be discussed at the scheduled pre-bid conference (if scheduled). All verbal instructions issued by the SAHA officers not already listed within the IFB documents shall only become official when issued as addenda or as a written answer issued pursuant to receipt of a written question.

5.0 FORM OF BID: The bid shall be submitted in the following manner. Failure to submit the bid in the manner specified may result in a premature opening of, post-opening of, or failure to open and consider that bid and may be cause for elimination of that Bidder from consideration for award.

5.1 Tab 1, Form of Bid, Bid Fee Sheet, and Bidder's Certification: These Forms are attached hereto as Attachment F to this IFB document. These Forms must be fully completed, and submitted under this tab. Any exceptions to the specifications or terms must be placed under this tab and "CLEARLY" labeled as such. Placement elsewhere shall render them null and void and they will not be considered.

5.2 Tab 2, HUD Forms and Conflict of Interest Questionnaire: These Forms are attached hereto as Attachment B to this IFB document and must be completed, executed where provided thereon and submitted under this tab.

- 5.3 Tab 3, Profile of Firm Form:** The Profile of Firm Form is attached hereto as Attachment C to this IFB document. This two-page Form must be completed, executed and submitted under this tab.
- 5.4 Tab 4, Client Information:** The Bidder shall submit three former or current clients, preferably other than SAHA, for whom the Bidder has performed similar or like services to those being proposed herein. The list shall, at a minimum, include for each reference:
- 5.4.5.1** The client's name;
 - 5.4.5.2** The client's telephone number and address,
 - 5.4.5.3** Description of services provided to the client, and
 - 5.4.5.4** Date of services
- 5.5 Tab 5, Joint Venture/Partnerships:** The Bidder shall identify if this bid is a joint venture or partnership with another entity. Please remember that all information required from the Bidder under the proceeding or subsequent tabs must also be included for any joint venture or partner. One entity must be designated as the primary contact for the joint venture or partnership in the bid. Include a Profile of Firm Form for each entity. If no joint venture or partnership exists or will not be utilized, please provide this statement, "NO JOINT VENTURE/ NO PARTNERS"
- 5.6 Tab 6, Subcontractors:** Bidders must also provide SAHA with the name, contact information to include address, phone number, email address, core area of business, and years of expertise for each subcontractor and supplier and the minority status of each. A Profile of Firm Form must be completed for each subcontractor and included in this Tab. Bidder must realize that the actual usage of the subcontractor will be contingent upon SAHA's prior written approval, and Bidder remains responsible to SAHA for any and all services and goods provided pursuant to this IFB and any resulting contract. If no subcontractors will not be utilized, please provide this statement, "NO SUBCONTRACTORS" "Contractor intends to perform all work detailed in this IFB".
- 5.7 Tab 7, Section 3 Business Preference:** Any Bidder claiming a Section 3 Business Preference, shall under this tab include the fully completed and executed Section 3 applicant certification form for low-income employees for whom Bidder is seeking the preference, verification of total number of full-time employees, names and addresses of low-income residents who are Bidders employees. **Note: If you qualify as a Section 3 Business Concern, your bid will receive a preference over other bids as specified in Attachment D.**

- 5.8 Tab 8, Small/Minority/Disadvantaged/Veteran Business Enterprise Utilization Plan:** The Bidder is required to include hereunder a plan to assist SAHA in its responsibility to foster the development of small and historically under-utilized business enterprises by identifying subcontracting opportunities with SWMBE companies. Contractor is required to show a good faith effort to employ SWMBE firms in the execution of this project. **FAILURE TO PROVIDE A S/W/MBE PLAN MAY CAUSE THE RESPONSE TO BE DISQUALIFIED AS NON-RESPONSIVE.**
- 5.9 Tab 9, Section 3 Good Faith Effort Compliance Plan:** Bidders are required to complete and submit the SECTION 3 PROGRAM GOOD FAITH EFFORT COMPLIANCE PLAN outlining their efforts to employ qualified Section 3 businesses or persons. The goal as stated in the Good Faith Effort Compliance Plan is thirty percent of new hires for Section 3 persons per contract. The subcontracting goal is ten percent for Section 3 Businesses for construction contracts and three percent for Section 3 Businesses for non-construction contracts. SAHA will provide a listing of qualified Section 3 Businesses upon request. **FAILURE TO PROVIDE THE SECTION 3 PROGRAM GOOD FAITH EFFORT COMPLIANCE PLAN MAY CAUSE THE RESPONSE TO BE DISQUALIFIED AS NON-RESPONSIVE**
- 5.10 Tab 10, Financial Viability and Other Information:** Financial ability to provide such services to include copies of most recent financial statements and most recent audit if available. The Bidder may also include hereunder any other general information and copies of any licenses held or required.
- 5.11 Bid Submittal Binding Method:** It is preferable and recommended that the Bidder bind the bid submittals in such a manner that SAHA can, if needed, remove the binding (i.e. "comb-type, etc.) or remove the pages from the cover (i.e. 3-ring binder, etc.) to make copies then return the bid submittal to its original condition.

6.0 MISTAKE IN BID

- 6.1** After a bid has been opened it may not be changed for the purpose of correcting an error in the pricing. This does not affect the common law right of the bidder to withdraw a bid due to a material mistake in the bid.
- 6.2 Irregular Bid Submittal:** A bid shall be considered irregular for any one of the following reasons, any one or more of which may be reason for rejection:
- 6.2.1** If the forms furnished by SAHA are not used or are altered or if the bid costs are not submitted as required and where provided.
- 6.2.2** If all requested completed attachments do not accompany the bid submittal.

- 6.2.3** If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the bid incomplete, indefinite or ambiguous as to its meaning or give the Bidder submitting the same a competitive advantage over other Bidders.
- 6.2.4** If the Bidder adds any provisions reserving the right to accept or reject any award or to enter into a contract pursuant to an award.
- 6.2.5** If the individual cost bid items submitted by a specific Bidder are unbalanced in the sense that the listed price of any cost item departs by more than 25% from SAHA's cost estimate for that item.
- 6.3 Disqualification of Bidders:** Any one or more of the following shall be considered as sufficient for the disqualification of a prospective Bidder and the rejection of his/her bid:

 - 6.3.1** Evidence of collusion among prospective Bidders. Participants in such collusion will receive no recognition as Bidders or Proposer for any future work with SAHA until such participant shall have been reinstated as a qualified Bidder or Proposer. The names of all participants in such collusion shall be reported to HUD and any other inquiring governmental agency.
 - 6.3.2** More than one bid for the same work from an individual, firm, or corporation under the same or different name(s).
 - 6.3.3** Lack of competency, lack of experience and/or lack of adequate machinery, plant and/or other resources.
 - 6.3.4** Unsatisfactory performance record as shown by past work for SAHA or with any other local, state or federal agency, judged from the standpoint of workmanship and progress.
 - 6.3.5** Incomplete work, which in the judgment of SAHA, might hinder or prevent prompt completion of additional work, if awarded.
 - 6.3.6** Failure to pay or satisfactorily settle all bills due on former contracts still outstanding at the time of letting.
 - 6.3.7** Failure to comply with any qualification requirements of SAHA.
 - 6.3.8** Failure to list, if required, all subcontractors (if subcontractors are allowed by SAHA) who will be employed by the successful Bidder(s) to complete the work of the proposed contract.

6.3.9 As required by the IFB documents, failure of the successful Bidder to be properly licensed by the City, County and/or the State of Texas and/or to be insured by a commercial general liability policy and/or worker's compensation policy and/or business automobile liability policy, if applicable. If a Bidder receives an award unless otherwise waived in the Contract, the Contractor will be required to provide original certificates of the following insurance requirements to SAHA within 10 days of contract signature:

6.3.10 Any reason to be determined, in good faith, to be in the best interests of SAHA.

7.0 Award of Bids(s): Bidders shall be recommended for award if they are deemed responsive and responsible and provide the "Best Value" to SAHA. SAHA also reserves the right to award on a by property basis. In determining the best value SAHA may consider:

- 7.1** The purchase price;
- 7.2** The reputation of the bidder and his goods or services;
- 7.3** The quality of the goods or services;
- 7.4** The extent to which the goods or services meet SAHA's needs;
- 7.5** The total long term cost;
- 7.6** Any relevant criteria listed herein;

8.0 INSURANCE: If a Bidder receives an award and unless otherwise waived in the Contract, the Contractor will be required to provide an original Certificate of Insurance confirming the following minimum requirements to SAHA within 10 days of contract signature: (See next page.)

Professional Liability	Required Limits
SAHA and its affiliates must be named as an Additional Insured and be a Certificate Holder. This is required for vendors who render observational services to SAHA such as appraisers, inspectors, attorneys, engineers or consultants.	\$1,000,000 Not Required for this contract
Business Automobile Liability	Required Limits
SAHA and its affiliates must be named as an additional insured and as the certificate holder. This is required for any vendor that will be using their vehicle to do work on SAHA properties.	\$500,000 combined Single limit, per occurrence
Workers Compensation and Employer's Liability	Required Limits
Workers' Compensation coverage is Statutory and has no pre-set limits. Employer's Liability limit is \$500,000. Workers' Compensation is required for any vendor made up of more than two persons. A Waiver of Subrogation in favor of SAHA must be included in the Workers' Compensation policy. SAHA and its affiliates must be a Certificate Holder.	Statutory Employer's Liability is \$500,000
Commercial General Liability	Required Limits
This is required for any vendor who will be doing hands on work at SAHA properties. SAHA and its affiliates must be named as an Additional Insured and as the Certificate Holder.	\$1,000,000 per accident \$2,000,000 aggregate

9.0 INVOICING:

- 9.1** Contractor(s) will only be allowed to invoice for the cost of services/goods in compliance with his/ her bid or best and final offer as accepted by SAHA.
- 9.2** Invoices must contain a complete description of the work or service that was performed, the contract price for each service, the purchase order number, contract number (if applicable), date of service, and address of service location or delivery address.
- 9.3** Contractor(s) must submit a separate invoice for each purchase order issued by SAHA unless prior approval is obtained from SAHA.
- 9.4** If applicable, SAHA may make progress payments approximately every 30 days as the work proceeds if work meets owner's standards, as approved by the Contracting Officer. SAHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses in accordance with HUD documents.
- 9.5** Upon the Award of Contract, Contractor shall complete the direct deposit form from SAHA to process all payments electronically to insure prompt and efficient payment of all invoices.
- 9.6** If offered by Contractor, SAHA seeks a discount for early payment. SAHA shall only take such a discount if earned.
- 9.7** To insure prompt and timely payment of invoices, unless utilizing a progress payment schedule, invoices shall be sent to the following address:

Email invoices to: Accounts_Payable@saha.org

If the contractor does not have the capability to email invoices they may be sent to the following address:

San Antonio Housing Authority
Finance and Accounting
P.O. Box 830428
San Antonio, TX 78283-0428

- 9.8** Contractor shall invoice SAHA within 60 days after the delivery of the goods or service. If contractor fails to invoice within 60 days SAHA reserves the right to not pay the invoice.

10.0 RIGHT TO PROTEST:

10.1 Rights: Any prospective or actual proposer or contractor, who is allegedly aggrieved in connection with the solicitation of a bid or award of a contract, shall have the right to protest. Such right only applies to deviations from laws, rules, regulations, or procedures. Disagreements with the evaluators' judgments as to the number of points scored are not reasons for an appeal. An alleged aggrieved protestant claiming this right is hereby informed that these regulations do not provide for administrative appeal as a matter of right for that alleged aggrieved protestant.

10.1.1 Definition: An alleged aggrieved "protestant" is a prospective proposer or proposer who feels that he/she has been treated inequitably by SAHA and wishes SAHA to correct the alleged inequitable condition or situation.

10.1.2 Eligibility: To be eligible to file a protest with SAHA pertaining to an IFB or contract, the alleged aggrieved protestant must have been involved in the IFB process in some manner as a prospective proposer (i.e. recipient of the IFB documents) when the alleged situation occurred. SAHA has no obligation to consider a protest filed by any party that does not meet these criteria.

10.1.3 Procedure: Any actual or prospective contractor may protest the solicitation or award of a contract for material violation of SAHA's procurement policy. Any protest against a SAHA solicitation must be received before the due date for receipt of Bids and any protest against the award of a contract must be received within ten calendar days after contract award or the protest will not be considered.

All protests must be in writing and submitted to the Director of Procurement for a written decision. The Director of Procurement shall make a recommendation to the Contracting Officer who shall issue a written decision and findings to the Contractor within 30 days from receipt of the written protest. This decision is then appealable to the Board of Commissioners within 30 days of receipt of the written decision. Appeals which are not timely filed will not be considered and the decision becomes final. All appeals shall be marked and sent to the address as listed in the example below:

APPEAL OF IFB NO. {Insert IFB # here}
San Antonio Housing Authority
Procurement Department
818 South Flores,
San Antonio, TX 78204

11.0 **ADDITIONAL CONSIDERATIONS:**

- 11.1 Government Standards:** It is the responsibility of the prospective Bidder to ensure that all items and services proposed conform to all local, state and federal law concerning safety (OSHA) and environmental control (EPA and Bexar County Pollution Regulations) and any other enacted ordinance, code, law or regulation. The successful Bidder shall be responsible for all costs incurred for compliance with any such possible ordinance, code, law or regulation. No time extensions shall be granted or financial consideration given to the successful Bidder for time or monies lost due to violations of any such ordinance, code, law or regulations that may occur.
- 11.2 Work on SAHA Property:** If the successful Bidder's work under the contract involves operations on SAHA premises, the successful Bidder shall take all necessary precautions to prevent the occurrence of any injury to persons or property during the progress of such work and shall immediately return said property to a condition equal to or better than the existing condition prior to the commencement of work at the site at no cost to SAHA.
- 11.3 Estimated Quantities:** Unless otherwise indicated, the quantities shown are estimates only and are used to evaluate the responses and may or may not reflect anticipated purchases. SAHA does not guarantee any minimum purchase quantity.
- 11.4 Official, Agent and Employees of the SAHA Not Personally Liable:** It is agreed by and between the parties hereto that in no event shall any official, officer, employee, or agent of the SAHA in any way be personally liable or responsible for any covenant or agreement herein contained whether expressed or implied, nor for any statement, representation or warranty made herein or in any connection with this agreement.
- 11.5 Subcontractors:** Unless otherwise stated within the IFB documents, the successful Bidder may not use any subcontractors to accomplish any portion of the services described within the IFB documents or the contract without the prior written permission of SAHA. Also, any substitution of subcontractors must be approved in writing by SAHA prior to their engagement.
- 11.6 Salaries and Expenses Relating to the Successful Proposers Employees:** Unless otherwise stated within the IFB documents, the successful Bidder shall pay all salaries and expenses of, and all Federal, Social Security taxes, Federal and State Unemployment taxes, and any similar taxes relating to its employees used in the performance of the contract. The successful Bidder further agrees to comply with all Federal, State and local wage and hour laws and all licensing laws applicable to its employees or other personnel furnished under this agreement.

- 11.7 Independent Contractor:** Unless otherwise stated within the IFB documents or the contract, the successful Bidder is an independent contractor. Nothing herein shall create any association, agency, partnership or joint venture between the parties hereto and neither shall have any authority to bind the other in any way.
- 11.8 Severability:** If any provision of this agreement or any portion or provision hereof applicable to any particular situation or circumstance is held invalid, the remainder of this agreement or the remainder of such provision (as the case may be), and the application thereof to other situations or circumstances shall not be affected thereby.
- 11.9 Waiver of Breach:** A waiver of either party of any terms or conditions of this agreement in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach thereof. All remedies, rights, undertakings, obligations, and agreements contained in this agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, obligation or agreement of either party.
- 11.10 Time of the Essence:** Time is of the essence as to each provision in which a timeframe for performance is provided in this IFB. Failure to meet these timeframes may be considered a material breach, and SAHA may pursue compensatory and/or liquidated damages under the contract.
- 11.11 Limitation of Liability:** In no event shall SAHA be liable to the successful Bidder for any indirect, incidental, consequential or exemplary damages.
- 11.12 Indemnity:** The Contractor shall indemnify and hold harmless SAHA and its officers, agents, representatives, and employees from and against all claims, losses, damages, actions, causes of action and/or expenses resulting from, brought for, or on account of any bodily injury or death of an employee of the Contractor, its agent, or its subcontractor of any tier received or sustained by any persons or property growing out of, occurring, or attributable to any work performed under or related to this Agreement, resulting in whole or in part from the negligent acts or omissions of the Contractor, any subcontractor, or any employee, agent or representative of the Contractor or any subcontractor, **AND REGARDLESS OF WHETHER CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE OF SAHA. CONTRACTOR ACKNOWLEDGES AND AGREES THAT THIS INDEMNITY CONTROLS OVER ALL OTHER PROVISIONS IN THE AGREEMENT, SURVIVES TERMINATION OF THIS AGREEMENT, AND APPLIES TO CLAIMS AND LIABILITY ARISING OUT OF THE SOLE OR CONCURRENT NEGLIGENCE OF SAHA.**

Contractor shall indemnify and hold harmless SAHA, their agents, consultants and employees from and against any and all property damage claims, losses, damages, costs and expenses relating to the performance of this Agreement, including any resulting loss of use, *but only to the extent caused by the negligent acts or omissions of Contractor*, its employees, sub-subcontractors, suppliers, manufacturers, or other persons or entities for whose acts Contractor may be liable.

11.13 Public/Contracting Statutes. SAHA is a governmental entity as that term is defined in the procurement statutes. SAHA and this IFB and all resulting contracts are subject to federal, state and local laws, rules, regulations and policies relating to procurement as applicable.

11.14 Termination: Any contract resulting from this IFB may be terminated under the following conditions:

11.14.1 Consent: By mutual consent of both parties, and

11.14.2 Termination For Cause: As detailed within the attached HUD Forms.

11.14.2.1 SAHA may terminate any and all contracts for default at any time in whole or in part, if the contractor fails to perform any of the provisions of any contract, so fails to pursue the work as to endanger performance in accordance with the terms of the IFB or any resulting contracts, and after receipt of written notice from SAHA, fails to correct such failures within seven (7) days or such other period as SAHA may authorize or require.

11.14.2.1.1 Upon receipt of a notice of termination issued from SAHA, the Contractor shall immediately cease all activities under any contract resulting from this IFB, unless expressly directed otherwise by SAHA in the notice of termination.

11.14.2.1.2 SAHA may terminate any contract resulting from this IFB in whole or in part, if funding is reduced, or is not obtained and continued at levels sufficient to allow for the expenditure.

11.14.3 Termination for Convenience: In the sole discretion of the Contracting Officer, SAHA may terminate any and all contracts resulting from this IFB in whole or part upon thirty days prior notice to the Contractor when it is determined to be in the best interest of SAHA.

11.14.4 The rights and remedies of SAHA provided under this section are not exclusive and are in addition to any other rights and remedies provided by law or under any contract.

11.14.5 In the event the resulting contract from this IFB is terminated for any reason, or upon its expiration, SAHA shall retain ownership of all work products including deliverables, source and object code, microcode, software licenses, and documentation in whatever form that may exist. In addition to any other provision, the Contractor shall transfer title and deliver to SAHA any partially completed work products, deliverables, source and object code, or documentation that the Contractor has produced or acquired in the performance of any resulting contract.

11.15 Examination and Retention of Contractor's Records: SAHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until three years after final payment under all contracts executed as a result of this IFB, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audits, examinations, excerpts and transcriptions.

11.16 Inter-local Participation

11.16.1 SAHA may from time to time enter into Inter-local Cooperation Purchasing Agreements with other governmental entities or governmental cooperatives (hereafter collectively referred to as "Entity" or "Entities") to enhance SAHA's purchasing power. At SAHA's sole discretion and option, SAHA may inform other Entities that they may acquire items listed in this IFB. Such acquisition(s) shall be at the prices stated herein, and shall be subject to Contractor's acceptance.

11.16.2 In no event shall SAHA be considered a dealer, remarketer, agent or other representative of Contractor or Entity. Further, SAHA shall not be considered and is not an agent; partner or representative of the Entity making purchases hereunder, and shall not be obligated or liable for any such order.

11.16.3 Purchase orders shall be submitted to Contractor by the individual Entity.

11.16.4 SAHA shall not be liable or responsible for any obligation, including but not limited to, payment and for any item or service ordered by an Entity, other than SAHA.

11.17 Right to data and Patent Rights: In addition to other ownership & use rights SAHA shall have exclusive ownership of all, proprietary interest in, and the right to full and exclusive possession of all information, materials, documents, software, and all electronic data discovered or produced by Contractor and/or subcontractor(s) pursuant to the terms of any resulting contract, including but not limited to, reports, memoranda or letters concerning the research and reporting tasks of any resulting contract. Both parties agree to comply with HUD Bulletin 909-23, which is the Notice of Assistance Regarding Patent and Copyright Infringement.

11.18 Lobbying Certification: By proposing to do business with SAHA or by doing business with SAHA, each Bidder certifies the following:

- 11.18.1** No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder, to any person for influencing or attempting to influence an officer or employee of Congress, or an employee of a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.
- 11.18.2** If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form "Disclosure Form to Report Lobbying", in accordance with its instructions (See Attachment B).
- 11.18.3** The successful Bidder shall require that the language of this certification be included in the award documents for all sub-awards at all tiers, (including but not limited to subcontractors, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.
- 11.18.4** This clause is a material representation of fact upon which reliance will be placed when the award is made or a contract is entered into. The signing of a contract or acceptance of award certifies compliance with this certification, which is a prerequisite for making or entering into a contract, which is imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certifications shall be subject to civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure.

11.19 Applicable Statutes, Regulations & Orders: Contractors shall comply with all statutes, rules, regulations, executive orders affecting procurements by Housing Authorities including but not limited to:

- 11.19.1** Executive Order 11246
- 11.19.2** Executive Order 11063
- 11.19.3** Copeland "Anti-Kickback" Act (18 USC 874)
- 11.19.4** Davis Bacon Act (40 USC 276a-276a-7)
- 11.19.5** Clean Air & Water Acts (42 USC 1857(h); 33 USC 1368)
- 11.19.6** Contract Work Hours & Safety Standards Act (40 USC 327-330)
- 11.19.7** Energy Policy & Conservation Act (PL 94-163, 89 STAT 871)
- 11.19.8** Civil Rights Act of 1964, Title VI (PL 88-352)
- 11.19.9** Civil Rights Act of 1968, Title VIII (PL 90-284 Fair Housing Act)
- 11.19.10** Age Discrimination Act of 1975
- 11.19.11** Anti-Drug Abuse Act of 1988 (42 USC 11901 et. Seq.)

11.19.12 HUD Information Bulletin 909-23

11.19.13 Immigration Reform & Control Act of 1986

11.19.14 Fair Labor Standards Act (29 USC 201, et. Seq.)

11.21 Additional Information: Each provision of law and each clause, which is required by law to be inserted in this IFB or any contract, shall be deemed to have been inserted herein, and this IFB and any resulting contract shall be read and enforced as though such provision or clause had been physically inserted herein. If, through mistake or otherwise, any such provision is not inserted or is inserted incorrectly, this agreement shall forthwith be physically amended to make such insertion or correction upon the application of either party. The fore-mentioned statutes, regulations and executive orders are not intended as an indication that such statute, regulation or executive order is necessary applicable nor is an omission of such statute, regulation or executive order intended to indicate that it is not applicable.

11.22 Conflicting Conditions: In the event there is a conflict between the documents comprising this IFB and any resulting contracts, the following order of precedence shall govern: (1) the more restrictive terms of either: any and all attached HUD forms and the term/conditions in the body of any resulting contract; (2) the IFB; and (3) Contractor's Response. In the event that a conflict exists between any state statute or federal law the most restrictive terms shall apply.

11.23 Contract Form: SAHA will not execute a contract on the successful Bidder's form. Contracts will only be executed on SAHA's form. By submitting a bid, the successful Bidder agrees to this condition. However, SAHA will consider any contract clauses that the Bidder wishes to include therein, but the failure of SAHA to include such clauses does not give the successful Bidder the right to refuse to execute SAHA's contract form. It is the responsibility of each prospective Bidder to notify SAHA, in writing, with the bid submittal of any contract clauses that he/she is not willing to include in the final executed contract. SAHA will consider such clauses and determine whether or not to amend the Contract.

11.24 Force Majeure: Neither SAHA nor Contractor shall be held responsible for delays or default caused by fire, flood, riot, acts of God or war where such cause was beyond, respectively, SAHA or Contractor's reasonable control. Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance of its obligations under this Agreement.

11.25 HB 89: Effective 9-1-17: prohibits a governmental entity from doing business with any vendor for goods or services unless that vendor verifies in the contract that "they i) do not boycott Israel and ii) will not boycott Israel during the term of the contract".

11.26 SB 252: Prohibits a government entity from awarding a contract to a company identified as Iran, Sudan, or a Foreign Terrorist Organization as identified on a list maintained by the Texas Comptroller of Public Accounts.

ATTACHMENT A Specifications

Please note the following items:

Please keep in mind that the bid sheet acknowledges the need for the add Alternate #1 and #2 as summarized and described on Section 012300 - Alternates.

Schedule of Alternates under Part 3 - Execution A & B. The first alternate is the cost to provide a truss pavilion verses a no truss pavilion structure. The second alternate is for the cost to provide the concrete foundations for the art work.

Please note that the actual artwork is provided by the Artist and is not part of this proposal / bid. Only the add alternate for the foundation concrete work is required when submitting the proposal.

All environmental remediation and HUD environmental clearance (ERR) was done as part of the Wheatley Courts Choice Neighborhood Project. This land was part of the original Wheatley Courts land. We had it re-platted to separate this portion for the East Meadows I and Wheatley Park Senior Living properties. In addition SAHA did a disposition and demolition HUD process in order to get it to this point and be able to develop it. If required, the awarded Contractor can request copies of the reports.

Warranty: The ownership of the Phillis Wheatley Park will transfer to the City of San Antonio at some point in the warranty period. The transfer of ownership will include transfer of any remaining warranty during the warranty period. Warranty period will begin on the date of Final Acceptance by SAHA.

General Specifications Manual
For
New Phillis Wheatley Park
N. Mittman St.
San Antonio, Texas 78202

DHR Project #18-010
September, 2018



Durand-Hollis Rupe Architects, Inc.
14603 Huebner Road, Building 18, San Antonio, Texas 78230
Telephone: 210.308.0080, Fax: 210.697.3309

000107 – SEAL/SIGNATURE PAGE

**NEW PHILLIS WHEATLEY PARK
SAN ANTONIO, TEXAS 78202**

OWNER

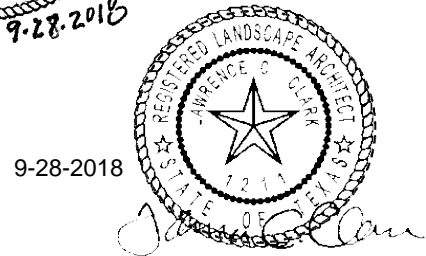
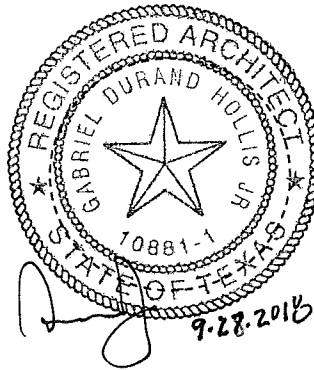
SAN ANTONIO HOUSING AUTHORITY
818 S. FLORES ST.
SAN ANTONIO, TX 78204

ARCHITECT

DHR ARCHITECTS
14603 HUEBNER RD., BLDG. 18
SAN ANTONIO, TX 78230
TEL.: 210-308-0080 FAX: 210-697-3309

LANDSCAPE ARCHITECT

BENDER WELLS CLARK DESIGN
830 N. ALAMO
SAN ANTONIO, TX 78215
TEL.: 210-692-9221 FAX: 210-223-8582



STRUCTURAL ENGINEER (specifications on drawings)

LEHMANN ENGINEERING
1006 BECKETT
SAN ANTONIO, TX 78213
TEL.: 210-348-8889 FAX: 210-348-8884

MEP ENGINEER (specifications on drawings)

HM3 ENGINEERING CONSULTANTS
2902 N. FLORES
SAN ANTONIO, TX 78212
TEL.: 210-393-1840 FAX: 210-701-8108

GEOTECHNICAL

RABA KISTNER CONSULTANTS, INC.

**New Phillis Wheatley Park
San Antonio, Texas 78202**

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(Refer to SAHA Procurement and Contract Requirements)

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000200	Consultants Seal/Signature Page
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012300	Alternates (A&Art)
012500	Substitution Procedures
012600	Contract Modification Procedures
012900	Payment Procedures
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013200	Construction Progress Documentation
013300	Submittal Procedures
013516	Alterations Project Procedures
014000	Quality Requirements
014200	References
015000	Temporary Facilities and Controls
105713	Temporary Erosion (L)
016000	Product Requirements
017300	Execution
017700	Closeout Procedures
017823	Operation and Maintenance Data
017839	Project Record Documents

DIVISION 02 – EXISTING CONDITIONS - (N/A)

DIVISION 03 – CONCRETE

(Refer to Structural Specifications on Drawings)

DIVISION 04 – MASONRY - (N/A)

DIVISION 05 - METALS

(Refer to Structural Specifications on Drawings)

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES - (N/A)

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

079000 Joint Sealers (L)

DIVISION 08 – OPENINGS - (N/A)

DIVISION 09 – FINISHES

099113 Exterior Painting

DIVISION 10 – SPECIALTIES - (N/A)

DIVISION 11 – EQUIPMENT

116813 Playground Equipment (L)

DIVISION 12 – FURNISHINGS

129300 Site and Street Furnishings (L)

DIVISION 13 – SPECIAL CONSTRUCTION

133000 Pre-Engineered Structures and Shelters (Pavilion)

133123 Shade Structures (L)

DIVISION 14 – CONVEYING SYSTEMS - (N/A)

DIVISION 21 – FIRE SUPPRESSION - (N/A)

DIVISION 22 – PLUMBING - (N/A)

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING - (N/A)

DIVISION 26 – ELECTRICAL

(Refer to Electrical Specifications on Drawings)

DIVISION 27 - COMMUNICATION - (N/A)

DIVISION 28 – FIRE PROTECTION - (N/A)

DIVISION 31 – EARTHWORK

311000 Site Clearing (L)

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DIVISION 33 – UTILITIES

(Refer to Electrical Specifications on Drawings)

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Access to site.
 - 4. Work restrictions.
 - 5. Specification and Drawing conventions.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

- A. Project Identification: Property parcel bound by Lamar St. on the north, N. Mittman St. on the east, Arthur St. on the south and N. Gevers St. on the west.
 - 1. Project Location: San Antonio, Texas 78202.
- B. Owner: San Antonio Housing Authority, 818 S. Flores, San Antonio, Texas 78204.
 - 1. Owner's Representative: Lorraine Robles - Director of Development Services and Neighborhood Revitalization
 - 2. Architect: DHR Architects, Inc..

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work for this Project is defined by the Contract Documents and consists of developing 3/4 acres into a public park consisting of a new metal pavilion and concrete foundation, fabric covered shade canopies, concrete sidewalks, landscaping and irrigation system, outdoor lighting, playground and exercise equipment, drinking fountain, outdoor seating, open playground area and art components.
- B. Type of Contract:
 - 1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

- A. General: Each Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1.5 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work on site to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Coordinate with utility companies as required during construction.
- D. Restricted Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.6 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. ONE (1): Pre – Engineered Structure (Pavilion)
In Lieu of Base Bid Polygon Pavilion HIP 28x44, #63058 (open truss frame), provide Alternate cost for #63057 (truss frame), as indicated on Architectural Drawing Sheet A-101, Pavilion

Roof Framing and Elevations as, specified in Section 133000 – Pre-Engineered Structures and Shelters (Pavilion)

B. Add Alternate No. TWO (2): Park Art Elements Foundations

Include the cost for the installation of the concrete foundations of all Art Elements, as indicated on Structural Drawing Sheet S-1A, ParkArt Elements Foundations. Also include the coordination and placement cost of Art Elements on foundations.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.

- f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from IBC and IECC for City of San Antonio, Texas.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed unless otherwise indicated.
- C. Substitutions for Convenience: Architect will consider requests for substitution if received within sixty (60) days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

New Phillis Wheatley Park

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or twenty (20) days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect and Owner.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures by Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one (1) line item for each Specification Section.
 - 1. Arrange schedule of values consistent with format of AIA Document G703
 - 2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.
 - 3. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 - 4. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 - 5. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
 - 6. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
 - 7. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five (5) percent of the Contract Sum and subcontract amount.
 - 8. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment seven (7) days prior to due date for review by Architect.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- F. Transmittal: Submit electronic signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. Include waivers of lien and similar attachments if required.
 - 1. Transmit copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment and subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Sustainable design action plans, including preliminary project materials cost data.
 6. Schedule of unit prices.
 7. Submittal schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. List of Contractor's principal consultants.
 10. Copies of building permits.
 11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 12. Initial progress report.
 13. Report of preconstruction conference.
 14. Certificates of insurance and insurance policies.
 15. Performance and payment bonds.
 16. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706.
 5. AIA Document G706A.
 6. AIA Document G707.
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.

New Phillis Wheatley Park

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Project meetings.
- B. Related Requirements:
 - 1. Section 011200 "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 019113 "General Commissioning Requirements" for coordinating the Work with Owner's Commissioning Authority.

1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and other scheduled activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 - 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 - 1. Floor Plans Show architectural and structural elements and electrical Work.
 - 2. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.

3. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.

1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716, Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow **seven (7)** working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log at each progress meeting with:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.
- G. Web-Based Project Software: Provide, administer, and use web-based Project software site for purposes of hosting and managing Project communication and documentation until Final Completion.
1. Web-based Project software site includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, Architect, architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.

- H. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
- B. Preconstruction Conference Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement.
1. Attendees: Authorized representatives of Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Use of web-based Project software.
 - h. Procedures for processing field decisions and Change Orders.
 - i. Procedures for RFIs.
 - j. Procedures for testing and inspecting.
 - k. Procedures for processing Applications for Payment.
 - l. Distribution of the Contract Documents.
 - m. Submittal procedures.
 - n. Sustainable design requirements.
 - o. Preparation of Record Documents.
 - p. Use of the premises
 - q. Work restrictions.
 - r. Working hours.
 - s. Owner's occupancy requirements.
 - t. Responsibility for temporary facilities and controls.
 - u. Procedures for moisture and mold control.
 - v. Procedures for disruptions and shutdowns.
 - w. Construction waste management and recycling.
 - x. Parking availability.
 - y. Office, work, and storage areas.
 - z. Equipment deliveries and priorities.
 - aa. First aid.
 - bb. Security.

- cc. Progress cleaning.
 - 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Sustainable design requirements.
 - i. Review of mockups.
 - j. Possible conflicts.
 - k. Compatibility requirements.
 - l. Time schedules.
 - m. Weather limitations.
 - n. Manufacturer's written instructions.
 - o. Warranty requirements.
 - p. Compatibility of materials.
 - q. Acceptability of substrates.
 - r. Temporary facilities and controls.
 - s. Space and access limitations.
 - t. Regulations of authorities having jurisdiction.
 - u. Testing and inspecting requirements.
 - v. Installation procedures.
 - w. Coordination with other work.
 - x. Required performance results.
 - y. Protection of adjacent work.
 - z. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at scheduled intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Status of sustainable design documentation.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site use.
 - 9) Temporary facilities and controls.
 - 10) Progress cleaning.
 - 11) Quality and work standards.
 - 12) Status of correction of deficient items.
 - 13) Field observations.
 - 14) Status of RFIs.
 - 15) Status of Proposal Requests.
 - 16) Pending changes.
 - 17) Status of Change Orders.
 - 18) Pending claims and disputes.
 - 19) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Site condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.

2. PDF file.

- B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
 - 3. Total Float Report: List of activities sorted in ascending order of total float.
- E. Construction Schedule Updating Reports: Submit with Applications for Payment.
- F. Daily Construction Reports: Submit at weekly intervals.
- G. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 - 1. Use Microsoft Project, for current Windows operating system.
- B. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 5. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
 2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
 5. Pending modifications affecting the Work and the Contract Time.
- F. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- G. Recovery Schedule: When periodic update indicates the Work is fourteen (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- H. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within thirty (30) days of date established for commencement of the Work
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

1.7 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Testing and inspection.
 8. Accidents.
 9. Meetings and significant decisions.
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Work Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial completions and occupancies.
 19. Substantial Completions authorized.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- A. Action Submittals:** Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals:** Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule:** Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Construction Manager.
5. Name of Contractor.
6. Name of firm or entity that prepared submittal.
7. Names of subcontractor, manufacturer, and supplier.
8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
9. Category and type of submittal.
10. Submittal purpose and description.

11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 12. Drawing number and detail references, as appropriate.
 13. Indication of full or partial submittal.
 14. Location(s) where product is to be installed, as appropriate.
 15. Other necessary identification.
 16. Remarks.
 17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- E. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow fifteen (15) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

2. Resubmittal Review: Allow fifteen (15) days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches

- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit two (2) sets of Samples. Architect will retain one Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

- D. **Product Schedule:** As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
- E. **Qualification Data:** Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. **Design Data:** Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. **Certificates:**
 - 1. **Certificates and Certifications Submittals:** Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 - 2. **Installer Certificates:** Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 - 3. **Manufacturer Certificates:** Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 - 4. **Material Certificates:** Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 - 5. **Product Certificates:** Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 - 6. **Welding Certificates:** Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. **Test and Research Reports:**
 - 1. **Compatibility Test Reports:** Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
 - 2. **Field Test Reports:** Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
 - 3. **Material Test Reports:** Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
 - 4. **Preconstruction Test Reports:** Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 - 5. **Product Test Reports:** Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on

evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.7 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.8 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required and return it.
 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
 2. Submittals by Web-Based Project Software: Architect will indicate, on Project software website, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.

- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

- G. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- H. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.3 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 ACTION SUBMITTALS

- A. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 - 1. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- C. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee

payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, telephone number, and email address of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Statement on condition of substrates and their acceptability for installation of product.
 - 2. Statement that products at Project site comply with requirements.
 - 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 5. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
 - 1. Statement that equipment complies with requirements.
 - 2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 3. Other required items indicated in individual Specification Sections.

1.7 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E329 and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. **Manufacturer's Technical Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
 - 1. **Testing Agency Responsibilities:** Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.8 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
 - 1. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least twenty-four (24) hours in advance of when Work that requires testing or inspection will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 6. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.9 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
 - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 - 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.
 - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.

32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>.
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csagroup.com.
65. CSA - CSA International; www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.

79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridarooft.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.
91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. ICBO - International Conference of Building Officials; (See ICC).
101. ICC - International Code Council; www.iccsafe.org.
102. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
103. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
104. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
105. IEC - International Electrotechnical Commission; www.iec.ch.
106. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
107. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
108. IESNA - Illuminating Engineering Society of North America; (See IES).
109. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
110. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
111. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
112. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
113. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
114. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
115. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
116. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
117. ISO - International Organization for Standardization; www.iso.org.
118. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
119. ITU - International Telecommunication Union; www.itu.int/home.
120. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
121. LMA - Laminating Materials Association; (See CPA).

122. LPI - Lightning Protection Institute; www.lightning.org.
123. MBMA - Metal Building Manufacturers Association; www.mbma.com.
124. MCA - Metal Construction Association; www.metalconstruction.org.
125. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
126. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
127. MHIA - Material Handling Industry of America; www.mhia.org.
128. MIA - Marble Institute of America; www.marble-institute.com.
129. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
130. MPI - Master Painters Institute; www.paintinfo.com.
131. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
132. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
133. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
134. NADCA - National Air Duct Cleaners Association; www.nadca.com.
135. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
136. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
137. NBI - New Buildings Institute; www.newbuildings.org.
138. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
139. NCMA - National Concrete Masonry Association; www.ncma.org.
140. NEBB - National Environmental Balancing Bureau; www.nebb.org.
141. NECA - National Electrical Contractors Association; www.necanet.org.
142. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
143. NEMA - National Electrical Manufacturers Association; www.nema.org.
144. NETA - InterNational Electrical Testing Association; www.netaworld.org.
145. NFHS - National Federation of State High School Associations; www.nfhs.org.
146. NFPA - National Fire Protection Association; www.nfpa.org.
147. NFPA - NFPA International; (See NFPA).
148. NFRC - National Fenestration Rating Council; www.nfrc.org.
149. NHLA - National Hardwood Lumber Association; www.nhla.com.
150. NLGA - National Lumber Grades Authority; www.nlga.org.
151. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
152. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
153. NRCA - National Roofing Contractors Association; www.nrca.net.
154. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
155. NSF - NSF International; www.nsf.org.
156. NSPE - National Society of Professional Engineers; www.nspe.org.
157. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
158. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
159. NWFA - National Wood Flooring Association; www.nwfa.org.
160. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
161. PDI - Plumbing & Drainage Institute; www.pdionline.org.
162. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
163. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
164. RFCI - Resilient Floor Covering Institute; www.rfci.com.
165. RIS - Redwood Inspection Service; www.redwoodinspection.com.
166. SAE - SAE International; www.sae.org.
167. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
168. SDI - Steel Deck Institute; www.sdi.org.

169. SDI - Steel Door Institute; www.steeldoor.org.
170. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
171. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
172. SIA - Security Industry Association; www.siaonline.org.
173. SJI - Steel Joist Institute; www.steeljoist.org.
174. SMA - Screen Manufacturers Association; www.smainfo.org.
175. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
176. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
177. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
178. SPIB - Southern Pine Inspection Bureau; www.spib.org.
179. SPRI - Single Ply Roofing Industry; www.spri.org.
180. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
181. SSINA - Specialty Steel Industry of North America; www.ssina.com.
182. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
183. STI - Steel Tank Institute; www.steeltank.com.
184. SWI - Steel Window Institute; www.steelwindows.com.
185. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
186. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
187. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
188. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
189. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
190. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
191. TMS - The Masonry Society; www.masonrysociety.org.
192. TPI - Truss Plate Institute; www.tpinst.org.
193. TPI - Turfgrass Producers International; www.turfgrasssod.org.
194. TRI - Tile Roofing Institute; www.tilerroofing.org.
195. UL - Underwriters Laboratories Inc.; www.ul.com.
196. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
197. USAV - USA Volleyball; www.usavolleyball.org.
198. USGBC - U.S. Green Building Council; www.usgbc.org.
199. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
200. WA - Wallcoverings Association; www.wallcoverings.org.
201. WASTEC - Waste Equipment Technology Association; www.wastec.org.
202. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
203. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
204. WDMA - Window & Door Manufacturers Association; www.wdma.com.
205. WI - Woodwork Institute; www.wicnet.org.
206. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
207. WWPA - Western Wood Products Association; www.wppa.org.

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 2. ICC - International Code Council; www.iccsafe.org.
 3. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
1. COE - Army Corps of Engineers; www.usace.army.mil.
 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 4. DOD - Department of Defense; www.quicksearch.dla.mil.
 5. DOE - Department of Energy; www.energy.gov.
 6. EPA - Environmental Protection Agency; www.epa.gov.
 7. FAA - Federal Aviation Administration; www.faa.gov.
 8. FG - Federal Government Publications; www.gpo.gov/fdsys.
 9. GSA - General Services Administration; www.gsa.gov.
 10. HUD - Department of Housing and Urban Development; www.hud.gov.
 11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
 12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
 13. SD - Department of State; www.state.gov.
 14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
 15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
 16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
 17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
 18. USP - U.S. Pharmacopeial Convention; www.usp.org.
 19. USPS - United States Postal Service; www.usps.com.
- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
- a. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.

PRODUCTS (Not Used)

PART 2 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES – IF AVAILABLE

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is not available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. Notify Owner prior to connecting.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is not available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. Notify Owner prior to connecting.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture-and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.

- E. Dust - Control Plan: Submit coordination drawing and narrative that indicates the dust- control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control at each phase of work.
 - 2. Other dust-control measures.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 INSTALLATION, GENERAL

- A. Locate temporary facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Temporary Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 - 1. Install electric power service overhead unless otherwise indicated.
- F. Temporary Lighting: If required, provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- G. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
 - 1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- H. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- I. Parking: Use public parking areas for construction personnel.
- J. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations.
- K. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 - 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - 3. Maintain and touch up signs so they are legible at all times.

- L. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- M. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 311000 "Site Clearing."
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Tree and Plant Protection: Comply with requirements specified in Section 015639 "Temporary Tree and Plant Protection."
- F. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- G. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control

procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.

- H. Construction Site Enclosure Fence: Before construction operations begin and Prior to commencing earthwork, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations and as indicated on Drawings.
 - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- I. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- J. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- K. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 015713 - TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.2 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.

PART 2 EXECUTION

2.1 EXAMINATION

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

2.2 PREPARATION

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

2.3 SCOPE OF PREVENTIVE MEASURES

- A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.
- B. Construction Entrances: Traffic-bearing aggregate surface.
 - 1. Width: As required; 20 feet, minimum.
 - 2. Length: 50 feet, minimum.
 - 3. Provide at each construction entrance from public right-of-way.
 - 4. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.
- C. Linear Sediment Barriers: Made of silt fences.
 - 1. Provide linear sediment barriers:
 - a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
 - b. Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.

- c. Along the toe of cut slopes and fill slopes.
 - d. Perpendicular to flow across the bottom of existing and new drainage channels and swales that traverse disturbed areas or carry runoff from disturbed areas; space at maximum of 200 feet apart.
 - e. Across the entrances to culverts that receive runoff from disturbed areas.
- 2. Space sediment barriers with the following maximum slope length upslope from barrier:
 - a. Slope of Less Than 2 Percent: 100 feet.
 - b. Slope Between 2 and 5 Percent: 75 feet.
 - c. Slope Between 5 and 10 Percent: 50 feet.
 - d. Slope Between 10 and 20 Percent: 25 feet.
 - e. Slope Over 20 Percent: 15 feet.
- C. Soil Stockpiles: Protect using one of the following measures:
 - 1. Cover with polyethylene film, secured by placing soil on outer edges.
 - 2. Cover with mulch at least 4 inches thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches of straw or hay.

2.4 INSTALLATION

- A. Traffic-Bearing Aggregate Surface:
 - 1. Excavate minimum of 6 inches.
 - 2. Place geotextile fabric full width and length, with minimum 12 inch overlap at joints.
 - 3. Place and compact at least 6 inches of 1.5 to 3.5 inch diameter stone.
- B. Silt Fences:
 - 1. Store and handle fabric in accordance with ASTM D 4873.
 - 2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch high barriers with minimum 36 inch long posts spaced at 6 feet maximum, with fabric embedded at least 4 inches in ground.
 - 3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch high barriers, minimum 48 inch long posts spaced at 6 feet maximum, with fabric embedded at least 6 inches in ground.
 - 4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet, use nominal 32 inch high barriers with woven wire reinforcement and steel posts spaced at 4 feet maximum, with fabric embedded at least 6 inches in ground.
 - 5. Install with top of fabric at nominal height and embedment as specified.
 - 6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
 - 7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches, with extra post.
 - 8. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
 - 9. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches high with post spacing not more than 4 feet.

2.5 MAINTENANCE

- A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches or more rainfall at the project site, and daily during prolonged rainfall.
- B. Repair deficiencies immediately.

- C. Silt Fences:
 - 1. Promptly replace fabric that deteriorates unless need for fence has passed.
 - 2. Remove silt deposits that exceed one-third of the height of the fence.
 - 3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.
- D. Clean out temporary sediment control structures weekly and relocate soil on site.
- E. Place sediment in appropriate locations on site; do not remove from site.

2.6 CLEAN UP

- A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Design Consultant.
- B. Clean out temporary sediment control structures that are to remain as permanent measures.
- C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION 015713

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Architect's Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 - 1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
 - 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

- a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
 3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
 4. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 INFORMATIONAL SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- B. Certified Surveys: Submit two (2) copies signed by land surveyor.
- C. Final Property Survey: Submit five (5) copies showing the Work performed and record survey data.

1.3 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where

indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor or professional engineer to lay out the Work using accepted surveying practices.
1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 2. Establish limits on use of Project site.
 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 4. Inform installers of lines and levels to which they must comply.
 5. Check the location, level and plumb, of every major element as the Work progresses.

6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
- C. Benchmarks: Establish and maintain a minimum of two (2) permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Remove and replace damaged, defective, or non-conforming Work.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- H. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- I. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of five (5) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 5. Submit testing, adjusting, and balancing records.
 6. Submit sustainable design submittals not previously submitted.
 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of five (5) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of five (5) days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of five (5) days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order,
 2. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Architect will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
1. Submit on digital media acceptable to Architect
- D. Warranties in Paper Form:
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Clean exposed exterior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - c. Remove debris and surface dust from limited access spaces, including roofs, , and similar spaces.
 - d. Sweep concrete floors broom clean in unoccupied spaces.
 - e. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - f. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - g. Leave Project clean and ready for use.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations, before requesting inspection for determination of Substantial Completion.

- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit one digital media acceptable to Architect. Enable reviewer comments on draft submittals.
 - 2. Submit one paper copy also. Architect will return with comments.
- C. Final Manual Submittal: Submit each manual in final form after requesting inspection for Substantial Completion.
- D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into

individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - 2. As Built Record Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.4 REQUIREMENTS FOR OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Construction Manager.
 - 7. Name and contact information for Architect.
 - 8. Name and contact information for Commissioning Authority.
 - 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the

Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.5 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit two (2) sets of marked-up record prints.
 - 2. Number of Copies: Submit copies of record Drawings as follows:
 - a. Final Submittal:
 - 1) Submit: one paper-copy set of marked-up record prints.
 - 2) Submit: record digital data files and three (3) set(s) of record digital data file plots.
 - 3) Plot each drawing file, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy and three annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit three (3) annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

- b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately after inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
 1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
 2. Format: DWG: Current Version Microsoft Windows operating system.
 3. Format: Annotated PDF electronic file with comment function enabled.
 4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 5. Refer instances of uncertainty to Architect for resolution.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.

- b. Date.
- c. Designation "PROJECT RECORD DRAWINGS."
- d. Name of Architect.
- e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
 - 5. Note related Change Orders and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file

1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
- C. Format: Submit record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

New Phillis Wheatley Park

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 079000 - JOINT SEALERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sealants and joint backing for sidewalks.

1.2 REFERENCES

- A. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; latest edition.
- B. ASTM C 1193 - Standard Guide for Use of Joint Sealants; latest edition.
- C. ASTM D 1056 - Standard Specification for Flexible Cellular Materials--Sponge or Expanded Rubber; latest edition.
- D. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam); latest edition.
- E. BAAQMD 8-51 - Bay Area Air Quality Management District Regulation 8, Rule 51, Adhesive and Sealant Products; www.baaqmd.gov; latest edition.
- F. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; latest edition; www.aqmd.gov.

1.3 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Samples: Submit two samples, 1x1 inch in size illustrating sealant colors for selection.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.5 COORDINATION

- A. Coordinate the work with all sections referencing this section.

1.6 WARRANTY

- A. See Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Polyurethane Sealants:
 - 1. Bostik, Inc: www.bostik-us.com.
 - 2. Pecora Corporation: www.pecora.com.
 - 3. Degussa Building Systems/Sonneborn: www.chemrex.com.
 - 4. Tremco, Inc.

2.2 SEALANTS

- A. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by the more stringent of the South Coast Air Quality Management District Rule No.1168 and the Bay Area Air Quality Management District Regulation 8, Rule 51.
- B. Type GPX - General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25, Uses M, G, and A; single component.
 - 1. Color: Color as selected.
 - 2. Applications: Use for:
 - a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Other exterior joints for which no other sealant is indicated.
- C. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Class 25, Uses T, I, M and A; single component.
 - 1. Color: Color to match concrete.
 - 2. Applications: Use for:
 - a. Joints in sidewalks and vehicular paving.
- D. Nonsag Polyurethane Sealant: ASTM C 920, Grade NS, Class 25, Uses NT, None M, A; single component, chemical curing, non-staining, non bleeding, non-sagging type.
 - 1. Color: Colors as selected.
 - 2. Applications: Use for:
 - a. Vertical Expansion Joints.

2.3 ACCESSORIES

- A. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1056, sponge or expanded rubber; oversized 30 to 50 percent larger than joint width.
- C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces and joint openings are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.3 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.
- H. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

END OF SECTION 079000

SECTION 099113 - EXTERIOR PAINTING

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 surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Concrete.
 - 2. Steel.
 - 3. Galvanized metal.
 - 4. Aluminum (not anodized or otherwise coated).
 - 5. Wood.
 - 6. Plastic trim fabrications.
 - 7. Exterior portland cement plaster (stucco).
- B. Related Requirements:
 - 1. none

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Label each coat of each Sample.
 - 3. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Indicate VOC content.

1.4 CLOSEOUT SUBMITTALS

- A. Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used,

product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 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. Paint: 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 10 sq. ft. .
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacture's label with the following information:
 - 1. Product name and type (description).
 - 2. Batch date.
 - 3. Color number.
 - 4. VOC content.
 - 5. Environmental handling requirements.
 - 6. Surface preparation requirements.
 - 7. Application instructions.
- B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F .
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg above the dew point; or to damp or wet surfaces.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Company (The); products indicated or comparable product from one of the following:
 - 1. Behr Paint
 - 2. PPG Architectural Coatings.
 - 3. Valspar Corporation - Architectural (Pro).
- B. Comparable Products: Comparable products of approved manufacturers will be considered in accordance with Section 016000 "Product Requirements," and the following:
 - 1. Products are approved by manufacturer in writing for application specified.
 - 2. Products meet performance and physical characteristics of basis of design product including published ratio of solids by volume, plus or minus two percent.
- C. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
 - 1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: For field applications, provide paints and coatings that complies with VOC content limits of authorities having jurisdiction.
- C. Colors: As selected by Architect from manufacturer's full range
 - 1. 10% percent of surface area will be painted with deep tones.

2.3 PRE-FINISHED MANUFACTURED EQUIPMENT, PAVILION AND ART ELEMENTS

- A. Manufactured equipment will be prefinished with a factory paint coating. If coating is scratched or damaged on arrival or during installation, Contractor is to contact manufacturer for their repairing and repainting of equipment.
- B. Pre-engineered pavilion will be prefinished with a factory paint coating. If coating is scratched or damaged on arrival or during installation, Contractor is to contact manufacturer for their repairing and repainting of pavilion.
- C. Art elements will be prefinished by Artist. If art elements are scratched or damaged on arrival or during installation, Contractor is to contact Artist for his repairing and finishing of his art elements..

2.4 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
 - 1. Report, in writing, conditions that may affect application, appearance, or performance of paint.
- B. Substrate Conditions:
 - 1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.
 - b. Portland Cement Plaster: 12 percent.

2. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

- C. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.
1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- H. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 4. Paint entire exposed surface of window frames and sashes.
 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Plumbing, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed to view:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Concrete, Portland Cement Plaster (Stucco), Nontraffic Surfaces:

1. Latex System:

- a. Prime Coat: Primer sealer, latex.
 - 1) S-W Loxon Concrete & Masonry Primer Sealer, A24W8300, at 8.0 mils wet, 3.2 mils dry.
- b. Prime Coat: Latex, exterior, matching topcoat.
- c. Intermediate Coat: Latex, exterior, matching topcoat.
- d. Topcoat: Latex, exterior, flat.
 - 1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.
- e. Topcoat: Latex, exterior, low sheen.
 - 1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.
- f. Topcoat: Latex, exterior, satin.
 - 1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.
- g. Topcoat: Latex, exterior, semi-gloss.
 - 1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.
- h. Topcoat: Latex, exterior, gloss.
 - 1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

2. Latex over Latex Aggregate System:

- a. Prime Coat: Block Filler, Latex, Interior/Exterior.
 - 1) S-W Loxon Block Surfacer, A24W200, at 50 to 100 sq. ft. per gal.
- b. Topcoat: Latex, exterior flat, fine, medium, coarse texture.
 - 1) S-W UltraCrete Textured Masonry Topcoat, A44-800 Series, 50 to 80 sq. ft. per gal.

B. Concrete Substrates, Pedestrian Traffic Surfaces:

1. Latex Floor Paint System:

- a. First Coat: Floor paint, latex, slip-resistant, matching topcoat.
- b. Topcoat: Floor paint, latex, slip-resistant, low gloss.
 - 1) S-W ArmorSeal Tread-Plex, B90 Series, at 1.5 to 2.0 mils dry per coat.

C. Ferrous Metal, Galvanized-Metal, and Aluminum Substrates:

1. Water-Based Light Industrial Coating System:
 - a. Prime Coat: Primer, water based.
 - 1) S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, 5.0 to 10.0 mils wet, 2.0 to 4.0 mils) dry.
 - b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
 - c. Topcoat: Light industrial coating, exterior, water based eggshell.
 - 1) S-W Pro Industrial Eg-Shel Acrylic B66-660 Series, at 2.5 to 4.0 mils dry, per coat.
 - d. Topcoat: Light industrial coating, exterior, water based, semi-gloss.
 - 1) S-W Pro Industrial Acrylic Semi-Gloss Coating, B66-650 Series, at 2.5 to 4.0 mils dry, per coat.
 - e. Topcoat: Light industrial coating, exterior, water based, gloss.
 - 1) S-W Pro Industrial Acrylic Gloss Coating, B66-600 Series, at 2.5 to 4.0 mils dry, per coat.

END OF SECTION 099113

SECTION 116813 - PLAYGROUND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Playground layout (staking).
- B. Concrete footings for playground equipment.
- C. Playground equipment.
- D. Location of each item of playground equipment is indicated on the drawings.

1.2 RELATED SECTIONS

- A. Section 31 22 00 - Grading: Shaping subgrade to specified grade levels; removal of excess soil and rocks.
- B. Section 32 18 16.13 - Playground Surfacing: Protective surfacing in playground area.
- C. Section 03 30 00 - Cast-in-Place Concrete: Footings for playground equipment.

1.3 REFERENCES

- A. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; latest edition.
- B. ASTM A 135 - Standard Specification for Electric-Resistance-Welded Steel Pipe; latest edition.
- C. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; latest edition.
- D. ASTM A 513 - Standard Specification for Electric-Welded-Welded Carbon and Alloy Steel Mechanical Tubing; latest edition.
- E. ASTM B 26/B 26M - Standard Specification for Aluminum-Alloy Sand Castings; latest edition.
- F. ASTM B 108 - Standard Specification for Aluminum-Alloy Permanent Mold Castings; latest edition.
- G. ASTM B 179 - Standard Specification for Aluminum Alloys in Ingot and Molten Forms for Castings from All Casting Processes; latest edition.
- H. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; latest edition.
- I. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); latest edition.
- J. ASTM C 94/C 94M - Specification for Ready-Mixed Concrete; latest edition.
- K. ASTM D 648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position; latest edition.

- L. ASTM D 3363 - Test Method for Film Hardness by Pencil Test; latest edition.
- M. ASTM D 6662 - Standard Specification for Polyolefin-Based Plastic Lumber Decking Boards; latest edition.
- N. ASTM F 1292 - Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment; latest edition.
- O. ASTM F 1487 - Standard Consumer Safety Performance Specification for Playground Equipment for Public Use; latest edition.
- P. AWWA U1 - Use Category System: User Specification for Treated Wood; American Wood-Preservers' Association; latest edition.
- Q. CPSC Pub. No. 325 - Handbook for Public Playground Safety; Consumer Products Safety Commission; latest edition.

1.4 DEFINITIONS

- A. Play Event: A piece of playground equipment that supports one or more play activities.
- B. Use Zone: The area under and around a play event within which the ground surfacing must meet fall impact attenuation requirements of ASTM F1292 when tested at the fall height specified for the play event.
- C. Fall Height: The vertical distance between the finished elevation of the designated play surface and the finished elevation of the protective surfacing beneath it, as defined in ASTM F 1487.
- D. Protective Surfacing: Resilient ground surfacing; specified in Section 32 18 16.13 - Playground Surfacing. The characteristics of the protective surfacing are based on the fall height of the playground equipment. Changes in either the surfacing or the fall height, particularly reducing the resilience of the protective surfacing or increasing the fall height, will reduce safety-related performance.
- E. Subgrade: The surface of the ground on which the protective surfacing is installed.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Proposals for Substitutions: Substitutions that will increase the fall height, platform height, or maximum equipment height will not be considered; submit shop drawings with proposed modifications clearly identified and sufficient information to determine compliance with specified criteria.
- C. Product Data: For all manufactured equipment, provide manufacturer's product data showing materials of construction, compliance with specified standards, installation procedures, safety limitations, and the number of users permitted.
 - 1. Certifications: Provide International Play Equipment Manufacturers Association (IPEMA) certification that product complies with ASTM F 1487, excluding section 10 and 12.6.1.
- D. Product Data: For fabricated items, provide the following:
 - 1. Galvanized Steel: Certification of galvanized coating thickness.
- E. Shop Drawings: Detailed scale drawings showing play event layout, Use Zone perimeters, and

fall height for each play event.

1. Show locations and dimensions of footings and anchorage points.
 2. Clearly identify mounting elevations in relation to a fixed survey point on site and to subgrade elevation and depth of protective surfacing.
 3. Show locations of underground utilities, storm drainage system and irrigation system.
 4. Show locations of related construction such as walkways and roadways, fences, site furnishings, and plantings.
- F. Samples: For each item for which color must be selected provide color chart showing full range of colors and finishes.
- G. Maintenance Data:
1. Provide manufacturer's recommended maintenance instructions and list of replaceable parts for each equipment item, with address and phone number of source of supply.
 2. Materials: Provide touch-up/maintenance kit including paint and fasteners (nuts and bolts) of 5 of each type utilized.
- H. Manufacturer's Field Report.
- I. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

- A. Maintain one copy of the latest edition of ASTM F 1487 and CPSC Pub. No. 325 at project site.
- B. Manufacturer Qualifications: Company regularly engaged in manufacturing materials and products specified in this section, with not less than three years of experience.
1. Provide documentation showing that playground equipment similar to that specified has been installed in minimum 10 sites and been in successful service for minimum of 5 years; provide addresses.
 2. Provide certificate of Insurance AA rated for minimum 1,000,000 dollars covering both product and general liability.
 3. Manufacturer's Representative: Provide name, company name and address, and playground safety training certificate.
- C. Installer Qualifications: Company certified by manufacturer for training and experience installing play events and equipment for a minimum 10 installations of similar complexity.

1.7 PRE-INSTALLATION MEETING

- A. Convene a meeting one week before starting earthwork for playground to discuss coordination between various installers.
1. Require attendance by personnel responsible for grading and installers of playground equipment, protective surfacing, footings, and adjacent work.
 2. Include representatives of Contractor.
 3. Notify Design Consultant at least 2 weeks prior to meeting.

1.8 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver, handle, and store equipment to project site in accordance with manufacturer's recommendations.

- B. Store materials in a dry, covered area, elevated above grade.

1.9 WARRANTY

- A. See Closeout Submittals, for additional warranty requirements.
- B. Provide minimum 5 year warranty for playground equipment on all materials and workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Playground Equipment (see plan sheets):
 - 1. Landscape Structures: Model 11 29969-02-03-02 as provided by Whirlix Design Inc., (800) 975-2147, tedgar@whirlix.com, Whirlix.com.
 - 2. Substitutions: Must be submitted and approved by the Landscape Architect prior to bid submission.

2.2 PLAYGROUND EQUIPMENT - GENERAL

- A. Design Assumptions: Because the safety of the playground depends on strict conformance to the design criteria, this information is provided for Contractor's information.
 - 1. Playgrounds have been designed for children ages 2 through 12.
 - 2. Separate areas for different age groups are indicated on the drawings.
 - 3. If deviations from specified dimensions, especially fall heights, are required, obtain approval prior to proceeding; follow approval request procedure as specified for substitutions.
- B. Mount all equipment on concrete footings, unless otherwise indicated.
 - 1. The playground protective surfacing constitutes a resilient layer installed over a concrete base (non-resilient) which is installed over the subgrade; the top of footings and anchorage devices is to be covered by full depth of the resilient portion of the protective surfacing.
 - 2. Protective Surfacing Depth: See Section 32 18 16.13.
 - 3. Provide supports as required to mount equipment at proper height above finish and subgrades to allow installation of sufficient depth of protective surfacing; portion of support below top of surfacing must comply with specified requirements for equipment.
 - 4. Paint the portion of the support that is intended to be installed below the top surface of the protective surfacing a different color, or mark in other permanent way, so that installers and maintainers of protective surfacing can easily determine whether sufficient depth has been installed.
- C. Label each equipment item with permanent labels stating age group that equipment was designed for, manufacturer identification, and warning labels in accordance with ASTM F 1487.

2.3 PLAYGROUND EQUIPMENT

- A. Comply with ASTM F 1487 and CPSC Pub. No. 325; provide equipment complying with specific requirements for the relevant age group(s).
 - 1. Provide components having factory-drilled holes. Do not use components with extra holes that will not be filled by hardware or covered by other components.
- B. Materials, Configuration, and Dimensions: As indicated on contract drawings.

1. Age Appropriate FS Sign.

PART 3 EXECUTION

3.1 LAYING OUT THE WORK

- A. Stake the location of all playground elements, including Use Zone perimeters, perimeter of protective surfacing, access and egress points, hard surfaces, walls, fences, and structures, and planting locations.
- B. Stake the layout of the entire Use Zone perimeter before starting any work and before work under resilient surfacing is laid.
 1. Verify that Use Zone perimeters do not overlap hard surfaces, whether currently installed or not.
 2. Verify that Use Zones are free of obstructions that would extend into the resilient portion of the protective surfacing.
 3. If conflicts or obstructions exist, notify Design Consultant.
 4. Do not proceed until revised drawings have been provided, showing corrected layout, and obstructions have been removed.

3.2 EXAMINATION

- A. Verify that playground area has been graded to subgrade elevations required and that excess soil, rocks, and debris have been removed.
- B. Verify that playground equipment footings have been installed in proper locations and at proper elevations.
- C. Verify location of underground utilities and facilities in the playground area. Damage to underground utilities and facilities will be repaired at Contractor's expense.

3.3 INSTALLATION

- A. Coordinate work with preparation for and installation of protective surfacing specified in Section 32 18 16.13. The resilient portion of the protective surfacing is to be installed after playground equipment installation.
- B. Install concrete footings with top surface a minimum of 1/2 inch below required subgrade elevation.
- C. Install in accordance with CPSC Pub. No. 325, ASTM F 1487, manufacturer's instructions, and requirements of authorities having jurisdiction.
- D. Anchor equipment securely below the bottom elevation of the resilient surfacing layer.
- E. Install without sharp points, edges, or protrusions; entanglement hazards; or pinch, crush, or shear points.
- F. Do not modify play events on site without written approval of manufacturer.
- G. Install required signage if not factory-installed.

3.4 FIELD QUALITY CONTROL

- A. Obtain the services of the equipment manufacturer's field representative to review the finished installation for compliance with specified requirements and with design criteria to the extent known to the Contractor; submit report of field review.
- B. Repair or replace rejected work until compliance is achieved.

3.5 CLEANING AND PROTECTION

- A. Restore adjacent existing areas that have been damaged from the construction.
- B. Clean playground equipment of construction materials, dirt, stains, filings, and blemishes due to shipment or installation. Clean in accordance with manufacturer's instructions, using cleaning agents as recommended by manufacturer.
- C. Clean playground area of excess construction materials, debris, and waste.
- D. Remove excess and waste material and dispose of off-site in accordance with requirements of authorities having jurisdiction.
- E. Protect installed products until Substantial Completion.
- F. Replace damaged products before Substantial Completion.

END OF SECTION 116813

SECTION 129300 - SITE AND STREET FURNISHINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Trash & Recycle Receptacles
- B. Picnic Tables
- C. Game Tables
- D. Bike Rack
- E. Drinking Fountain
- F. Fencing
- G. Fitness Equipment

1.2 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Selection Samples: Two complete color charts representing manufacturer's full range of available colors.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery requirements with Owner and other installers.
- B. Store products in manner to prevent damage prior to installation.
- C. Where products need to be stored outdoors, store off the ground and place so that water will drain.

PART 2 PRODUCTS

2.1 MANUFACTURERS, MATERIALS

- A. Trash & Recycle Receptacles:
 - 1. Standard City of San Antonio Trash and Recycle receptacles (see plans) manufactured by: Zamorano Enterprises, 8603 S. Flores St, San Antonio (210) 924-2320.
 - a. In-ground mount.
- B. Picnic Tables and benches (Accessible and Regular- see plans) manufactured by: Zamorano

- Enterprises, 8603 S. Flores St, San Antonio (210) 924-2320.
 - a. Surface mount.
 - b. Color: Black
- C. Game Tables (3 seat accessible 448-33GM and 4 seat 448-34GM- see plans) manufactured by Dumor, Inc., Paul E. Allen, Inc., (888) 877-4887, info@pauleallenco.com.
 - a. Surface mount.
 - b. Color: Black
- D. Bike Racks (#83- see plans) as manufactured by Dumor, Inc., Paul E. Allen, Inc., (888) 877-4887, info@pauleallenco.com.
 - a. In-ground mount.
 - b. Color: Black
- E. Drinking Fountain- Model No. MDF 440 SM w/ PF (pet fountain), stainless steel, manufactured by Most Dependable Fountains, Inc., 1-800-552-6331.
 - a. Surface mount.
- F. Fencing- Prism, (see plans for layout and details), manufactured by Beta Fence USA, www.betafenceusa.com, (972) 878-7000.
 - a. Color: Black.
- G. Fitness Equipment- Energi Model PR-500-SM- Complete 5 station system (see plans for layout), manufactured by Playworld Systems, www.playworld.com, (469) 375-4590.
 - a. Color: selected by Landscape Architect from standard colors.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Design Consultant of unsatisfactory preparation before proceeding.

3.2 COLOR SELECTION

- A. Colors for site and street furnishings to be selected from manufacturer's availability color range and as shown in the Materials legend. Samples of available colors are to be submitted by Contractor for verification and approval by Owner and Design Consultant.

3.3 PREPARATION

- A. Coordinate installation of embedded anchors and plates so that locations will be within required tolerances.
- B. Clean surfaces thoroughly prior to installation.

- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.4 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Anchor Bolt Mounted Application:
 - 1. Core drill hole for anchor fastener sized per manufacturer's recommendations; hammer or masonry drilling not acceptable.
 - 2. Clean holes with high-pressure air blast to remove all loose debris and residue.
 - 3. Install fastener with non-expansive epoxy type grout.
- C. Install straight, level, plumb, and true, without offset in plane between adjacent members.
- D. Remove dust, debris, and soil from installed products immediately after installation.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. Replace damaged products with new replacements.

END OF SECTION 129300

SECTION 133000 - PRE-ENGINEERED STRUCTURES AND SHELTERS (PAVILION)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pre-engineered shelters including the following:
 - 1. All Steel Shelter (Pavilion) shall be furnished, unloaded and installed (turn key) by the manufacturer's authorized dealer/representative and certified installer.

1.2 RELATED SECTIONS

- A. Section 012300 - Alternates
- B. Section 033000 - Cast-in-Place Concrete. (Refer to Structural Drawings)
- C. Section 260000 - Electrical. (Refer to Electrical Drawings)

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM A 36 - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated.
 - 3. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - 4. ASTM A 563 - Standard Specification for Carbons and Alloy Steel Nuts.
 - 5. ASTM A 572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
 - 6. ASTM F 1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
- B. American Institute of Steel Construction (AISC).
- C. American Welding Society (AWS)
- D. Steel Structures Painting Council (SSPC); SSPC-SP10 - Near-White Blast Cleaning
- E. OSHA Standards 29 CFR, Part 1926, Subpart R (Steel Erection), Standard Number 1926.755: Compliance requires a minimum of four anchor bolts per column.

1.4 PERFORMANCE REQUIREMENTS

- A. Provide pre-engineered structures and shelters capable meeting applicable loads, seismic and thermal performance required by governing codes and regulations and site-specific conditions.
- B. Cooperate with regulatory agency or authority and provide data as requested by authority having jurisdiction.

1.5 SUBMITTALS

- A. Submit under provisions of Section 013300 – Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Construction details, material descriptions, dimensions of individual components and

- profiles, and finishes.
- 2. Preparation instructions and recommendations.
- 3. Storage and handling requirements and recommendations.
- 4. Installation methods.
- C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Shop drawings shall be stamped by a structural engineer licensed in the jurisdiction of the project, based on site-specific project requirements.
 - 2. Include installation drawings.
- D. Selection Samples: For each finish product specified, color charts representing manufacturer's full range of available colors.

1.6 QUALITY ASSURANCE

- A. Designer Qualifications: Design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State where the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing prefabricated structures and shelters with minimum experience of five years.
 - 1. Three references of similar shelters completed within the past year.
 - 2. Fabricator membership in American Institute of Steel Construction (AISC), requiring quality control documentation and procedures. Provide current AISC shop certification upon request.
- C. Prefabricated Components: Comply with manufacturer's published literature for products meeting indicated design loads in accordance with state and local requirements as applicable.
- D. Pre-Engineered Package: Pre-cut and/or prefabricated components shall include the structural frame. The structure shall be shipped in a knocked down manner for minimum shipping charges.
- E. Preinstallation Meetings: Conduct meetings to verify project requirements, substrate conditions, utility connections, manufacturer's installation instructions, and warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products as recommended by manufacturer. Use non-marring slings when unloading; block materials off ground.
- B. Protect all components and accessories from corrosion, deformation, damage and deterioration when stored at job site. Keep materials free from dirt and foreign matter.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 WARRANTY

- A. Warranty: Provide manufacturer's standard 5-year limited warranty for materials and workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. BASE BID: Basis of Design: POLIGON, (included in Bid Proposal) HIP 28x44, #63058 (open frame), as indicated on Drawings. BJ's Park & Recreation Products (800) 392-6158
- B. Other Manufactures: CoverWorx (800) 657-6118; Superior Shelter (800) 327-8774.

2.2 ALL STEEL SHELTERS

- A. Structural Framing for All Steel Shelters: Fabricated for field assembly using bolted connections with no welding required or permitted; cold-formed shapes prohibited.
 - 1. Columns & Beams: ASTM A500 Grade B structural steel tube. The following shapes are prohibited: I-beams, wide-flange beams, C-channels, Z-shapes.
 - 2. Plates: ASTM A572 Grade 50.
 - 3. Compression Ring: steel plate, ASTM A572 Grade 50.
 - 4. Fasteners:
 - a. Bolts: ASTM A325 high strength bolts.
 - b. Nuts: ASTM A563 high strength nuts.
 - 5. Column Anchors: ASTM F1554 Grade 36, provided by Contractor or Owner, attached to top of foundation, recessed below slab on grade.
 - 6. Cap plates: factory bent and field installed with hidden fasteners on hip and ridge beams not normal to roof so that metal roof deck does not bear structurally on beam corner only.
 - 7. Metal Framing & Roof Finish Coating: Powder Coat:
 - a. Pre-blast inspection to catch and remove oil, grease, and other coatings impeding contaminants.
 - b. Steel grit blasted to near white condition in accordance with SSPC-SP10, removing all oil residue, mil scale, weld spatter, and slag.
 - c. Epoxy powder coat primer.
 - d. Double topcoat TGIC polyester powder coat.
 - 1) Color: To be selected by Architect from Manufacturer's full line of colors.
 - e. Primer plus finish coats shall be 9-11 mils thick
 - f. All materials inspected to meet 100 percent coating, proper cure, film thickness, and impact resistance
 - g. Wet-coat alternatives shall not be acceptable.
- B. Roof System: Galvalume + Finish Coating structural metal roof panels with exposed fasteners.
 - 1. Acceptable Panel Profiles:
 - a. Multi-rib R panel with 1-3/16 inch high ribs, 12 inches on center.
 - 2. Panel Gauge: minimum 24-gauge.
 - 3. Panel Width: 3'-0".
 - 4. Panel Length: Precut to the length from the eave to the ridge; angles factory precut.
 - 5. Panel Orientation: Ribs shall run with the pitch of the roof for proper drainage.
 - 6. Trim: Provide matching roof trim and fasteners.
 - 7. Finish: Factory pre-finished with Kynar 500 paint system.
 - a. Color: To be selected by Architect from Manufacturer's full line of colors.
- C. Electrical Access Holes:
 - 1. Provide three (3) access holes, 1 1/8" diameter, for electrical access to place light fixture on underside of roof. Locations to be determined.
- D. Gutter & Downspout:
 - 1. Provide ½ Round gutter and round downspout at rear of pavilion roof.
 - a. Metal to match roof and roof finish coating color to be selected by Architect from manufacturer's color line.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that site earthwork has been performed as required for satisfactory installation.

3.2 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Clean surfaces thoroughly prior to installation.
- B. Install concrete footings, foundation and steel column anchors as specified by structural engineer.
- C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
- D. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected.
- E. Commencement of installation constitutes acceptance of conditions.

3.3 INSTALLATION

- A. Perform installation in accordance with applicable federal, State, and local building and safety codes.
- B. Install structures and components in accordance with approved submittals, manufacturer's instructions and in proper relationship with adjacent work.
 - 1. Anchor securely.
 - 2. Isolate dissimilar materials.
 - 3. Cooperate with authorities having jurisdiction for inspection of installed products.

3.4 CLEANING AND PROTECTION

- A. Clean installed work to like-new condition.
- B. Protect installed products until completion of project.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 133000

SECTION 133123- PRE-ENGINEERED SHADE STRUCTURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. The shade structure contractor shall be responsible for the design, engineering, fabrication, supply, and installation (including foundations) of the work specified herein. The intent of this specification is to have only one single contractor be responsible for all the above functions.

1.3 REFERENCES

- A. Shade Structures must comply with the latest revision of applicable codes and regulations including IBC 2015.
- B. American Society for Testing Materials (ASTM)
- C. American Welding Society: Structural Welding Code AWS D1.1: Symbols for Welding and Nondestructive Testing AWS 2.3.
- D. International Accreditation Services (IAS)
- E. American Institute of Steel Construction (AISC): Specifications for the design, fabrication, and erection of structural steel.

1.4 SUBMITTALS

- A. Provide proof of installed reference sites with six structures for similar scope of project and installation that are engineered to IBC Specifications.
- B. Provide a minimum of 13 fabric samples to demonstrate fabric color range and powder color selections.
- C. Provide proof of all quality assurance items including:
 - 1. A list of at least three reference projects of similar type structures that have been installed in the last 10 years as described below in 2.1 General, Scope.
 - 2. Proof of general liability, professional liability, and umbrella insurance as per section 1.5 C.
 - 3. Proof of a minimum of \$6,000,000 aggregate bonding capacity as per Section 1.5 D.
 - 4. Proof of IAS Certification per Section 1.5 E.
 - 5. Proof of current status as an ISNetworld Member Contractor.
 - 6. Proof of a Corporate Safety Program along with an Injury & Illness Prevention Program.
 - 7. Proof of Corporate Quality Control Manual as per Section 1.5 F

1.5. QUALITY ASSURANCE

Fabrication and erection are limited to firms with proven experience in design and construction of fabric shade structures and such firms shall meet the following minimum requirements. No substitutions shall be allowed for the following:

- A. A single shade contractor shall design, engineer, manufacture, and erect the fabric shade structures including the foundations.
- B. All bidders shall have at least 15 years' experience in the design, engineering, manufacturing, and installation of shade structures.
- C. All bidders shall engineer to IBC 2015 requirements with similar scope.
- D. All bidders shall be able to provide proof of a minimum of \$1,000,000 general/public liability insurance, \$3,000,000 professional liability (PL) insurance, and an additional \$5,000,000 umbrella/excess liability insurance.
- E. All bidders shall be licensed and bonded with a minimum bonding capacity of \$6,000,000.
- F. Steel manufacturer shall be accredited by IAS (International Accreditation Service) for Structural Steel Fabrication under UBC 97 & 2000 Section 1701.7 and IBC 2015 Section 1704.2.2.
- G. Proof of current status as an ISNetwork Member Contractor.
- H. The shade contractor shall have a Corporate Quality Control program and manual describing their complete quality assurance program.
- I. All bidders must have an in-house warranty & service department and local office to assist in repairs and service calls.

1.7 WARRANTY

- A. The successful bidder shall provide a 12-month warranty on all labor and materials.
- B. A supplemental warranty from the manufacturer shall be provided for a period of 10 years (pro-rated) on fabric and 10 years on the structural integrity of the steel from the date of substantial completion.
- C. The warranty shall not deprive the Owner of other rights under the provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Scope: Provide (5) five Joined Custom Cantilevered Waves, Model #JCCW_1212_0915_MB 12' x 12' for an overall footprint of 12' x 60' with 9' entry height per CON-SEP-001-18 (1000). Columns shall measure a minimum of HSS 7" x 7" x 0.25", cantilevered beams HSS 5" x 5" x 0.25" upper framing extensions shall measure a minimum of 3.0 Tubing. All steel shall be galvanized and powder coated. All hardware and cabling shall be galvanized. No exceptions.
- B. The structures shall be manufactured by Shade Structures, Inc., dba USA SHADE & Fabric Structures, or approved equivalent and include the structural steel frame, fabric roof, steel cables, all fasteners, and installation. Project management and foundations will also be included.

Contact: Shade Structures, Inc.
Dba USA SHADE & Fabric Structures
8505 Chancellor Row
Dallas, Texas 75247
Contact Name: Michelle Botha – Phone: 512-937-6430
mbotha@usa-shade.com

- C. To qualify as an approved equivalent, please submit product documentation, fabric samples and all quality assurance criteria as per Section 1.4 at least 10 days prior to bid date.
Approved equals will be issued per addendum prior to bid date.
- D. The shade structure shall conform to the current adopted version of the International Building Code 2015 and local agency additions and amendments.
- E. All shade structures are engineered and designed to meet a minimum of 90 mph wind load, Exposure C, live load of 5 lbs/sf² and a 5 lbs/sft² snow load. When ASD Steel Design Method is used based on IBC 2015 Section 1605.3.1, the Dead + 0.75 of Live + 0.75 of Wind Load cases must be combined. NO EXCEPTIONS.
- F. Steel:
 - 1. All steel members of the shade structure shall be designed in strict accordance with the requirements of the “American Institute of Steel Construction” (AISC) Specifications and the “American Iron and Steel Institute” (AISI) Specifications for Cold Formed Members and manufactured in a IAS (International Accreditation Service) accredited facility for Structural Steel Fabrication as per IBC 2015 Section 1704.2.2.
 - 2. All connections shall have a maximum internal sleeving tolerance of .0625 inches using high tensile strength steel sections with a minimum sleeve length of 6 inches.
 - 3. All non-hollow structural steel members shall comply with ASTM A-36. All hollow structural steel members shall be cold formed, high strength steel and comply with ASTM A-500, Grade C. All steel plates shall comply with ASTM A-572, Grade 50. All galvanized steel tubing shall be triple coated for rust protection using an in-line electroplating coat process. All galvanized steel tubing shall be internally coated with zinc and organic coatings to prevent corrosion.
- G. Welding:
 - 1. All shop-welded connections of the shade structure shall be designed and performed in strict accordance with the requirements of the “American Welding Society” (AWS) Specifications. Structural welds shall be made in compliance with the requirements of the “Prequalified” welded joints where applicable and by certified welders. No onsite or field welding shall be permitted.
 - 2. All full penetration welds shall be continuously inspected by an independent inspection agency and shall be tested to the requirement of IBC 2015 and local agency additions and amendments.
- H. Powder Coating:
 - 1. Galvanized steel tubing preparation prior to powder coating shall be executed in accordance to solvent cleaning SSPC-SP1. Solvent such as water, mineral spirits, xylol, toluol, which are to be used to remove foreign matter from the surface. A mechanical method prior to solvent cleaning prior to surface preparation shall be executed according to Power Tool Cleaning SSPC-SP3 and utilizing wire brushed abrasive wheels and needle gun, etc.
 - 2. Carbon structural steel tubing preparation prior to powder coating shall be executed in accordance to commercial blast cleaning SSPC-SP6 or NACE #3. A commercial blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, mill scale, rust, coating, oxides, corrosion, products and other foreign material.

3. Powder coating shall be sufficiently applied, with a minimum three mils thickness and cured at the recommended temperature to provide proper adhesion and stability to meet salt spray and adhesion tests as defined by the American Society of Testing Materials.
4. Powder used in the powder coat process shall have the following characteristics:
 - a. Specific Gravity: 1.77 +/- 0.05 g/cm³
 - b. Coverage at 1.0 mils: 109sq.ft/lb/mil
 - c. Storage: 80° F
 - d. Interpron 800 HR is a series of high durability TGIC powder coatings designed for exterior exposure. Tested against the most severe specifications, Interpron 800 HR gives significantly improved gloss retention and resistance to color change.
 - e. Rust Protection Powder Under Coat Primer will be required on all structures. POWDURA® Epoxy Powder Coating Z.R. Primer shall be applied in accordance with the manufacturers' specifications. Primer should be fused only and then top coated with the selected powder coat to ensure proper intercoat adhesion.
- I. Tension Cable: Steel cable is determined based on calculated engineering loads.
 1. For light and medium loads, ¼" (nominal) galvanized 7 x 19 strand cable to be used.
 2. For heavy loads, 3/8" (nominal) galvanized 7 x 19 cable to be used.
- J. Fabric Roof Systems
 1. UV shade fabric is made of UV stabilized Shadesure® cloth as manufactured by MultiKnit Ltd and made of a UV stabilized high-density polyethylene mesh. Mesh shall be raschel knitted with monofilament and tape yarn filler to ensure that material will not unravel if cut. Panels to be 10ft. wide.
 2. Fabric Properties:
 - a. Life Expectancy: A minimum of 8 years continuous exposure to the sun
 - b. Fading: Minimum fading after 5 years (3 years for red)
 - c. Fabric Mass: 2.43-2.58 oz/sqft (190-200g/sm)
 - d. Fabric Width: 9.8425 (3m)
 - e. Roll Length: 164.04 (50m)
 - f. Roll Dimensions: 62.99"x16.5354" (160 cm x 42 cm)
 - g. Roll Weight: +/- 66 lbs (+/-30 kg)
 - h. Minimum Temperature: -13°F (-25° C)
 - i. Maximum Temperature: +176°F (80° C)
 3. Stitching & Thread:
 - a. All sewing threads are to be double stitched.
 - b. Thread shall be GORE Tenara Sewing Thread manufactured from 100% expanded PTFE (Teflon); mildew resistant exterior approved thread. Thread shall meet or exceed the following:
 - 1) Flexible temperature range
 - 2) Very low shrinkage factor
 - 3) Extremely high strength, durable in outdoor climates
 - 4) Resists flex and abrasion of fabric
 - 5) Unaffected by cleaning agents; acid rain, mildew, salt water and rot resistant, unaffected by most industrial pollutants
 - 6) Treated for prolonged exposure to the sun

2.2 SHIPPING AND HANDLING

- A. All steel surfaces touched by tie down straps are to be padded before final clinching. This can be accomplished by using carpet pads or factory manufactured padding.
- B. All dunnage must be padded before painted products are set in place. Smaller and loose pieces must be padded and totally separate from paint padding.
- C. Unloading: Lift forks to be covered with padding. All dunnage must be padded vertically and horizontally to prevent damage to painted surfaces. When unloading, take care to prevent tools and other hard surface items from making contact.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Installation of shade structures shall be performed by manufacturer or manufacturer-approved contractor, which shall be bonded and holding a current contractor's license with the State of Texas Contractors State License Board. All installation personnel must have experience in the erection of tensioned fabric structures.
- B. The contractor installing the structure shall comply with manufactures instructions for assembly, installation, and erection per approved drawings.
- C. Concrete:
 - 1. Unless noted otherwise for footing and piers by General Contractor's Engineer, concrete specification for footings, piers, slabs, curbs and walkways shall meet a minimum 2,500 psi at 28-day strength.
 - 2. Concrete work is executed in strict accordance with the latest American Concrete Institute Building Code (ACI 318-99).
 - 3. Slump 4" maximum.
 - 4. Whenever daily ambient temperatures are below 80 degrees Fahrenheit, the contractor may have mix accelerators and hot water added at the batch plant.
 - a. Temperature range between 75-80 degrees, 1% accelerator High Early (non-calcium)
 - b. Temperature range between 70-75 degrees, 2% accelerator High Early (non-calcium)
 - c. Temperature range below 70 degrees, 3% accelerator High Early (non-calcium)
 - 5. The contractor shall not pour any concrete when daily ambient temperature is below 55 degrees Fahrenheit.

Temperature Range	% Accelerator	Type Accelerator
75-80 degrees	1%	High Early (non-calcium)
70-75 degrees	2%	High Early (non-calcium)
Below 70 degrees	3%	High Early (non-calcium)

- D. Foundations:
 - 1. All Anchor Bolts set in new concrete shall be ASTM F-1554 GR 55
 - 2. All Anchor Bolts shall be Hot Dipped Galvanized
 - 3. Footings:
Minimum footing size shall be 24" diameter x 7' depth and placed in accordance with/ and conform to manufacturers engineered specifications and drawings.

END OF SECTION 133123

SECTION 311000 - SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Clearing and protection of vegetation.
- B. Removal of existing debris.

1.2 RELATED SECTIONS

- A. Summary: Limitations on Contractor's use of site and premises.
- B. Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Temporary Erosion and Sedimentation Control.
- D. Execution Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.
- E. Demolition: Removal of built elements and utilities.
- F. Grading: Topsoil removal.
- G. Grading: Fill material for filling holes, pits, and excavations generated as a result of removal operations.
- H. Fill and Backfill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.
- I. Fill and Backfill: Filling holes, pits, and excavations generated as a result of removal operations.
- J. Tree Preservation: Protection and pruning of existing trees to remain.

1.3 PROJECT CONDITIONS

- A. Comply with other requirements specified.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Fill Material: As specified in Section 31 00 00 – Grading

PART 3 EXECUTION

3.1 EXISTING UTILITIES AND BUILT ELEMENTS

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect existing structures and other elements that are not to be removed.

3.2 VEGETATION

- A. Scope: Remove brush, and stumps in areas to be covered by new improvements.
 - 1. Stake out layout of improvements for approval by Landscape Architect and Owner prior to initiating clearing activity.
 - 2. Place barricade fencing:
 - a. Obtain approval of installation of barricade fencing from COSA Tree Inspector, Landscape Architect and Owner prior to initiating clearing activity.
 - 3. Adjustments in location of pedestrian paving and trails as may be required for field conditions including but not limited to existing trees/vegetation and site features as may be directed by Landscape Architect and Owner to the extent that the overall value of the work is not substantially changed.
 - a. In the event of a substantial change in the work, as determined by agreement between Contractor and Owner, a Field Alteration/Change Order will be issued.
- B. Do not begin clearing until vegetation to be relocated has been removed.
- C. Do not remove or damage vegetation beyond the following limits:
 - 1. 5 feet each side of roadway curbs.
 - 2. 5 feet; 2 feet each side of walkways and trails.
 - 3. 5 feet; 3 feet each side of utility trenches.
 - 4. 5 feet each side of roadway curbs, walkways, and main utility trenches.
 - 5. Exception: Specific trees and vegetation indicated on drawings to be removed.
 - 6. Exception: Selective thinning of undergrowth specified elsewhere.
- D. Install substantial, highly visible fences at least 4 feet high to prevent inadvertent damage to vegetation to remain:
 - 1. Around trees to remain within vegetation removal limits; locate no closer to tree than at the drip line.
- E. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.3 DEBRIS

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 311000

SECTION 312200 – GRADING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal and storage of topsoil.
- B. Rough grading the site for site structures and paving.
- C. Topsoil and finish grading.

1.2 RELATED SECTIONS

- A. Section 01 57 13- Temporary Erosion Control
- B. Section 31 10 00 - Site Clearing.
- C. Section 31 23 16 - Excavation.
- D. Section 31 23 23 - Fill and Backfill: Filling and compaction.
- E. Section 32 92 19 - Seeding: Finish ground cover.
- F. Section 32 01 90.33 – Tree Preservation: Protection of existing trees.

1.3 UNIT PRICES

- A. Topsoil:
 - 1. Measurement Method: By the cubic yard.
 - 2. Includes: Excavating existing topsoil; or Supplying topsoil; stockpiling, scarifying substrate surface, placing where required, and compacting.

1.4 PROJECT CONDITIONS

- A. Protect above - and below-grade utilities that remain.
- B. Protect plants and other features not indicated to be removed from excavating equipment and vehicular traffic.
- C. Protect bench marks, survey control points, existing structures, sidewalks, paving, and curbs from grading equipment and vehicular traffic.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: See Section 31 23 23.
- B. Other Fill Materials: See Section 31 23 23.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
 - 1. Contractor is to notify Texas One Call (800-245-4545) 72 hours in prior to any excavation. Contractor shall be responsible for making himself familiar with all underground utilities, pipes and structures.
 - 2. Contractor shall take sole responsibility for any cost incurred due to damage of said utilities whether or not Texas One Call is notified.

3.3 ROUGH GRADING (SEE PLAN SHEETS FOR NOTES)

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, marked areas; entire site; or to prevent mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded; marked areas; entire site; or as directed.
- D. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. See Section 31 23 23 for filling procedures.
- G. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key fill material to slope for firm bearing.
- H. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.4 SOIL REMOVAL and STOCKPILING

- A. Stockpile excavated topsoil on site for reuse on site.
- B. Stockpile topsoil to be re-used on site; remove remainder from site.
- C. Remove excavated topsoil from site.
- D. Stockpile excavated subsoil on site for use on site.
- E. Stockpile subsoil to be re-used on site; remove remainder from site.
- F. Remove excavated subsoil from site.
- G. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.
 - 1. Area(s) to be determined on site with approval of Owner.

3.5 FINISH GRADING (SEE PLAN SHEETS FOR NOTES)

- A. All areas disturbed by grading are to receive topsoil and finish grading.
- B. Before Finish Grading:
 - 1. Verify trench backfilling has been inspected.
 - 2. Verify subgrade has been contoured and compacted.
- C. At subgrade, remove debris, roots, branches, stones, in excess of 2 inch in size. Remove soil contaminated with petroleum products.
- D. Where topsoil is to be placed, scarify surface to depth of 3 inches.
- E. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
- F. Place topsoil in areas where seeding, sodding, and planting are indicated.
- G. Place topsoil to establish finish grade and where required to level grade.
- H. Place topsoil where required to level finish grade.
- I. Place topsoil to the following compacted thicknesses in areas disturbed by grading unless directed otherwise in field by Landscape Architect:
 - 1. Areas to be Seeded with Grass: 6 inches or as shown on the plans.
- J. Place topsoil during dry weather.
- K. Remove roots, weeds, rocks, and foreign material while spreading.
- L. Near plants spread topsoil manually to prevent damage.
- M. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
 - 1. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.
 - 2. Applies to areas not disturbed by grading.
- N. Lightly compact placed topsoil by rolling.
- O. See plan sheets for specific grading notes for soccer fields.

3.6 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 1/2 inch.

3.7 FIELD QUALITY CONTROL

- A. See Section 31 23 23 for compaction density testing.

3.8 CLEANING AND PROTECTION

- A. Protect plants, lawns, rock outcroppings, existing boundaries, fences, sidewalks, paving, and curbs not indicated to be removed from excavating equipment and vehicular traffic.
- B. Remove unused stockpiled topsoil and subsoil. Grade stockpiled area to prevent standing water.

- C. Leave site clean and raked, ready to receive landscaping.

END OF SECTION 312200

SECTION 312316 - EXCAVATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Excavating for footings.
- B. Trenching for utilities.

1.2 RELATED SECTIONS

- A. Section 31 22 00 - Grading.
- B. Section 31 23 23 - Fill and Backfill: Fill materials, filling, and compacting.
- C. Section 32 01 90.33 – Tree Preservation: Protection of existing tree and vegetation.

1.3 PROJECT CONDITIONS

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. Protect plants, lawns, and other features to remain.
- C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 22 00 for additional requirements.
- C. Locate, identify, and protect utilities that remain and protect from damage.

3.2 EXCAVATING

- A. Excavate to accommodate construction operations.
- B. Notify Landscape Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- D. Cut utility trenches wide enough to allow inspection of installed utilities.

- E. Hand trim excavations. Remove loose matter.
- F. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.
- G. Correct areas that are over-excavated surfaces that are disturbed
- H. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- I. Remove excavated material that is unsuitable for re-use from site.
- J. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 22 00.
- K. Remove excess excavated material from site.

3.3 FIELD QUALITY CONTROL

- A. See Quality Requirements, for general requirements for field inspection and testing.
- B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

3.4 PROTECTION

- A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

END OF SECTION 312316

SECTION 312323 - FILL AND BACKFILL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for footings.
- B. Backfilling and compacting for utilities.
- C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.
- E. Topsoil placement in landscape areas.

1.2 RELATED SECTIONS

- A. Section 31 00 00 - Grading: Site grading.
- B. Section 31 23 00 - Excavation: Removal and handling of soil to be re-used.
- C. Section 32 01 90.33 – Tree Preservation: Preservation of existing trees.

1.3 UNIT PRICES

- A. See Section 01 22 00 - Unit Prices, for general requirements applicable to unit prices for earthwork.
- B. General Fill:
 - 1. Measurement Method: By the cubic yard.
 - 2. Includes: Excavating existing soil, supplying fill; stockpiling, scarifying substrate surface, placing where required, and compacting.

1.4 REFERENCES

- A. ASTM C 33 - Standard Specifications for Concrete Aggregates; latest edition.
- B. ASTM C 136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; latest edition.
- C. ASTM D 448 - Standard Classification for Sizes of Aggregate for Road and Bridge Construction; latest edition.
- D. ASTM D 698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); latest edition.
- E. ASTM D 1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; latest edition.
- F. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); latest edition.
- G. ASTM D 2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; latest edition.

- H. ASTM D 2940 - Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports; latest edition.
- I. ASTM D 2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); latest edition.
- J. ASTM D 4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; latest edition.

1.5 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: As required to establish finish grade elevations.

1.6 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.
- B. Samples: 10 lb sample of each type of fill; submit in air-tight containers to testing laboratory or as required by testing laboratory.
- C. Materials Sources: Submit name of imported materials source.
- D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- E. Compaction Density Test Reports.

1.7 PROJECT CONDITIONS

- A. Provide sufficient quantities of fill if needed to supplement material obtained from the site to meet project schedule and requirements. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where designated by Owner's Representative.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.
- C. Verify that survey bench marks and intended elevations for the Work are as indicated.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. General: Provide approved borrow soil materials from off-site when sufficient approved soil materials are not available from excavations.
- B. General Fill- Backfill and fill materials ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM: free from rock or gravel larger than 2 inches in any dimension, debris, waste,

frozen materials, vegetation and other deleterious matter and having a plasticity index (PI) of less than 30.

1. Unsatisfactory soil materials include ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.
 2. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- C. Subbase and Base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, with at least 95 percent passing a 1-1/2 inch sieve and not more than 8 percent passing a No. 200 sieve.
- D. Topsoil (stripped from site): Topsoil stripped from site for use in landscape work shall be screened to remove all stone debris and undesirable matter 1/2 inch in size or greater.
- E. Topsoil (supplemental): Topsoil to be furnished, when required to supplement topsoil stripped from site, shall be secured from an approved off-site location. It shall be fertile, friable, natural loam containing a liberal amount of humus and shall be capable of sustaining vigorous plant growth. It shall be free of stone, lumps and clods of hard earth 1/2 inch diameter and greater, plants or their roots, sticks and other extraneous matter. Under no circumstances will topsoil be accepted unless it is free of the aforementioned contaminants. Use of non-cohesive "sandy loam" shall not be acceptable.

2.2 SOURCE QUALITY CONTROL

- A. See Quality Requirements, for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Sections 31 22 00 and 31 23 16 for additional requirements.

3.2 PREPARATION

- A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.3 FILLING

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- H. Slope grade away from structures and improvements minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.
 - 1. Load-bearing foundation surfaces: Fill with concrete.
 - 2. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 100 percent of maximum dry density.
 - 3. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- J. Compaction Density Unless Otherwise Specified or Indicated:
 - 1. Under paving, slabs-on-grade, and similar construction; 95 percent of maximum dry density.
 - 2. At other locations: 90 percent of maximum dry density.
- K. Reshape and re-compact fills subjected to vehicular traffic.

3.4 FILL AT SPECIFIC LOCATIONS

- A. Use general fill unless otherwise specified or indicated.
- B. Structural Fill:
 - 1. Use structural fill.
 - 2. Fill up to subgrade elevations.
 - 3. Maximum depth per lift: 6 inches, compacted.
 - 4. Compact to minimum 95 percent of maximum dry density.
- D. Over Buried Drain Piping from Drinking Fountain:
 - 1. Bedding: Use sand.
 - 2. Cover with general fill.
 - 3. Fill up to subgrade elevation.
 - 4. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.
- F. At Lawn Areas:
 - 1. Use general fill.
 - 2. Fill up to 6 inches below finish grade elevations.
 - 3. Compact to 95 percent of maximum dry density.
 - 4. See Section 31 22 00 for topsoil placement.

- G. At Sports Fields:
 - 1. Use general fill.
 - 2. Fill up to 6 inches below finish grade elevations.
 - 3. Compact to 95 percent of maximum dry density.
 - 4. See notes and drawings for sports field soils placement.
- H. Under Monolithic Paving:
 - 1. Compact subsoil to 95 percent of its maximum dry density before placing fill.
 - 2. Use general fill.
 - 3. Fill up to subgrade elevation.
 - 4. Compact to 95 percent of maximum dry density.
 - 5. See Section 32 11 23 for aggregate base course placed over fill.

3.5 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.
- B. Top Surface of Filling Under Paved Areas: Plus or minus 1/2 inch from required elevations.

3.6 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556 or ASTM D2167
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor").
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest. See Section 01 40 00 for procedures.
- E. Frequency of Tests: as per contract requirements.
- F. Proof roll compacted fill at surfaces that will be under slabs-on-grade, pavers, and paving.

3.7 CLEAN-UP

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpiled area to prevent standing surface water. Unused material may be distributed on site at approval of Owner's Representative.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION 312323

SECTION 320190 - TREE PRESERVATION

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Protection, pruning and feeding of existing trees to be saved within the limits of project.
- B. Installation of protection barricade fence.
- C. Installation of tree armor.

1.2 RELATED SECTIONS

- A. Section 02 41 00 - Demolition
- B. Section 31 10 00 - Site Clearing
- C. Section 31 22 00 - Grading
- D. Section 31 23 16 - Excavation
- E. Section 31 23 23 - Fill and Backfill

1.3 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
 - 1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - 2. ANSI Z60.1 (Latest edition) Nursery Stock.
 - 3. ANSI Z133.1 (Latest edition) Tree Care Operations- Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush.Maintenance - Standard Practices.
 - 4. ANSI A300 (Latest edition)

1.4 SITE CONDITIONS:

- A. Inspection:
 - 1. Contractor, Arborist, Owner's Representative and Design Consultant shall review pruning work to be completed prior to initiating work.
 - 2. Obtain approval of installation of tree barricade fencing from COSA Tree Inspector, Owner and Design Consultant prior to the initiation of any removal of vegetation and construction.

1.5 QUALITY CONTROL:

- A. Employ qualified certified Arborist for pruning and feeding as approved by the Design Consultant. Arborist shall have the following minimum qualifications:
 - 1. Membership in:
 - a. NAA - National Arborist Association
 - b. ISA - International Society of Arborists
 - 2. Meet state requirements for insurance.

3. Licensed for application and use of pesticides.
4. Bonded.

1.6 SUBMITTALS:

- A. Furnish at Design Consultant's office, prior to installation, the following samples:
 1. Certification: Copy of Arborist qualifications.
 2. Mulch: Label from bag (Supplier's statement of analysis if bulk), and 1-gallon container of mulch sample.
 3. Fertilizer: Label from bag or Supplier's brochure.

PART 2 – PRODUCTS

2.1 MATERIALS:

- A. Fertilizer for Trees: Davey Arbor Green, 30-10-7 for liquid suspended application, distributed by The Davey Company in San Antonio, Texas (210) 698-0515 or approved equal.
- B. Tree Barricade Fencing: Fabric of square link orange 4' width, high density polyethylene with 5-7 year life. Posts of 6' height studded T-posts with painted on finish for rust protection.
- C. Mulch: Mulch shall be free of deleterious material and shall be stored as to prevent inclusion of foreign material. Mulch shall be native shredded hardwood mulch, manufactured by Gardenville Horticultural Products, San Antonio, Texas, 210-651-6115.
 1. Mulch resulting from double shredding/grinding of trees removed from the site would be an acceptable alternative.
- D. Tree Wound Paint: Bituminous based paint of standard manufacture specifically formulated for tree wounds.

PART 3 – EXECUTION

3.1 PROTECTION FOR EXISTING TREES TO BE PRESERVED:

- A. All trees to be preserved on the property shall be protected against damage from construction operations.
 1. Includes associated understory.
- B. Only those trees located within the limits of improvements to be constructed, or as indicated, are to be removed.
 1. All trees to remain shall be flagged for review after the location of improvements to be constructed are staked in the field.
 2. Any tree to be removed shall be reviewed by the Design Consultant and Owner for approval prior to removal.
 3. Trees to be preserved are represented by a solid line. Trees to be removed are represented by a dashed or ghosted line. Trees to be planted are graphically differentiated from existing trees.
 4. Obtain approval of installation of tree barricade fencing from COSA Tree Inspector, Owner and Design Consultant prior to the initiation of any removal of vegetation and construction.

- C. Erect fencing and armor protection prior to beginning any clearing, demolition or construction activity, and unless otherwise instructed, maintain in place until construction is completed.
 - 1. Obtain approval of installation of tree barricade fencing from COSA Tree Inspector, Owner and Design Consultant prior to the initiation of any removal of vegetation and construction.
 - 2. Tree protection barricade shall be erected at the edge of the dripline where possible; in extreme circumstances and with the approval of the Design Consultant, fencing may be located at the edge of the root protection zone.
 - a. For trees 10 inch caliper and less, the minimum distance the barrier shall be erected is ten (10) feet from the trunk of tree or clump of trees.
 - 3. Trees immediately adjacent to and within one hundred feet (100) of any construction activities are to be protected by barricade fencing; subject to approval of the Design Consultant and Owner.
 - 4. Trees exposed to construction activity within the dripline or within twenty-five (25) feet of any construction activity are to have trunks protected with tree armor in addition to barricade fencing.
 - 5. The tree protection barricade shall be placed before any excavating or grading is begun and maintained in repair for the duration of the construction work unless otherwise directed.
 - 6. No material shall be stored or construction operation shall be carried on within the tree protection barricade.
 - 7. Tree protection barricade shall remain until all work is completed.
 - 8. Remove tree protection barricade at commencement of finish grading.
 - 9. Remove tree armor immediately prior to Substantial Completion.
- D. Protect tree trunk with tree armor to a height of 8' or to the limits of lower branching (when exposed to construction activity within the drip line) with 2x4's butted side to side completely around trunk.
 - 1. Wire wrap do not nail, around trees.
- E. Protect trees that are to remain, whether within barricade fencing or not, from the following:
 - 1. Compaction of root area by equipment or material storage; construction materials shall not be stored closer to trees than the farthest extension of their limbs (dripline).
 - 2. The proposed finished grade within the root protection zone of any preserved tree shall not be raised or lowered more than three (3) inches.
 - a. Retaining methods can be used to protect and/or provide lateral support to the area outside the root protection zone.
 - 3. Trunk damage by moving equipment, material storage, nailing or bolting.
 - 4. Strangling by tying ropes or guy wires to trunks or large branches.
 - 5. Poisoning by pouring solvents, gas, paint, etc., on or around trees and roots.
 - 6. Cutting on roots by excavating, ditching, etc.
 - a. Prior to excavation within the tree drip lines or the removal of trees adjacent to other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to minimize root damage.
 - b. Refer to EXCAVATION AROUND TREES for additional information.
 - 7. Damage of branches by improper pruning.
 - 8. Drought from failure to water or by cutting or changing normal drainage pattern past roots. Contractor shall provide means as necessary to ensure positive drainage.
 - 9. Changes of soil pH factor by disposal of lime base materials such as concrete, plaster, lime treatment at pavement subgrade, etc. When installing concrete adjacent to the root zone of a tree, use a minimum 6 mil. plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil.
 - 10. Do not cut roots 3/4" in diameter or over without approval of Owner's Representative. All excavation and earthwork within the drip line of trees shall be done by hand.

11. Protect all existing trees near areas to be stabilized from underground contaminations by placing a 6 mil. Plastic film barrier along exposed vertical cut extending a minimum 12" into undisturbed subgrade below depth of stabilization.
 12. No vehicular traffic shall occur within the drip line of any tree; including parking of vehicles.
 13. No soil shall be spread, spoiled or otherwise disposed of under any tree within the drip line.
- F. Any damage done to existing tree crowns or root systems shall be repaired by the Arborist to the satisfaction of the Design Consultant and Owner's Representative.
1. Broken branches shall be cut cleanly.
 2. Any roots cut shall be cut cleanly with a saw other means approved by the Design Consultant and Owner's Representative.
- G. Repairs to the trees necessitated by damage caused through negligence of Contractor or his employees will be completed at the Contractor's expense.
1. When trees other than those approved for removal are destroyed or killed, or badly damaged as a result of construction operations, the contract sum will be reduced by the value of the tree as determined by using the accepted International Society of Arboriculture's formula.

3.2 ROOT PROTECTION ZONE:

- A. The root protection zone (RPZ) is measured with a radius from the trunk of 12" for each caliper inch of trunk measured at four and one-half (4-1/2') feet above grade or at the point where the smallest diameter closest to the branching occurs.
1. No disturbance shall occur closer to the tree than one-half the radius of the RPZ or within five (5) feet of the tree whichever is greater.

3.3 ROOT PROTECTION ZONE IMPACTS:

- A. Those trees to remain which have some encroachment on their root protection zone shall have the following maximum allowable impacts:
1. Minimum Protection Criteria 'A': No disturbance of natural grade, e.g. trenching or excavation, can occur closer to the tree than one-half the radius of the RPZ or within five (5) feet of the tree whichever is greater.
 2. Minimum Protection Criteria 'B': No cut or fill greater than three (3) inches will be located closer to the tree trunk than 1/2 the RPZ radius distance.
- B. Trees impacted shall have a minimum of a six (6) inch layer of mulch placed and maintained over the root protection zone and the undisturbed area within the dripline.
1. Immediate pruning and fertilization shall occur per the pruning and fertilization sections of this specification.
 2. Provide water in a slow drip manner to impacted trees as approved by the *Design Consultant* and Owner's Representative.
 3. Provide water to apply equivalent to 1 inch once per week to deeply soak in over the area within the dripline of the tree during periods of hot, dry weather.
 4. Spray tree crowns periodically to reduce dust accumulation on the leaves.

3.4 EXCAVATING AROUND TREES

- A. Excavate within the dripline of trees only where required and when absolutely necessary.
1. Any excavation within the dripline of trees shall be under the direction of the Arborist.

2. Arborist shall be at site at all times while excavation is occurring within the dripline.
 3. Refer to ROOT PROTECTION ZONE.
- B. When excavating for new construction is required within dripline of trees, hand excavate to minimize damage to root systems.
1. Use narrow tine spading forks and comb soil to expose roots.
 2. Relocate roots back into backfill areas wherever possible.
 3. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking.
 4. If root relocation is not practical, clean cut roots using sharp ax approximately three (3) inches back from new construction.
- C. Where existing grade is above new finish grade, carefully excavate within the dripline to the new finish grade.
1. Carefully hand excavate an additional eight (8) inches below the finish grade.
 2. Use narrow tine spading forks to comb the soil to expose the roots, and prune the exposed root structure as recommended by the Arborist.
 3. Keep the exposed roots damp.
 4. Treat the cut roots as specified and as recommended by the Arborist.
 5. After pruning and treatment of the root structure is complete, backfill to finish grade with eight (8) inches of approved plant mix.
- D. Temporarily support and protect roots against damage until permanently relocated and covered with recommended landscape material.

3.5 GOVERNING STANDARDS:

- A. Work procedures will be guided by the current provisions of the American National Standard Institute. Complete detail of the provisions are to be found in the references listed. The two basic objectives of the pruning operation shall include:
1. Hazard Reduction Pruning: Hazard reduction pruning shall be completed to remove visible hazards in a tree. Hazard pruning shall consist of one or more of the maintenance pruning types.
 2. Maintenance Pruning: Maintenance pruning shall be completed to maintain and improve tree health and structure and includes hazard reduction pruning.
- B. City of San Antonio, Texas Tree Preservation Ordinance, Ordinance No. 85262. trees are to have a one (1) year warranty; refer to Section EXTERIOR PLANTS.

3.6 APPROVAL: No major limbs or structure will be cut or removed without prior approval of the Design Consultant and Owner's Representative.

3.7 FERTILIZATION OF PRESERVED TREES:

- A. All existing trees to be reserved impacted by construction activities taking place within the dripline, including but not limited to trenching and grading, shall be fertilized.
- B. Feeding of existing trees to be impacted by construction shall be accomplished in accordance with the following specifications:
1. Feeding shall be completed prior to construction of permanent improvements adjacent to all trees including site fill or paving including trenching operations.

2. Liquid tree fertilizer applied with a standard hydrant sprayer at a pressure of 100 to 200 psi shall be injected in slightly slanted holes approximately twelve (12) inches in depth.
3. Concentration of suspension to be forty (40) pounds of fertilizer for trees in each 100 gallons of water. Application rate: six (6) pounds of actual nitrogen per 1,000 square feet of area under drip-line.
4. Holes are to be made in concentric circles and 3' on center around the tree with the last ring located at the dripline of the foliage of the trees.
5. Area beneath the dripline of the trees is to be well watered after the fertilization is placed.

3.8 MULCH:

- A. Mulch base of all existing trees four (4') feet radius with 6" deep mulch layer.
 1. If existing trees are grouped, the entire area is to be mulched in between the trees.
- B. Mulch base of all existing trees impacted by construction activities ten (10') feet radius past dripline of canopy with 6" deep mulch layer.
 1. If existing trees are grouped, the entire area is to be mulched in between the trees.

3.9 CLEANUP:

- A. Wood and debris shall become property of the Contractor and shall be removed from the site. Cost of disposal to be paid by Contractor.
- B. If acceptable to Owner, wood from tree removal and pruning activities can be double shredded/grinded and used on site as mulch at locations as approved by Design Consultant and Owner.

END OF SECTION 320190

SECTION 320190 - LANDSCAPE MAINTENANCE

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Maintenance of the landscape to be provided.

1.2 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
 - 1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - 2. ANSI Z60.1 (Latest edition) Nursery Stock.
 - 3. ANSI Z133.1 (Latest edition) Tree Care Operations- Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush.
 - 4. ANSI A300 (Latest edition) Tree, Shrub and Other Woody Plant Maintenance- Standard Practices.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 32 92 19 - Seeding
- B. Section 32 93 00 - Exterior Plants
- C. Section 32 01 90.33 – Tree Preservation

1.4 QUALITY ASSURANCE

- A. Landscape maintenance must be supervised by a staff member of the Contractor who possesses at least one of the following:
 - 1. Certified Landscape Professional Contractor (CLPC) as administered by Texas Association of Landscape Contractors (TALC).
 - 2. College degree relating to the landscape industry or an approved equivalent.

1.5 SUBMITTALS

- A. After completion of the project, submit the following:
 - 1. Watering Schedule.

1.6 JOB CONDITIONS

- A. Maintenance operations shall be conducted under favorable weather conditions during the seasons which are normal for such work as determined by acceptable practice in the locality.
- B. Maintenance operations:
 - 1. Conduct for a minimum 60 day period after substantial completion.
 - 2. Terminate after Final Acceptance of Project (or otherwise specified).

PART 2 – PRODUCTS

2.1 MATERIALS- Refer to respective landscape sections for applicable materials.

PART 3 – EXECUTION

3.1 GENERAL

- A. Obtain and follow the maintenance instructions provided by the installer of new plant materials.
- B. General Cleanup: Remove debris from all landscape areas at least once a week and from turf areas before each mowing.
 - 1. Debris consists of trash, rubbish, dropped leaves, downed branches and limbs of all sizes, dead vegetation, rocks, and other material not belonging in landscaped areas.
 - 2. Remove debris from site and dispose of properly.
- C. Watering, Soil Erosion, and Sedimentation Control: Comply with Federal, state, local, and other regulations in force; prevent over-watering, run-off, erosion, puddling, and ponding.
 - 1. Repair temporary erosion control mechanisms provided by others.
 - 2. Repair eroded areas and replant, when caused by inadequate maintenance.
 - 3. Prevent sediment from entering storm drains.
- D. Trees:
 - 1. Exercise care to avoid girdling trees.
 - 2. Provide protective collars if necessary.
 - 3. Remove protective collars at end of maintenance period.
- E. Fertilizing: Apply fertilizer only when necessary.
- F. Earth Mound Watering Basins: Maintain in good condition and as required to permit efficient application of water without waste; reapply mulch if soil surface shows.
- G. Drainage Channels: Remove obstructions in gutters, catch basins, storm drain inlets, yard drains, swales, ditches, and overflows.
- H. Health Maintenance: Inspect all plants regularly for health:
 - 1. Eradicate diseases and damaging pests, regardless of severity or speed of effect.
 - 2. Treat accidental injuries and abrasions.
 - 3. If a plant is unhealthy but not yet dead, according to specified definitions, determine reason(s) and take remedial action immediately.
 - 4. Remove dead plants immediately upon determining that they are dead.
- I. Pesticide and Herbicide Application: Comply with manufacturer's instructions and recommendations and applicable regulations.
 - 1. Obtain Owner's approval prior to each application.
 - 2. Apply in manner to prevent injury to personnel and damage to property due to either direct spray or drifting, both on and off Owner's property.
 - 3. Use backflow preventers on hose bibbs used for mixing water; prevent spills.
 - 4. Inspect equipment daily before application; repair leaks, clogs, wear, and damage.
 - 5. Do not dispose of excess mixed material, unmixed material, containers, residue, rinse water, or contaminated articles on site; dispose of off site in legal manner.
 - 6. Rinse water may be used as mix water for next batch of same formulation.
 - 7. Contractor is responsible for all recordkeeping, submissions, and reports required by laws

and regulations.

3.2 MAINTENANCE

- A. Maintain trees, shrubs and other plants by pruning removal of dead wood, cultivating, watering, weeding and mulching as required for normal, healthy growth.
 - 1. Restore planting saucers.
 - 2. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades or vertical position as required.
 - 3. Spray as required to keep trees and shrubs free of insects and disease.
 - 4. Water until Final Acceptance to provide 1 inch water per week.
 - a. period requires equivalent of 4- 5 gallon buckets of water minimum per week.
- B. Maintain turf/grass areas by watering, fertilizing, weeding, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable turf, free of eroded or bare areas (total bare area no greater than 2 percent of total area).
 - 1. Mowing shall be accomplished to maintain grass at a 1-3/8- to 1½-inch height.
 - a. Mowing shall not remove more than 1/3 height of the grass at each mowing.
 - 2. Water turf/grass areas until Final Acceptance of project.
 - 3. Water to provide an equivalent of 1 inch water per week for the establishment of all turf/grass areas to the satisfaction of the Owner.
 - 4. Keep turf relatively free of thatch, woody plant roots, diseases, nematodes, soil-borne insects, stones larger than 1-1/2 inches in diameter, and other materials detrimental to grass growth.
 - 5. Limit broadleaf weeds and patches of foreign grass to a maximum of 2 percent of the total area.
- C. Fertilize all turf/grass areas within the project limits, 30 days following initial installation as per recommendation of fertilizer analysis at rate to provide 1# nitrogen/1,000 SF.

3.3 OPERATIONAL INSTRUCTIONS

- A. Watering Schedule:
 - 1. The watering schedule is to include the duration and frequency each irrigation zone will run per week.
 - 2. This will be worked out jointly with the Landscape Irrigation Contractor and shall be programmed on to the controller after review by Owner.
 - 3. Program shall be submitted to the Owner as part of the final acceptance process.

3.4 CLEANUP AND PROTECTION

- A. Protect existing vegetation, pavements, and facilities from damage due to maintenance activities; restore damaged items to original condition or replace, at no extra cost to Owner.
- B. Remove fallen deciduous leaves in Fall; remove at least once a week.
- C. Clean adjacent pavements of plant debris and other debris generated by maintenance activities.
- D. Remove and dispose of general cleanup debris and biodegradable debris in a proper manner.
 - 1. Biodegradable Debris: Owner's trash collection facilities may not be used; dispose of off site in accordance with applicable regulations.
 - 2. Non-Biodegradable Debris: Owner's trash collection facilities may not be used; dispose of

off site in accordance with applicable regulations.

- E. During maintenance period, all debris shall be removed daily and the site kept neat at all times.
- F. After maintenance operations are finished, all paved areas which may have become strewn with soil or other material shall be thoroughly cleaned by sweeping, and if necessary, power washing.
- G. Protect landscape work from damage due to maintenance operations, operations by other contractors and trades and trespassers.
 - 1. Treat, repair or replace damaged landscape work as directed.

3.5 INSPECTION AND ACCEPTANCE

- A. When maintenance period is complete, Owner will, upon written request by the Contractor, make an inspection to determine acceptability.
- B. Where inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until re-inspected by the Owner and found to be acceptable.

END OF SECTION 320190

SECTION 321313 - PORTLAND CEMENT CONCRETE PAVING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete sidewalks and concrete pads.

1.2 RELATED SECTIONS

- A. Section 31 00 00 - Grading: Preparation of site for paving and base.
- B. Section 31 23 23 - Fill and Backfill: Compacted subbase for paving.
- C. Section 07 90 00 - Joint Sealers: Sealant for joints.

1.3 UNIT PRICES

- A. See Section 01 22 00 - Unit Prices, for additional unit price requirements.
- B. Concrete Placed: By the square yd. per specified inch thickness. Includes preparing base, placing, floating and finishing, testing.

1.4 REFERENCES

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; latest edition.
- B. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; latest edition.
- C. ACI 305R - Hot Weather Concreting; American Concrete Institute International; latest edition.
- D. ACI 306R - Cold Weather Concreting; American Concrete Institute International; latest edition.
- E. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; latest edition.
- F. ASTM C 33 - Standard Specification for Concrete Aggregates; latest edition.
- G. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; latest edition.
- H. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; latest edition.
- I. ASTM C 150 - Standard Specification for Portland Cement; latest edition.
- J. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; latest edition.
- K. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; latest edition.
- L. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing

Concrete; latest edition.

- M. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; latest edition.
- N. ASTM C 685/C 685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; latest edition.
- O. ASTM C 1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete; latest edition.
- P. ASTM D 1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (nonextruding and Resilient Bituminous Types); latest edition.

1.5 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on joint filler, admixtures, and curing compound.
- C. Samples: Provide sample panel a minimum 5' X 5' X 4" thick indicating concrete finish and other detailing for approval by *Design Consultant*. Provide number of samples as required until acceptable. Approved sample is to be maintained for duration of project. Remove sample(s) after completion of concrete paving work. Sample may be portion of sidewalk to be constructed pending acceptance of Owner.

1.6 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Obtain cementitious materials from same source throughout.
- C. Follow recommendations of ACI 305R when concreting during hot weather.
- D. Follow recommendations of ACI 306R when concreting during cold weather.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.1 FORM MATERIALS

- A. Form Materials: Conform to ACI 301.
- B. Wood or Steel form material, profiled to suit conditions.
- C. Joint Filler: Preformed; non-extruding bituminous type (ASTM D 1751).
 - 1. Thickness: 1/2 inch.

2.2 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 40 (280); deformed billet steel bars; unfinished finish.
- B. Joint Dowel Bars: Plain steel bars, ASTM A 615, Grade 60; unfinished finish. Cut bars true to length with ends square and free of burrs.

2.3 CONCRETE MATERIALS

- A. Concrete Materials: As specified in Section 03 30 00.
- B. Cement: ASTM C 150 Normal - Type I Portland type, grey color.
- C. Use one brand of cement throughout project, unless otherwise acceptable to Landscape Architect.
- D. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.
- E. For exterior exposed surfaces, do not use fine or course aggregates containing spalling- causing deleterious substances.
- F. Course Aggregate: Crushed rock or washed gravel with minimum size between 3/4 inch and 1 1/2 inch, and with a maximum size number 4.
- G. Fine Aggregate: Natural washed sand of hard and durable particles varying from fine to particles passing a 3/8 inch screen, of which at least 12% shall pass a 50- mesh screen.
- H. Water: Clean, and not detrimental to concrete.
- I. Air Entrainment Admixture: ASTM C 260.
- J. Chemical Admixtures: ASTM C 494/C 494M, Type A - Water Reducing.

2.4 ACCESSORIES

- A. Curing Compound: ASTM C 309, Type 1;1-D, or 2, Class A.
- B. Joint Sealer: Type as specified in Section 07 90 00.

2.5 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of trial mixtures, as specified in ACI 301.
 - 1. For trial mixtures method, employ independent testing agency acceptable to Design Consultant for preparing and reporting proposed mix designs.
 - 2. Do not use Owner's field quality-control testing agency as the independent testing agency.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

- D. Fiber Reinforcement: Add to mix at rate of 1.5 pounds per cubic yard, or as recommended by manufacturer for specific project conditions.
- E. Concrete Properties:
 - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 3,000 psi. As scheduled; or As indicated on drawings.
 - a. General Pedestrian Paving: 3,000 psi.
 - b. Skate Park Slab: 6,000 psi.
 - 2. Cement Content: Minimum 480 lb per cubic yard.
 - 3. Water-Cement Ratio: Maximum 40 percent by weight.
 - 4. Total Air Content: 4 percent, determined in accordance with ASTM C 173/C 173M.
 - 5. Maximum Slump: 5 inches.
 - 6. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content as follows with a tolerance of plus or minus 1 1/2 percent.
 - a. Air Content: 5.5 percent for 1 1/2 inch maximum aggregate.
 - b. Air Content: 6.0 percent for 1 inch maximum aggregate.
 - c. Air Content: 6.00 percent for 3/4 inch maximum aggregate.
 - 7. Mix adjustments may be requested by Contractor when characteristics of materials, project conditions, weather, test results, or other circumstances warrant.
 - 8. Maximum Aggregate Size: 1 1/2 inch. Minimum size between 3/4 inch and 1 1/2 inch and with a maximum size number 4.

2.6 MIXING

- A. Transit Mixers: Comply with ASTM C 94, except as may be modified by the following:
 - 1. Delete references for allowing additional water to be added to batch for material with slump. Addition of water to the batch will not be permitted.
 - 2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.
 - 3. When air temperature is in between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.2 SUBBASE

- A. See Section 31 23 23 for construction of base for work of this Section.

3.3 PREPARATION

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Notify Design Consultant minimum 24 hours prior to commencement of concreting operations.

3.4 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.5 REINFORCEMENT

- A. Place reinforcement as indicated on plans and details.
- B. Interrupt reinforcement at expansion joints.
- C. Place dowels; or reinforcement to achieve pavement alignment as detailed.
- D. Provide doweled joints 24 inch on center at transverse joints; interruptions of concrete; with one end of dowel set in capped sleeve to allow longitudinal movement.

3.6 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during placement of concrete.
- C. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
- D. Place concrete to pattern indicated.
- E. Apply surface retarder to all exposed surfaces in accordance with manufacturer's instructions.

3.7 JOINTS

- A. Align sidewalk joints.
- B. Place 1/2 inch wide expansion joints at 20 foot; 40 foot maximum intervals and to separate paving from vertical surfaces and other components and in pattern indicated; or None - N/A.
 - 1. Form joints with joint filler extending from bottom of pavement to within 1/2 inch of finished surface.
 - 2. Secure to resist movement by wet concrete.
- C. Provide scored or sawn joints:
 - 1. At intervals equal in width to pavement unless indicated otherwise.
- D. Saw cut contraction joints 3/16 inch wide at an optimum time after finishing. Cut 1/3 into depth of slab.

3.8 FINISHING

- A. Area; or Paving: Light broom, texture perpendicular to pavement direction.
- B. Sidewalk Paving: Light broom, texture perpendicular to direction of travel; Light broom, texture parallel to direction of travel; Wood float; Exposed aggregate; or with troweled and radiused edge 1/4 inch radius.
- C. Direction of Texturing: Transverse to pavement direction or as indicated.
- D. Pedestrian Ramps: Medium Broomed perpendicular to slope.
- E. Inclined Vehicular Ramps: Medium Broomed perpendicular to slope.
- F. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.9 JOINT SEALING

- A. See Section 07 90 00 for joint sealer requirements.

3.10 TOLERANCES

- A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
- B. Maximum Variation From True Position: 1/4 inch.

3.11 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests.
 - 1. Provide free access to concrete operations at project site and cooperate with appointed firm.
 - 2. Submit proposed mix design of each class of concrete testing firm for review prior to commencement of concrete operations.
 - 3. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- B. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cu yd or less of each class of concrete placed.
 - 1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
 - 2. Perform one slump test for each set of test cylinders taken.
- C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.12 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian or vehicular traffic over pavement until 75 percent design strength of concrete has been achieved.

3.13 SCHEDULES

- A. Parking Area and Drive Pavement: 4,000 psi 28 day concrete, 5 inches thick, #4 rebar at 12 inch on center each way reinforcement, wood float finish or as shown in details.
- B. Pedestrian Walk: 3,000 psi 28 day concrete, 5 inches thick, #4 rebar at 18 inch on center each way reinforcement, wood float finish or as shown in details.

END OF SECTION 321313

SECTION 321816.13 - PLAYGROUND SURFACING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Protective surfacing for playground area.
- B. Subbase under resilient surfacing.

1.2 RELATED SECTIONS

- A. Section 11 68 13 - Playground Equipment: Playground layout (staking).
- B. Section 03 30 00 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ASTM C 94/C 94M - Specification for Ready-Mixed Concrete; latest edition.
- B. ASTM C 136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates; latest edition.
- C. ASTM D 1557 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu ft (2,700 kN-m/cu m)); latest edition.
- D. ASTM F 1292 - Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment; latest edition.
- E. ASTM F 1487 - Standard Consumer Safety Performance Specification for Playground Equipment for Public Use; latest edition.
- F. ASTM D 2047 - Standard test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine; latest edition.
- G. ASTM F 2075 - Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment; latest edition.
- H. CPSC Pub. No. 325 - Handbook for Public Playground Safety; Consumer Products Safety Commission; latest edition.

1.4 DEFINITIONS

- A. Use Zone: The area beneath and immediately adjacent to a play structure or equipment (play event) that is designated for unrestricted circulation around equipment, and on whose surface it is predicted that a user would land when falling from or exiting the equipment.
- B. Critical Fall Height: The maximum fall height at which the protective surfacing meets the requirements of ASTM F 1292.
- C. High Play Activity Area: Areas where the fall height is especially great, such as at swings or where there is extreme contact such as the end of slides. A high play activity area is defined only where the protective surfacing of the entire playground area is not designed for the greatest fall height. High play activity areas are defined on the drawings.

- D. Fall Height: The vertical distance between the finished elevation of the designated play surface and the finished elevation of the protective surfacing beneath it as defined by ASTM F 1487.
- E. Protective Surfacing: Resilient ground surfacing. The characteristics of the protective surfacing are based on the fall height of the playground equipment. Changes in either the surfacing or the fall height, particularly reducing the resilience of the protective surfacing or increasing the fall height, will reduce safety-related performance.
- F. Subbase: A layer under the resilient layer of the protective surfacing but over the subgrade; may be rigid, as in concrete or bituminous, or aggregate.
- G. Subgrade: The surface of the ground on which the protective surfacing is installed.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: For all manufactured surfacing products, provide manufacturer's product data showing materials of construction, compliance with specified standards, installation procedures, and safety limitations.
 - 1. Include IPEMA certifications where required.
- C. Product Data: For natural surfacing materials, provide supplier's certification or mill certificate showing compliance with specified requirements.
- D. Samples: For each product for which color must be selected provide color chart showing full range of colors.
- E. Samples: Provide actual material samples for resilient surface material.
- F. Percolation Test Report: Describing test method used and results.
- G. Maintenance Data:
 - 1. For manufactured surfacing products, provide manufacturer's recommended maintenance instructions and list of repair products, with address and phone number of source of supply.
 - 2. For loose fill surfacing products, provide detailed re-ordering information to enable Owner to match installed material exactly.
- H. Manufacturer's Field Report.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Company certified by manufacturer for training and experience installing the protective surfacing; provide installer's company name and address, and training and experience certificate.

1.7 PRE-INSTALLATION MEETING

- A. Coordinate with Section 11 68 13 - Playground Equipment.
- B. Convene a meeting one week before starting earthwork for playground to discuss coordination between various installers.
 - 1. Require attendance by personnel responsible for grading and installers of playground equipment, protective surfacing, footings, and adjacent work.

2. Include representatives of Contractor.
3. Notify Design Consultant at least 2 weeks prior to meeting.

1.8 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver, handle, and store protective surfacing to project site in accordance with manufacturer's recommendations.
- B. Store materials in a dry, covered area, elevated above grade.

1.9 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide minimum 5 year warranty for playground surfacing.

PART 2 PRODUCTS

2.1 DESIGN CRITERIA

- A. Because the safety of the playground depends on strict conformance to the design criteria, this information is provided for Contractor's information.
 1. The protective surfacing constitutes a resilient layer installed over a non-resilient layer, which is installed over the subgrade, with the top of playground equipment footings and anchorage devices covered by full depth of the resilient portion of the protective surfacing.
 2. The protective surfacing constitutes a resilient layer installed over the subgrade, with the top of playground equipment footings and anchorage devices located below the surface of the subgrade.
 3. The total depth available for protective surfacing, from surface of subgrade, is indicated on the drawings.
 4. The top elevation of the protective surfacing is intended to be flush with adjacent grades.
 5. Use Zone: The protective surfacing has been designed to provide acceptable impact attenuation as defined in ASTM F 1292 for Critical Height of 12 feet.
- B. If deviation from specified depth is required, it is the Contractor's responsibility to make all changes required to maintain specified top elevation and required impact attenuation at no extra cost to Owner; approval prior to proceeding; follow approval request procedure as specified for substitutions.

2.2 MATERIALS

- A. Poured-In-Place Membrane Surfacing: Weather-resistant wear layer over impact attenuating substrate over rigid or aggregate subbase.
 1. Wear Layer: Ethylene propylene diene monomer (EPDM) particles adhered with a ultraviolet-stabilized polyurethane binder to produce an even, uniformly colored surface.
 2. Wear Layer Thickness: ½ inch, minimum.
 3. Coefficient of Friction: 0.8 minimum, when tested in accordance with ASTM D 2047.
 4. Wear Layer Color(s): As indicated on drawings; as selected from manufacturer's full range of solid bright colors.

5. Impact Attenuating Substrate: 100 percent recycled shredded styrene butadiene rubber (SBR) shreds or granules with 100 percent solids polyurethane binder to form a resilient material; do not use foam rubber.
 6. Resilient Depth: As required to achieve specified Critical Fall Height as defined in ASTM F 1292 but not more than depth indicated; maintain top elevation flush with adjacent grades.
 7. Resilient Depth - Other Than High Play Activity Area: 3 inches, 2 inches maximum, or as recommended by the manufacturer.
 9. Certification: Provide IPEMA certification of ASTM F 1292 Critical Fall Height at thickness specified.
 10. High use area under the swings and end of slide should be have a wear layer composed of EPDM or TPV particles of .5-1.5MM adhered with an ultraviolet-stabilized polyurethane binder to produce an even, uniformly colored surface. This area should have a wear layer thickness of ½ inch minimum. See plans for area boundaries.
 11. Manufacturers:
 - a. Recreation Brands Group: www.recbrandsgroup.com
 - b. Play Safe Surfacing, Inc: www.playsafesurfacing.com.
 - c. Tot Turf: www.totturf.com
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Rigid Subbase: Concrete, as specified in Section 03 30 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Playground equipment installer will perform playground layout prior to installation of footings; verify correctness of layout before starting this work.
- B. Verify that playground equipment and site furnishings located within playground area are complete.
- C. Verify location of underground utilities and facilities in the playground area. Damage to underground utilities and facilities will be repaired at Contractor's expense.
- D. Verify that subgrades are at proper elevations and that smooth grading is complete.
 1. Coordinate with installation of subsurface drainage.
- E. Verify that proper depth of surfacing is marked on base supports of playground equipment.

3.2 PREPARATION

- A. Correct subgrade irregularities to ensure that required depth of protective surfacing can be installed, and subgrade elevation is in accordance with manufacturer's requirements.
- B. Inside Use Zones remove all obstructions that would extend into the resilient protective surfacing.
- C. Remove rocks, debris, and other similar items.
- D. Install containment curbs with top surface flush with intended elevation of top surface of protective surfacing.

3.3 SUBBASE

- A. Install concrete subbase as indicated on drawings and in Section 03 30 00.
 - 1. Thickness: 3 inches.
 - 2. Remove curing compounds and other substances that will adversely affect adhesion.
- B. Install with top surface of subbase no higher than grades and levels indicated and not more than 1/4 inch lower than grades and levels indicated.
- C. Install in true, even plane, sloped to provide positive drainage.
- D. Flatness Tolerance: 1/4 inch in 10 feet, maximum.
- E. Cure subbase at least 7 days but not less than required by manufacturer of resilient surfacing.

3.4 RESILIENT SURFACING LAYER

- A. Install in accordance with CPSC Pub. No. 325, ASTM F 1487, manufacturer's instructions, and requirements of authorities having jurisdiction.
- B. Install proper thickness throughout Use Zone(s).
- C. Clean and dry surface of subbase.
- D. Poured In Place Surfacing:
 - 1. Mix components mechanically on-site in accordance with manufacturer's directions; do not mix by hand.
 - 2. Install seamlessly; ensure complete bond to subbase.
 - 3. Cover footings and foundations and adhere tightly around penetrating elements.
 - 4. Maintain full thickness of resilient layers within Use Zone; cover or abut containment curbs as indicated on drawings; completely cover tapered transition edges.
 - 5. Hand trowel exposed surface to smooth, even finish.
 - 6. Impact Attenuation Layer: Install entire layer in one continuous pour on the same day.
 - 7. Wear Surface: Bond wear surface to substrate with adhesive. Apply adhesive in small quantities so that wear surface can be applied before adhesive dries.
 - a. Install surfacing seamlessly. When wear surface is composed of different color patterns, pour surface continuously and seamlessly.
 - b. When seams are required due to color change or field conditions, place adjacent wear surface as soon as possible, before initial pour has cured. Coat edge of initial pour with adhesive and apply wear surface mixture immediately.
 - c. Add a minimum of 1/16 depth to specified surfacing depth to ensure required impact attenuation performance is met.
 - d. Install wear surface to cover foundations and adhere tightly around elements penetrating the surface.

3.5 FIELD QUALITY CONTROL

- A. Obtain the services of the equipment manufacturer's field representative to review the finished installation for compliance with specified requirements and with design criteria to the extent known to the Contractor; submit report of field review.
- B. Repair or replace rejected work until compliance is achieved.

3.6 CLEANING AND PROTECTION

- A. Restore adjacent existing areas that have been damaged from the construction.
- B. Clean playground equipment of construction materials, dirt, stains, filings, and blemishes due to shipment or installation. Clean in accordance with manufacturer's instructions, using cleaning agents as recommended by manufacturer.
- C. Clean playground area of excess construction materials, debris, and waste.
- D. Remove excess and waste material and dispose of off-site in accordance with requirements of authorities having jurisdiction.
- E. Protect installed products until Substantial Completion.
- F. Replace damaged products before Substantial Completion.

END OF SECTION 321816.13

SECTION 32 8400- LANDSCAPE IRRIGATION

PART 1 - GENERAL

1.1 SUMMARY

- A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the Owner.
- B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

1.2 CONSTRUCTION DRAWINGS

- A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.
- B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.
- C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

1.3 QUALITY ASSURANCE

- A. Provide at least one English speaking person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.

- B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnishes directions covering points not shown in the drawings and specifications.
- C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.
- D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to Owner.
- E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notices to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

1.4 SUBMITTALS

- A. Materials List:
 - 1. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the Owner a complete list of all irrigation system materials, or processes proposed to be furnished and installed as part of this contract.
 - 2. The submittals shall include the following information:
 - a. A title sheet with the job name, the contractor's name, contractor's address and telephone number, submittal date and submittal number.
 - b. An index sheet showing the item number (i.e. 1,2,3, etc.); an item description (i.e. sprinkler head); the manufacturer's name (i.e. Hunter Industries); the item model number (i.e. I-40-ADV/36V); and the page(s) in the submittal set that contain the catalog cuts.
 - c. The catalog cuts shall be one or two pages from the most recent manufacturer's catalog that indicate the product submitted. Do not submit parts lists, exploded diagrams, price lists or other extra information.
 - d. The catalog cuts shall clearly indicate the manufacturer's name and the item model number. The item model number, all specified options and specified sizes shall be circled on the catalog cuts.
 - e. Submittals for equipment indicated on the legend without manufacturer names, or "as approved", shall contain the manufacturer, Class or Schedule, ASTM numbers and/or other certifications as indicated in these specifications.
 - f. Submittal format requirements:

- g. Submittals shall be provided as one complete package for the project. Multiple partial submittals will not be reviewed.
 - h. Submittal package shall be stapled or bound in such a way as to allow for disassembly for review processing.
 - i. Submittal package shall have all pages numbered in the lower right hand corner. Page numbers shall correspond with submittal index.
 - 3. The Landscape Architect or Owner's authorized representative will allow no substitutions without prior written acceptance.
 - 4. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
 - 5. The Landscape Architect or Owner's authorized representative will not review the submittal package unless provided in the format described above.
- B. Substitutions: If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the irrigation drawings and specifications, he may do so by providing the following information to the Landscape Architect or Owner's authorized representative for approval.
- 1. Provide a written statement indicating the reason for making the substitution.
 - 2. Provide catalog cut sheets, technical data, and performance information for each substitute item.
 - 3. Provide in writing the difference and potential savings in installed price if the item is accepted.
 - 4. Estimated schedule impact.

1.5 EXISTING CONDITIONS

- A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, electrical supply, and telephone line connection to the irrigation system.
- 1. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a discrepancy exist, notify the Landscape Architect and Owner's authorized representative prior to beginning construction.
 - 2. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and Owner who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.
 - 3. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.

4. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans.
5. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.
6. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.
7. Contractor shall notify Owner's Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.
8. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the Owner's Representative.

1.6 INSPECTIONS

- A. The Contractor shall permit the Landscape Architect and Owner's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.
- B. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, Owner's authorized representative, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.
- C. Inspections will be required for the following at a minimum:
 1. System layout
 2. Pressure test of irrigation mainline (Two hours at 125 PSI or 120% of static water pressure, whichever is greater.) Mainline pressure loss during test shall not exceed 2 PSI.
 3. Coverage test of irrigation system. Test shall be performed prior to any planting.
 4. Final inspection prior to start of maintenance period
 5. Final acceptance
- D. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must be complete and up to date for each site visit.
- E. Work that fails testing and is not accepted will be retested. Hourly rates and expenses of the Landscape Architect, Owner's authorized representative, and governing agencies

for re-inspection or retesting will be paid by the Irrigation Contractor at no additional expense to Owner.

1.7 STORAGE AND HANDLING

- A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Landscape Architect and Owner and at no additional cost to the Owner.
- B. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

1.8 CLEANUP AND DISPOSAL

- A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the Owner's authorized representative.
- B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

1.9 TURNOVER ITEMS

- A. Record Drawings:
 - 1. Record accurately on one set of drawings all changes in the work constituting departures from the original contract drawings and the actual final installed locations of all required components as shown below.
 - 2. The record drawings shall be prepared to the satisfaction of the owner. Prior to final inspection of work, submit record drawings to the Landscape Architect or Owner's authorized representative.
 - 3. All record drawings shall be prepared using AutoCAD 2000, or newer, drafting software and the original irrigation drawings as a base. No manual drafted record drawings shall be acceptable. The Contractor may obtain digital base files from the Landscape Architect or Owner's authorized representative.
 - 4. If the Contractor is unable to provide the AutoCAD drafting necessary for the record drawings the irrigation designer does provide record drawing drafting as a separate service for an additional fee.
 - 5. Prior to final inspection of work, submit record drawings plotted onto vellum sheets for review by the Landscape Architect or Owner's authorized representative.

After acceptance by the Landscape Architect, City Inspector or Owner's authorized representative re-plot the record drawings onto reproducible Mylar sheets. The Contractor shall also provide record drawing information on a digital AutoCAD Release 2000, or newer, drawing file. All digital files shall be provided on a compact disc (CD) clearly marked with the project name, file descriptions and date.

- a. Record drawing information and dimensions shall be collected on a day-to-day basis during the installation of the pressure mainline to fully indicate all routing locations and pipe depths. Locations for all other irrigation equipment shall be collected prior to the final inspection of the work.
- b. Two dimensions from two permanent points of reference such as buildings, sidewalks, curbs, streetlights, hydrants, etc. shall be shown for each piece of irrigation equipment shown below. Where multiple components are installed with no reasonable reference point between the components, dimensioning may be made to the irrigation equipment. All irrigation symbols shall be clearly shown matching the irrigation legend for the drawings. All lettering on the record drawings shall be minimum 1/8 inch in size.
- c. Show locations and depths of the following items:
 - 1) Point of connection (including water poc, backflow devices, master control valves, flow sensors, etc.)
 - 2) Routing of sprinkler pressure main lines (dimensions shown at a maximum of 100 feet along routing)
 - 3) Isolation valves
 - 4) Automatic remote control valves (indicate station number and size)
 - 5) Quick coupling valves
 - 6) Drip filters, air relief valves, and flush valves
 - 7) Routing of control wires where separate from irrigation mainline
 - 8) Irrigation controllers (indicate controller number and station count)
 - 9) Related equipment (as may be directed)
 - a) Provide one controller chart for each automatic controller. Chart shall show the area covered by the particular controller. The areas covered by the individual control valves shall be indicated using colored highlighter pens. A minimum of six individual colors shall be used for the controller chart unless less than six control valves are indicated.
 - b) Landscape Architect or Owner's authorized representative must approve record drawings before controller charts are prepared.
 - c) The chart is to be a reduced copy of the actual "record" drawing. In the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a readable size.
 - d) When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils in thickness.

B. Operation and Maintenance Manuals:

1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or Owner's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.
2. Each complete, bound manual shall include the following information:
3. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.
 - a. Operating and maintenance instructions for all equipment.
 - b. Spare parts list and related manufacturer information for all equipment.

C. Equipment:

1. Supply as a part of this contract the following items for each Point of Connection (POC):
 - a. Two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the irrigation system.
 - b. Three 30-inch sprinkler keys for manual operation of control valves.
 - c. Two keys for each automatic controller.
 - d. Two quick coupler keys with a 1" bronze hose bib, bent nose type with hand wheel and two coupler lid keys.
 - e. One valve box cover-key or wrench.
 - f. Six extra sprinkler heads of each size and type.
 - g. For specified square-nut operated valves if required: One (1) 5-foot long valve handle, to fit 2-inch square AWWA operating nut, for use with the specified valves.
2. The above equipment shall be turned over to Owner's authorized representative at the final inspection.

1.10 COMPLETION

- A. At the time of the pre-maintenance period inspection, the Landscape Architect, Owner's authorized representative, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. Punch list to be checked off by contractor and submitted to Landscape Architect or Owner's authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, Owner's authorized representative, and governing agencies.
- B. The Owner's authorized representative shall have final authority on all portions of the work.

- C. After the system has been completed, the Contractor shall instruct Owner's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.
- D. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the owner's satisfaction by the Contractor without any additional expense to the owner. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

1.11 GUARANTEE

- A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.
- B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to owner within ten (10) calendar days of receipt of written notice from Owner. When the nature of the repairs, as determined by the Owner, constitute an emergency (i.e. broken pressure line) the Owner may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the owner by the Contractor, all at no additional cost to the Owner.
- C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We agree to repair or replace any defective material during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the owner. We shall make such repairs or replacements within 10 calendar days following written notification by the owner. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from owner, we authorize the owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT NAME:

PROJECT LOCATION:

CONTRACTOR NAME:

ADDRESS:

LANDSCAPE IRRIGATION

TELEPHONE:

SIGNED:

DATE:

PART 2 - MATERIALS

2.1 SUMMARY

- A. Use only new materials of the manufacturer, size and type shown on the drawings and specifications. Materials or equipment installed or furnished that do not meet Landscape Architect's, Owner's, or governing agencies standards will be rejected and shall be removed from the site at no expense to the Owner.

2.2 PIPE

- A. Pressure supply line between the water meter and the backflow prevention device shall be type K copper, one size larger than backflow device.
- B. Pressure supply lines 1 1/2 inches in diameter and smaller downstream of the backflow prevention unit shall be Schedule 40 solvent weld PVC conforming to ASTM D1785.
- C. Pressure supply lines 2 inches in diameter and up to 3 inches in diameter downstream of backflow prevention unit shall be Class 315 solvent weld PVC. Piping shall conform to ASTM D2241.
- D. Pressure supply lines 4 inches in diameter and larger downstream of the backflow unit shall be Class 200 bell and gasket PVC conforming to ASTM 2672.
- E. Non-pressure lines 3/4 inch in diameter and larger downstream of the remote control valve shall be Class 200 solvent weld PVC conforming to ASTM D2672.
- F. On grade non-pressure lines 3/4 inch in diameter and larger downstream of the remote control valve shall be Schedule 40 UV resistant solvent weld PVC conforming to ASTM D1785.
- G. Reclaimed water PVC pipe to be color-coded purple in color marked on two sides with reclaimed water warning statements "Caution-Reclaimed Water". Reclaimed water piping must be accepted by the local reclaimed water governing agencies.

2.3 METAL PIPE AND FITTINGS

- A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.
- B. Fittings shall be medium brass, screwed 125-pound class.
- C. Copper pipe and fittings shall be Type "K" or as noted on the drawing legend or details.
- D. Fittings shall be sweat soldered type.

2.4 PLASTIC PIPE AND FITTINGS

- A. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.
- B. All plastic pipes shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.
- C. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.
- D. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.
- E. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.
- F. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.
- G. PVC fittings used with UVR pipe shall be Schedule 40 UVR PVC type.

2.5 BELL AND GASKET FITTINGS

- A. Fittings for bell and gasket pressure supply lines shall be ductile iron deep bell type. Fittings shall be manufactured of ductile iron, Grade 65-45-12 in accordance with ASTM A-536. Fitting gaskets shall be in accordance with ASTM F-477. All ductile

iron fittings shall be manufactured with exterior lugs. Ductile iron fittings shall be as manufactured by Leemco, Inc., Corona, California.

- B. All tee fittings used to connect remote control valve assemblies and quick coupler assemblies to the mainline shall be ductile iron deep bell type. The outlet side of the tee or ell to the valve assembly shall be sized per the diameter of the largest valve in the assembly or a minimum of 2 inches. Ductile iron deep bell type reducers when used with bolt on links are allowable in lieu of reducing tee or ells. The PVC pipe to the valve assembly shall be secured to the ductile iron fitting using a joint restraint.
- C. All ductile iron fittings and all bell and gasket joints within fifty (50) feet of a directional change in the mainline shall be equipped with mechanical joint restraints. The joint restraint shall be capable of securing the PVC pipe directly to the lugs on the ductile iron fittings without the use of bolts, links and adapters. The joint restraint shall be capable of securing PVC pipe to PVC pipe and PVC pipe to ring joint isolation valves without the use of threaded linkages. Joint restraints shall be as manufactured by Leemco, Inc., Corona, California.

2.6 BACKFLOW PREVENTION UNITS

- A. The backflow prevention unit shall be of the manufacturer, size, and type indicated on the drawings.
- B. The backflow prevention unit shall be installed in accordance with the requirements set forth by local codes.
- C. The backflow enclosure shall be of the manufacturer, size, and type indicated on the drawings.

2.7 VALVES

- A. Gate Valves:
 - 1. Gate valves shall be of the manufacturer, size, and type indicated on the drawings.
 - 2. Gate valves 2 1/2 inches and smaller shall be constructed of a bronze body, gate and stem. Gate valves shall have threaded connections.
 - 3. Gate valves 3 inch and larger shall be ductile iron gasket joint, spigot X bell or bell X bell conforming to AWWA standards with resilient wedge and square operating nut.
 - 4. All gate valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.
- B. Ball Valves:
 - 1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.

2. All ball valves shall be Schedule 80 PVC and have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.
- C. Butterfly Valves:
1. Butterfly valves shall be of the manufacturer, size, and type indicated on the drawings.
 2. Butterfly valves shall have cast iron bodies, and stainless steel stems. Butterfly valves shall have ductile iron porcelain enamel coated disc.
 3. All Butterfly valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.
- D. Quick Coupler Valves:
1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.
 2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 1" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.
 3. Vinyl quick coupler cover to be purple in color with the words "Warning-Reclaimed Water-Do Not Drink" permanently marked on lid.
- E. Automatic Control Valves:
1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.
 2. Automatic control valves shall be electrically operated.

2.8 VALVE BOXES

- A. Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils.
- B. The valve box cover shall be the color specified in the legend and secured with a hidden latch mechanism or bolts.
- C. The cover and box shall be capable of sustaining a load of 1,500 pounds.
- D. Valve box extensions shall be by the same manufacturer as the valve box.
- E. The plastic irrigation valve box cover shall be an overlapping 'T' type.
- F. Automatic control valve and ball valve boxes shall be 16"x11"x12" 'nominal' rectangular size. Valve box covers shall be marked "RCV" with the valve identification number, or identifier "heat branded" onto the cover in 2 inch high letters / numbers.

- G. Quick coupler valve boxes shall be 10" circular size. Valve box covers shall be marked with "QCV" "heat branded" onto the cover in 2-inch high letters.
- H. Valve box cover shall be green in color and permanently marked on valve box cover plate with the words "Warning-Reclaimed Water-Do Not Drink".

2.9 AUTOMATIC CONTROLLER

- A. Automatic controller shall be of the manufacturer, size, and type indicated on the drawings.
- B. Controller enclosure shall be of the manufacturer, size, and type indicated on the drawings.

2.10 ELECTRICAL

- A. All electrical equipment shall be NEMA Type 3R, rainproof for exterior installations.
- B. All electrical work shall conform to local codes and ordinances.

2.11 LOW VOLTAGE CONTROL WIRING

- A. Remote control wire shall be direct-burial AWG-UF type, size as indicated on the drawings, and in no case smaller than 14 gauge.
- B. Connections shall of the manufacturer, size, and type indicated on the drawings.
- C. Common wires shall be white in color. Control wires shall be red (where two or more controllers are used, the control wires shall be a different color for each controller. These colors shall be noted on the "Record Drawings" plans located on controller door).
- D. Ground wires shall be green in color or bare copper and in no case smaller than 6 gauge.

2.12 IRRIGATION HEADS AND DRIP EMITTERS

- A. Irrigation heads and drip emitters shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the drawings.
- B. Irrigation heads and drip emitters shall be used as indicated on the drawings.
- C. Irrigation heads shall have purple reclaimed water warning cover.

2.13 DRIP IRRIGATION EQUIPMENT

- A. Drip tubing equipment such as flush valves, air relief valves, wye strainers and pressure regulators shall be of the manufacturer, size, and type indicated on the drawings.

2.14 MISCELLANEOUS EQUIPMENT

- A. Landscape Fabric:
 - 1. Landscape fabric for valve box assemblies shall be 5.0- oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.
 - 2. Type: DeWitt Pro 5 Weed Barrier or approved equal.
- B. Equipment such as flow sensors, rain sensors, freeze sensors, flush valves, air relief valves, wye strainers, and master valves shall be of the manufacturer, size and type indicated on the drawings.

PART 3 - EXECUTION

3.1 SITE CONDITIONS

- A. Inspections:
 - 1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
 - 2. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.
- B. Discrepancies:
 - 1. In the event of discrepancy, immediately notify the Landscape Architect or Owner's authorized representative.
 - 2. Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved.
- C. Grades:
 - 1. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.
 - 2. Final grades shall be accepted by the Engineer before work on this section will be allowed to begin.
- D. Field Measurements:
 - 1. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.
 - 2. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions prior to proceeding with work under this section.

3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect.
- E. Diagrammatic Intent:
1. The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform to structures and to avoid obstructions or conflicts with other work at no additional expense to Owner.
- F. Layout:
1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads, valves, backflow preventer, and automatic controller.
 2. Layout irrigation system and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas.
- G. Water Supply:
1. Connections to, or the installation of, the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.
- H. Electrical Service:
1. Connections to the electrical supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.
 2. Contractor shall make electrical connections to the irrigation controller. Electrical power source to controller locations shall be provided by others.
 3. Contractor shall make electrical connections to the irrigation controller.
 4. Electrical power source to pump assembly location shall be provided by others per NEC codes.

3.2 TRENCHING

- A. Excavations shall be straight with vertical sides, even grade, and support pipe continuously on bottom of trench. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved area, these dimensions shall be considered below sub-grade.
1. Provide minimum cover of 18 inches on pressure supply lines 2 ½ inches and smaller.
 2. Provide minimum cover of 24 inches on pressure supply lines 3 inches and larger.
 3. Provide minimum cover of 18 inches for control wires.

4. Provide minimum cover of 36 inches on pressure supply lines under vehicular travel ways.
5. Provide minimum cover of 12 inches for non-pressure lines.
6. Pipes installed in a common trench shall have a 4-inch minimum space between pipes.

3.3 BACKFILLING

- A. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inch in diameter.
 1. Backfill shall be tamped in 6-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Backfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.
 2. Flooding in lieu of tamping is not allowed.
 3. Under no circumstances shall truck wheels be used to compact backfill.
 4. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

3.4 PIPING

- A. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement.
 1. Cutting or breaking of existing pavement may be required.
 2. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.
 3. Remove all dented and damaged pipe sections.
 4. All lines shall have a minimum clearance of 4 inches from each other and 12 inches from lines of other trades.
 5. Parallel lines shall not be installed directly over each other.
 6. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling.
 7. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer.
 8. Center load all plastic pipe prior to pressure testing.
 9. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste.
 10. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where

noted otherwise. All plastic-to-metal connections shall be made with metal female adapters.

3.5 CONTROLLER

- A. The exact location of the existing controller shall be indicated on the plans. The electrical service shall be coordinated with this location.
 - 1. The Irrigation Contractor shall be responsible for coordinating hook up of new wires for the new system up to the existing irrigation controller.
 - 2. The irrigation system shall be programmed to operate during the periods of minimal use of the design area.

3.6 CONTROL WIRING

- A. Low voltage control wiring shall occupy the same trench and shall be installed along the same route as the pressure supply lines whenever possible.
 - 1. Where more than one wire is placed in a trench, the wiring shall be taped together in a bundle at intervals of 10 feet. Bundle shall be secured to the mainline with tape at intervals of 20 feet.
 - 2. All connections shall be of an approved type and shall occur in a valve box. Provide an 18-inch service loop at each connection.
 - 3. An expansion loop of 12 inches shall be provided at each wire connection and/or directional change, and one of 24 inches shall be provided at each remote control valve.
 - 4. A continuous run of wire shall be used between a controller and each remote control valve. Under no circumstances shall splices be used without prior approval.

3.7 VALVES

- A. Automatic control valves, quick coupler, and gate valves are to be installed in the approximate locations indicated on the drawings.
 - 1. Valve shall be installed in shrub areas whenever possible.
 - 2. Install all valves as indicated in the detail drawings.
 - 3. Valves to be installed in valve boxes shall be installed one valve per box.

3.8 VALVE BOXES

- A. Valve boxes shall be installed in shrub areas whenever possible.
 - 1. Each valve box shall be installed on a foundation of 3/4-inch gravel backfill, 2 cubic feet minimum. Valve boxes shall be installed with their tops 1/2 inch above the surface of surrounding finish grade in lawn areas and 3 inches above finish grade in ground cover areas.

3.9 IRRIGATION HEADS AND DRIP TUBING

- A. Irrigation heads and drip tubing shall be installed as indicated on the drawings.
 - 1. Spacing of heads and drip tubing shall not exceed maximum indicated on the drawings.
 - 2. Riser nipples shall be of the same size as the riser opening in the sprinkler body.

3.10 BACKFLOW PREVENTION UNITS

- A. Backflow Prevention Units shall be installed as indicated on the drawings. The backflow prevention unit shall be installed in accordance with the requirements set forth by local codes.
 - 1. The exact location of the backflow device shall be approved by the Landscape Architect or owner's authorized representative before installation.
 - 2. The contractor shall be responsible for the testing and certification of the backflow device for proper operation. Testing and certification shall be performed by a state licensed backflow tester.

3.11 MISCELLANEOUS EQUIPMENT

- A. Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practices.
 - 1. Quick coupler valves shall be set approximately 18 inches from walks, curbs, header boards, or paved areas where applicable.
 - 2. Install devices such as rain sensors, freeze sensors, flush valves, and air relief valves, master valves and flow sensors as indicated on the drawings and as recommended by the manufacturer.

3.12 FLUSHING THE SYSTEM

- A. Prior to installation of irrigation heads, the valves shall be opened and a full head of water used to flush out the lines and risers.
- B. Irrigation heads shall be installed after flushing the system has been completed.

3.13 ADJUSTING THE SYSTEM

- A. Contractor shall adjust valves, align heads, and check the coverage of each system prior to coverage test.
- B. If it is determined by the Landscape Architect or Owner's authorized representative that additional adjustments or nozzle changes will be required to provide proper coverage, all necessary changes or adjustments shall be made prior to any planting.
- C. The entire system shall be operating properly before any planting operations commence.

- D. Automatic control valves are to be adjusted so that the irrigation heads and drip tubing operate at the pressure recommended by the manufacturer.

3.14 TESTING AND OBSERVATION

- A. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been observed, tested and accepted by the Landscape Architect, Owner, and governing agencies.
- B. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing.
- C. When the sprinkler system is completed, the Contractor shall perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Landscape Architect.
- D. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accepted by the Landscape Architect and accomplished before starting any planting.
- E. Final inspection will not commence without record drawings as prepared by the Irrigation Contractor.

3.15 MAINTENANCE

- A. During the maintenance period the Contractor shall adjust and maintain the irrigation system in a fully operational condition providing complete irrigation coverage to all intended plantings.

3.16 COMPLETION CLEANING

- A. Clean up shall be made as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be broomed, and any damage sustained on the work of others shall be repaired to original conditions.

END OF SECTION

SECTION 329219 – SEEDING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Seeding or hydroseeding; mulching and fertilizer.
- B. Maintenance.

1.2 RELATED SECTIONS

- A. Section 31 22 00 - Grading: Preparation of subsoil and placement of topsoil in preparation for the work of this section.
- B. Section 31 23 23 - Fill and Backfill: Topsoil material.
- C. Section 32 01 90 Landscape Maintenance: Post-occupancy maintenance.

1.3 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 SUBMITTALS

- A. Products:
 - 1. Mulching Agent.
 - 2. Certification of seed.

1.5 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.7 MAINTENANCE SERVICE

- A. Furnish maintenance of seeded areas for three months from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Seed Mixture:

1. Grass Seed: Provide fresh, clean, new crop seed complying with tolerance for purity and germination established by the U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act and the Texas Seed Law.
 - a. Seed which has become wet, moldy or otherwise damaged in transition in storage will not be accepted.
 - b. Seed to be completely free of any objectionable foreign material that will hinder proper distribution.
 - c. Seed to be treated with an approved fungicide by commercial or state laboratory not more than 6 months prior to date of planting.
 - d. Seed rate to be Pure Live Seed (PLS). Minimum percent of PLS to be 85%. Seed type to be planted at the mixture, rate and planting conditions as follows:
 - 1) Blackjack bermudagrass (warm season grass) - 4 pounds per 1,000 square feet distributed by Douglas King Co., San Antonio, Texas - March 20 to September 30.
 - a. Seeding in the cool season
Time period – Oct. 1 to Apr. 30
Wheat grass – 4 lbs. / 1,000 sf

2.2 ACCESSORIES

- A. Mulching Agent: Weyerhaeuser virgin wood fiber mulch, Silva Fiber distributed by James Lincoln Corp., Garland, Texas 972/840-2440 or approved equal.
- B. Starter Fertilizer: 13-13-13 water soluble fertilizer.
- C. Lawn Fertilizer: Premium Plant Care Formula (with soil microbes) by Agrigro, available at Gardenville or approved equal.
- D. Recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated by analysis.
- E. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- F. Herbicide: Post emergent herbicide Round-Up by Monsanto Corp., or approved equal.

2.3 TESTS

- A. Provide analysis of topsoil fill under provisions of Section 01 40 00.
- B. Submit minimum 10 oz; 16 oz sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.
- C. Testing is not required if recent tests are available for imported topsoil. Submit these test results

to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

- D. Provide recommendations on fertilization requirements for turf.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this Section.

3.2 PREPARATION

- A. Prepare subgrade in accordance with Section 31 22 00 and notes on drawings.
- B. Place topsoil in accordance with Section 31 22 00.

3.3 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions; or at a rate recommended by the soils analysis.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

3.4 HYDROMULCH SEEDING APPLICATION

- A. Apply hydromulch slurry with a hydraulic seeder at rate of 45 pounds per 1,000 square feet mulching agent and 7.6 pounds per 1,000 square feet starter fertilizer.
 - 1. Include seed at rate noted.
- B. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- C. Maintain watering as required to establish grass.
- D. The period October 1 to March 1 is not considered suitable for seeding bermudagrass. During this period the soil will be stabilized by one seeding of cool season seed. Cool season seed shall be wheat grass seeded at a rate of 4 pounds per 1,000 square feet. After May 15 the area seeded with the cool season grass mix is to be reseeded with the common bermudagrass after preparation.
 - 1. Wheat grass is to be closely mowed and be allowed to be burn out or chemically killed off with herbicide. After the temporary grass is dead, the area is to be lightly scarified and overseeded with bermudagrass and reestablished prior to acceptance by the Owner.

3.5 SEED PROTECTION

- A. Staking of perimeter: Identify seeded areas with 3/8" x 2" x 48" wood surveyor's laths (stakes) and string around area periphery. Set string height to 12 inches. Space stakes at 36 inches.
- B. Erosion fabric: Cover seeded slopes where grade is 20% slope (1:5) or greater with erosion fabric.
 - 1. Roll fabric onto slopes without stretching or pulling.
 - 2. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.
 - 3. Lay blanket smoothly on surface, bury top end of each section and overlap adjacent rolls per manufacturer's instructions. Backfill trench and rake smooth, level with adjacent soil.
 - 4. Secure outside edges and overlaps at 36 inch intervals with stakes.
 - 5. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
 - 6. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.6 MAINTENANCE

- A. Begin maintenance immediately after seeding. Maintenance shall continue until final acceptance of the project. Refer to Section 32 01 90 Landscape Maintenance.
- B. Water to prevent grass and soil from drying out.
 - 1. Water for a minimum 30 day period after grass installation for acceptance of grass per approval of Project Inspector.
- C. Roll surface to remove minor depressions or irregularities.
- D. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.
- E. Immediately reseed areas which show bare spots. Bare spots over 6 inch diameter in size will not be acceptable.
- F. 30 days following establishment of the turf, fertilize the turf with lawn fertilizer at the rate to apply 1 pound of nitrogen per 1,000 square feet.

3.7 CLEAN UP AND PROTECTION

- A. After seeding operations are finished, all paved areas shall be thoroughly cleaned by sweeping, and if necessary power washing.
- B. Protect seeded areas with warning signs during maintenance period.

END OF SECTION 329219

SECTION 329300 - EXTERIOR PLANTS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Tree, shrub and ground cover planting.

1.2 RELATED SECTIONS

- A. Section 31 22 00 - Grading
- B. Section 31 23 23 - Fill and Backfill
- C. Section 32 92 19 - Seeding
- D. Section 32 92 23 - Sodding
- E. Section 32 01 90.33 – Tree Preservation

1.3 REFERENCES

- A. Plant material shall conform to the following documents which are to be considered part of these Specifications:
 - 1. "Standardized Plant Names," American Joint Committee on Horticultural Nomenclature, latest edition. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
 - 2. "American Standard for Nursery Stock," American Association of Nurserymen, Inc., latest edition. A plant shall be dimensioned as it stands in its natural position.
 - 3. "Grades and Standards for Nursery Stock," Texas Association of Nurserymen.
 - 4. "Principles and Practice of Planting Trees and Shrubs" by Gary W. Watson and E.B. Himelick.

1.4 SITE CONDITIONS

- A. Verification of Dimensions:
 - 1. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and sizes, etc., and shall assume full responsibility for the correctness of all such items.
- B. Existing Conditions:
 - 1. New work shall be tied to existing conditions and controls such as existing grades.
 - 2. Finished grades shall bear proper relationship to such controls. The Contractor shall adjust new work as necessary and as directed to meet existing conditions and fulfill intent of the plans.
- C. Obstructions:
 - 1. If any unknown utilities and obstacles are encountered during the construction period, stop work and immediately contact the Design Consultant before proceeding.
 - 2. Such obstructions shall be removed or relocated or the work adjusted as directed by the

Design Consultant.

3. If work proceeds without contacting the Design Consultant, shall be held liable for any and all damages.
- D. Underground Utilities: Prior to initiating any work of this section, the Contractor shall contact the appropriate authorities in order that their personnel can locate existing underground utilities that may be encountered.
- E. Existing Vegetation:
 1. Portions of the existing vegetation shall remain as indicated on the drawings.
 2. Take all means necessary to protect the existing vegetation.
 3. Any existing vegetation to remain that is damaged shall be replaced.
 4. New work shall be tied to existing conditions and controls such as existing planting beds.
 5. Bed expansions shall bear proper relationship to such controls.
 6. Adjust new work as necessary and as directed to meet existing conditions and fulfill intent of the plans.

1.5 DEFINITIONS

- A. Weeds: Any plant life not specified or scheduled. Includes:
 1. Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, Brome Grass and Green Briar.

1.6 QUALITY ASSURANCE

- A. Landscape installation and maintenance must be supervised by a staff member of the Contractor who possesses at least one of the current certifications/designations:
 1. Certified Landscape Professional Contractor (CLPC) as administered by Texas Association of Landscape Contractors (TALC).
 2. College degree relating to the landscape industry or an approved equivalent.
 3. It is the obligation of the Contractor to provide the Owner or Design Consultant with documentation that the above qualification is met.
- B. Source Quality Control:
 1. General: Planting materials shall meet or exceed the Specifications of Federal, State and local laws requiring inspection for plant disease and insect control.
 2. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project.
 3. Stock furnished shall be at least the minimum size indicated.
 - a. Larger stock is acceptable, at no additional cost and providing that the larger plants will not be cut back to size indicated.
 - b. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.
 4. Provide "specimen" plants with a special height, shape or character of growth.
 - a. Tag specimen trees or shrubs at the source of supply.
 - b. The Design Consultant shall inspect specimen selections at the source of supply for suitability and adaptability to selected location.
 - c. When specimen plants cannot be purchased locally, provide sufficient photographs of

- the proposed specimen plants for approval.
5. Contractor shall provide written notice of request for inspection to the Design Consultant a minimum of two (2) weeks prior to date of inspection.
 6. Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size and variety.
 - a. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.
 7. Analysis and Standards:
 - a. Package standard products with manufacturer's certified analysis.
 - b. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable.
 8. Label at least one plant of each variety in each delivery with a securely attached waterproof tag bearing legible designation of botanical and common name.
 - a. Same species with different flower color varieties shall have a label on each plant.
 9. Inspections:
 - a. All necessary state, federal, and other inspection certificates shall accompany the invoice for each shipment or order for plant materials as may be required by law.
 - b. All plants shall be subject to inspection and approval at the site or elsewhere. The Design Consultant reserves the right to reject, at any time or place, prior to final acceptance of the work, any or all of the plants which fail to meet requirements of these specifications.
 10. Trees, shrubs, perennials and annuals that are undersized or in poor and unviable condition, if planted, shall not be accepted and must be replaced to accomplish the landscape contract.
 11. Conditions where the site is left at an irregular grade are not acceptable.

1.7 EXPLANATION OF DRAWINGS

- A. Due to the scale of drawings, it is not possible to indicate all conditions affecting work.
 1. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such elements as may be required to meet such conditions.
 2. Drawings are generally diagrammatic and indicative of the work to be installed.
 3. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, existing planting and trees and other construction on site.
- B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.
- C. The Contractor shall not willfully install the planting as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in design.
 1. Such obstructions or differences should be brought to the attention of the Owner's authorized representative and Design Consultant.
 2. In the event this notification is not performed, the contractor shall assume full responsibility for any revisions necessary.
- D. Contractor shall be responsible for all costs involved with work.

1.8 SUBMITTALS

- A. Furnish at Design Consultant's office, prior to installation, the following samples:
1. Soil Conditioner: Label from bag (Supplier's statement of analysis if bulk), and one ounce sample.
 2. Soil Amendment: Label from bag (Supplier's statement of analysis if bulk), and one ounce sample.
 3. Mulch: Label from bag (Supplier's statement of analysis if bulk), and 1-gallon container of mulch sample.
 4. Fertilizer: Label from bag or Supplier's brochure.
 5. Herbicide: Label from container or Supplier's brochure.
 6. Root Stimulator: Label from container or Supplier's brochure.
 7. Erosion Control Netting: Supplier's brochure and 12" x 12" section of fabric.
 8. Edging: Sample minimum 12" length.
 9. Gravel: 1-pound sample.
 10. Drainage Fill: 1-pound sample.
 11. Soil Separation Fabric: Suppliers brochure and 12" x 12" section of fabric.
 12. Weed Barrier Fabric: Suppliers brochure and 12" x 12" section of fabric.
 13. Decomposed Granite: One (1) quart container.
 14. Plant Schedule: Indicate quantities and species of plant material, with complete source information (nursery name, address, phone number).

1.9 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials:
1. Deliver packaged materials in original containers showing weight, analysis and name of manufacturer.
 2. Protect materials from deterioration during delivery, and while stored at site.
- B. Trees and Shrubs:
1. Do not prune prior to delivery unless otherwise approved by Design Consultant.
 2. Do not bend or bind-tie trees or shrubs in such manner as to damage bark, break branches or destroy natural shape
 3. Provide protective covering during delivery to prevent wind burn.
 4. Spray deciduous plants in foliage with approved anti-desiccant immediately after digging to prevent dehydration.
- C. Deliver plant materials after preparations for planting have been completed and plant immediately.
1. Protect all plants from drying out.
 2. Use all means necessary to protect plant materials before, during and after installation and to protect the installed work and materials of all other trades.
- D. Do not remove container grown stock from containers until planting time.
1. Do not drop stock during delivery; broken and loose balls shall not be accepted.

1.10 ABBREVIATIONS

- | | |
|---------------------------------------|------|
| A. Balled & Burlapped | B&B |
| B. Gallon Container Size as Indicated | Gal. |
| C. Multi-Trunk | M.T. |

D. On Center	O.C.	
E. Square Yard	S.Y.	
F. Square Feet	S.F.	
G. Caliper	Cal.	
H. Linear Feet	L.F.	
I. Tree-form	T.F.	
J. Height		Ht.
K. Spread	Sprd.	

1.11 JOB CONDITIONS

A. Basic Regulations:

1. Planting operations shall be conducted under favorable weather conditions during the seasons which are normal for such work as determined by acceptable practice in the locality.
2. Contractor is hereby notified of active utilities and caution shall be exercised to avoid interruption of services.
3. The Contractor is responsible for replacement of any existing buried utilities, irrigation lines, etc., if they are broken during the planting operations.
4. Contact the appropriate utility to get the locations of underground utilities. The replacement costs are at the Contractor's expense.
5. Protect curbing or walks, protection against damage when it is necessary to cross paved areas.
6. When conditions detrimental to plant growth are encountered during soil preparation or planting, such as rubble fill, adverse drainage conditions, or obstructions, notify Design Consultant before planting.

B. Work Sequence:

1. Plant trees and shrubs after final grades are established and prior to planting of turf, unless otherwise acceptable to Design Consultant.
2. If planting of trees and shrubs occurs after turf work, protect turf areas and promptly repair damage to turf resulting from planting operations.

C. Planting Period:

1. Plant materials as a standard are to be provided as nursery grown containerized condition.
2. Conditions in which B&B plant material to be utilized shall only be with approval of Owner and Design Consultant and with equitable adjustment.
3. B&B plant material shall not be planted within the period of April - August; only container grown stock is to be installed during this period.
4. Soil Preparation (weed treatment):
 - a. Initiate a minimum 8 weeks prior to planting.
 - b. Complete post emergent herbicide applications at a minimum of 2 week intervals. Four applications or as required to be provided.

1.12 WARRANTY & GUARANTEES

A. TREE, SHRUB AND GROUNDCOVER:

1. Warranty trees and shrubs and groundcovers for a period of one (1) year following the date of final acceptance to be alive and in satisfactory growth at the end of the warranty period.
 - a. Plants damaged or killed as a result of hail, winds over 75 miles per hour, lightning, fire, winter kill caused by extreme cold and severe winter conditions not typical of the planting area, theft, vandalism, occupancy of the building, or Owner neglect of proper maintenance are not covered by the warranty.
2. Replacement:
 - a. By the end of the guarantee period, any plant that is dead or 50 percent or more of the main branch structure dead, or not in satisfactory growth as determined by the Owner or the Design Consultant, shall be removed from the site and shall be replaced.
 - b. All replacements shall be plants of the same kind and size as specified in the plant list and shall be furnished and planted as originally specified.
 - c. Cost of such replacements shall be borne by the Contractor.
 - d. Replacement plants shall be guaranteed for one (1) year or as noted in the warranty.
 - e. Replacement shall be made within 10 days after notification, or as soon as weather conditions are satisfactory for planting.

1.13 POST CONSTRUCTION PHASE WARRANTY WALKTHROUGH

- A. Conduct quarterly inspections over the one year warranty period.
- B. 3rd quarter inspection to be at 3 months prior to 1 year expiration date.
- C. Submit written report to Owner and Design Consultant stating overall condition of work under warranty and items requiring replacement/repair.

PART 2 – PRODUCTS

2.1 SOIL ADDITIVES

- A. Soil Conditioner: Compost, composted for a period of eight (8) weeks or longer, organic, derived from animal manure, wood shavings, hay, seed hulls, stable bedding, or other organic residue, without dust, objectionable odors, viable weed seed; aerobic and friable, manufactured by Gardenville, San Antonio, Texas, (210) 651-6115 or approved equal. A maximum of 10% cedar flakes/shavings is allowed in conditioner.
- B. Soil Amendment (Lawn): Lawn Dressing (sand and compost), screened, manufactured by Gardenville, San Antonio, Texas, (210) 651-6115, or approved equal.
- C. Planting Bed Soil: Reference material specified in Section 31 23 23 - Fill and Backfill.
- D. Sand: Clean, No. 4 to 100 Colorado River Sand, i.e., sharp or torpedo sand. Trinity River Sand is acceptable.
- E. Fertilizer for Trees: Davey Arbor Green, 30-10-7 for liquid suspended application, distributed by The Davey Company in San Antonio, Texas (210) 698-0515.
- F. Fertilizer for Shrubs and Groundcovers: Agriform 10 and 21 gram tablets manufactured by Sierra Chemical Co. Composition by weight 20-10-5 tablet form, dry and unbroken or approved equal.

- G. Pre-Emergence Weed Control (for use after cultivation): XL-2G by Dow Elanco or approved equal.
- H. Post-Emergence Herbicide: Round-Up by Monsanto Corp., or approved equal.
- I. Root Stimulator:
 - 1. Super Thrive 2% solution.
 - 2. Up Start by Ortho.
 - 3. Medina Soil Activator.

2.2 PLANT MATERIALS

- A. Plant Quantities:
 - 1. The quantities of plants calculated and shown on the plans define only the general magnitude of plants required.
 - 2. The Contractor shall furnish the number of plants at the specified spacing required to accomplish the planting.
- B. Plant Schedule: Refer to Plant Schedule indicating plant material, common and botanical name and size specifications indicated on the drawings.
- C. Quality:
 - 1. Provide trees, shrubs, and ground covers of size, genus, species and variety shown and scheduled for landscape work as per the following:
 - a. Provide plants typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems.
 - 1) Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation.
 - (a) All plants shall have a fully developed form without voids and open spaces.
 - b. Dig balled and burlapped plants with firm, natural balls of earth sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant.
 - 1) Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.
 - 2. All plant materials and trees shall be nursery grown; field collected materials are not acceptable without prior approval of Design Consultant.
 - a. All plants to be container grown.
- D. Bare root plants are not acceptable.
- E. Container Grown stock:
 - 1. Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
 - 2. No plants shall be loose in the container.
 - 3. Container stock shall not be pot bound.
- F. Trees:
 - 1. Provide tree species that mature at heights over 25'-0" with a single main trunk. Trees that have the main trunk forming a "Y" shape are not acceptable.
 - 2. Height of branching should bear a relationship to the size and variety of tree specified and with the crown in good balance with the trunk. Trees shall not be "poled" or the leader removed.

3. Trunk shall be reasonably straight and symmetrical with crown and have a persistent main leader for single-stem trees.
 4. For multi-stem trees, all countable stems, in aggregate, shall average the size specified. To be considered a stem, there should be no division of the trunk which branches more than six (6) inches from ground level.
 5. For specimen trees, a plant shall be provided that is well branched and pruned naturally according to the species. The form of growth desired, which may not be in accordance with natural growth habit, shall be as indicated.
- G. Plant Size:
1. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.
 2. Shrubs and small plants shall equal or exceed the requirements for spread and height indicated in the plant list.
 - a. The measurements for height shall be taken from the ground level (top of root ball) to the average height of the top of the plant and not the longest branch.
 - b. Single stemmed or thin plants will not be accepted.
 - c. Side branches shall be generous, well-twiggged and the plant as a whole well-bushed to the ground.
 - d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.
- H. No pruning wounds shall be present with a diameter of more than one (1) inch and such wounds must show vigorous bark on all edges.
- I. Matched:
1. Plants planted in rows shall be matched in form.
 2. Plants labeled as matched on plans or plant schedule shall select stock chosen for uniform height, spread and general character; label with number to assure symmetry in planting.
- J. Substitutions:
1. Permitted only upon submission of proof at least sixty (60) days prior to planting that the plant specified is not reasonably obtainable.
 2. The substitution shall be authorized by the Owner by change order.

2.3 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Dress Mulch: Regular, double shredded, unscreened hardwood or approved equal.
- B. Wound Dressing: Cabot Tree Paint or approved equal.
- C. Water: Furnished by the Contractor. Hose and other watering equipment to be provided by Contractor.
- D. Decomposed Granite: Hard, durable particles or fragments of Texas Hill Country decomposed granite gravel with fines evenly mixed throughout the aggregate, available from Keller Material, Inc., San Antonio, Texas, (210) 648-4221.
- E. Soil Separation Fabric: Mirafi 140N as manufactured by Mirafi, Inc., Charlotte, N.C., or approved equal.
- F. Wood Edging: Of sizes shown on following wood species:
 1. Redwood, all heartwood
 2. Tidewater Red Cypress, all heartwood

3. Western Red Cedar, all heartwood
 4. Southern Yellow Pine, pressure treated with water-borne preservative for ground contact use complying with AWPB LP-22.
 5. Provide wood stakes of treated Southern Yellow Pine, 2"x2"x18" long and hot dipped galvanized nails for anchoring stakes to edging.
- G. Steel Edging: 3/16" x 4" commercial steel edging fabricated in sections to receive stakes. Provide tapered steel stakes 16" long. Finish shall be manufacturer's standard green paint.
- H. Gravel: Crushed, hard, durable gravel, washed free of soil, sand, clay and other foreign substances. Provide the following stone, color and size range:
1. Limestone: Uniform tan/beige color range.
 2. Modified Grade 3, TCS Code #369.
 - a. Standard Limestone Base, TCS Code #115.
 - b. Railroad Ballast, TCS Code #066.
 - c. Rip Rap, TCS Code #012.
 3. Granite: Readily available natural gravel color range acceptable to Design Consultant.
 4. River Rock: Readily available material gravel, color range acceptable to Design Consultant.
 - a. Size Range: 3/8" to 3/4"
 - b. Size Range: 3/8" to 1-1/2"
 - c. Size Range: 3/4" to 1-1/2"
- I. Drainage Fill: AASHTON M43 #6 (3/8 to 3/4 inch) clean uniformly graded stone or gravel.
- J. Anti-Desiccant: Emulsion type, film forming agent designed to permit transpiration but retard excessive loss of moisture from plants.
- K. Plastic Sheet: Black, weather-resistant polyethylene sheeting complying with FS-L-P512, type III, 0.008" (8 mils) thick.
- L. Weed Barrier Fabric: Pro-5 Weed Barrier as manufactured by DeWitt Company or approved equal.
- M. Erosion Control Netting: "Soil Saver", a heavy, woven jute mesh with one inch openings as manufactured by Jim Walls, Co., Dallas, Texas or approved equal.
- N. Erosion Control Netting: Polyjute, open weave geotextile as distributed by A.M. Leonard, Inc., 800/543-8955.
- O. Tree Guard: Arbor-Guard polyethylene with U.V. inhibitors (minimum eight inch high for up to four inch caliper tree) by Deep Root Corporation, Westminster, California, 714-898-0563 or approved equal.

2.4 MATERIALS FOR STAKING TREES

- A. Stakes: Six (6) foot height studded T-posts with painted finish for rust protection.
- B. Wire: Provide wire ties to 2-strand, pliable galvanized iron wire not lighter than 10 gauge.
- C. Plastic Chain Ties: Adj-A-Tye, as manufactured by A.M. Leonard, Inc., Piqua, Ohio, or approved equal.
- D. Hose (to encase wires): 2 ply reinforced green rubber or plastic garden hose, 3/4" in diameter cut to required lengths to protect tree trunk from damage by wire guy wires.

PART 3 – EXECUTION

3.1 PLANTING DETAILS

- A. Planting details regarding tree planting, shrub pit planting, shrub and groundcover planting, and planting bed soil preparations are included on the drawings.

3.2 PLANTING LAYOUT

- A. Layout individual tree, shrub and planting bed areas for plantings.
 - 1. Stake tree locations, pit planted shrubs and outline planting bed areas.
 - 2. The Design Consultant reserves the right to inspect all layouts prior to the start of, during, and after planting work.
 - 3. Make adjustments as may be requested at no additional cost to the Owner.
- B. Set plant material in the planting pit to proper grade and alignment.
 - 1. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure.
 - 2. No filling will be permitted directly over root ball or around trunks or stems.
 - 3. Do not use frozen or muddy mixtures for backfilling.
 - 4. Form a ring of soil around the edge of each planting pit to retain water.
- C. Groundcover and shrubs shall be set at a level that, after settlement, they shall bear the same relationship to the finish grade as specified in PLANTING TREES AND SHRUBS IN PITS, this section.
- D. After plants are in place, muddle planting soil mixture around sides of balls and fill all voids.
- E. Prior to backfilling with planting soil mixture, remove all burlap, ropes, and wires from the top 1/3 of balls on all balled and burlapped plant material.

3.3 PLANTING GROUND COVER AND SHRUBS IN BEDS

- A. Space ground cover plants in accordance with indicated dimensions providing the quantity of plants necessary to evenly fill planting bed area.
 - 1. Plant layout is to be equidistantly triangular spaced.
 - 2. Plant to within 12 inches of the trunks of trees and shrubs within planting bed and to within 6 inches of edge of bed but in no instance less than ½ the spacing distance of the plant.
- B. All plant material shall be set at a level that, after settlement, they shall bear the same relationship to the finish grade that they bore to the soil from which they were dug/grown.
- C. When plants are set at proper elevation, planting soil shall be replaced around the ball and compacted, avoiding injury to the roots and filling all voids.
 - 1. Absolutely no topsoil or planting soil shall be placed over top of any rootball or portion of rootball.
- D. Place fertilizer tablets, at rate shown in table under fertilization section, when approximately half the backfill is in place.

- E. Planting beds shall be raked smooth and thoroughly watered and then water allowed to soak away.
- F. After settlement, add planting soil as necessary to bring bed to finish grade and again thoroughly water entire plant bed.
- G. After planting operation and prior to mulching, pre-emergent weed control shall be applied to the entire bed area according to the manufacturer's recommendations.
- H. Prune, thin out and shape shrubs in accordance with Standard Horticultural Practice if deemed necessary by Design Consultant.
 - 1. Prune shrubs to retain natural character.
 - 2. Pruning shall be limited to the minimum necessary to remove injured twigs and branches.
- I. Following a minimum two (2) week waiting period after planting is completed, all beds shall be inspected by the Contractor and treated as required with an appropriate post-emergent herbicide to remove weed growth.
 - 1. Treatment shall be continued as necessary to remove weeds.
 - 2. No beds shall be accepted with weeds.

3.4 PLANTING TREES AND SHRUBS IN PITS

- A. Planting Pits:
 - 1. Excavate pits with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.
 - 2. Minimum diameter is twice the diameter of rootball or size pit to receive rootball.
- B. Drainage Holes:
 - 1. Where tree pits are dug in rock, a 4-inch diameter drainage hole will be drilled to drainage material or rock fracture and filled with gravel.
 - a. The drain hole must meet the test of draining the pit filled with water within a 24 hour period of time.
 - b. Additional drain holes shall be drilled if required to meet drainage test herein described.
 - c. Prior to planting tree, place soil separation fabric over drainage holes.
 - 2. Where tree pits are dug in clay, a 4-inch diameter drainage hole will be drilled to drain and backfill with gravel when required to insure proper drainage.
 - a. The drain hole must meet the test of draining the pit filled with water within a 24 hour period of time.
 - b. Additional drain holes shall be drilled if required to meet drainage test herein described.
 - c. Prior to planting tree place soil separation fabric over drainage holes.
 - 3. Fill excavations for trees and shrubs with water and allow to percolate out before planting.
- C. Elevation:
 - 1. All plants, other than trees, shall be set at a level so that, after settlement, they shall bear the same relationship to the finished grade of the surrounding soil from which they were dug or from the container they were grown in.
 - 2. Set trees 2 to 3 inches above finish grade.
- D. Setting Plants:
 - 1. After placing the plant in the specified pit, planting soil shall be placed around the ball and compacted to avoid injury to the roots and to fill all voids.

2. When pits are nearly filled with soil, add water and allow to soak away.
 3. Fill the pit to finished grade with planting soil allowing for mulching material.
 4. Form a shallow saucer around each plant by placing a ridge of planting soil around the edge of each pit to retain water.
- E. Absolutely no topsoil or planting mixture shall be placed over top of rootball.
- F. Trees and shrubs shall not be set plumb by adjusting the ball.
- G. When plants are set at proper elevation, planting soil shall be replaced around the ball and compacted, avoiding injury to the roots and filling all voids.
- H. Place fertilizer tablets in planting of shrubs, at rate shown in table under fertilization section, when approximately half the backfill is in place.
- I. Planting beds/pits shall be raked smooth and thoroughly watered and then water allowed to soak away.
- J. After settlement, add planting soil as necessary to bring bed to finish grade and again thoroughly water entire plant bed.
- K. After planting operation and prior to mulching, pre-emergent weed control shall be applied to the entire pit/basin area according the manufacturer's recommendations.
- L. When pit planted plants are in a mass two or more rows in depth, the entire bed area shall be receive pre-emergent herbicide and mulch as specified for planting beds.
- M. Prune, thin out and shape trees and shrubs in accordance with standard horticultural practice.
1. Prune trees to retain required height and spread.
 2. Unless otherwise directed by Owner or Design Consultant, do not cut tree leaders, and remove only injured or dead branches from flowering trees, if any.
 3. Prune shrubs to retain natural character.
 4. Cuts on plants over 3/4-inch in diameter to be cut back to sound tissue, smoothed and shaped so as not to hold rain water and painted with an approved tree wound paint.
 5. Remove and replace excessively pruned or misformed stock resulting from improper pruning.
- N. Maintain a minimum 3'-0" diameter saucer at base of trees within lawn areas clear of any grass.
- O. All tree and shrub pits are to receive a treatment of pre-emergent herbicide just prior to placement of mulch.
- P. Staking trees:
1. Stake trees immediately after planting, only when required to maintain a plumb condition due to wind, weight of plant material, etc.
 2. Under no circumstances is a tree to be plumbed with extreme tautness of guy wires or cable.
 3. Locate and drive stakes at equal spaced intervals outside the tree pit(s). Provide wire ties from each stake to encircle trunk at 40% to 50% of the tree height. Encase tie wire at tree in rubber hose. Slightly tighten wire tie to hold trunk firmly, but under no circumstances is tree to be plumbed by extreme tautness of ties.
 4. Provide 3- stakes when required to keep trees plumb on slopes or in varying wind conditions.
- Q. PVC Tree Guard: Provide tree guards at all trees located within lawn areas.

3.5 FERTILIZATION OF NEWLY PLANTED TREES

- A. Fertilization of new trees shall be accomplished after soil preparation work is complete in accordance with the following specifications:
1. Concentration of suspension to be 40 pounds of fertilizer for trees in each 100 gallons of water. Application rate shall be 6 pounds of actual nitrogen per 1,000 square feet of area under dripline.
 2. Suspended tree fertilizer applied with a standard hydrant sprayer at a pressure of 100 to 200 psi shall be injected in slightly slanted holes approximately 12 inches in depth. Injection time at full concentration is 3 to 4 seconds; at half concentration (20 pounds per 100 gallons) for 6 to 8 seconds.
 3. Suspended tree fertilizer is to be applied in both the planting pit and the parent undisturbed soil surrounding the pit.
 4. Apply suspended tree fertilizer at tree ball within the tree pit at full concentration. In parent soil 12 inches beyond the edge of the pit with holes made at 1-1/2 to 2 feet on center inject half concentration mixture.
- B. Liquid fertilization within the tree pit shall be injected according to the following schedule:
1. Trees 1 to 2" Caliper: One (1) injection
 2. Trees 2-1/2 to 3-1/2" Caliper: Two (2) injections
 3. Trees 4 to 5-1/2" Caliper: Three (3) injections
 4. Trees 6" and Greater Caliper: Inject at 3 feet o.c. in concentric circles around tree with last ring located at drip line. First ring to be located at edge of root ball.
- C. Area beneath dripline of the trees is to be well watered after the fertilization is placed.

3.6 FERTILIZATION FOR SHRUBS AND GROUND COVER

- A. For Shrubs and Ground Cover: When plant pit has been backfilled 50% place fertilizer tablets, equally spaced around rootball in accordance with the following schedule:
- | | | |
|---------------|-----------|---------|
| 1. 1 gallon | 3 tablets | 10 gram |
| 2. 5 gallons | 3 tablets | 21 gram |
| 3. 7 gallons | 4 tablets | 21 gram |
| 4. 15 gallons | 8 tablets | 21 gram |
- a. * Reduce number of tablets as per manufacturer's recommendation for plants less than 1 gallon.

3.7 MULCHING:

- A. Dress Mulching:
1. Within two days after planting not less than four (4) inches of dress mulch shall be placed on entire area of planting beds, and not less than four (4) inches over shrub and tree pits.
 2. Keep mulch six (6) inches away from tree trunk.

3.8 RECONDITIONING EXISTING PLANTING BEDS

- A. Recondition existing planting beds to remain:
1. Replace any plantings damaged by Contractor's operations including storage of materials and equipment and movement of vehicles to restore the beds to the satisfaction of the

Owner and Design Consultant.

2. Remove weeds from all existing beds; apply pre-emergent herbicide and dress mulching as here before specified.
3. Work shall conform with all requirements of this Section.

3.9 MISCELLANEOUS LANDSCAPE WORK

- A. Steel Edging: Install steel edging where shown. Anchor with steel stakes spaced not more than 3 feet o.c., and driven at least 1 inch below top elevation of edging or as directed by manufacturer.
 1. Provide edger to separate bed areas and lawn areas.
- B. Erosion Control Matting: Install erosion mat on slopes of greater than 3:1. Install according to manufacturers instructions for the particular situation, including method of attachment and overlapping required.
- C. Weed Barrier Fabric: Place fabric according to manufacturer's recommendation over surface of planting beds after application of pre-emergent herbicide and prior to placement of mulch.
- D. Gravel Mulch:
 1. Place gravel mulch where shown.
 2. Compact soil subgrades before placing gravel.
 3. Place filtration/separation fabric over compacted subgrade prior to placing gravel.

3.10 MAINTENANCE

- A. Begin maintenance immediately after each plant is planted. Maintenance shall continue until final acceptance of the project. Refer to Section - Landscape Maintenance.

3.11 CLEANUP AND PROTECTION

- A. During landscape work, all rope, wire, burlap, empty containers, rocks, clods and other debris, shall be removed daily and the site kept neat at all times.
- B. Any excess excavated subsoil or topsoil shall be removed from the site.
- C. After planting operations are finished, all paved areas which may have become strewn with soil or other material shall be thoroughly cleaned by sweeping, and if necessary, power washing.
- D. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers.
 1. Maintain protection during installation and maintenance periods.
 2. Treat, repair or replace damaged landscape work as directed.

3.12 INSPECTION AND ACCEPTANCE

- A. When landscape work is completed, including maintenance, Design Consultant will, upon written request by the Contractor, make an inspection to determine acceptability.
- B. Where inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until re-inspected by the Owner or Design Consultant and found to be acceptable.

1. Remove rejected plants and materials promptly from the project site.

END OF SECTION 329300

NEW PHILLIS WHEATLEY PARK

N. MITTMAN ST

SAN ANTONIO, TX 78202

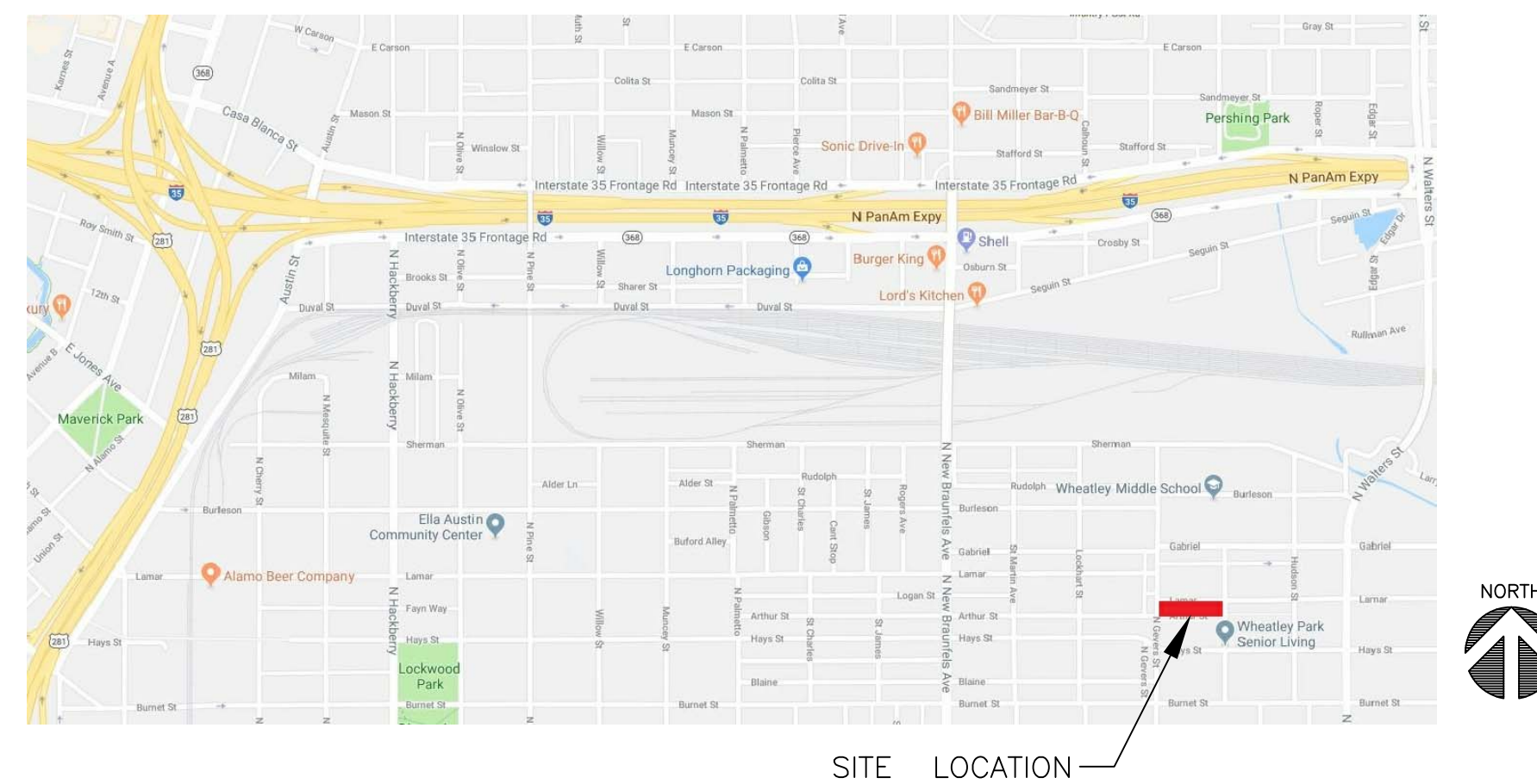
CODE INDEX

BUILDING CODE:	2015 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS 2015 INTERNATIONAL EXISTING BUILDING CODE WITH LOCAL AMENDMENTS 2015 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS 2015 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS 2015 INTERNATIONAL FUEL GAS CODE WITH LOCAL AMENDMENTS 2015 INTERNATIONAL FIRE CODE WITH LOCAL AMENDMENTS 2009 INTERNATIONAL ENERGY CONSERVATION CODES 2011 NATIONAL ELECTRIC CODE
OCCUPANCY CLASS:	TYPE "A" ASSEMBLY
CONSTRUCTION TYPE:	TYPE V-B
OCCUPANT LOAD:	OCCUPANTS

GENERAL NOTES

- THIS SET OF CONSTRUCTION DOCUMENTS IS PRESENTED TO INCLUDE DRAWINGS OF 24" x 36" SHEETS
- UNLESS NOTED OTHERWISE, ELEC. CONDUIT, PLUMBING, ETC. SHALL BE RUN CONCEALED AND FRAMING SHALL BE OF ADEQUATE DIMENSION TO ACCOMPLISH THIS RESULT WITHOUT CHANGES IN THE WALL PLANE.
- WHEN REFERENCE IS MADE TO A MATERIAL SYSTEM, ALL PARTS AND MATERIALS PERTINENT TO THE MANUFACTURER'S SYSTEM SPECIFIED SHALL BE FURNISHED AND INSTALLED.
- ALL INFORMATION ON EXISTING CONDITIONS WAS SUPPLIED TO DURAND-HOLLIS RUPE ARCHITECTS BY THE OWNER. CONTRACTOR IS REQUESTED TO VERIFY, ON-SITE, ALL DIMENSIONS & CONDITIONS BEFORE STARTING CONSTRUCTION. REPORT ANY DISCREPANCIES IMMEDIATELY TO DURAND-HOLLIS RUPE ARCHITECTS. CONTRACTOR SHALL FAMILIARIZE HIM (HER) SELF WITH EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. ALL CONTRACT DOCUMENTS - ARCHITECTURAL AND ENGINEERING - ARE TO BE USED TOGETHER. GENERAL CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE TO REVIEW COMPLETE SETS OF DOCUMENTS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
- FOR ANY ITEM IDENTIFIED IN THE CONTRACT DOCUMENTS THAT IS REASONABLY INFERABLE AS A COMPONENT IN A SYSTEM AND REQUIRED FOR THE PERFORMANCE OF THAT SYSTEM, THE GENERAL CONTRACTOR SHALL INCLUDE ALL OTHER COMPONENTS IN THE WORK WHICH ARE NECESSARY FOR THE COMPLETION AND FULL OPERATIONAL PERFORMANCE OF THAT SYSTEM.
- THE CONTRACT DOCUMENTS INDICATE THE GENERAL DESIGN INTENT, BUT DO NOT NECESSARILY DESCRIBE ALL WORK REQUIRED FOR FULL PERFORMANCE AND COMPLETION. THE CONTRACTOR SHALL PROVIDE ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
- CONTRACTOR OF THE WORK SHALL VERIFY IN THE FIELD AND COORDINATE BETWEEN THE TRADES. ALL CONDITIONS BOTH NEW AND EXISTING WHICH AFFECT WORK TO BE DONE OR RELEVANT THERETO, INCLUDING, BUT NOT LIMITED TO, PROPERTY LINE DIMENSIONS, SETBACKS, EASEMENTS, RESTRICTIONS, EXACT LOCATIONS OF ALL CONSTRUCTION, EXISTING AND NEW, EXISTENCE AND LOCATIONS OF ASBESTOS OR OTHER UNKNOWN TOXIC MATERIAL, DRIVEWAYS, WALKS, APRONS, UTILITIES, GRADES, AND DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR THE DISCOVERY OF ASBESTOS AND OTHER REGULATED TOXIC MATERIALS AND SHALL BEAR ADMINISTRATIVE RESPONSIBILITY FOR CONFORMANCE TO FEDERAL, STATE, AND LOCAL JURISDICTIONAL REQUIREMENTS REGARDING THE DISPOSITION OF HAZARDOUS MATERIALS. SHOULD ANY QUESTIONS ARISE PRIOR TO BEGINNING CONSTRUCTION OR DURING ANY PHASE OF CONSTRUCTION, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT FOR REVIEW AND CLARIFICATION BEFORE PROCEEDING WITH THAT PORTION OF THE WORK OR ANY PART RELATED THERETO.
- CONTRACTOR SHALL OBTAIN AND BE RESPONSIBLE FOR ALL FEES AND PERMITS REQUIRED AND ASSOCIATED WITH ALL PHASES OF THE WORK AND WITHIN SCOPE OF THE CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO BUILDING PERMIT FEES, WATER AND SEWER FEES, DRIVEWAY AND SIDEWALK FEES, ETC. THE LOCATION OF UTILITIES SHOWN ON THE SITE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE STARTING CONSTRUCTION.
- UTILITY LOCATE: CONTRACTOR SHALL CONTACT PRIOR TO ANY EXCAVATION ON THE SITE, "811" CPS ENERGY (210) 353-2920 AND SAWS @ HTTP://LOCATES.SAWS.ORG

VICINITY MAP



OWNER






SAN ANTONIO HOUSING AUTHORITY

PRESIDENT & CEO
David Nisivoccia

Morris A. Stribling, DPM
Charles Muñoz
Tommy Adkisson
Charles Clack
Marie R. McClure
Jessica Weaver

Chairman
Vice-Chairman
Commissioner
Commissioner
Commissioner
Commissioner


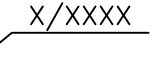
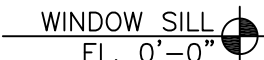
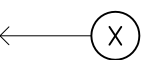
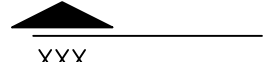
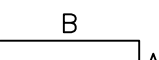

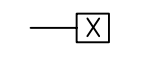



DESIGN TEAM

ARCHITECT	LANDSCAPE
	
DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD, BLDG 18 SAN ANTONIO, TX 78230 T. 210.308.0080 F. 210.697.3309 email: office@dhrarchitects.com www.dhrarchitects.com	BENDER WELLS CLARK DESIGN 830 ALAMO ST, SAN ANTONIO SAN ANTONIO, TX 78215 TEL. 210.692.9221
	
LEHMANN ENGINEERING 1006 BECKETT, SAN ANTONIO SAN ANTONIO, TX 78213 TEL. 210.348.8889	HM3 ENGINEERING 2902 NORTH FLORES SAN ANTONIO, TX 78212 TEL. 210.393.1840
	
REGINALD C. ADAMS, LLC 2220F COMMERCE HOUSTON, TX 77002 TEL. 832.208.1549	
ARTIST	

AERIAL MAP



SYMBOLS

	NORTH ARROW		DETAIL TAG
	ELEVATION MARK		KEY NOTE
	SECTION TAG		ROOF SLOPE
	ELEVATION TAG		WALL TYPE
	FIRE PULL		EQUIPMENT TYPE
			FINISH TYPE

DRAWING LIST

GENERAL INFORMATION	
CS-001	COVER SHEET PROJECT INFORMATION, CODE INDEX, LOCATION MAP
LANDSCAPE ARCHITECTURAL	
L0-01	EXISTING CONDITIONS PLAN
L0-02	SITE REFERENCE PLAN
L0-03	GENERAL INFORMATION
L0-04	DEMOLITION PLAN
L0-05	ENVIRONMENTAL PERMITS, ISSUES, & COMMITMENTS EPIC
L0-06	SWPP
L1-00	TREE CANOPY & TREE PROTECTION
L1-01	LANDSCAPE ORDINANCE COMPLIANCE
L2-00	GRADING PLAN
L2-01	LAYOUT PLAN
L2-02	SITE MATERIALS PLAN
L2-03	SITE PLANTING PLAN
L2-04	ENLARGED SITE PLANTING PLANS
L3-00	ENLARGED PLANS & SECTIONS: PARK PAVILIONS
L3-01	ENLARGED SITE PLANS: PARK STRUCTURES & FURNITURE
L4-00	DETAILS: CONCRETE & STONE
L4-01	DETAILS: PLAY AREA LAYOUT & EQUIPMENT, BENCH PADS
L4-02	DETAILS: PLAY AREA & SURFACING
L4-03	DETAILS: SITE PLANTING
L4-04	DETAILS: SITE FURNISHINGS
L4-05	DETAILS: SITE FURNISHINGS
IR-00	IRRIGATION PLAN
IR-01	TREE BUBBLER PLAN / IRRIGATION DETAILS
IR-02	IRRIGATION DETAILS
ARCHITECTURAL	
A-100	PAVILION ROOF PLAN
A-101	PAVILION ROOF FRAMING PLAN & TRUSSES
A-102	PAVILION ROOF FRAMING PLAN & TRUSSES (ALTERNATE #1)
A-103	PARK ART ELEMENTS
CS, 1, 2, 3, RENDERING A&B	POLYGON PAVILION (NO TRUSS) (BASE BID)
CS, 1, 2, 3, RENDERING A&B	POLYGON PAVILION (GABLE TRUSS) (ALTERNATE #1)
STRUCTURAL	
S-100	GENERAL NOTES AND DETAILS
S-200	FOUNDATION PLAN, SECTIONS, NOTES & DETAILS
S-300	PARK ART ELEMENTS FOUNDATIONS (ALTERNATE #2)
ELECTRICAL	
E0.0	ELECTRICAL SYMBOLS & ABBREVIATIONS
E0.1	ELECTRICAL GENERAL NOTES & DETAILS
E1.0	ELECTRICAL PLUMBING PLAN

DHR ARCHITECTS

DURAND-HOLLIS RUPE ARCHITECTS, INC.

14603 HUEBNER ROAD
BUILDING 18
SAN ANTONIO, TEXAS 78230

TEL. 210 308-0080
FAX. 210 697-3309
eMAIL office@dhrarchitects.com

REVISIONS		
ISSUE	DESCRIPTION	DATE

LOCATION:

PROJECT #18-010

09/28/18

THE DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THE PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO THE ARCHITECT UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DETAILS, INCLUDING THE SPECIAL FORM ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS SHOWN HEREIN, CONSTITUTE THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED.

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PROJECT ARCHITECT
DURAND-HOLLIS RUPE ARCHITECTS, INC.
TEXAS LICENSE NO. 10-581

COVER SHEET

SHEET NUMBER
CS-001



PROJECT:	WHEATLEY PARK
LOCATION:	SAN ANTONIO, TX
BUILDING TYPE:	HIP 28x44
ROOF TYPE:	STANDING SEAM
BUILDING NUMBER:	18263
ORDER NUMBER:	63058

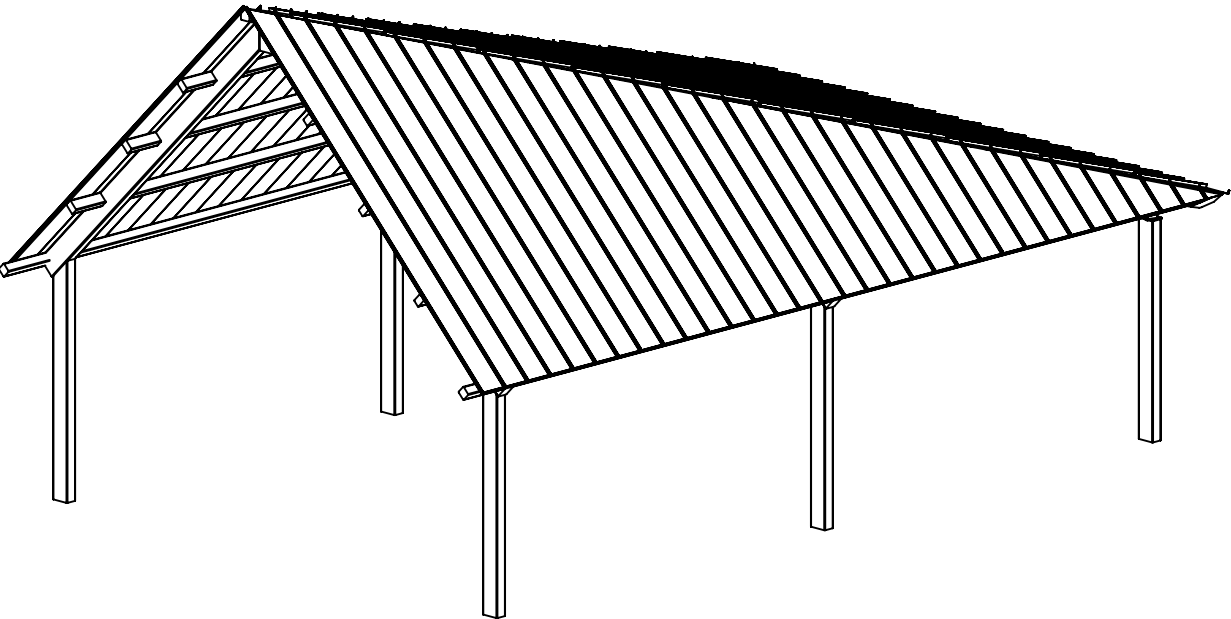
DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2	STRUCTURAL FRAMING PLAN
3	COLUMN LAYOUT

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #C08-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #1596
CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SP06-0033
CITY OF HOUSTON, TX APPROVED FABRICATOR #470
CLARK COUNTY, NV APPROVED FABRICATOR #264
STATE OF UTAH APPROVED FABRICATOR 02008-14

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 16-1025.01
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

MATERIALS:	
DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE B)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED	A1003 (GRADE 50)
STRUCTURAL STEEL PLATE	A36
ROOF PANELS (STEEL)	A653



BASE BID
(No Truss)

GENERAL NOTES:
UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE. IF THAT SEPARATION DOES NOT EXIST, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL.

ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY CERTIFIED WELDERS AND CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED.

PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC WIRING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE BUILDING IS ERECTED.

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REV LEVEL:

A

SCALE:

1:96

PRINT DATE:

9/11/2018

JOB NO:

18263

CAD MODEL:

~E1-18263-63058

DRAWN BY:

briste

PROJECT:

WHEATLEY PARK

PROJECT LOCATION:

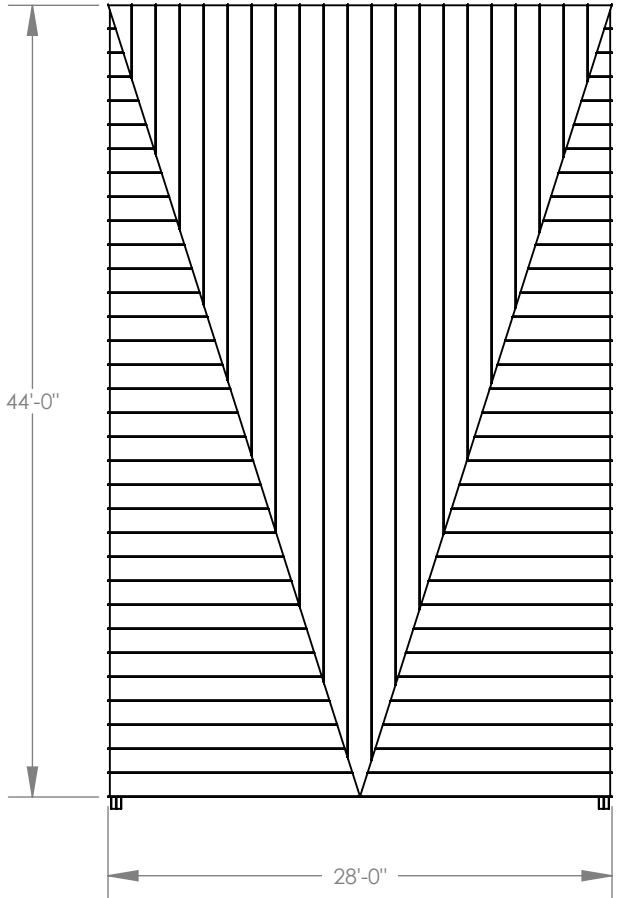
SAN ANTONIO, TX

DRAWING:

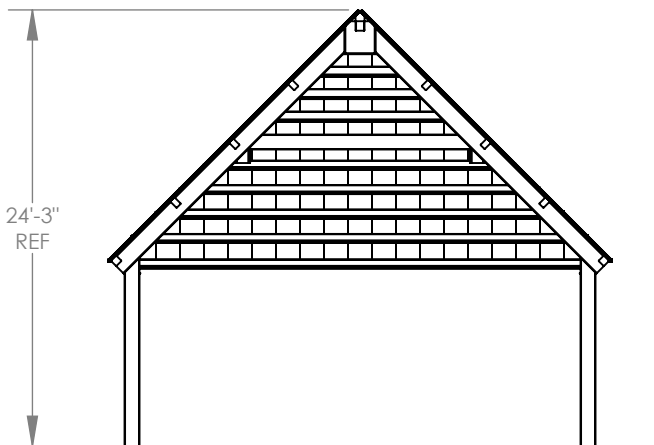
COVER SHEET

SHEET

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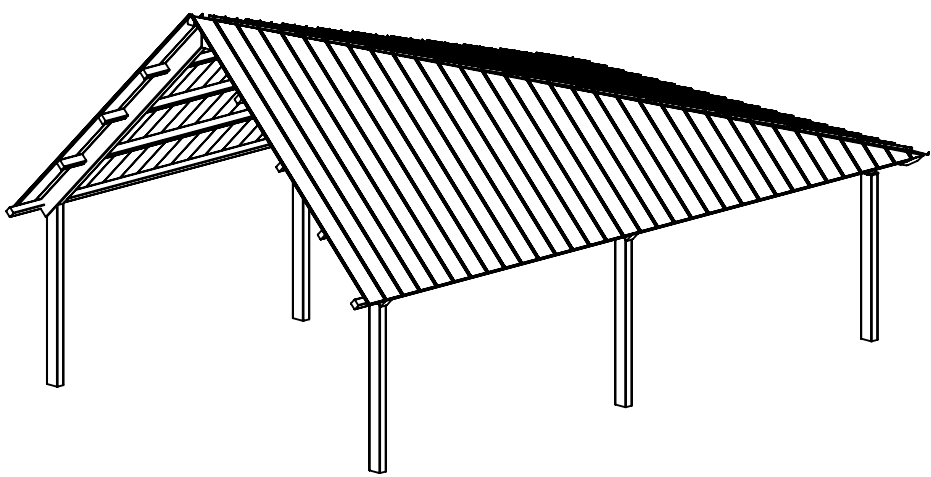


TOP VIEW

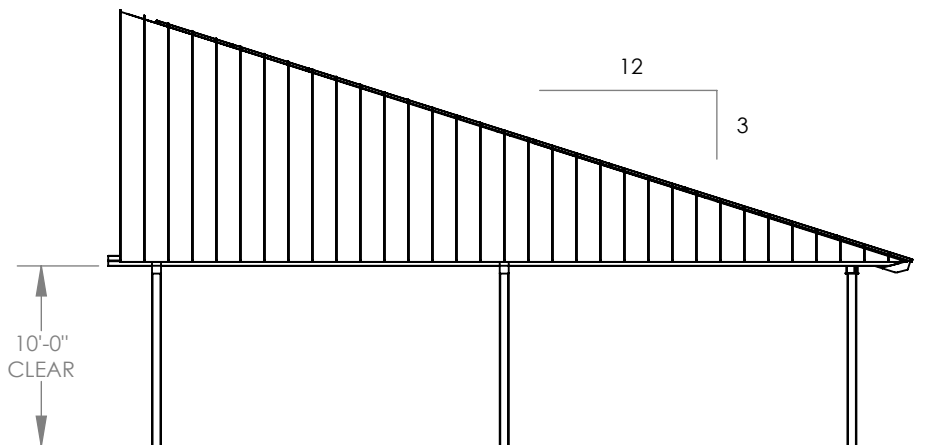


FRONT VIEW

FINISH GRADE.
MOUNTING VARIES
BASED ON ENGINEERING
REQUIREMENTS.



ISOMETRIC VIEW



SIDE VIEW

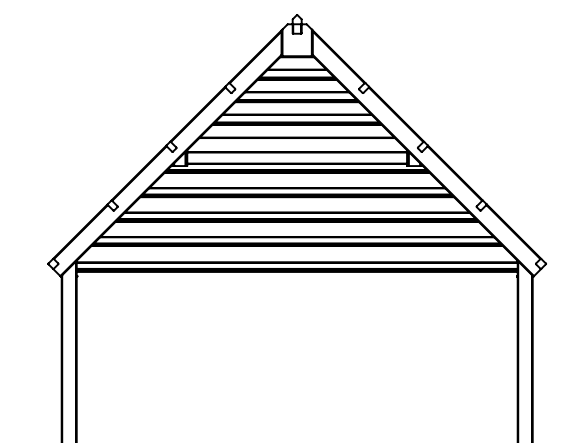
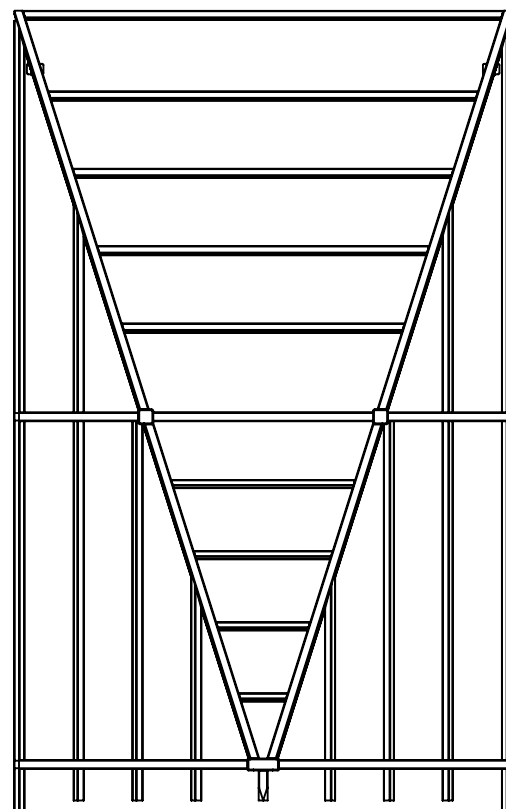
GENERAL ROOF NOTES:

1. METAL ROOFING:
 - 24 GAUGE
 - GALVALUME COATED
 - KYNAR 500 PAINTED
2. TRIM COLOR MATCHES ROOF
3. SEE POLIGON.COM FOR COLOR OPTIONS

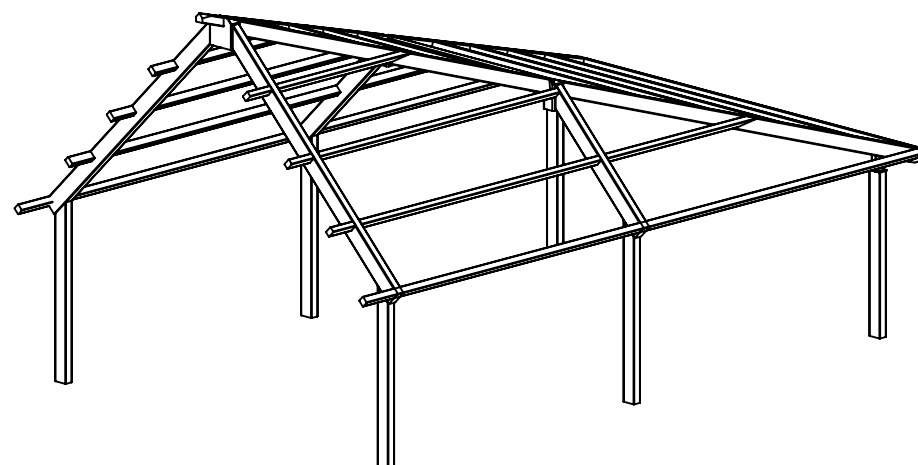
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1	SHEET	DRAWING: ARCHITECTURAL ELEVATIONS	PROJECT LOCATION: SAN ANTONIO, TX	JOB NO: 18263	CAD MODEL: ~E1-18263-63058	PROJECT: WHEATLEY PARK	PRINT DATE: 9/11/2018	DRAWN BY: briste	REV LEVEL: A	poligon [®]	(616)399-1963 www.poligon.com by PORTERCORP



- FINISH GRADE. MOUNTING VARIES BASED ON ENGINEERING REQUIREMENTS.

ISOMETRIC VIEW

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ONLY**

PROJECT: **WHEATLEY PARK**
PROJECT LOCATION:

WHEAILEY PARK
PROJECT LOCATION:
SAN ANTONIO, TX
DRAWING:

SAN ANTONIO, TX
DRAWING:
STRUCTURAL FRAMING PLAN

PRINT DATE:
9/11/2018
JOB NO:

JOB NO:
18263
CAD MOD

CAD MODEL:
~E1-1826

DRAWN BY:
briste

REV LEVEL:	A
SCALE:	

A	SCALE: 1:128
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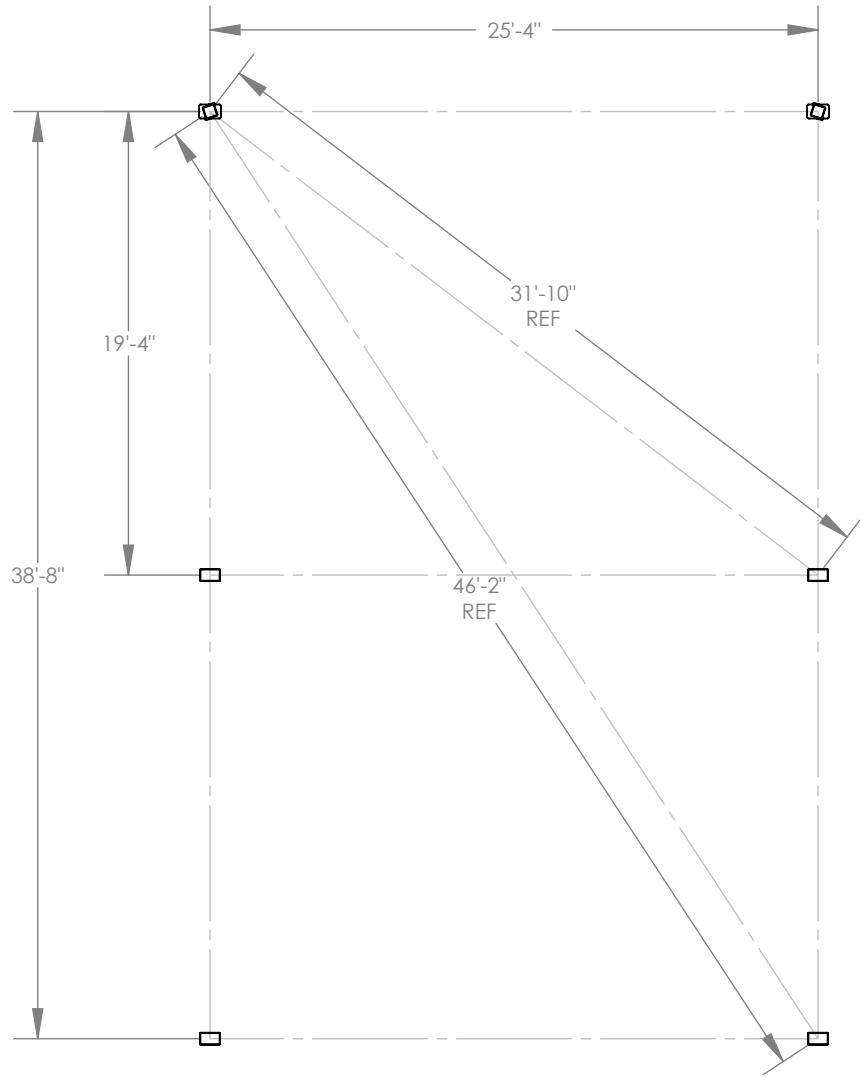
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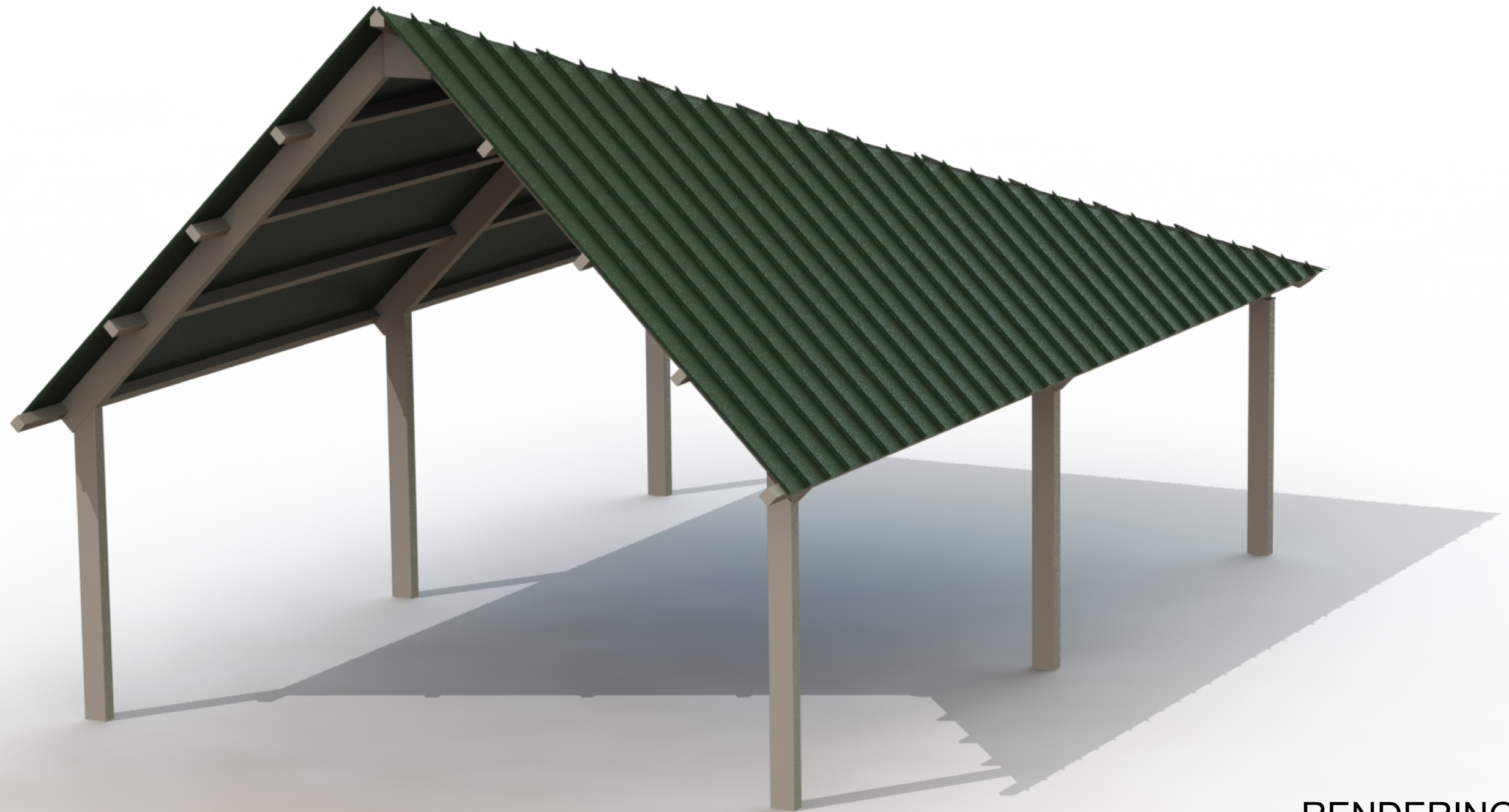
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BASEPLATE NOTES:

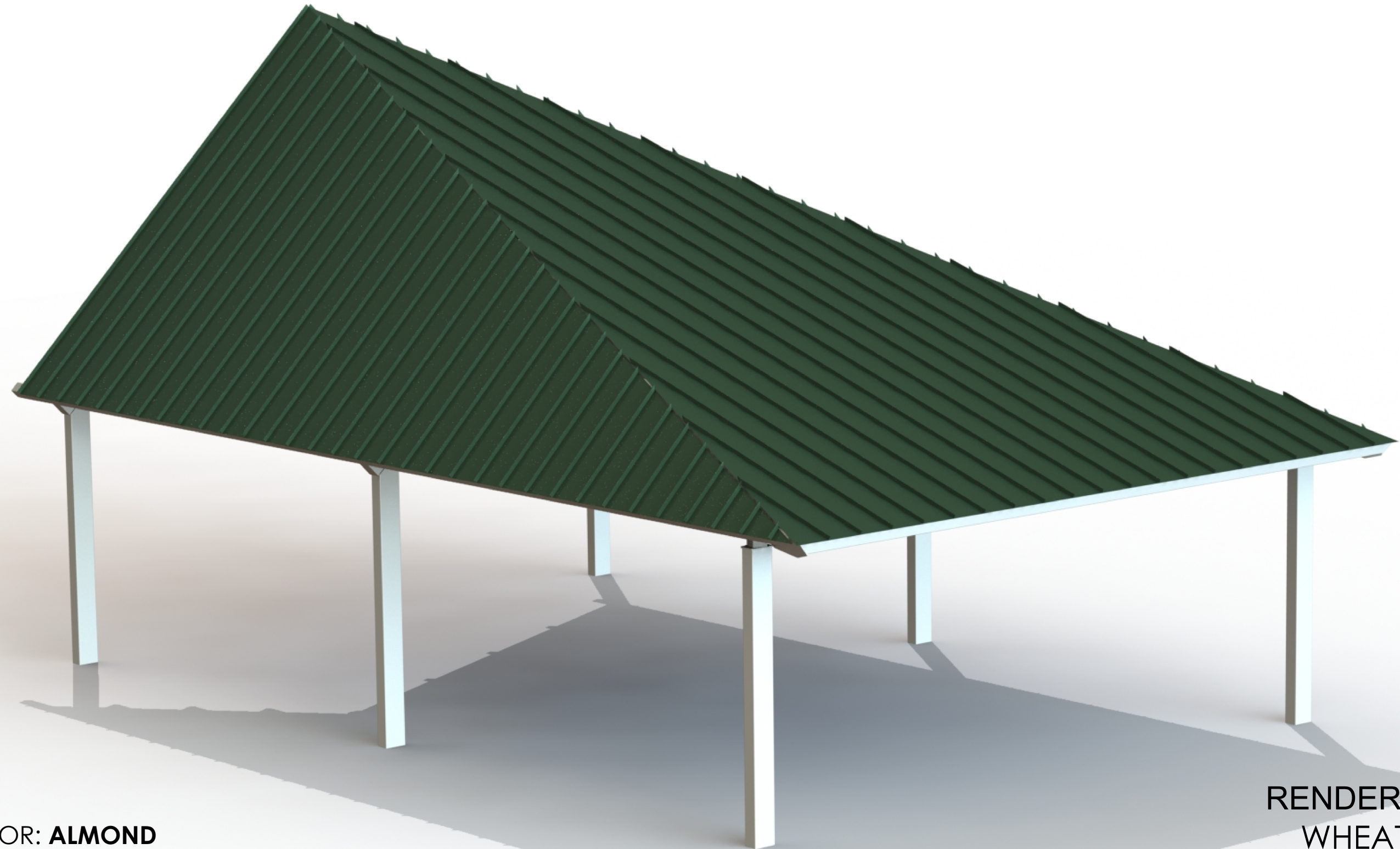
1. POLYGON ENGINEERING WILL DETERMINE REQUIRED BASEPLATE DESIGN AFTER ENGINEERING PACKAGE IS ORDERED.
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PROJECT: WHEATLEY PARK	PRINT DATE: 9/11/2018	DRAWN BY: briste	REV LEVEL: A	poligon <small>copyright 2016 patented or patents pending PORTERCORP 4240 N. 73rd AVE HOLLAND, MI 49424</small> by PORTERCORP <small>(616)399-1963 www.poligon.com</small>
	JOB NO: 18263		SCALE: 1:96	
	DRAWING: COLUMN LAYOUT	CAD MODEL: ~E1-18263-63058		
SHEET				3



FRAME COLOR: **ALMOND**
ROOF COLOR: **EVERGREEN**
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RENDERING A
WHEATLEY PARK
SAN ANTONIO, TX
HIP 28x44



FRAME COLOR: **ALMOND**
ROOF COLOR: **EVERGREEN**

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RENDERING B
WHEATLEY PARK
SAN ANTONIO, TX
HIP 28x44



PROJECT:	WHEATLEY PARK
LOCATION:	SAN ANTONIO, TX
BUILDING TYPE:	HIP 28x44
ROOF TYPE:	STANDING SEAM
BUILDING NUMBER:	18262
ORDER NUMBER:	63057

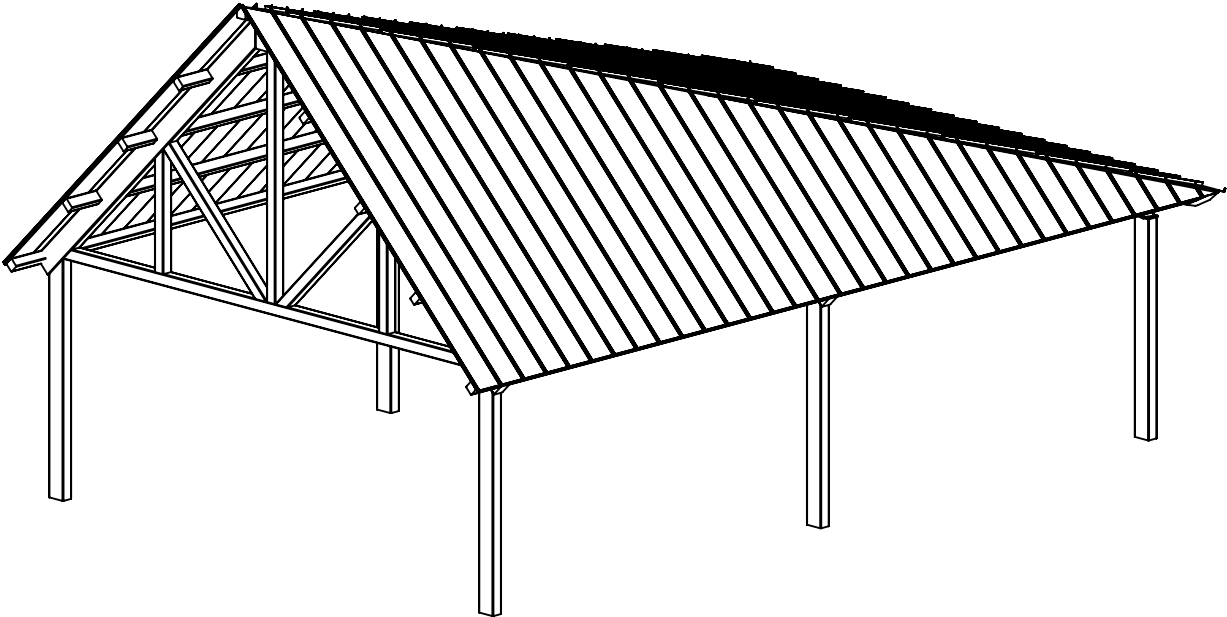
DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2	STRUCTURAL FRAMING PLAN
3	COLUMN LAYOUT

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #C08-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #1596
CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SP06-0033
CITY OF HOUSTON, TX APPROVED FABRICATOR #470
CLARK COUNTY, NV APPROVED FABRICATOR #264
STATE OF UTAH APPROVED FABRICATOR 02008-14

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 16-1025.01
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

MATERIALS:	
DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE B)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED	A1003 (GRADE 50)
STRUCTURAL STEEL PLATE	A36
ROOF PANELS (STEEL)	A653



ALTERNATE #1
(Gable Truss)

GENERAL NOTES:
UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE. IF THAT SEPARATION DOES NOT EXIST, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL.

ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY CERTIFIED WELDERS AND CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED.

PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

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REV LEVEL:

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SCALE:

1:96

PRINT DATE:

9/11/2018

JOB NO:

18262

CAD MODEL:

~E1-18262-63057

DRAWN BY:

briste

PROJECT:

WHEATLEY PARK

PROJECT LOCATION:

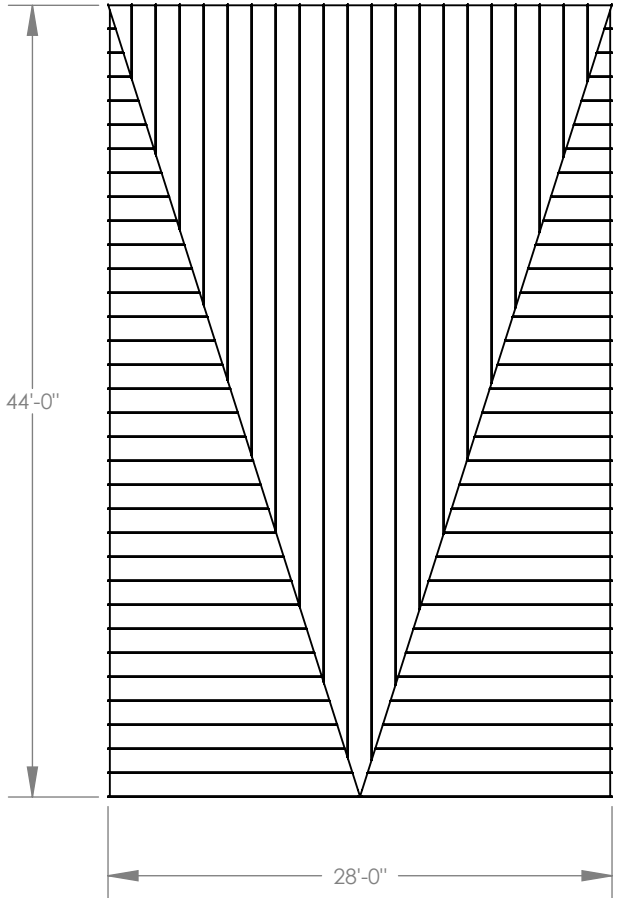
SAN ANTONIO, TX

DRAWING:

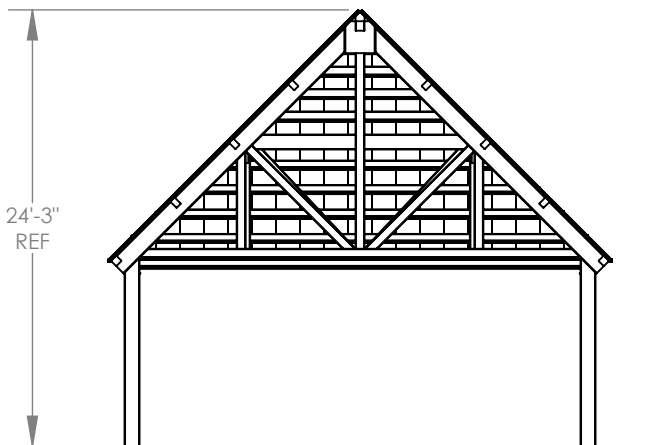
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SHEET

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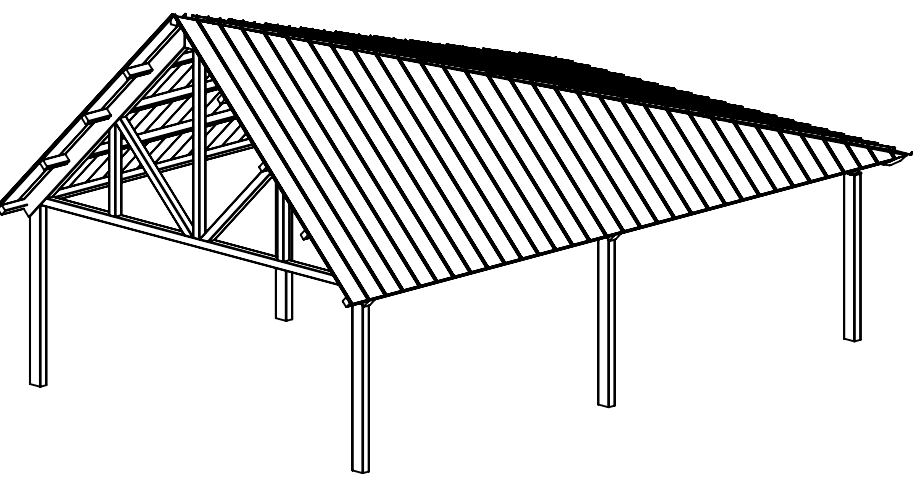


TOP VIEW

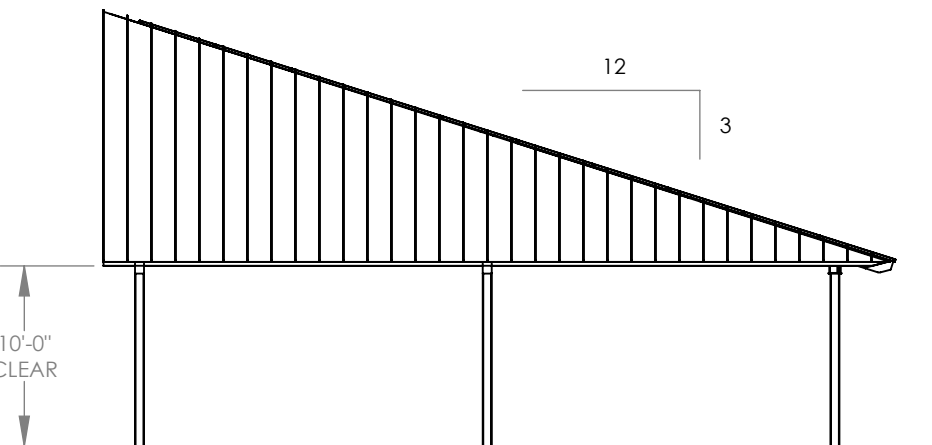


FRONT VIEW

FINISH GRADE.
MOUNTING VARIES
BASED ON ENGINEERING
REQUIREMENTS.



ISOMETRIC VIEW



SIDE VIEW

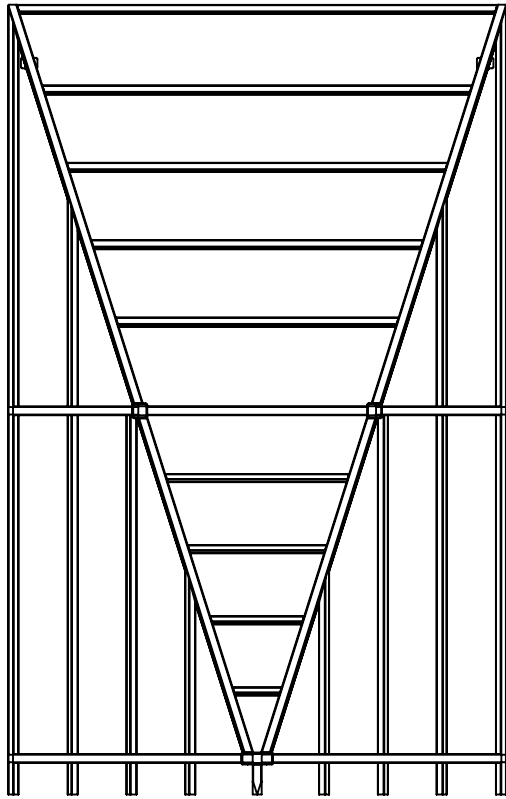
GENERAL ROOF NOTES:

1. METAL ROOFING:
 - 24 GAUGE
 - GALVALUME COATED
 - KYNAR 500 PAINTED
2. TRIM COLOR MATCHES ROOF
3. SEE POLIGON.COM FOR COLOR OPTIONS

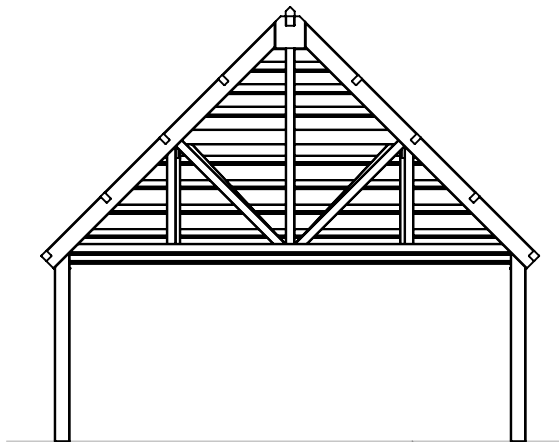
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PROJECT LOCATION: SAN ANTONIO, TX		JOB NO: 18262	SCALE: 1:128		
DRAWING: ARCHITECTURAL ELEVATIONS		CAD MODEL: ~E1-18262-63057			
SHEET		1			

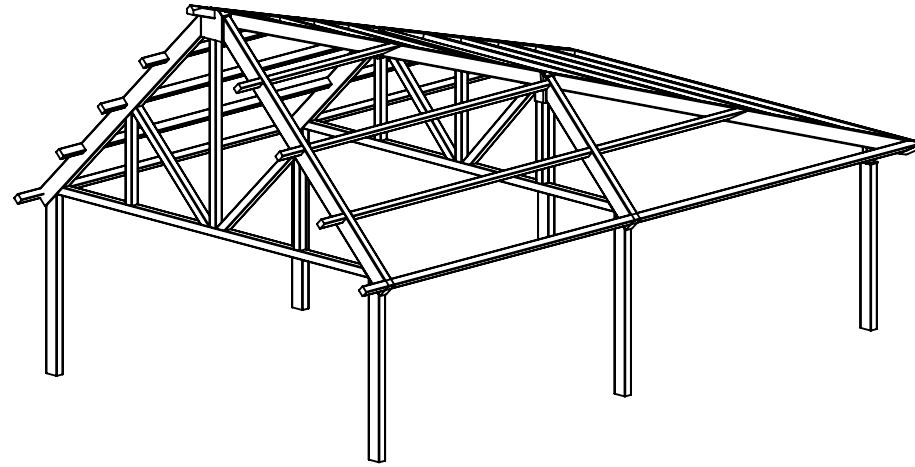


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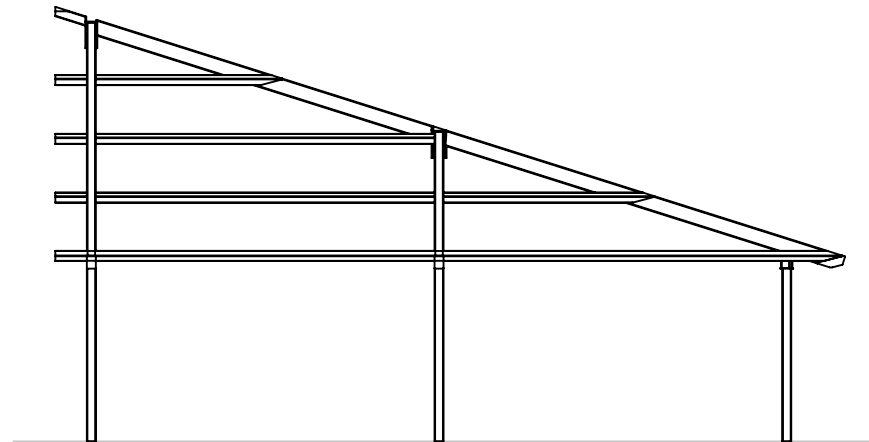


FRONT VIEW

FINISH GRADE.
MOUNTING VARIES
BASED ON ENGINEERING
REQUIREMENTS.



ISOMETRIC VIEW



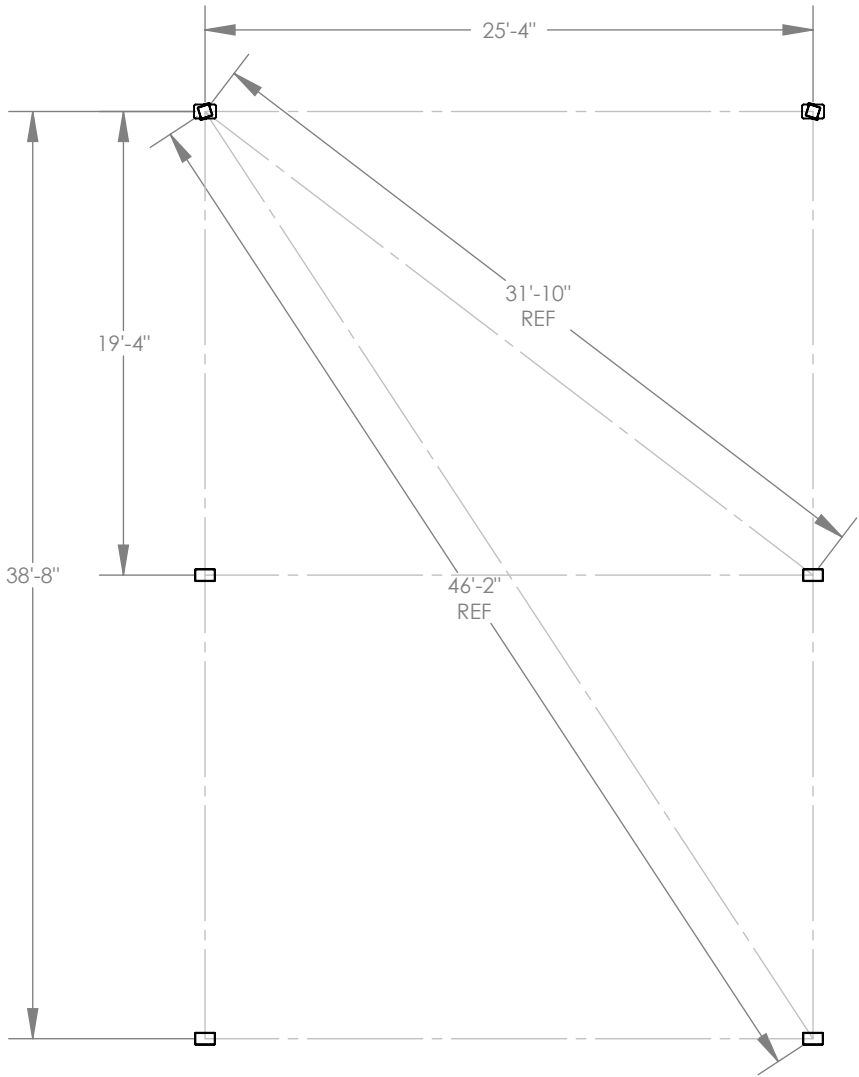
SIDE VIEW

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NOT FOR CONSTRUCTION

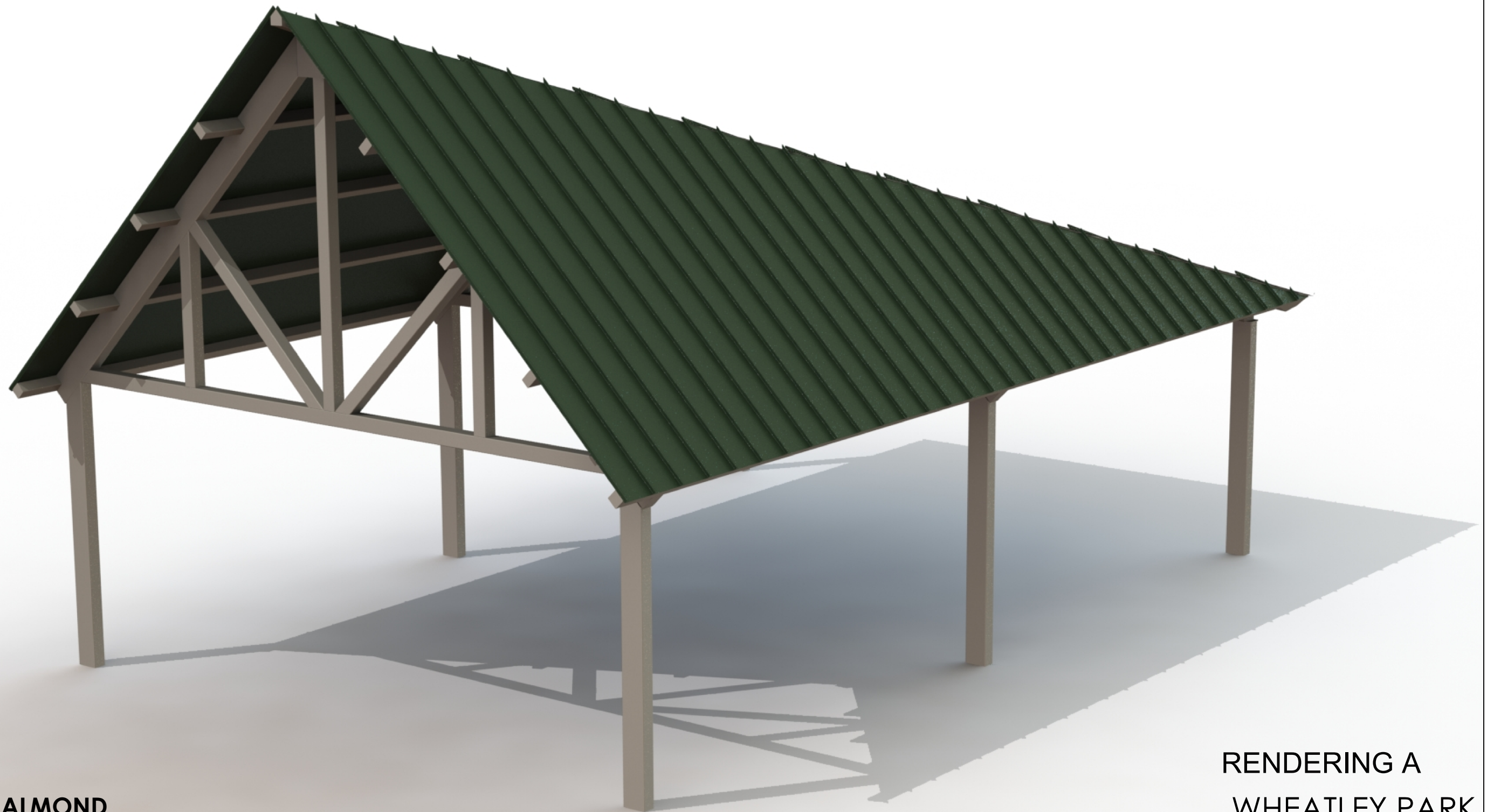
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BASEPLATE NOTES:

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- 2. CUSTOMER MAY SUGGEST PREFERRED BASEPLATE DESIGN.

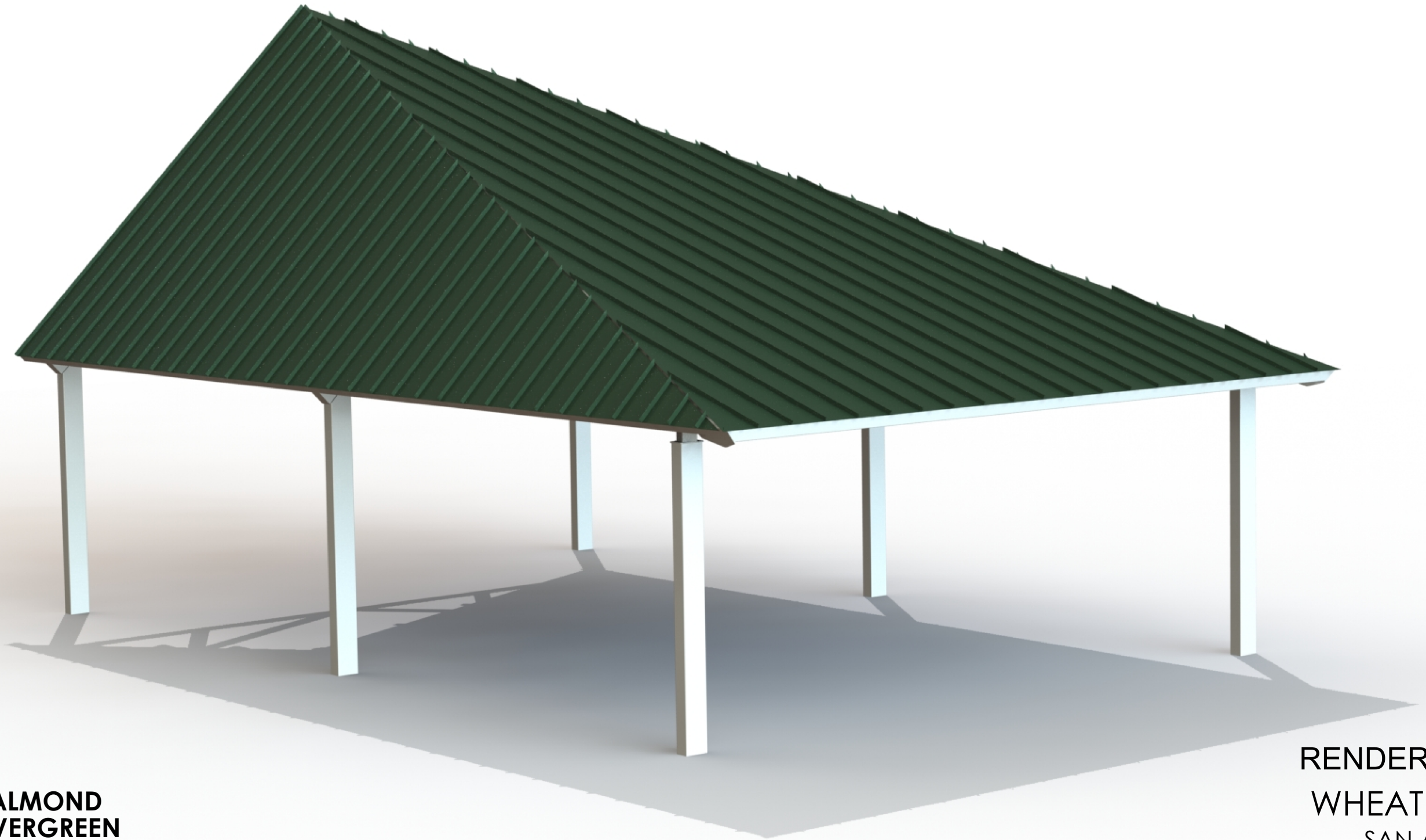
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	JOB NO: 18262		SCALE: 1:96	
	DRAWING: COLUMN LAYOUT	CAD MODEL: ~E1-18262-63057		
SHEET				3



FRAME COLOR: **ALMOND**
ROOF COLOR: **EVERGREEN**

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RENDERING A
WHEATLEY PARK
SAN ANTONIO, TX
HIP 28x44

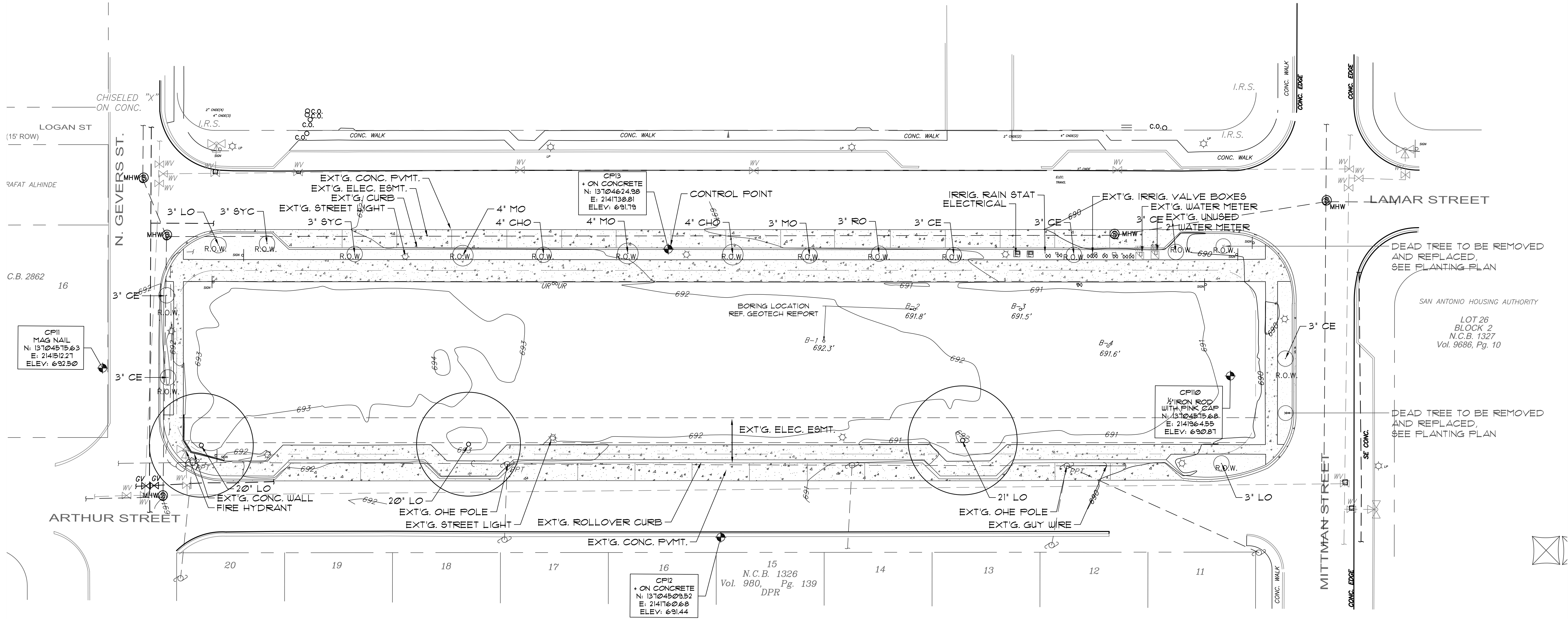


FRAME COLOR: **ALMOND**
ROOF COLOR: **EVERGREEN**

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CONTACT [INFO@POLIGON.COM](mailto:info@poligon.com) TO REQUEST ACTUAL COLOR SAMPLES.

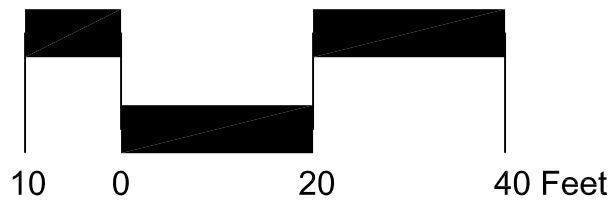
RENDERING B
WHEATLEY PARK
SAN ANTONIO, TX
HIP 28x44

Date: Sep 28, 2018, 11:24am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Site Survey & Existing Conditions

Scale 1" = 20'-0"



NOTE:

San Antonio Housing Authority provided the survey for this project. It was re-formatted for the preparation of and use within these documents. Contractor shall obtain a copy of the survey and become familiar with it, the existing conditions, and context of the site prior to construction. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION IMMEDIATELY. Landscape Architect shall not be responsible for errors or omissions associated with the preparation or documentation of the survey.

Contractor is expected to examine the project site and the record of investigation and make, to whatever extent they deem appropriate, his own investigation of existing subsurface conditions to determine the nature, kind, and character of materials to be encountered. Extra payment will not be authorized for work which should have been anticipated or could have been anticipated upon careful examination of the site, or upon soil investigation, or upon consideration of factors generally recognized as being inherent in excavation work of the nature indicated by the Contract Documents.



STOP!
CALL BEFORE YOU DIG
DIG TESS
1-800-DIG-TESS
(at least 72 hours prior to digging)

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE

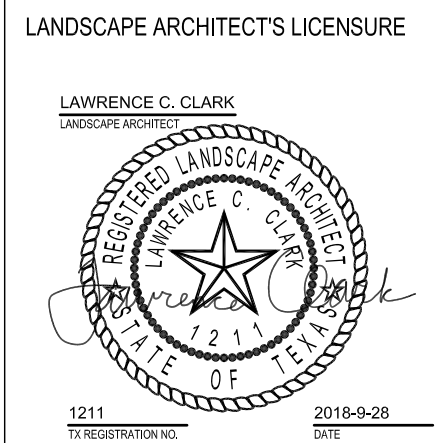


Existing
Conditions Plan

SHEET NUMBER
L0-01

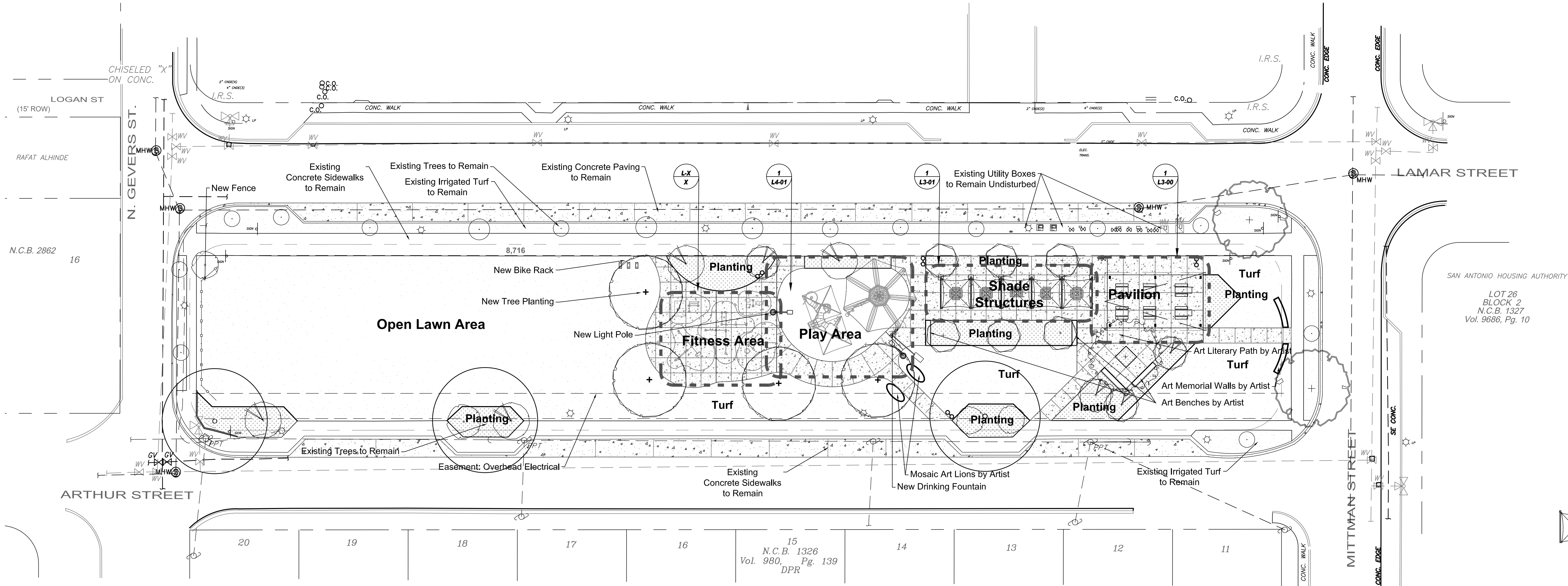
REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

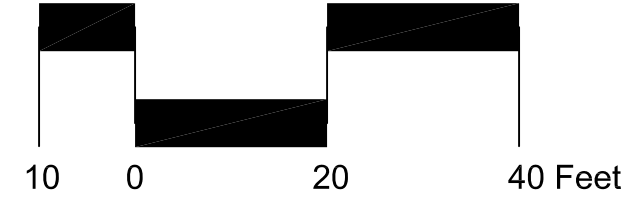


Site Reference Plan

SHEET NUMBER
L0-02



1 Overall Reference Plan
Scale 1" = 20'-0"



Date: Sep 28, 2018, 11:30am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg

GENERAL NOTES

- N1. Applicable Codes Ordinances (or most current edition as required by City of San Antonio):
a. 2012 International Building Code
b. 2012 International Fire Code
c. 2012 Uniform Plumbing Code
d. 2012 Uniform Mechanical Code
e. 2011 National Electrical Code
f. 2012 International Energy Conservation Code
g. 2012 International Residential Code
h. City of San Antonio Unified Development Code, most current edition and Amendments
- N2. All provisions of Texas Accessibility Standards (TAS) of the Architectural Barriers Act (Article 9102, Texas Civil Statutes) must be followed.
- N3. Signage: All signage placement and mounting is to comply with all provisions of TAS.
- N4. Slope Criteria
a. Walkway/path cross slope 2% maximum (1% preferred)
b. Walkway/path running slope 5% maximum
c. Ramp running slope 8.33% maximum
d. Ramp cross slopes 1% maximum
e. Curb ramp 8.33% maximum (6.25% preferred)
f. Walkway landings at drainage in direction 2% maximum cross slope. (1.5% preferred)
g. Ramp landings 2% maximum cross slope/running slope.
- N5. Complete repairs and finish outs are to be done as a result of any relocations, modifications, repairs, construction, demolition, etc.
- N6. Any items, procedures, or any other items that are unclear are to be brought to the attention of Landscape Architect, Owner and Consultant(s) related to that particular item prior to proceeding with work.
- N7. All safety provisions and codes must be followed during demolition and construction of all areas. Provide temporary construction fences where work will occur and maintain through Substantial Completion of Project. Coordinate location with Landscape Architect and Owner.
- N8. All holes or rips must be patched to a flush condition and must match existing adjacent surfaces.
- N9. Any existing surfaces to be repainted must first be prepared by repairing any holes, changing any rotted wood, replacing rusted metal, making any repairs needed, etc.
- N10. Where existing surface mounted items have been removed, all holes and chips must be repaired and patched with like materials of existing surface finish.
- N11. Any items requested by Owner to be salvaged must be salvaged and protected until further direction by Owner, and delivered to a location as directed by Owner.
- N12. All surrounding sites and adjacent buildings/structures must be protected and unaffected during construction.
- N13. All areas around construction areas must be safe for pedestrian traffic before, during and after construction. Work sites shall be cleaned daily from all construction trash, debris, materials, etc.
- N14. Any items that create an obstruction of any kind to demolition and construction is to be brought to the attention of Landscape Architect, Owner and Consultant(s) related to this item prior to proceeding with work.
- N15. Any unusual or unexpected items are to be brought to the attention of Landscape Architect, Owner and Consultant(s) related to this item prior to proceeding with work.
- N16. Contractor and Fabricator shall verify all quantities, dimensions, and conditions and notify Landscape Architect of any discrepancies or inconsistencies before proceeding with work. DO NOT scale drawings for dimensions.
- N17. General Contractor shall inspect job for completion before scheduling any observation by Landscape Architect and Consultants.
- N18. Any conflicts between Contract Drawings and Specifications shall be brought to the attention of Landscape Architect. Landscape Architect reserves the right to make appropriate decision without any extra cost to Owner.
- N19. Landscape Architect and Consultant(s) shall not have control of, and shall not be responsible for construction means, methods, techniques, sequences, or procedures for safety precautions and programs in connection with the work, for the acts or omissions of Contractor, Subcontractor(s), or any other persons performing any of the work, or for the failure of any of them to carry out the work in accordance with the contract documents.
- N20. Periodic site observation by field representatives of the Landscape Architect and Consultant(s) is solely for the purpose of determining if the work contract of Contractor is proceeding in accordance with the contract documents. This limited site observation is not intended to be a check of the quality or quantity of the work, but rather periodic in an effort to inform Owner of defects and deficiencies in the work of Contractor.
- N21. Contractor shall be responsible for making himself familiar with all underground utilities, pipes, and structures. Contractor is to trace out and verify location of all existing utilities whether shown or not shown prior to digging. It is the Contractor's responsibility to protect all utilities and request call-out of utility locations by Texas One Call and others as required.
- N22. Construction crew(s) to remain within designated work areas at all times. It is Contractor's responsibility to maintain public safety and welfare within and adjacent to project work areas.
- N23. Do not willingly proceed with construction as designed when it is obvious that unknown obstruction and/or grade differences exist that may not have been known/considered during design. Such conditions shall be immediately brought to the attention of the Landscape Architect. The Contractor shall assume full responsibility for all necessary revisions due to failure to give such notification.
- N24. The Contractor shall be responsible for any coordination with sub contractors as required to accomplish any and all operations.
- N25. City of San Antonio Parks & Recreation Dept. provided the survey for this project. It was re-formatted for use in and in preparation of these documents. Contractor shall obtain a copy of the survey and become familiar with it, the existing conditions and context of the site prior to construction. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION IMMEDIATELY. Landscape Architect shall not be responsible for errors or emissions associated with the preparation or documentation of the survey.
- N26. Geotechnical investigation report has been prepared by Raba Kistner Inc. for the project. It has been referenced in the preparation of these documents. Contractor shall obtain an officially signed copy of the report and become familiar with it prior to construction. Any discrepancies should be brought to the attention of the Landscape Architect for resolution immediately. Landscape Architect shall not be responsible for errors or emissions associated with the preparation or documentation of the report. Contractor is invited and encouraged to make his own interpretation and evaluation of the information and by starting work shall be assumed to have fully accepted responsibility for the subsurface conditions that may hereafter be encountered in performing the excavation work.

- N27. Contractor is expected to examine the project site and the record of investigation and make, to whatever extent they deem appropriate, his own investigation of existing subsurface conditions to determine the nature, kind and character of materials to be encountered. Extra payment will not be authorized for work which should have been anticipated or could have been anticipated upon careful examination of the site, or upon soil investigation, or upon consideration of factors generally recognized as being inherent in excavation work of the nature indicated by the Contract Documents.
- N28. Contractor is responsible for detmrining means and methods per note N19, above. These drawings may indicate a limit of proposed improvements, limits of site demolition, etc. for delineation of expected extents of disturbance. However, final impact shall be determined in the field. Should the limits of disturbance exceed the boundaries defined in Drawings, the Contractor shall contact Landscape Architect for resolution.
- N29. Contractor is responsible for repairing all work disturbed by construction outside of limit lines defined on drawings or through Contracor and Sub-contractor's means and methods to a condition better than or equal to the existing conditions prior to commencement of construction at no additional cost to the Owner.
- N30. The Drawings and Specifications are complimentary to one another and implied to correspond with one another. Any discrepancies should be brought to the attention of the Landscape Architect for resolution immediately.

GENERAL CONSTRUCTION NOTES

1. Construction Staging Area
Contractor shall coordinate with the Owner the location of the construction staging area.
2. Construction Fencing
Contractor is responsible for the safety and security of all activities around the construction site. Provide construction chainlink fencing around the proposed site work.
3. Erosion and Sediment Control
All erosion and sediment control measures must be in place before any site work begins and must remain in place for the duration of construction. Refer to the Specifications.

SITE DEMOLITION NOTES

1. Remove items shown to be removed to the full depth of the their construction unless noted otherwise.
2. Verify the extent and location of items to remain vis-a-vis items to be demolished prior to commencement of work.
3. Structures or items encountered below grade and not shown on the Drawings shall be brought to the attention of the Landscape Architect for clarification.
4. Contact the local underground utility locate and identification service prior to commencement of work.
5. The locations of underground utilities shown on the drawings may vary in relation to actual conditions on the site: additional utilities may not be shown. Verify all information in the field and report any discrepancies to the Landscape Architect.

SITE LIGHTING NOTES

1. Lighting symbols on plans are diagrammatic. Refer to Details & Specifications for actual dimensions and product information.
2. Coordinate with existing and proposed underground utilities. Notify Landscape Architect of any conflicts for direction on approved locations.
3. Wiring circuits are diagrammatic. Care and consideration for underground obstructions, utilities and tree roots shall be warranted. Adjust alignment of wiring runs with review and approval of the Landscape Architect and Electrical Engineer prior to excavation.
4. Lighting is intended to produce an overall 0.5 footcandles (fc) illumination level on the trail / path with 1.0 fc illumination at trail intersections. Final installation shall confirm these illumination standards.
5. Contractor shall ensure luminaires are installed per Manufacturer's specifications and guidelines. No light greater than 0.1 fc at the property line. Notify the Landscape Architect of any discrepancies.
6. Layout dimensions are for general reference only. Final locations shall be staked in the field for review, adjustment and approval by the Landscape Architect.
7. Lighting pull-boxes, vaults and other in-grade appurtenances shall be set flush with adjacent finish grades or surfaces.

GENERAL CONCRETE NOTES

1. All forms shall be well braced and straight.
2. All steel shall be free of grease, scale, & dirt.
3. Concrete shall reach a minimum strength of 2500 psi at 28 day test. Concrete shall not be placed in excess of 5 ½' slump without prior approval of the engineer.
4. All #3 reinforcing bars shall be 40 grade steel, all #4 or larger bars shall be ASTM A-615 grade 60.
5. Contractor shall verify all the dimensions with the plan.
6. Expansion joints (EJs) shall be provided at joints where concrete flatwork meets vertical structures such as walls, curbs, steps and building elements, and as indicated on the Drawings. EJs at concrete walks shall be placed at intervals not less that 5 X the width of the walk.
7. Contraction (or control) joints (CJs) shall be provided on flatwork at a width of 1 X the width of concrete walks, typically, and as shown on the Drawings. Form CJs by saw cutting, typical, within 4 to 12 hours of placement, to a depth of ¼ the thickness of the slab.

SITE LAYOUT NOTES

1. Layout and verify dimensions prior to construction. Bring any discrepancies to the attention of the Landscape Architect for clarification.
2. Do not scale Drawings. Written dimensions take precedence over scale.
3. Where dimensions are called as "equal" space, reference items equally, measured to their center lines.
4. Install intersecting items at 90 degrees to one another, unless noted otherwise.

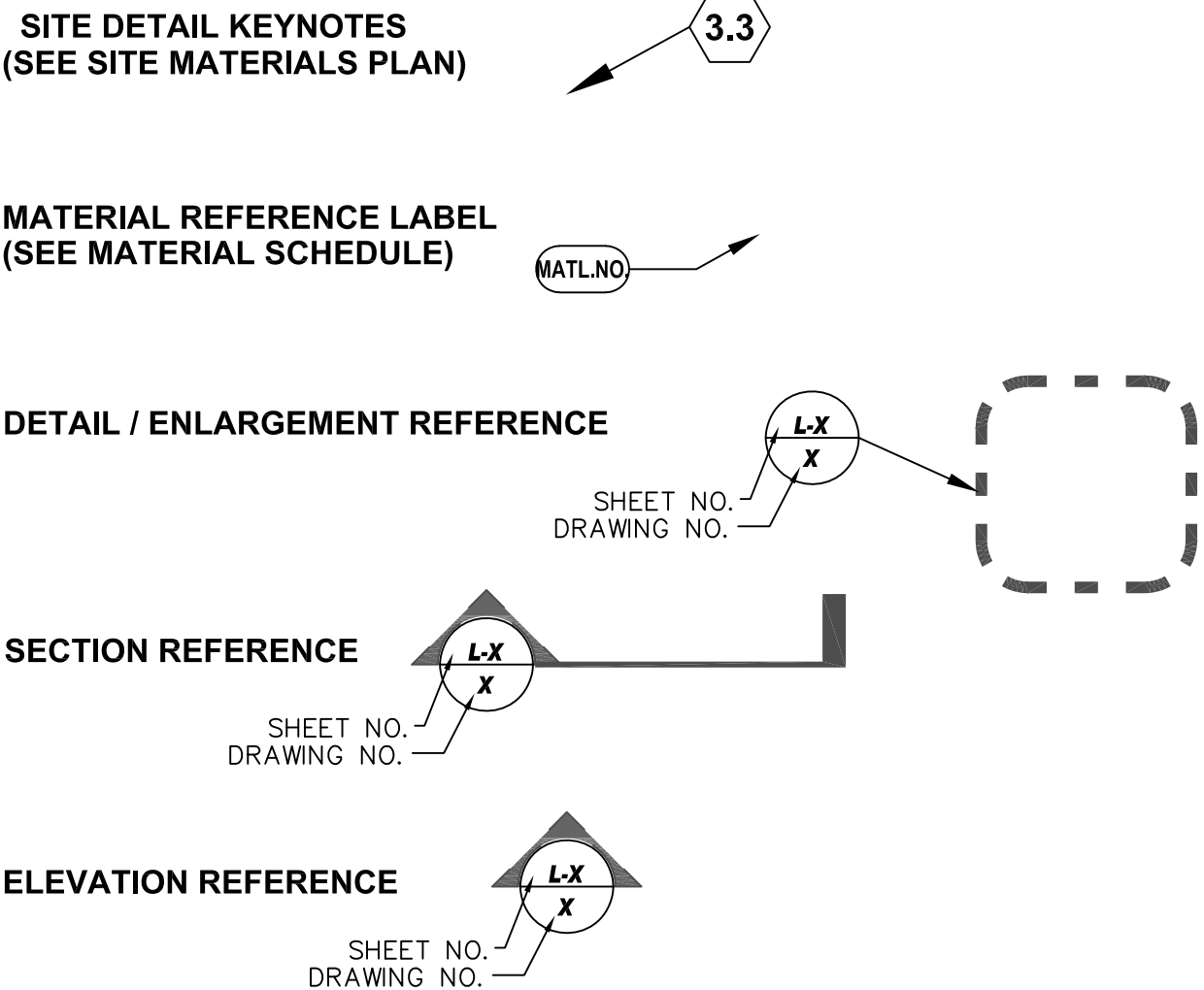
ABBREVIATIONS

A.F.F.A.	ABOVE FINISH FLOOR
ACCS.	ACCESSIBLE
ADJ.	ADJACENT or ADJUSTABLE
ALT.	ALTERNATE
ALUM.	ALUMINUM
A.D.A	AMERICAN DISABILITIES ACT
A.B.	ANCHOR BOLT
L	ANGLE
ANOD.	ANODIZED
APPRVD.	APPROVED
APPROX.	APPROXIMATE
ARCH.	ARCHITECT/ ARCHITECTURAL
@	AT
BM.	BEAM
BET.	BETWEEN
BLT.	BOLT
BOT./ BTM.	BOTTOM
BLDG.	BUILDING
B/S	BUILDING STANDARD
B.U.	BUILT UP
CTR.	CENTER
CL. OR	CENTER LINE
CRS.	CENTERS
C.L.F.	CHAIN LINK FENCE
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COMP.	COMPACTED
CONC.	CONCRETE
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
C.F.	CUBIC FOOT
C.Y.	CUBIC YARD
DTL.	DETAIL
DIA.	DIAMETER
E.W.	EACH WAY
ENG.	ENGINEER
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXTG.	EXISTING
EXP. JT./ E.J.	EXPANSION JOINT
FIN.	FINISH
FTG.	FOOTING
GALV.	GALVANIZED
ga.	GAUGE
H/A	HANDICAP/ACCESSIBLE
HT.	HEIGHT
HORIZ.	HORIZONTAL
HDG	HOT-DIPPED-GALVANIZED
I.D.	INSIDE DIAMETER
INT.	INTERIOR
JT.	JOINT
L.ARCH.	LANDSCAPE ARCHITECT/ LANDSCAPE ARCHITECTURAL
	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MUTCd	MANUFACTURED
	MANUFACTURER
MFR'D.	MAXIMUM DRY DENSITY
MFR.	ON CENTER
MDD.	ON CENTER EACH WAY
O.C.	OUTSIDE DIAMETER
O.C.E.W.	PAINTED
O.D.	PAVEMENT
PNTD	PAVING
PVMT.	PLATE
PVG.	PROCTOR DENSITY
PLT.	PROPERTY LINE
P.D.	RADIUS
P.L.	REFERENCE or REFER TO
RAD.	REINFORCING
REF.	REQUIRED
REINF.	ROUGH SAWN
REQ'D.	SCHEDULE
R.S.	SHEET
SCH.	SLOPE
SHT.	SQUARE
SL.	SQUARE FOOT
SQ.	STEEL
S.F.	STRUCTURAL
STL.	SMOOTH FOUR SIDES
STRUCT.	SOUTHERN YELLOW PINE
S4S	THICK
S.Y.P.	TYPICAL
THK.	VERTICAL
TYP.	WATERPROOFING
VERT.	WITH or WITHIN
WP.	
W/	

DRAWING KEY



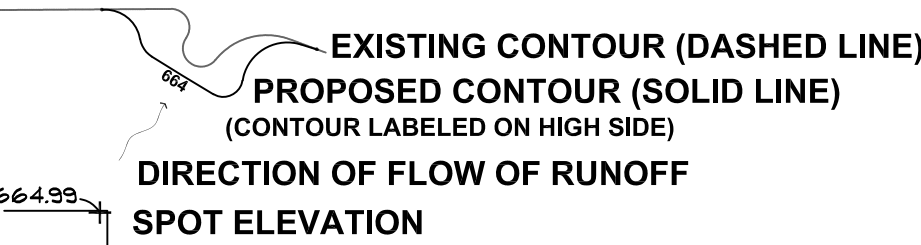
SYMBOLS & LEGEND



SITE LIGHTING LEGEND

PROPOSED PEDESTRIAN POLE LIGHT

GRADING LEGEND



KEY TO GRADING ABBREVIATIONS

BM 999.99	BENCH MARK ELEVATION
EX 999.99	EXISTING GRADE ELEVATION
FG 999.99	FINISHED GRADE ELEVATION
TP 999.99	TOP OF PAVEMENT ELEVATION
TW 999.99	TOP OF WALL ELEVATION
BW 999.99	BASE OF WALL ELEVATION
TC 999.99	TOP OF CURB ELEVATION
EC 999.99	BASE OF CURB ELEVATION
TR 999.99	TOP OF RAMP ELEVATION
BR 999.99	BASE OF RAMP ELEVATION
HP 999.99	HIGH POINT
LP 999.99	LOW POINT
BC 999.99	BASE OF CURB ELEVATION

NOTE:
AS A PART OF THE PROJECT THE CONTRACTOR SHALL MAINTAIN A COMPLETE, UP-TO-DATE SET OF DRAWINGS AND TECHNICAL SPECIFICATIONS AVAILABLE FOR REVIEW AT THE CONSTRUCTION SITE BY THE OWNER'S REPRESENTATIVE, INSPECTORS OR CONSULTANTS. IN ADDITION, THE CONTRACTOR SHALL ENSURE ALL INSTALLATIONS AND COORDINATION BY ALL TRADES OCCURS IN ACCORDANCE WITH THE ABOVE DOCUMENT ISSUANCE & ANY REVISIONS.

DHR

ARCHITECTS

DURAND—HOLLIS RUPE
ARCHITECTS, INC.

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BUILDING 18
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78230

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eMAIL OFFICE@DHRARCHITECTS.COM

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT

1211
TX REGISTRATION NO.

2018-9-28
DATE

BENDER
WELLS
CLARK
DESIGN

Landscape
Architecture

Urban Design

Planning

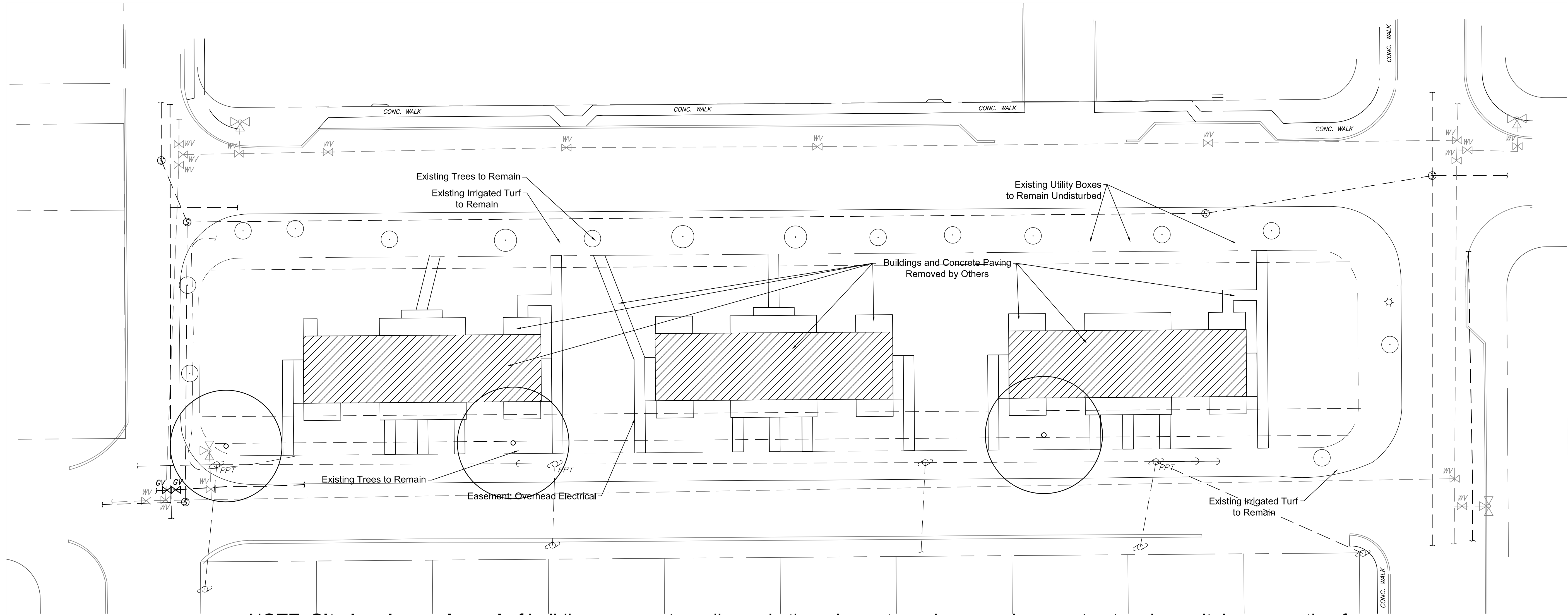
830 North Alamo Street
San Antonio, Texas 78215
210-692-9221
www.bwcdesign.com

General Information

SHEET NUMBER

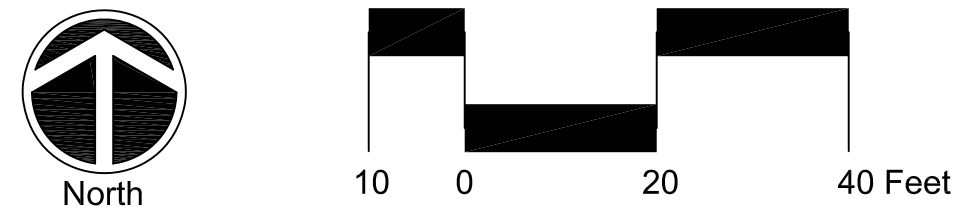
L0-03

Date: Sep 28, 2018, 11:30am User ID: LARRYCLARK
Date: 9/28/2018 PROJECT: PHILLIS WHEATLEY PARK
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NOTE: **Site has been cleared** of buildings, concrete walks and other elements under a previous contract and permit, in preparation for Park construction. This impervious cover amounted to over 11,584 sf of area. Proposed impervious cover for the Wheatley Park project will be 8,716 square feet, or a reduction of 2,868 sf of impervious surface cover. See SWPPP, Sheet L0-06

1 DEMOLITION PLAN
Scale 1" = 20'-0"



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LANDSCAPE ARCHITECT'S LICENSURE
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LANDSCAPE ARCHITECT
REGISTERED LANDSCAPE ARCHITECT
LAWRENCE C. CLARK
STATE OF TEXAS
1211
TX REGISTRATION NO.
2018-9-28
DATE

BENDER WELLS CLARK DESIGN
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Urban Design
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210-690-9221
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Demolition Plan
SHEET NUMBER
L0-04

Date: Sep 28, 2018, 11:31am User ID: LARRYCLARK
Date: 9/28/2018 PROJECT:PHR Durand-Hollis Rupe Architects
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I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

Texas Pollutant Discharge Elimination System (TPDES) TXR 150000: Stormwater Discharge Permit or Construction General Permit (CGP) required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 1122.

☐ No Action Required☒ Required Action

Action No.

1.

Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.

2.

Comply with the Storm Water Pollution Prevention Plan (SW3P) and revise when necessary to control pollution or required by the Engineer.

3.

Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and Texas Commission on Environmental Quality (TCEQ), Environmental Protection Agency (EPA) or other inspectors.

4.

When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, Contractor shall submit Notice of Intent (NOI) to TCEQ and the Engineer.

5.

NOI required:

☐ Yes

☒ No

Note: If amount of soil disturbance changes, permit requirements may change.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

US Army Corps of Engineers (USACE) Permit required for filling, dredging, excavating or other work in any potential USACE jurisdictional water, such as, rivers, creeks, streams, or wetlands.

The Contractor shall adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit (NWP) 14 - Pre-construction Notice (PCN) not Required

☐ Nationwide Permit 14 - PCN Required

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices (BMPs) planned to control erosion, sedimentation and post-project total suspended solids (TSS).

1.
2.
3.
4.

401 Best Management Practices: (Not applicable if no USACE permit)

Erosion	Sedimentation	Post-Construction TSS
<input type="checkbox"/> Temporary Vegetation	<input type="checkbox"/> Silt Fence	<input type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Blankets/Matting	<input type="checkbox"/> Rock Berm	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Sodding	<input type="checkbox"/> Sand Bag Berm	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
<input type="checkbox"/> Diversion Dike	<input type="checkbox"/> Brush Berms	<input type="checkbox"/> Erosion Control Compost
<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Mulch Filter Berm and Socks
<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks
<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Vegetation Lined Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/> Sediment Basins	<input type="checkbox"/> Sedimentation Chambers

III. CULTURAL RESOURCES

Cultural resources fall under the Antiquities Code of Texas and/or the National Historic Preservation Act, as amended in 1966. If a previously unidentified archeological site is encountered during construction work, activities should be immediately stopped in the vicinity and the City Archeologist (210-207-7306) notified and/ or the SHPO.

☒ No Action Required☐ Required Action

Action No.

1.

2.

3.

4.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.

☐ No Action Required☒ Required Action

Action No.

1.

Ensure that a tree permit is in place, if required, for this project.

2.

Follow the tree preservation/mitigation plan provided in this design plan set. If there are any questions or concerns, please contact the City Arobriat at (210) 207-0278 before any work begins.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required☒ Required Action

Action No.

1.

MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:

A.

Do not remove or destroy any active migratory bird nests (nests containing eggs and/or flightless birds) at any time of year. If there are any active nests, they shall not be removed until the nests become inactive.

B.

On/in structures, if there are any active nests, they shall not be removed until all nests become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.

2.

Deterrent material should be placed (and maintained) after October 1 or before February 15.

3.

The preferred nesting season for migratory birds is February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the COSA Inspector immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the COSA Inspector immediately.

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):
Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labeling as required by the Act.
Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the COSA Inspector immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the COSA Inspector if any of the following are detected:
* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required☐ Required Action

Action No.

1.

2.

3.

Does the project involve the demolition of a span bridge?

☐ Yes☒ No (No further action required)

If "Yes", a pre-demolition notification must be submitted to the Texas Department of State Health Services, 20 calendar days prior to the demolition of the bridges(s) on the project.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required

Action No.

1.

2.

3.

WARNING!

ALL CONTRACTORS MUST KNOW EXACT LOCATION OF, AND AVOID, ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. CALL 811 AT LEAST 72 HOURS PRIOR.

STOP!

CALL BEFORE YOU DIG

CONTACT TEXAS811

CALL 811

(at least 72 hours prior to digging)

DHR

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NEW PHILLIS WHEATLEY PARK

North Mittman St.

SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT

RES. DES. LANDSCAPE ARCHITECT
LAWRENCE C. CLARK
STATE OF TEXAS
1211
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Environmental
Permits, Issues,
and Commitments
EPIC

SHEET NUMBER

L0-05

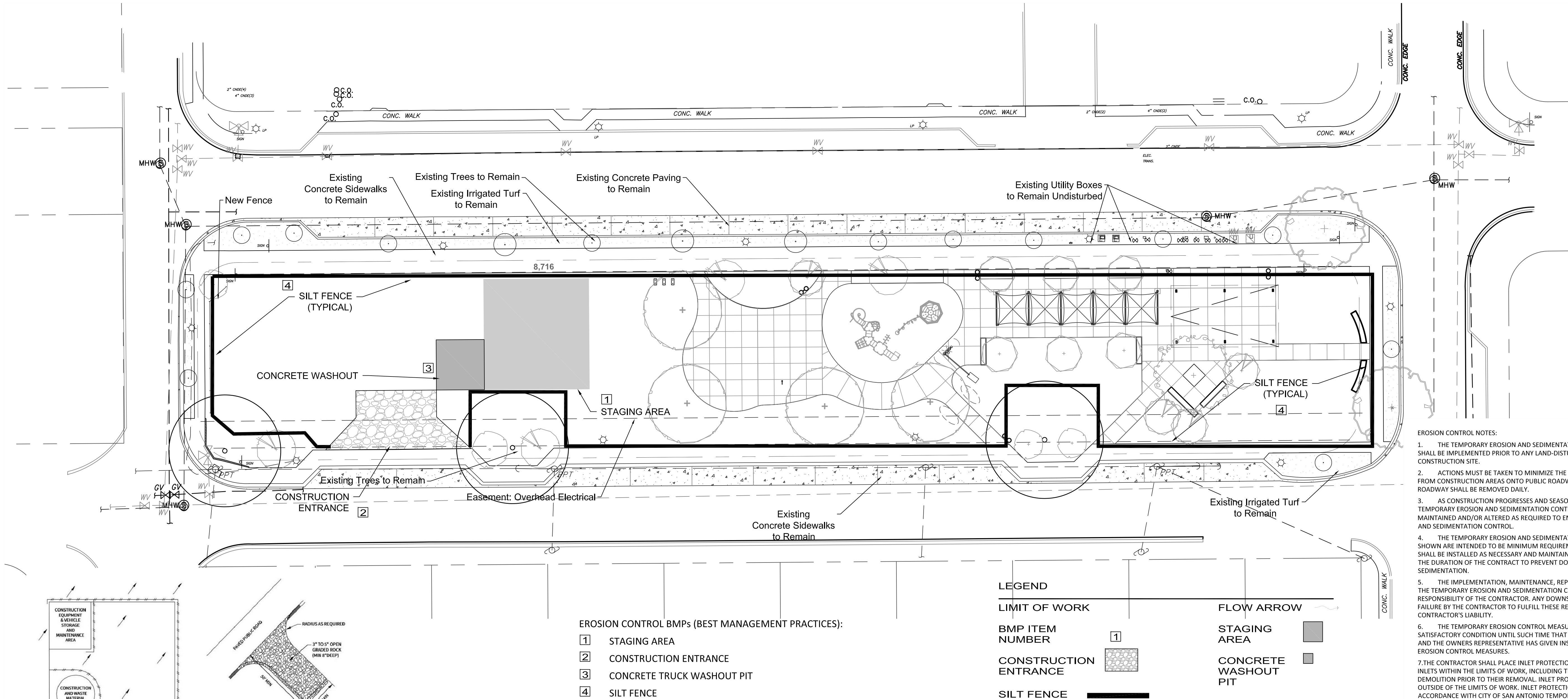
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LANDSCAPE ARCHITECT'S LICENSURE



**Stormwater
Pollution
Prevention Plan**
SHEET NUMBER
L0-06



- EROSION CONTROL NOTES:
1. THE TEMPORARY EROSION AND SEDIMENTATION CONTROL (TESC) PLAN SHALL BE IMPLEMENTED PRIOR TO ANY LAND-DISTURBING ACTIVITY ON THE CONSTRUCTION SITE.
 2. ACTIONS MUST BE TAKEN TO MINIMIZE THE TRACKING OF MUD AND SOIL FROM CONSTRUCTION AREAS ONTO PUBLIC ROADWAYS. SOIL TRACKED ONTO THE ROADWAY SHALL BE REMOVED DAILY.
 3. AS CONSTRUCTION PROGRESSES AND SEASONAL CONDITIONS DICTATE, THE TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE MAINTAINED AND/OR ALTERED AS REQUIRED TO ENSURE CONTINUING EROSION AND SEDIMENTATION CONTROL.
 4. THE TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES SHOWN ARE INTENDED TO BE MINIMUM REQUIREMENTS. ADDITIONAL FACILITIES SHALL BE INSTALLED AS NECESSARY AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE CONTRACT TO PREVENT DOWNSTREAM EROSION AND SEDIMENTATION.
 5. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT AND ADDITIONS TO THE TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY DOWNSTREAM DAMAGE DUE TO THE FAILURE BY THE CONTRACTOR TO FULFILL THESE REQUIREMENTS WILL BE THE CONTRACTOR'S LIABILITY.
 6. THE TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CONSTRUCTION IS COMPLETE AND THE OWNERS REPRESENTATIVE HAS GIVEN INSTRUCTIONS TO REMOVE THE EROSION CONTROL MEASURES.
 7. THE CONTRACTOR SHALL PLACE INLET PROTECTION AT ALL CATCH BASINS AND INLETS WITHIN THE LIMITS OF WORK, INCLUDING THOSE SCHEDULED FOR DEMOLITION PRIOR TO THEIR REMOVAL. INLET PROTECTION MAY BE REQUIRED OUTSIDE OF THE LIMITS OF WORK. INLET PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF SAN ANTONIO TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES STANDARDS 1 CURB INLET GRAVEL FILTER.
 8. NO SEDIMENT SHALL BE TRACKED INTO THE STREET OR ONTO PAVED SURFACES. SEDIMENT SHALL BE REMOVED FROM TRUCKS AND EQUIPMENT PRIOR TO LEAVING THE SITE. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE STABILIZED CONSTRUCTION ENTRANCE IS NOT SUFFICIENT TO REMOVE THE SEDIMENT, THEN THE CONTRACTOR SHALL INSTALL A TIRE WASH FACILITY TO WASH TIRES PRIOR TO MOVING DIRECTLY ONTO A PUBLIC ROAD OR OTHER PAVED AREA. IN THE EVENT OF FAILURE OF THE EROSION CONTROL SYSTEM RESULTING IN SEDIMENT BEING TRACKED ONTO PAVED SURFACES, STREET SWEEPING SHALL BE EMPLOYED. STREET SWEEPING IS NOT CONSIDERED A PRIMARY TEMPORARY EROSION AND SEDIMENTATION CONTROL COMPONENT AND SHALL BE UTILIZED IN THE EVENT OF A FAILURE AND IN ADDITION TO THE PRIMARY TEMPORARY EROSION AND SEDIMENTATION CONTROL SYSTEMS.
 9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF DIRT FROM ALL VEHICLES LEAVING THE SITE.
 10. CONTRACTOR IS RESPONSIBLE FOR KEEPING ADJACENT ROADWAYS FREE OF DIRT.
 11. STABILIZE ALL SOILS, INCLUDING STOCKPILES THAT ARE TEMPORARILY EXPOSED AS SOON AS PRACTICABLE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
 12. SOIL STOCKPILES SHALL BE LOCATED AWAY FROM SWALES AND CATCH BASINS. STOCKPILES SHALL BE SEEDED, MULCHED, AND ADEQUATELY CONTAINED THROUGH THE USE OF SEDIMENTATION BARRI ER.
 13. SEDIMENT-LADEN GROUNDWATER ENCOUNTERED DURING TRENCHING, BORING OR OTHER EXCAVATION ACTIVITIES SHALL BE PUMPED TO A WATER FILTER BAG PRIOR TO BEING DISCHARGED.
 14. MITIGATION MEASURES SUCH AS DUST SUPPRESSION TECHNIQUES MUST BE IN PLACE DURING DEMOLITION AND CONSTRUCTION EVENTS TO MINIMIZE THE TRACKING AND BROADCASTING OF FUGITIVE PARTICULATE EMISSIONS ONTO PUBLIC ROADWAYS AND ACROSS PROPERTY LINES.
 15. ALL DISCHARGES FROM ANY ACTIVE DEWATERING SYSTEM SHALL BE TREATED PRIOR TO LEAVING THE PROJECT SITE BY DIRECTING WATER TO A PUMPED WATER FILTER BAG. THE EFFLUENT QUALITY SHALL MEET THE REQUIREMENTS OF THE TCEQ.
 16. ALL CONSTRUCTION STORMWATER DISCHARGE FROM THE SITE SHALL MEET THE REQUIREMENTS OF THE TCEQ.
 17. AT THE CONTRACTOR'S OPTION AL TERNATE METHODS OF TREATMENT OF CONSTRUCTI ON STORMWATER RUNOFF MAY BE PROPOSED FOR USE FOR TEMPORARY SEDIMENTATION. THE PROPOSED ALTERNATE METHODS MUST MEET THE EFFLUENT QUALITY OUTLINED ABOVE IN NOTE 16. THE CONTRACTOR SHALL SUBMIT THE AL TERNATE METHODS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WORK.
 18. PLACE STRAW MULCH OVER ALL BACKFILLED TRENCHES IN NON-PAVED AREAS.
 19. ALL TEMPORARY CONSTRUCTION SLOPES GREATER THAN TWO HORIZONTAL TO ONE VERTICAL AND GREATER THAN FOUR FEET IN HEIGHT THAT ARE NOT WORKED WITHIN THE TIME PERIOD INDICATED ABOVE IN NOTE 11 SHALL BE COVERED WITH POLYETHYLENE SHEETING.

EROSION CONTROL BMPs (BEST MANAGEMENT PRACTICES):

- 1 STAGING AREA
- 2 CONSTRUCTION ENTRANCE
- 3 CONCRETE TRUCK WASHOUT PIT
- 4 SILT FENCE

1 PLAN: STORMWATER POLLUTION PREVENTION MEASURES

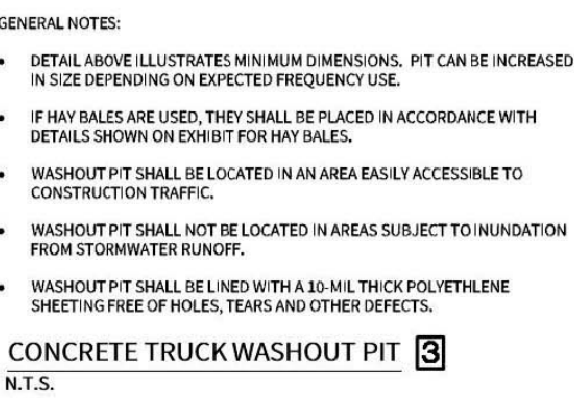
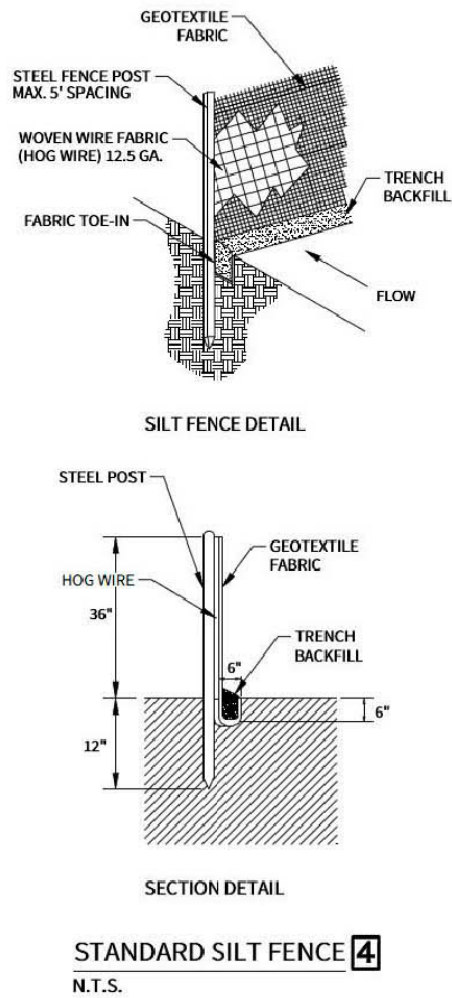
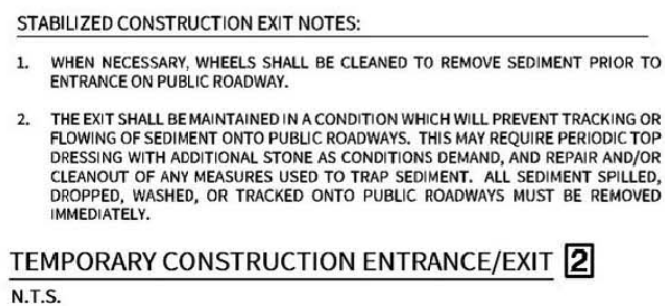
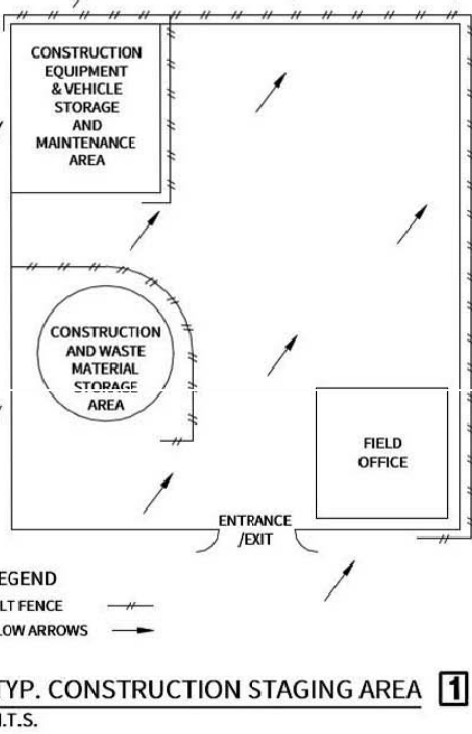
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Proposed impervious cover for the Wheatley Park project will be 8,716 square feet, or a reduction in impervious surface of 2,868 sf.

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STOP!
CALL BEFORE YOU DIG
CONTACT TEXAS811
CALL 811
(at least 72 hours prior to digging)



GENERAL NOTES:

- DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY USE.
- IF HAY BALES ARE USED, THEY SHALL BE PLACED IN ACCORDANCE WITH DETAILS SHOWN ON EXHIBIT FOR HAY BALES.
- WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
- WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORMWATER RUNOFF.
- WASHOUT PIT SHALL BE LINED WITH A 30 MIL THICK POLYETHYLENE SHEETING FREE OF HOLES, TEARS AND OTHER DEFECTS.

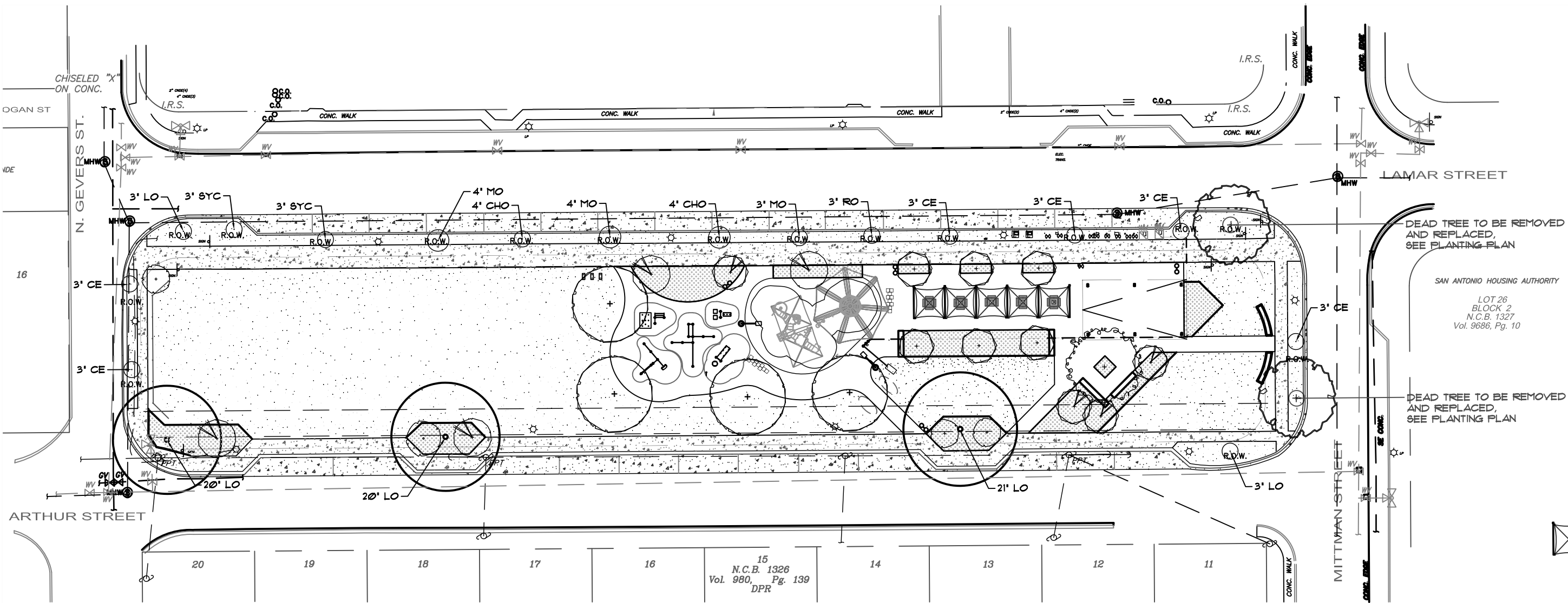
Date: Sep 28, 2018, 11:39am User ID: LARRYCLARK File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile 2018-9-28PWP CD.dwg

Tree Canopy Coverage					
Total Site Area (SF)					31,697 SF
Total Canopy Required					4,755 SF
Site is within the CRAG Boundary					
Existing Tree Canopy Preservation					
Large trees		Species	Bald Cypress, Cottonwood, Deodar Cedar, Pecan, Red Oak, Sycamore, Burr Oak and Texas Sycamore		
0	1200	@ 100%	0.00 sf		
Medium/Large trees		Species	Anaqua, Arizona Cypress, Live Oak, Texas Grn. Ash, Cedar Elm, Cedar Elm, Chinkapin Oak, Esc. Blk. Cherry, Blk. Willow, Eve's Necklace, and Western Soapberry		
3	875	@ 100%	2,625.00 sf		
Medium trees		Species	Honey Locust, Huisache & Lacey Oak		
0	550	@ 100%	0.00 sf		
Medium/Small trees		Species	Anacacho Orchid Tree, Ashe Juniper, Carolina Buckthorne, Condalia, Crabapple, Goldenball Lead Tree, Mesquite, Persimmon, Possumhaw, Redbud, Retama, Wild Olive, and Vitex		
0	275	@ 100%	0.00 sf		
Total Existing Shade Coverage Provided=			2,625.00 sf		
Total Existing Shade Coverage Provided=			8.28%		
100% shade value for existing trees meeting RPZ criteria					
Total SF of Tree Canopy Outstanding					
Total Canopy Required					15% of Site Area 4,755 SF
Total Canopy Required minus Existing Canopy Provided					2,130 SF
Total Number of Trees for Canopy Outstanding					2,130 SF / 788 SF= 2.70 Trees or 3 Trees
Proposed Tree Canopy Planting (New Planting)					
Large trees		Species	Bald Cypress, Cottonwood, Deodar Cedar, Pecan, Red Oak, Sycamore, Burr Oak and Texas Sycamore		
0	1080		0 sf		
Medium/Large trees		Species	Anaqua, Arizona Cypress, Live Oak, Texas Grn. Ash, Cedar Elm, Chinkapin Oak, Esc. Blk. Cherry, Blk. Willow, Eve's Necklace, and Western Soapberry		
3	788		2,364 sf		
Medium trees		Species	Honey Locust, Huisache & Lacey Oak		
0	495		0 sf		
Medium/Small trees		Species	Anacacho Orchid Tree, Ashe Juniper, Carolina Buckthorne, Condalia, Crabapple, Goldenball Lead Tree, Mesquite, Persimmon, Possumhaw, Redbud, Retama, Wild Olive, and Vitex		
0	247.5		0.0 sf		
Total	3	New Trees			
Total New Tree Canopy Coverage Provided=			2,364 SF		
Total Shade Coverage Provided (Existing + New)=			4,989 SF		
Total Shade Coverage Provided (Existing + New) of Required Shade Canopy for Site =			104.93%		
Note: Other new trees may be provided, as shown on the Site Development Plans, though not counted for Tree Canopy here.					
90% shade value for new trees, minimum of 1.5" cal. Each					
**No more than twenty-five percent of the replacement trees shall be of the same species for purposes of mitigation					
***Multi-family and Nonresidential sites require a minimum tree canopy cover of twenty-five (25) percent of the total site area					
Total To Be Paid in Canopy Requirement Tree Fund (\$200 per Inch):					
Total Number of New Trees Required to Meet Canopy Outstanding			3 Trees		
Total Number of Trees Provided			3 Trees		
Deficit			0 Trees		
Total Inches of Trees Outstanding (1.5" each)			0.00 Inches Outstanding		
Total To Be Paid in Canopy Requirement Tree Fund (\$200 per Inch):			\$0.00		

KEY
Existing Tree
counted toward canopy

Proposed New Trees

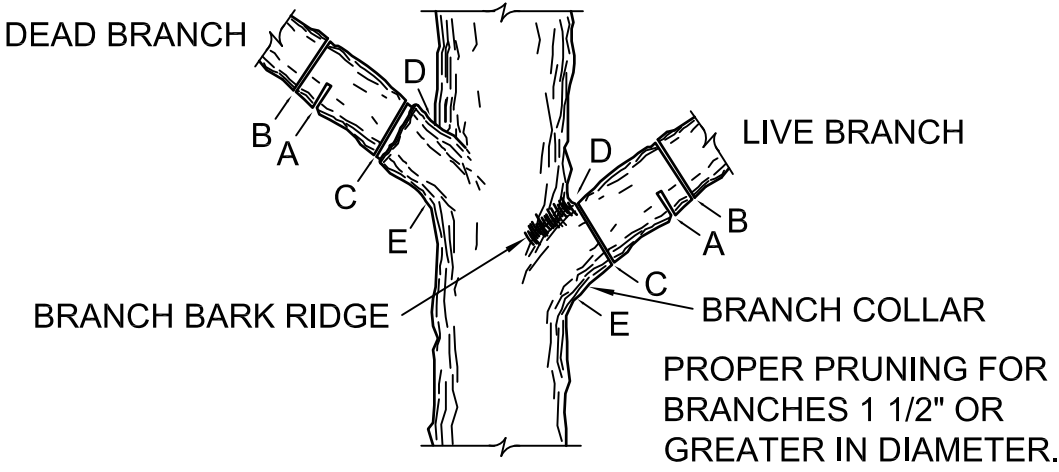
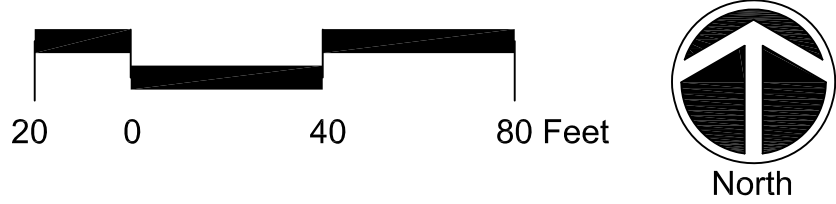
Trees in R.O.W.
(Not Counted Toward Canopy)



1 Tree Protection Plan

Scale 1" = 40'-0"

NOTE: ALL EXISTING TREES ON THE SITE ARE TO REMAIN AND SHALL BE PROTECTED IN PLACE, WITH THE EXCEPTION OF TWO DEAD TREES TO BE REMOVED AND REPLACED ON MITTMAN STREET.



NOTE: DO NOT CUT FROM D TO E.

- FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
- SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
- FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS
- BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES, WHICH ARE SITES FOR DECAY.

FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN. TO PREVENT THE SPREAD OF OAK WILT.

2 Branch Pruning Detail

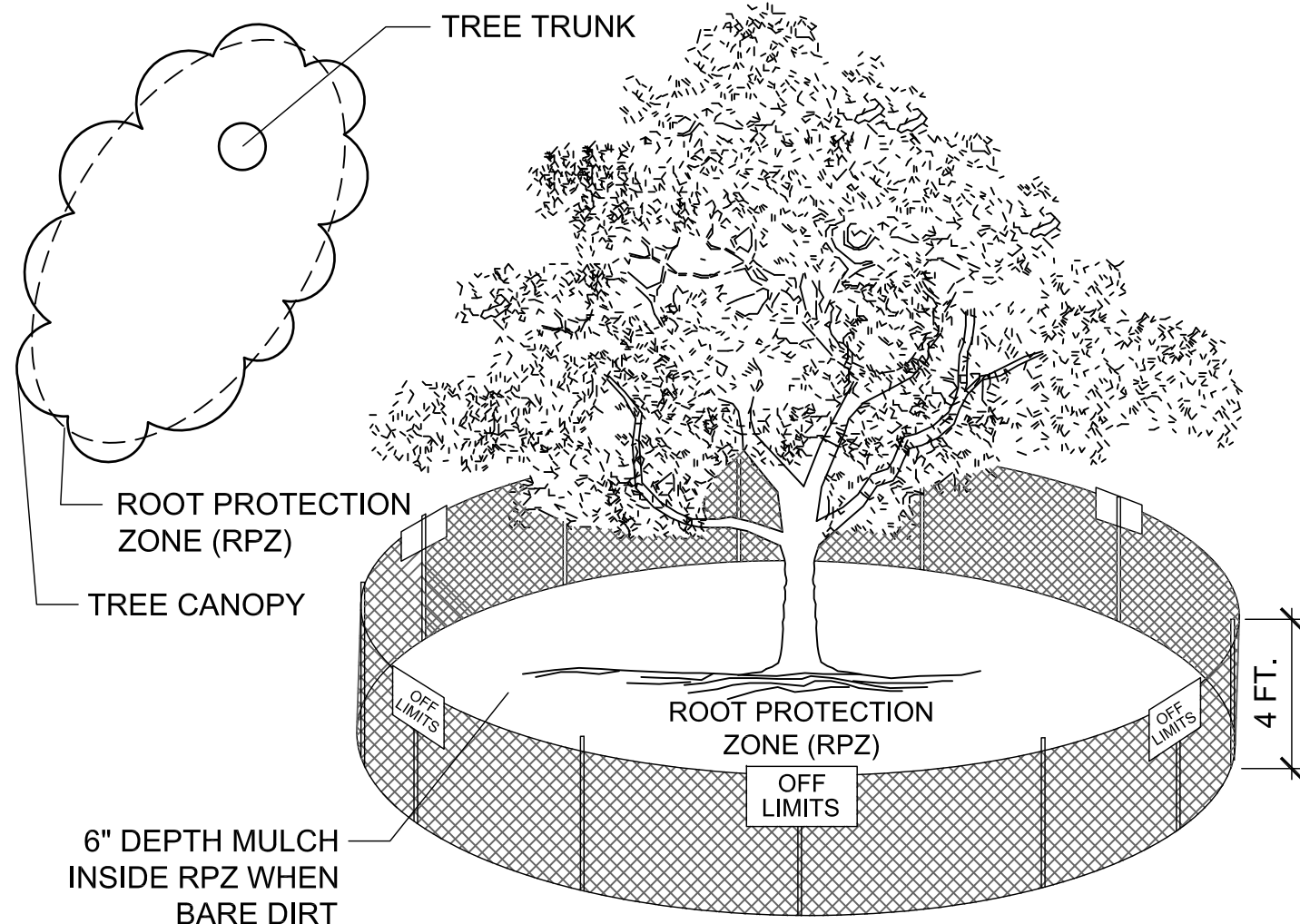
Not to Scale

TREE PROTECTION NOTES

- Preserve & protect all trees in place, with the exception of one (1) Chinaberry tree near the northwest corner of the parking area to be flagged by the Landscape Architect prior to removal. All other trees on-site shall remain undisturbed by construction activities, unless noted otherwise on the City approved plans.
- No disturbance shall occur closer to the trunk than half the root protection zone area.
- No utility or street excavation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
- Tree protection fencing shall be required. Tree protection fencing shall be installed, maintained and repaired by the contractor during site construction. Refer to drawings.
- The contractor shall avoid cutting roots larger than one inch in diameter when excavating near existing trees. Excavations in the vicinity of trees shall proceed with caution. The contractor shall contact the city inspector for guidance.
- Exposed roots shall be covered at the end of the work day using techniques such as covering with soil, mulch or wet burlap.
- No equipment, vehicles or materials shall be operated or stored within the root protection zone of any tree near the project. The root protection zone shall be an area defined by an average radius extending outward from the trunk of the tree a distance of one (1) linear foot for each inch diameter at breast height (4.5') of the tree. A 10-inch diameter tree will have a 10-foot radius root protection zone.
- Root or branches in conflict with construction shall be cut cleanly according to proper pruning methods. All oak wounds shall be painted within 30 minutes to prevent 'oak wilt' infection.
- Any tree removal shall be approved by the City Arborist. (210-207-8053)
- Trees which are damaged or lost due to the contractor's negligence during construction shall be mitigated to the City's satisfaction.
- Saplings, shrubs, or bushes to be cleared from the protected root zone area of a protected tree shall be removed by hand as designated by the inspector.
- All debris generated by the pruning and removal of the trees and/or bushes shall become the property of the contractor and shall be disposed of properly.

TREE PROTECTION REFERENCE NOTES

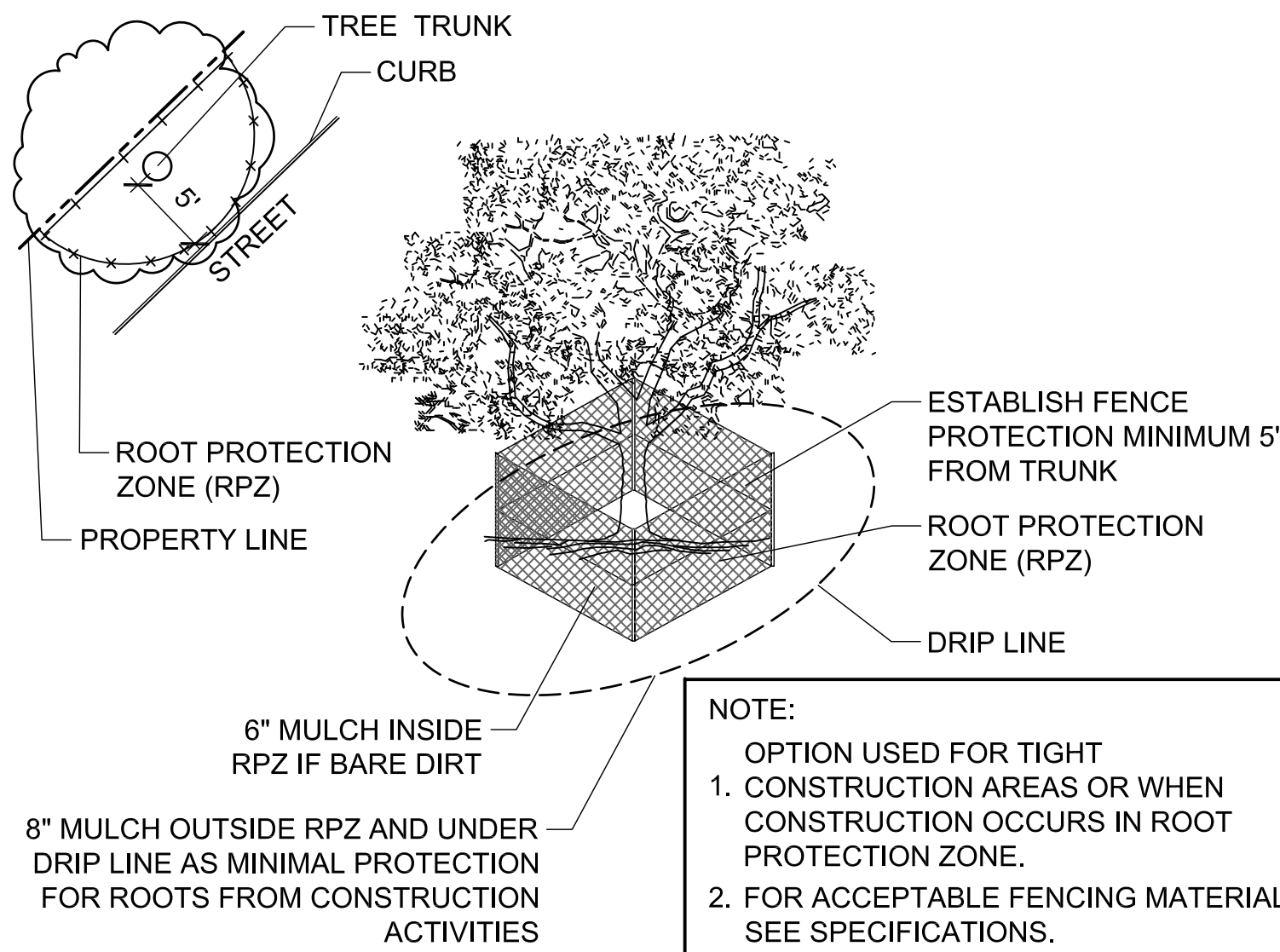
- EXISTING TREES TO REMAIN (TYP.) COUNTED TOWARD CANOPY
- EXISTING TREES TO REMAIN, NOT COUNTED TOWARD CANOPY (OUTSIDE OF PROJECT BOUNDARY)
- PROPOSED TREE PROTECTION FENCING



NOTE:
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

3 Level IA Fence Protection

Not to Scale



4 Level IIA Fence Protection

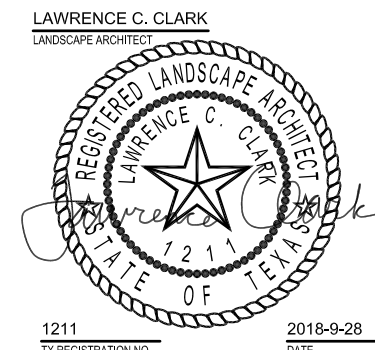
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REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

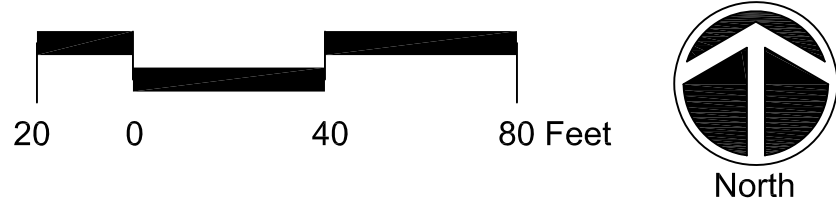
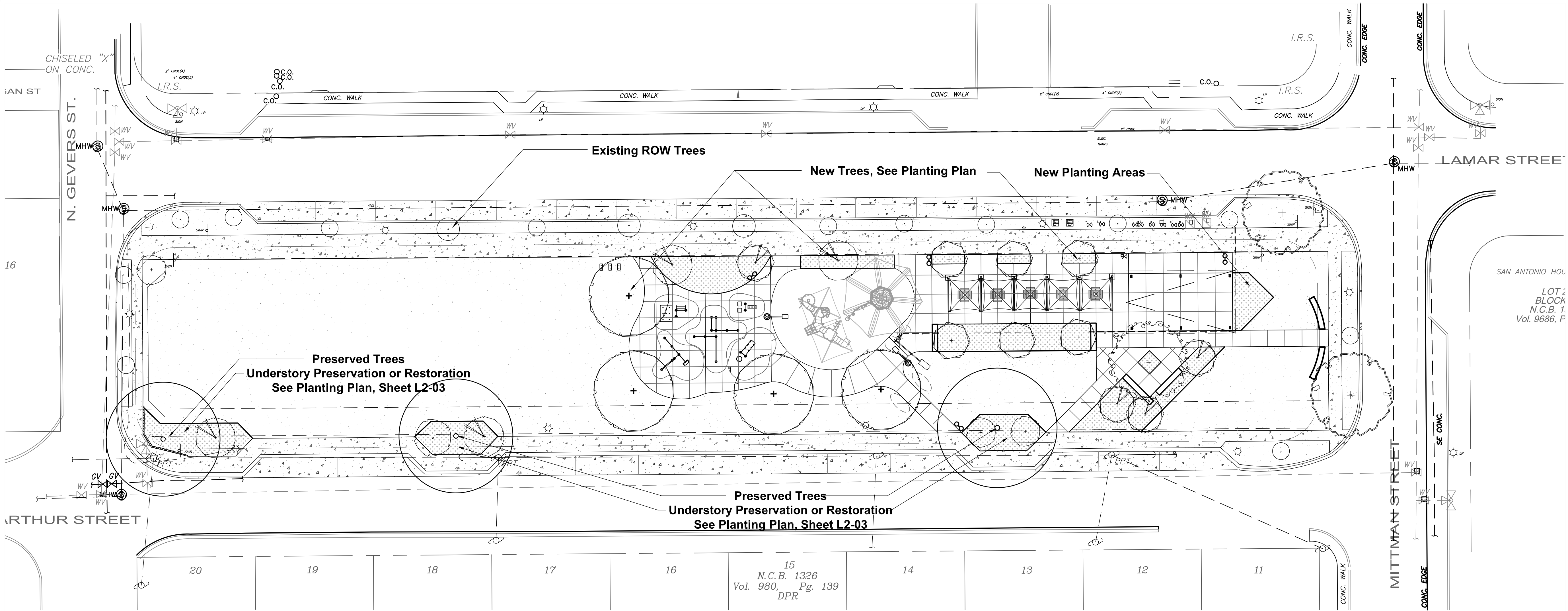
North Mittman St.
SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE



Tree Canopy & Tree Protection

Date: Sep 28, 2018, 11:42am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Landscape Ordinance Compliance Plan

Scale 1" = 20'-0"

Elective Requirements- 25 points required

Tree Preservation - 40 points, maximum		Qty.	Points
4 to 6 inch trees	3 points each	-	-
6 to 12 inch trees	4 points each	-	-
12 to 18 inch trees	6 points each	-	-
18 inch trees or larger	8 points each	3	24

Inside Streetyard:
full credit up to 30 points
1/2 credit for total above 30 points

24
-

Outside Streetyard:
1/2 credit up to a maximum of 15 points
Total Points: Tree Preservation (40 Points, max.)

-
-
24

Parking Lot Shading	
Percent Shaded	Points
25%	20
35%	25
50%	35

Total Points: Parking Lot Shading
Screening of Surface Parking - 25 points
Street Trees - 25 Points
Understory Preservation or Restoration - 15 Pnts.
Infill or Retrofit Use Pattern - 25 pnts.

-
-
-
15
-

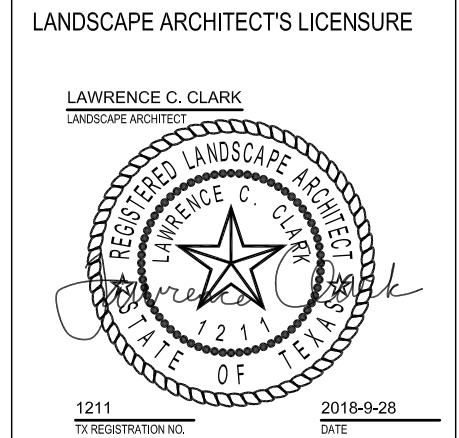
Total Points - Elective Criteria

39

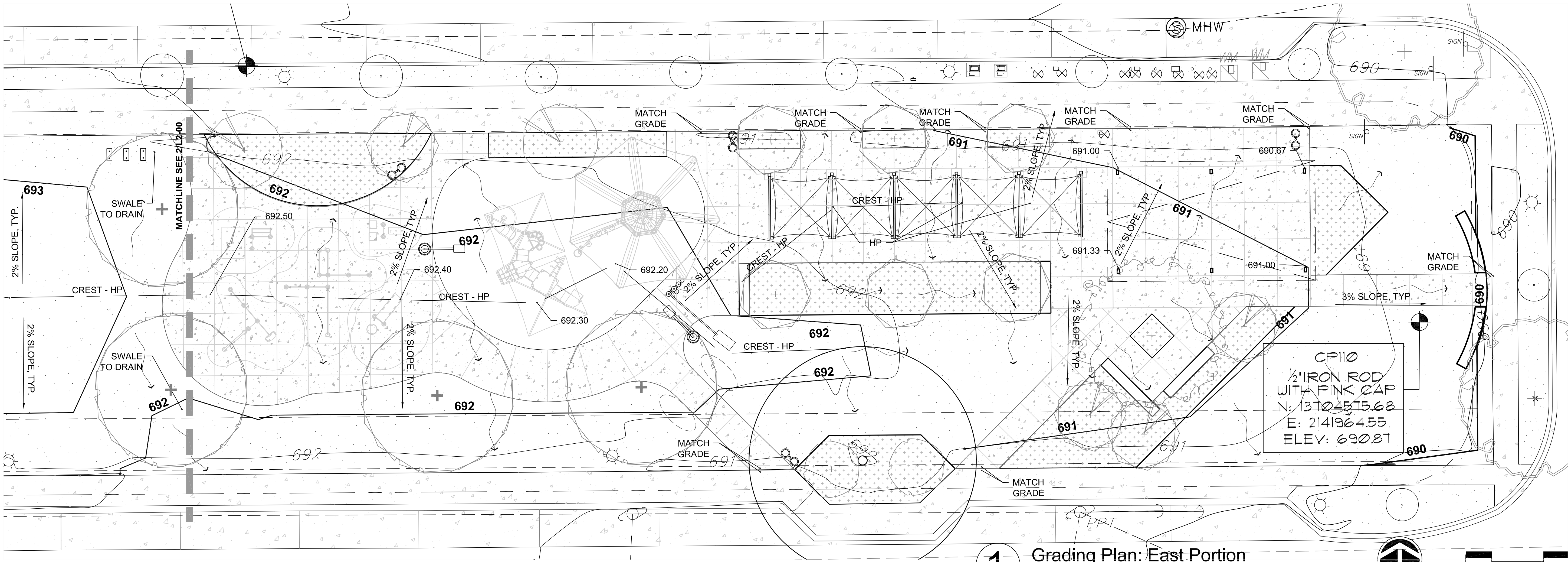
REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

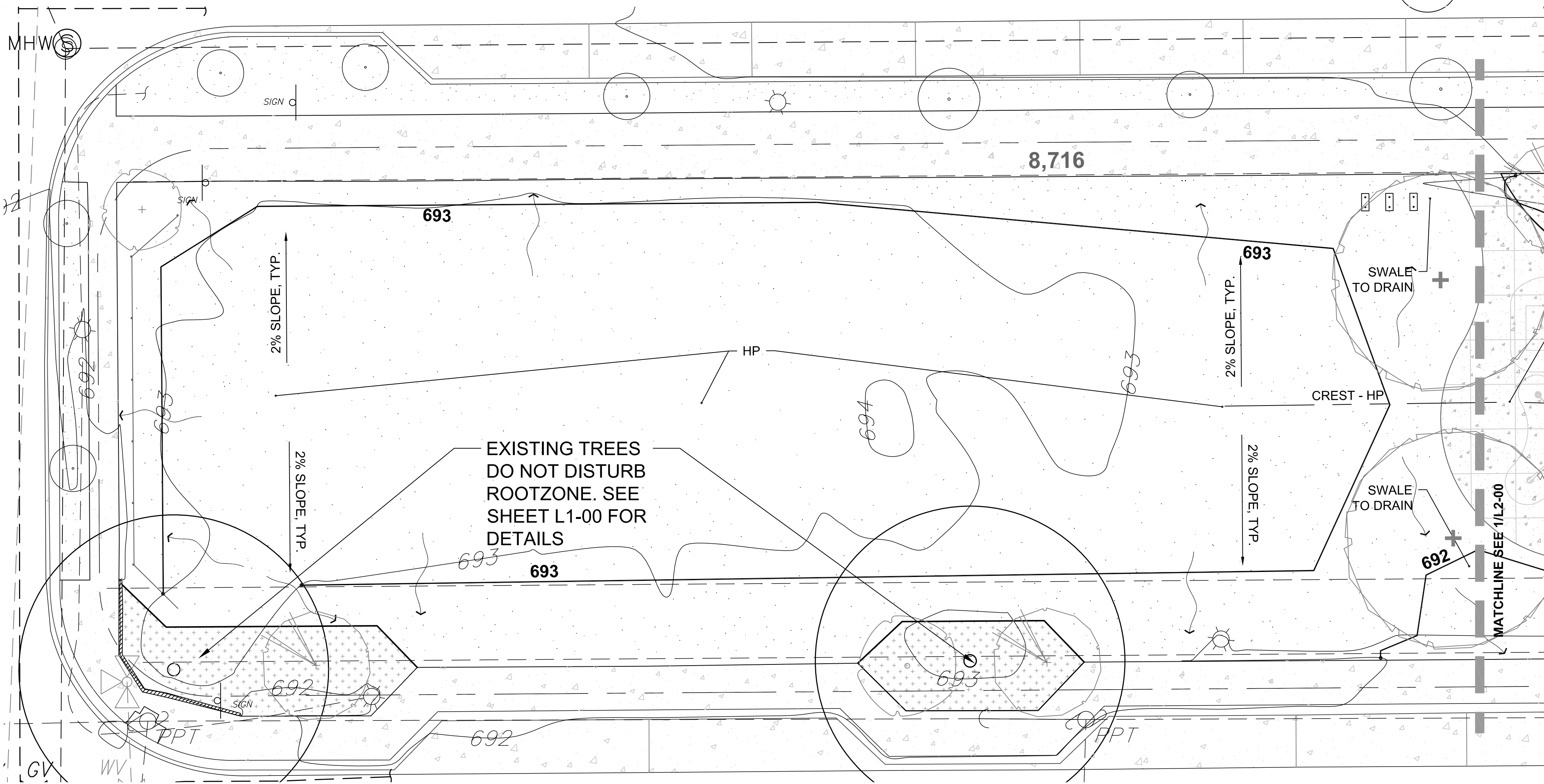
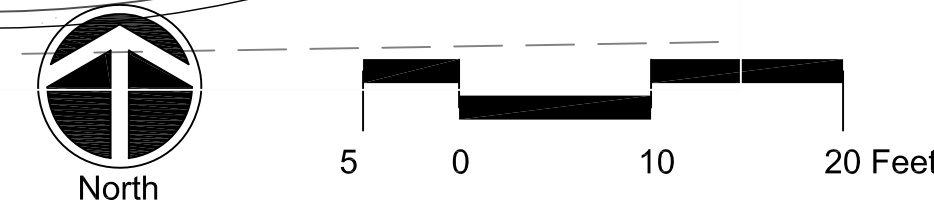
North Mittman St.
SAN ANTONIO, TEXAS 78202



Date: Sep 28, 2018, 11:45am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Grading Plan: East Portion
Scale 1" = 10'-0"



2 Grading Plan: West Portion
Scale 1" = 10'-0"

NOTE

REFER TO EXISTING CONDITIONS SHEET FOR CONTROL POINTS. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES IDENTIFIED IN THE FIELD.

GRADING NOTES

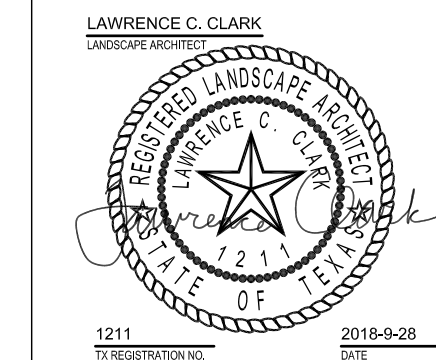
1. ALL PROPOSED GRADES INDICATED ARE FINISHED GRADES. THE PROPOSED PAVING IS SHOWN TO FINISHED GRADE AND THE CONTRACTOR IS RESPONSIBLE FOR EXCAVATIONS AND IMPROVEMENTS AS PART OF THE OVERALL MASS GRADING.
2. ALL LANDFORMS AND SWALES SHALL BE GRADED TO BE A SMOOTH, FLOWING, ROUNDED SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED BRUSH, DEBRIS, ETC. FROM THE LIMITS OF CONSTRUCTION. DISPOSE OF MATERIALS OFF SITE.
4. EXISTING TREES THAT ARE IDENTIFIED ON THE DRAWINGS TO BE PRESERVED SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. CONSTRUCTION EQUIPMENT SHALL NOT OPERATE, PARK, OR BE STOPPED UNDER THE CANOPIES OF EXISTING TREES.
5. WHEN CLEARING FOR GRADING, THE CONTRACTOR SHALL COORDINATE TREE PRESERVATION WITH THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE.
6. GRADING FOR ALL IMPROVEMENTS SHALL OCCUR AS DIRECTED BY THE LANDSCAPE ARCHITECT WITH THE FOLLOWING GUIDELINES:
 - A. ALL GRADES SHALL BE FINISHED TO A SMOOTH, FLOWING CONTOUR. MAINTAINING EXISTING FLOW PATTERNS UNLESS DIRECTED OTHERWISE.
 - B. ALL WALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% IN THE DIRECTION OF THE DOWNHILL SIDE.
 - C. THE LONGITUDINAL SLOPE OF ALL WALKS AND/OR TRAILS SHALL BE NO GREATER THAN 4.9%, UNLESS OTHERWISE NOTED.
7. REFER TO LAYOUT SHEETS FOR ALL LAYOUT INFORMATION.
8. REFER TO OTHER SHEETS FOR STORMWATER DRAINAGE AND UTILITY INFO.
9. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND MARKING OF ALL EXISTING UNDERGROUND OR ABOVE-GROUND UTILITIES WITHIN THE PROJECT AREA.
10. STRIP, SALVAGE AND STOCKPILE TOPSOIL FOR RE-USE IN FINAL GRADING

REVISIONS		
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NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

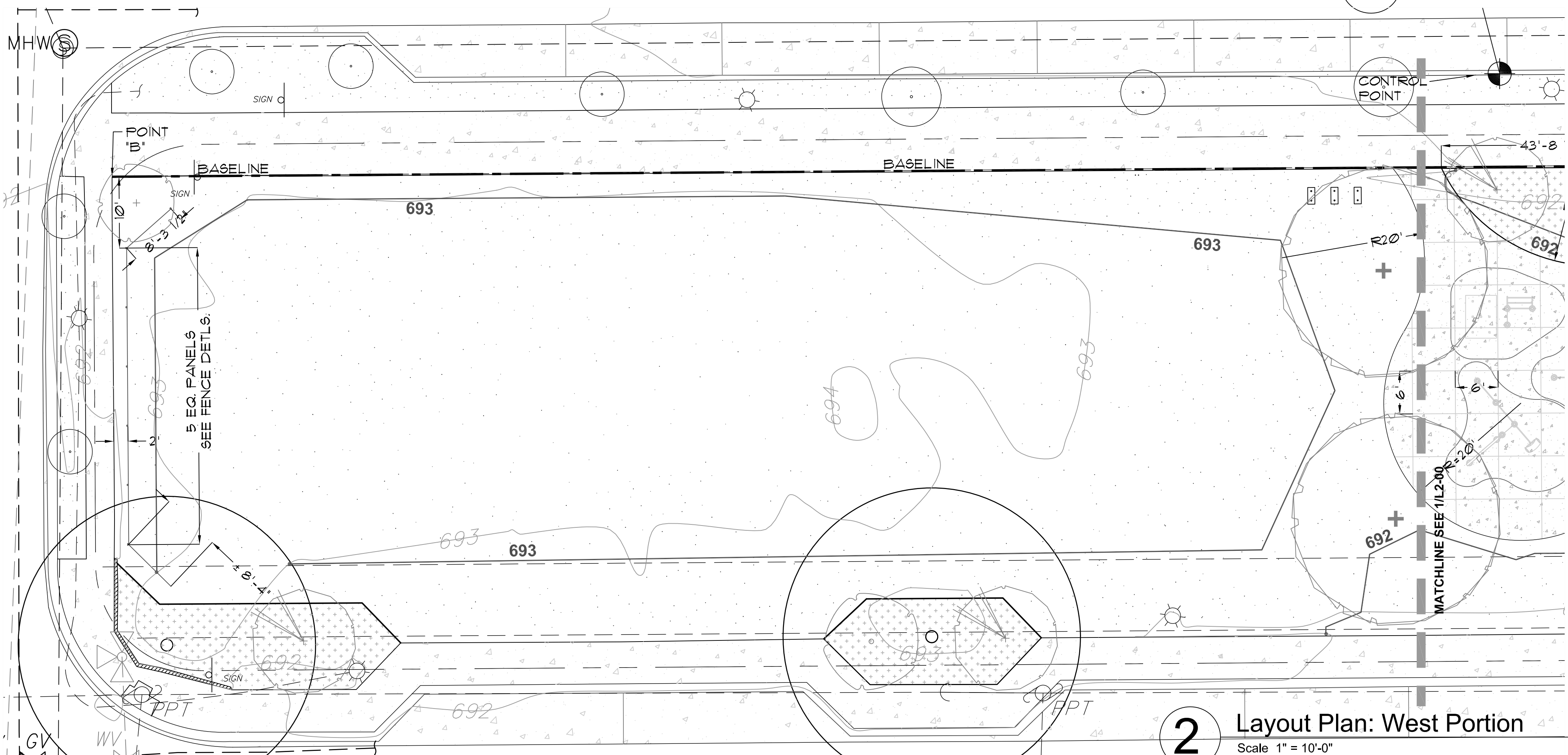
LANDSCAPE ARCHITECT'S LICENSURE



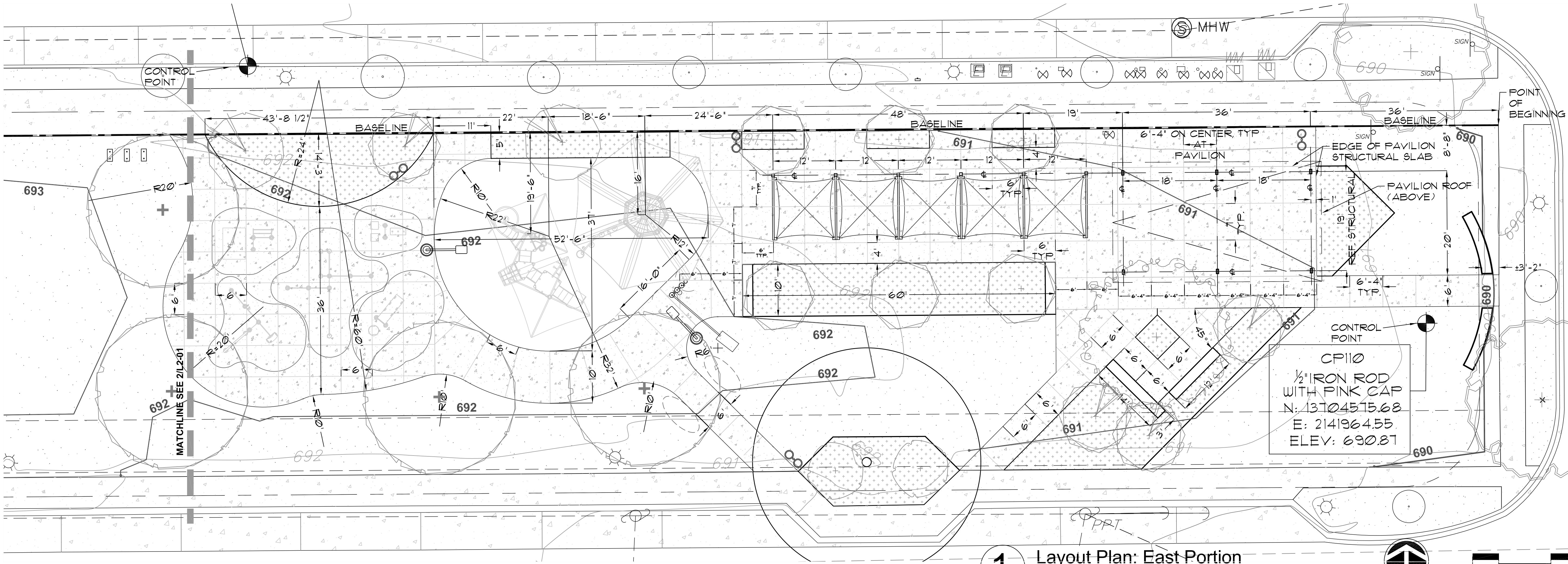
Grading Plan

SHEET NUMBER
L2-00

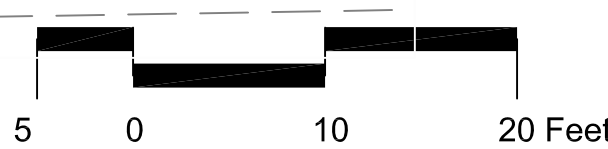
Date: Sep 28, 2018, 11:47am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



2 Layout Plan: West Portion
Scale 1" = 10'-0"



1 Layout Plan: East Portion
Scale 1" = 10'-0"



NOTE

REFER TO EXISTING CONDITIONS SHEET FOR CONTROL POINTS. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES IDENTIFIED IN THE FIELD.

LAYOUT NOTES

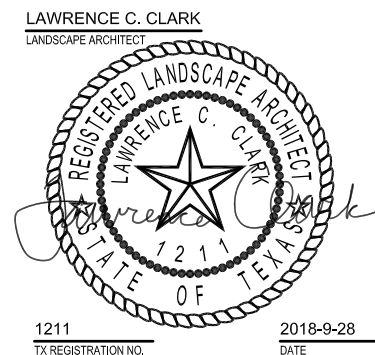
1. THE BASELINE FOR LAYOUT SHALL BE ESTABLISHED AS A LINE FROM INSIDE CORNER OF THE EXISTING SIDEWALK AT THE NORTHEAST CORNER OF THE SITE ("POINT OF BEGINNING") TO A POINT AT THE INSIDE CORNER OF THE EXISTING SIDEWALK AT THE NORTHWEST CORNER OF THE SITE ("POINT B").
2. LAYOUT DIMENSIONS OFF THE BASELINE ARE PERPENDICULAR, UNLESS NOTED OTHERWISE.
3. PAINTED AND/OR STAKED LAYOUT MAJOR OF ELEMENTS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION OF INSTALLATION.
4. FINAL LOCATION OF SITE FURNITURE, PLAY OR EXERCISE EQUIPMENT AND OTHER SITE ELEMENTS SHALL BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
5. LOCATION OF ART ELEMENTS SHALL BE DETERMINED BY THE ARTIST AND SHALL BE COORDINATED WITH SITE ELEMENTS IN THE FIELD, WITH REVIEW BY THE LANDSCAPE ARCHITECT, ARTIST AND OWNER'S REPRESENTATIVES.

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

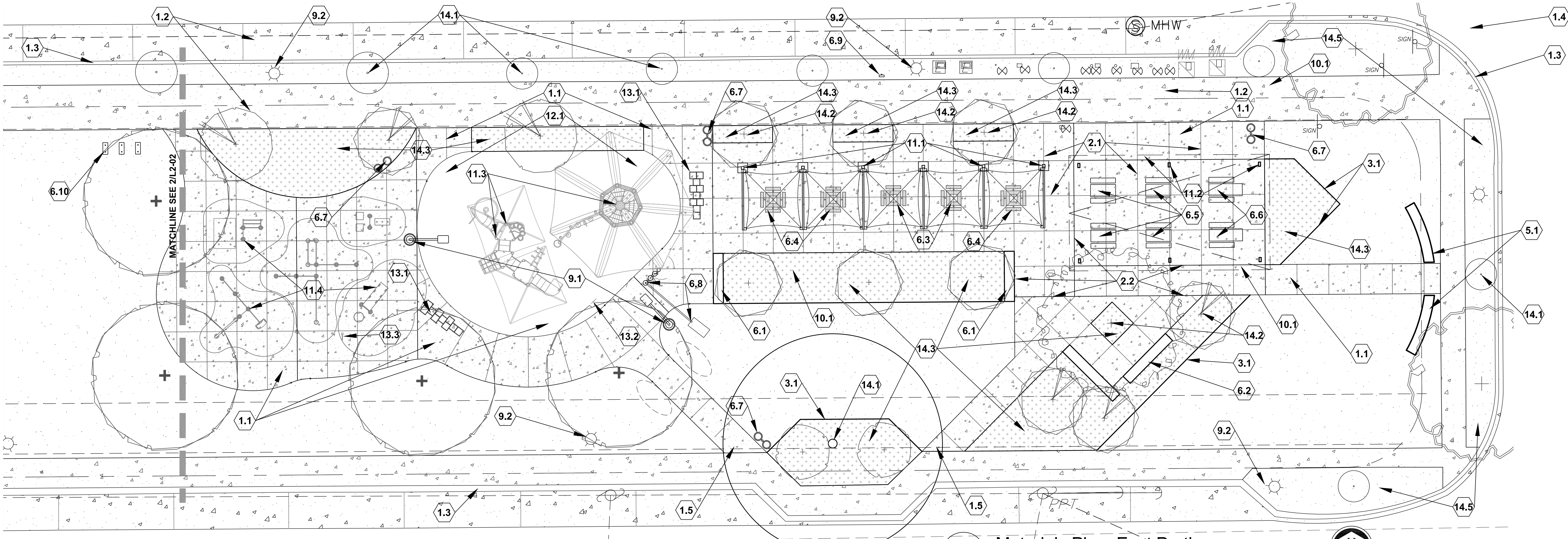
LANDSCAPE ARCHITECT'S LICENSURE



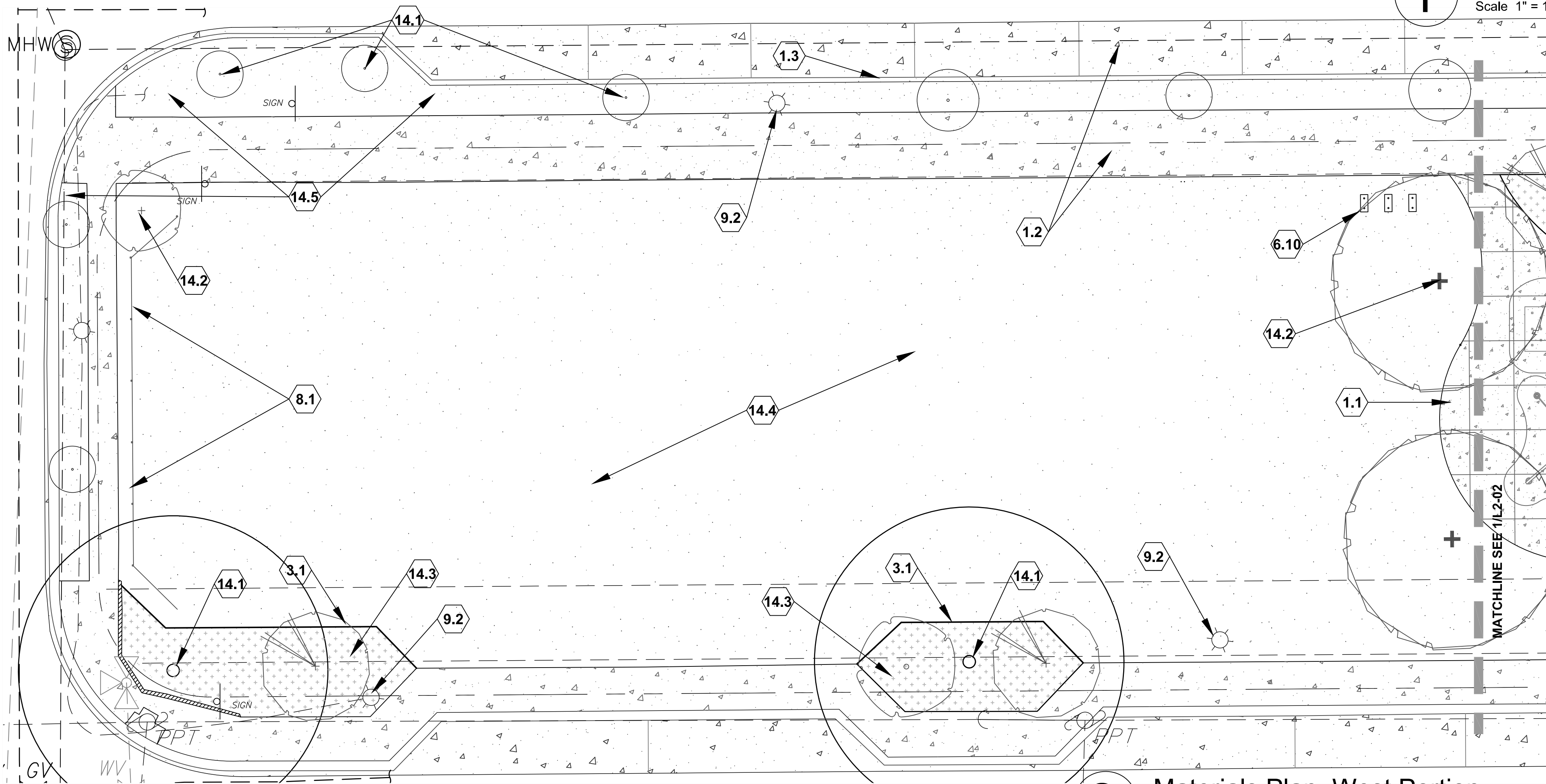
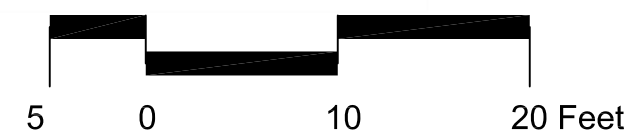
Layout Plan

SHEET NUMBER
L2-01

Date: Sep 28, 2018, 11:47am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Materials Plan: East Portion
Scale 1" = 10'-0"



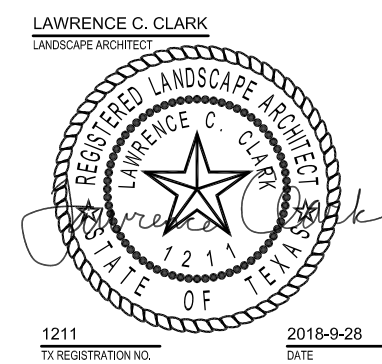
2 Materials Plan: West Portion
Scale 1" = 10'-0"

SITE DETAILS KEYNOTES			
KEY	DETAIL / SHEET	RELATED DETAILS	SPEC. SECTION
1.0	PAVEMENTS, RAMPS, CURBS & MASONRY		
1.1	CONCRETE PAVING- SIDEWALK MK	3/14-00	18.2/14-00 32 13 13
1.2	EXISTING CONCRETE PAVING TO REMAIN		
1.3	CONCRETE CURB TO REMAIN		
1.4	EXISTING ASPHALT TO REMAIN		
1.5	PROPOSED PAVEMENT SHALL MINIMIZE DISTURBANCE TO EXISTING TREES AND ROOT SYSTEMS	3/14-00	18.2/14-00 32 13 13
2.0	JOINING		
2.1	CONCRETE CONSTRUCTION JOINTS	18.2/14-00	07 90 00
2.2	CONCRETE EXPANSION JOINTS	18.2/14-00	07 90 00
3.0	EDGERS		
3.1	METAL EDGER	5/14-03	32 93 00
4.0	STEPS		NOT USED
5.0	SITE WALLS & EMBANKMENTS		
5.1	ART WALL- BY ARTIST	SEE ARTIST DRAWINGS	
6.0	SITE FURNITURE		
6.1	BENCH TYPE 1- BY ARTIST	SEE ARTIST DRAWINGS	
6.2	BENCH TYPE 2-BY ARTIST	SEE ARTIST DRAWINGS	
6.3	TABLE TYPE 1- SQUARE GAME TABLE- 3 SEAT	3/14-05	2/13-01 12 93 00
6.4	TABLE TYPE 1- SQUARE GAME TABLE- 4 SEAT	3/14-05	2/13-01 12 93 00
6.5	TABLE TYPE 2- PICNIC TABLE	SEE MFR DWGS	12 93 00
6.6	TABLE TYPE 2- PICNIC TABLE WITH ACCESSIBLE END	SEE MFR DWGS	12 93 00
6.7	TRASH / RECYCLING RECEPTACLE	1/14-05	12 93 00
6.8	DRINKING FOUNTAIN	28.4/14-04	12 93 00
6.9	PET STATION	1/14-04	12 93 00
6.10	BIKE RACK	3/14-04	12 93 00
7.0	RAILINGS, BARRIERS & MISC. METALS		NOT USED
8.0	FENCING & GATES		
8.1	5' HIGH STEEL FENCE	2/14-05	12 93 00
9.0	SITE LIGHTING		
9.1	POD POLE LIGHT	SEE M.E.P. DWGS	1/14-01
9.2	EXISTING POLE LIGHT TO REMAIN		
10.0	SITE UTILITIES		
10.1	3/4" WATER LINE TO DRINKING FOUNTAIN	28.4/14-04	
11.0	MISCELLANEOUS SITE FEATURES		
11.1	SHADE STRUCTURE	SEE MFR. DWGS	18.2/13-01 13 31 23
11.2	PAVILION	SEE ARCH. DWGS	1/14-01 11 68 13
11.3	PLAY EQUIPMENT WITH SHADE STRUCTURE	SEE MFR. DWGS	1/14-01 11 68 13
11.4	FITNESS EQUIPMENT	SEE MFR. DWGS	2/13-00 12 93 00
12.0	SURFACING		
12.1	POURED-IN-PLACE PLAY SAFETY SURFACING	1.2,3,4/14-02	32 18 16,13
13.0	SIGNS AND STRIPING		
13.1	HORIZONTAL STRIPING 2" WIDE	2/14-01	1/14-02
13.2	PLAY AREA SIGN	SEE MFR. DWGS	1/14-01 11 68 13
13.3	FITNESS SIGN	SEE MFR. DWGS	2/13-00 12 93 00
14.0	PLANTING & IRRIGATION		
14.1	EXISTING TREE TO REMAIN- PROTECT IN PLACE	REFER TO PLANTING SERIES DRAWINGS, AND TO IRRIGATION SERIES	18.2/12-03 31 01 90
14.2	TREE PLANTING	1/14-03	18.2/12-03 32 93 00
14.3	SHRUB PLANTING	2,3,4/14-03	18.2/12-03 32 93 00
14.4	TURF GRASS PLANTING		18.2/12-03 32 92 19
14.5	EXISTING IRRIGATED TURF TO REMAIN UNDISTURBED		

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NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

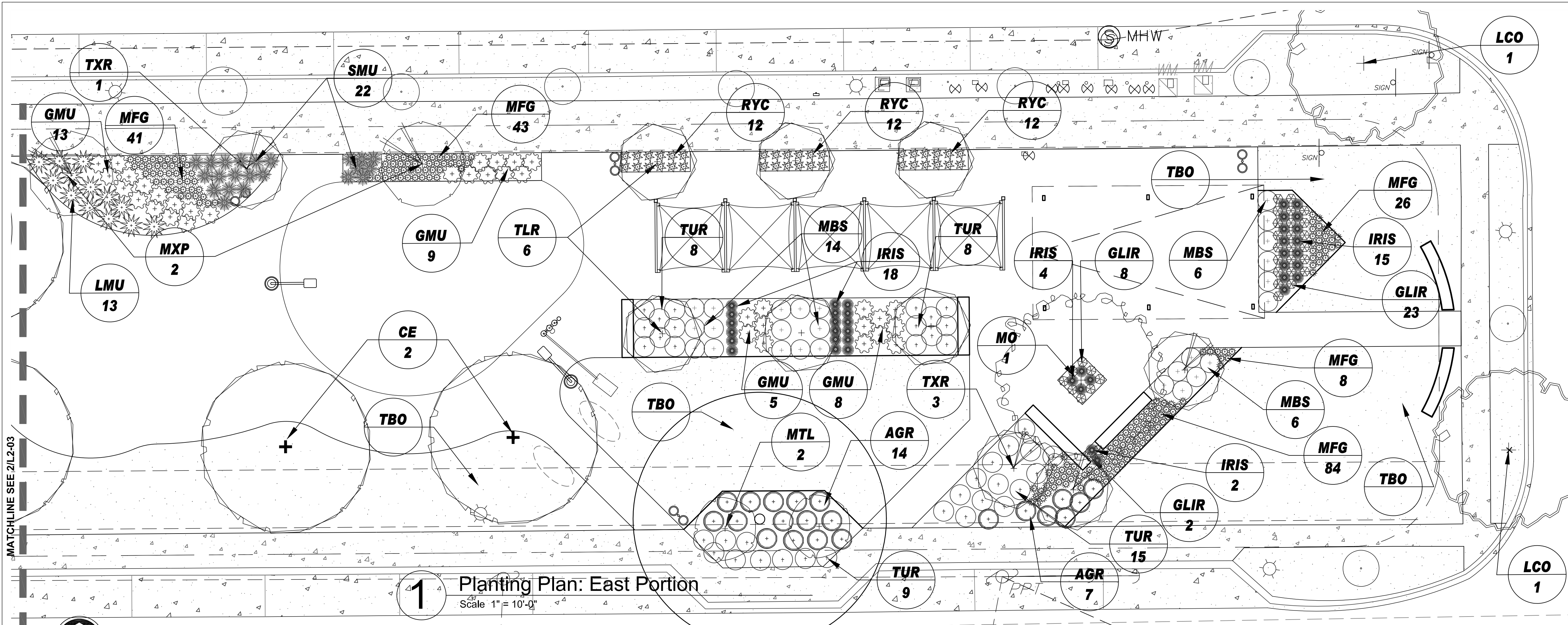
LANDSCAPE ARCHITECT'S LICENSURE



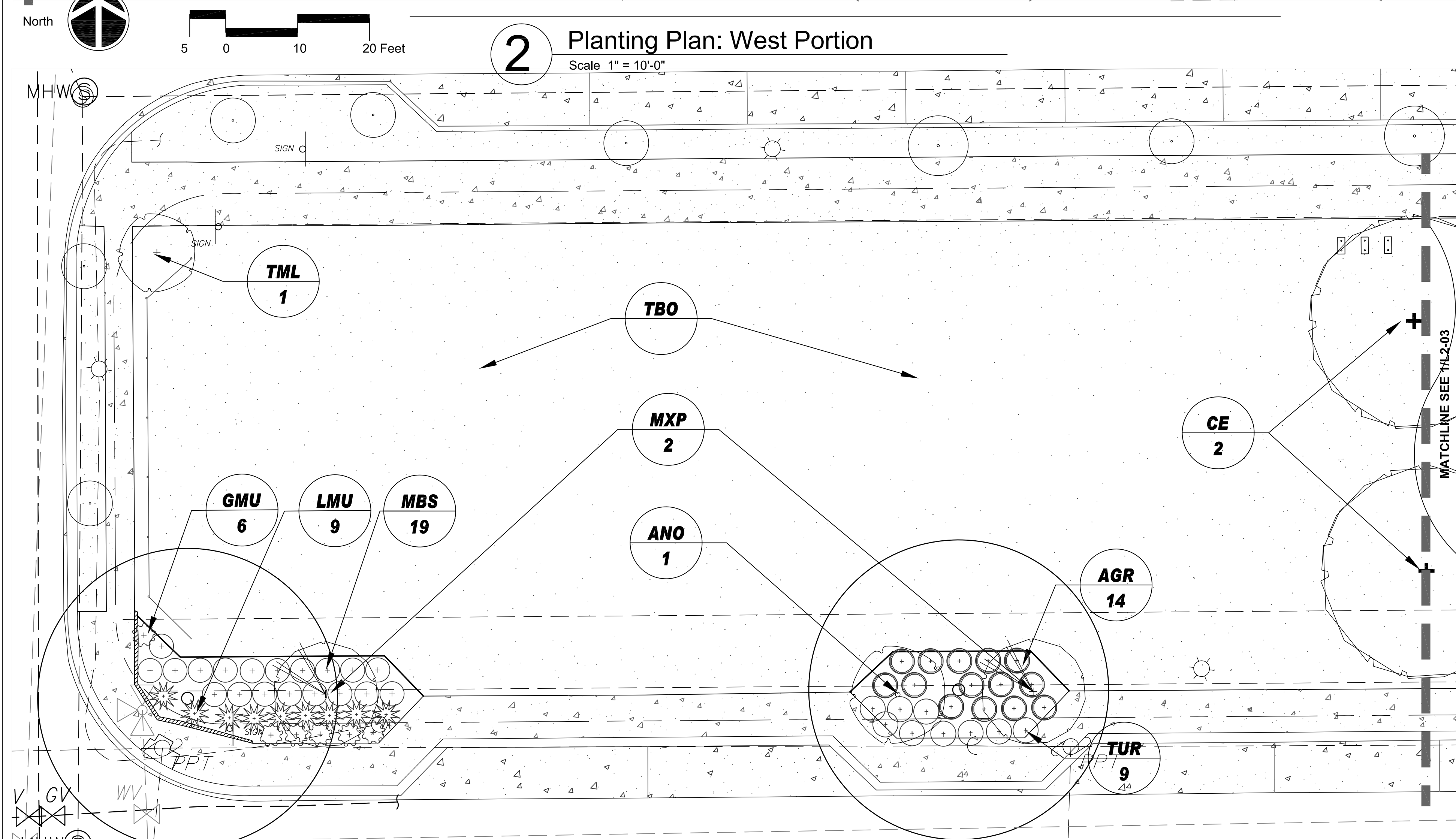
Site Materials Plan

SHEET NUMBER
L2-02

Date: Sep 28, 2018, 11:52am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Planting Plan: East Portion
Scale 1" = 10'-0"



2 Planting Plan: West Portion
Scale 1" = 10'-0"

- PLANTING NOTES**
1. ALL PLANT MATERIAL LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
 2. FINE GRADING SHALL BE PERFORMED IN ALL AREAS TO BE PLANTED. FINE GRADING SHALL INCLUDE THE REMOVAL OF DEBRIS, ROCKS, ETC., FROM THE SITES AND INSURE POSITIVE DRAINAGE IN ALL AREAS TO BE PLANTED.
 3. THE CONTRACTOR SHALL VERIFY ALL BUILDING SETBACK LINES, EASEMENT LINES, AND VISIBILITY LINES IN THE FIELD PRIOR TO CONSTRUCTION.
 4. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES IN THE FIELD PRIOR TO COMMENCEMENT OF WORK.
 5. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL SITE FEATURES.
 6. REPAIR AND/OR REPLACE ANY EXISTING PLANT MATERIAL DAMAGED DURING CONSTRUCTION.

PLANTING SCHEDULE

Key	Common Name	Botanical Name	Size / Remarks	Qty.
TREES				
CE	Cedar Elm	<i>Ulmus crassifolia</i>	3-4" cal., 12' ht., full	4
MO	Monterrey Oak	<i>Quercus polymorpha</i>	3-4" cal., 12' ht., full	1
LCO	Lacey Oak	<i>Quercus laceyi</i> (syn. <i>Q. glaucoides</i>)	3-4" cal., 12' ht., 6' sp.	2

*Note: All trees are to be boxed or containerized, nursery grown specimens and shall be approved prior to installation.

UNDERSTORY TREES

ANO	Anacacho orchid	<i>Bauhinia congesta</i>	30 gal., full, upright	1
MXP	Mexican Plum	<i>Prunus mexicana</i>	30 gal., full, upright	4
MTL	Texas Mt. Laurel	<i>Sophora secundiflora</i>	30 gal., full, upright	3
TXR	Texas Redbud	<i>Cercis canadensis x texensis</i>	30 gal., full, upright	4
TLR	Palo Verde "Desert Museum"	<i>Parkinsonia x 'Desert Museum'</i>	24" Box	6

*Note: All trees are to be boxed or containerized, nursery grown specimens and shall be approved prior to installation.

SHRUBS

MBS	Mexican Bush Sage	<i>Salvia leucantha</i>	2 gal. (1'-O.C.)	45
AGR	Agarita	<i>Berberis (Mahonia) trifoliata</i>	3 gal. (3'-O.C.)	35
GLIR	Giant Liriope	<i>Liriope gigantea</i>	1 gal. (1'-O.C.)	33
IRIS	BiColor Iris	<i>Diets bicolor</i>	1gal. (3'-O.C.)	39
RYC	Red Yucca "Brakelights"	<i>Hesperaloe parviflora</i> "Brakelights"	3 gal. (2'-O.C.)	36
TUR	Turk's Cap	<i>Malvaviscus arboreus</i> var. <i>Drummondii</i>	2 gal. (4'-O.C.)	49

ORNAMENTAL GRASSES & GRASS-LIKE FORBS

GMU	Gulf Muhlygrass	<i>Muhlenbergia capillaris</i>	1 gal. (3'-O.C.)	41
LMU	Lindheimer's Muhlygrass	<i>Muhlenbergia lindheimeri</i>	1 gal. (4'-O.C.)	22
SMU	Seep Muhlygrass	<i>Muhlenbergia reverchonii</i>	1 gal.	22
MFG	Mexican Feather Grass	<i>Nassella tenuissima</i>	1 gal. (1'-3" O.C.)	202

TURF GRASS

T-BG	SEED- BERMUDA GRASS	Bermuda Grass Seed Lawn Seed: 3-5 lbs. per 1,000 sf Seed Source Reference -	'Blackjack' Bermudagrass Seed Douglass King Seed Co., 210-661-4191 or Approved Substitution. Verify Quantity.
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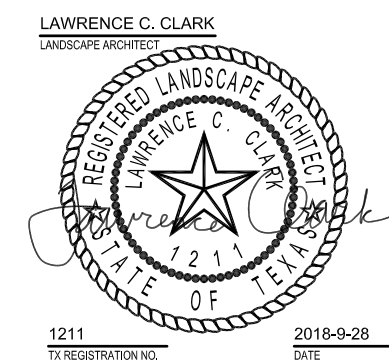
Refer to Specifications regarding establishment of warm-season grasses during cool periods.

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

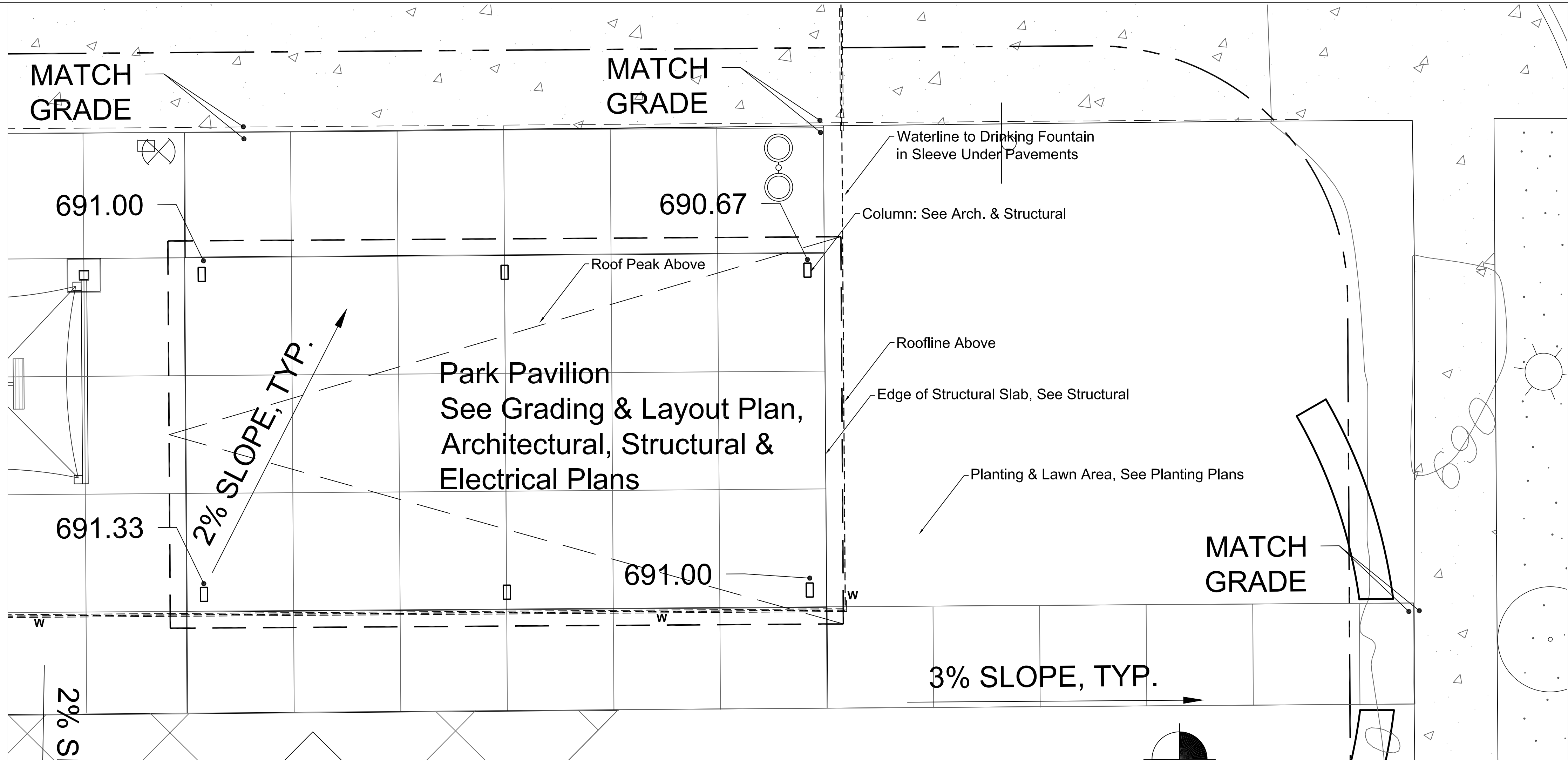
LANDSCAPE ARCHITECT'S LICENSURE



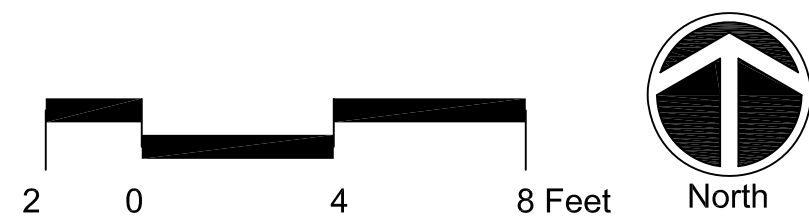
Site Planting Plan

SHEET NUMBER
L2-03

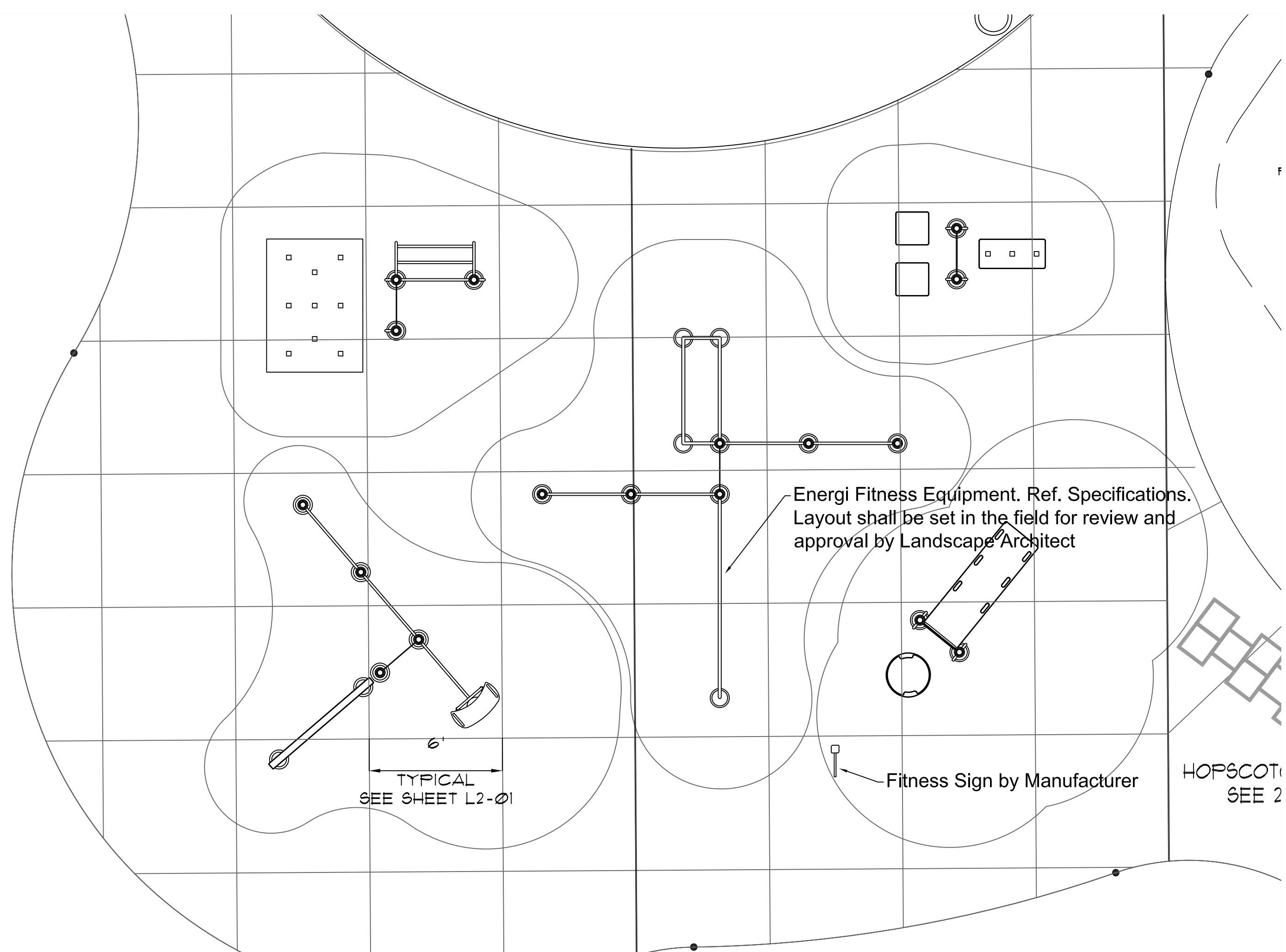
Date: Sep 28, 2018, 11:53am User ID: LARRYCLARK
File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg



1 Enlarged Site Plan: Pavilion
Scale 1" = 4'-0"



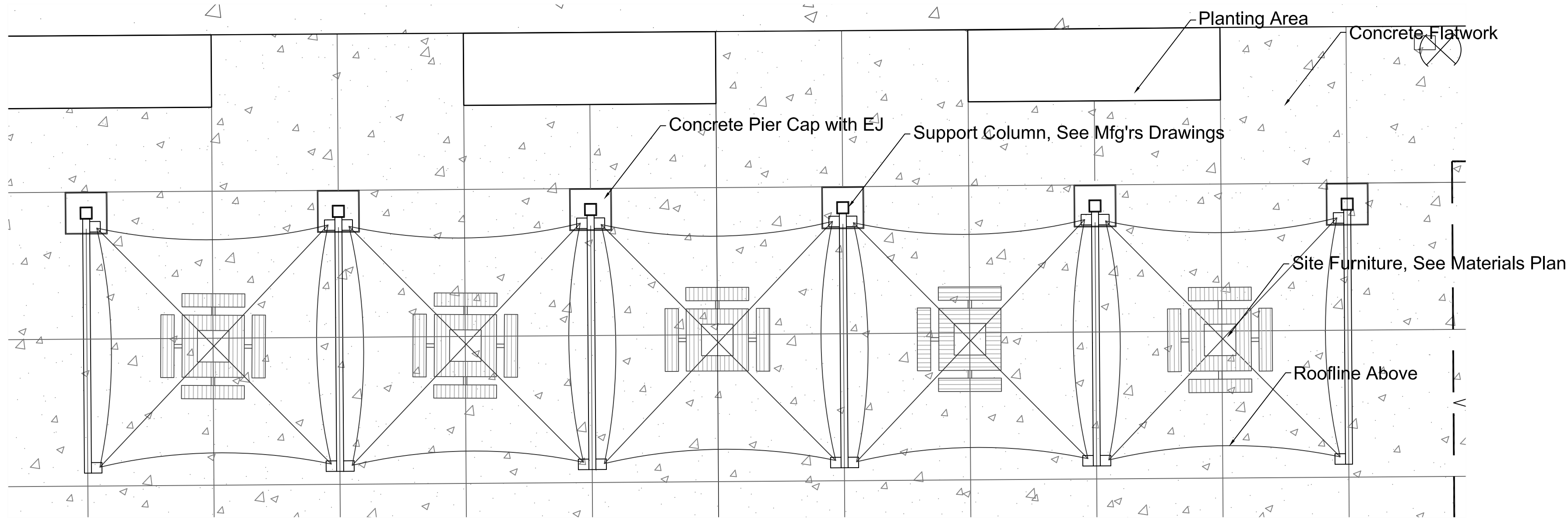
2 Enlarged Site Plan: Fitness Equipment Area
Scale 1" = 4'-0"



REVISIONS		
ISSUE	DESCRIPTION	DATE

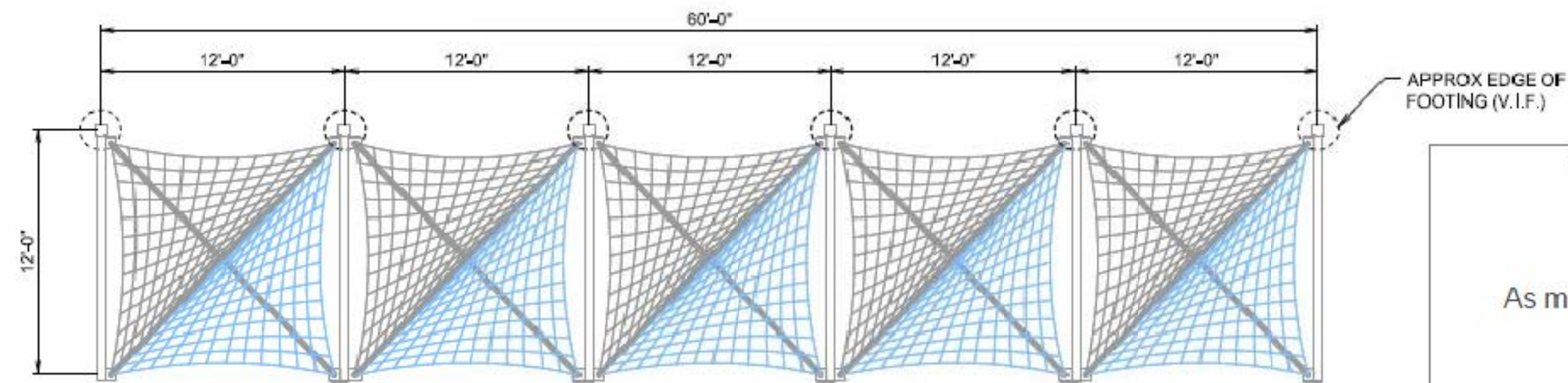
NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

Date: Sep 28, 2018, 11:53am User: LARRYCLARK
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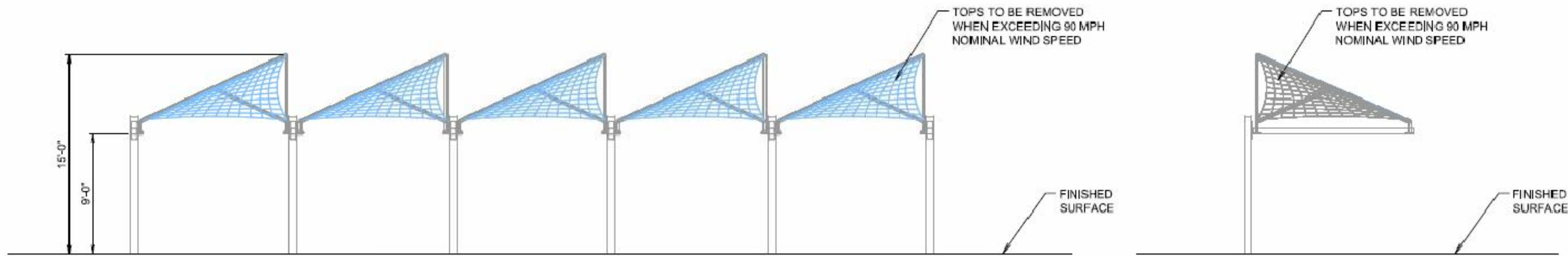
1 Enlarged Site Plan: Shade Structures
Scale 1" = 4'-0"

NOTES:
-THESE DRAWINGS ARE A PICTORIAL REPRESENTATION OF FABRIC AND STEEL ONLY. NONE OF THE REQUIRED ATTACHMENT OR CONNECTION DETAILS HAVE BEEN DEPICTED.
-ALL DIMENSIONS AND HEIGHTS MUST BE FIELD VERIFIED PRIOR TO ANY FINAL DESIGN, FABRICATION OR INSTALLATION WORK.
-FINAL FOOTING TYPE AND SIZE WILL BE DETERMINED AT ENGINEERING PHASE.



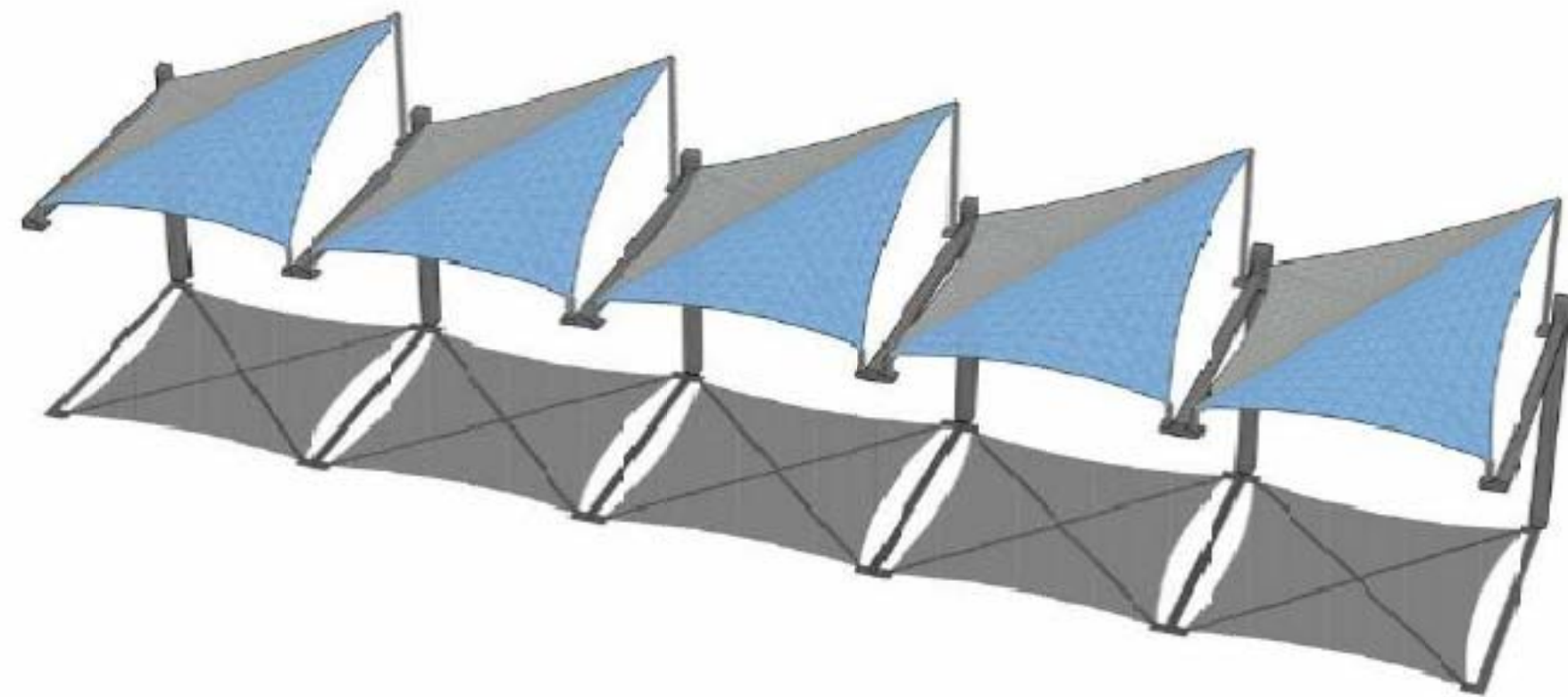
Shade Structure: Joined Custom Canti Wave
Model # JCCW_1212_0915_MB
Fabric Roof Color: TBD
Powdercoat Steel Color: TBD
As manufactured and installed by USA SHADE & Fabric Structures, Inc.
Contact: Michelle Botha (512) 937-6430
Email: Mbotha@usa-shade.com

PLAN VIEW



SOUTH ELEVATION

WEST ELEVATION



PERSPECTIVE VIEW

2

Shade Structure Manufacturer's Diagrams and Illustrative Drawings By USA Shade
Not to Scale

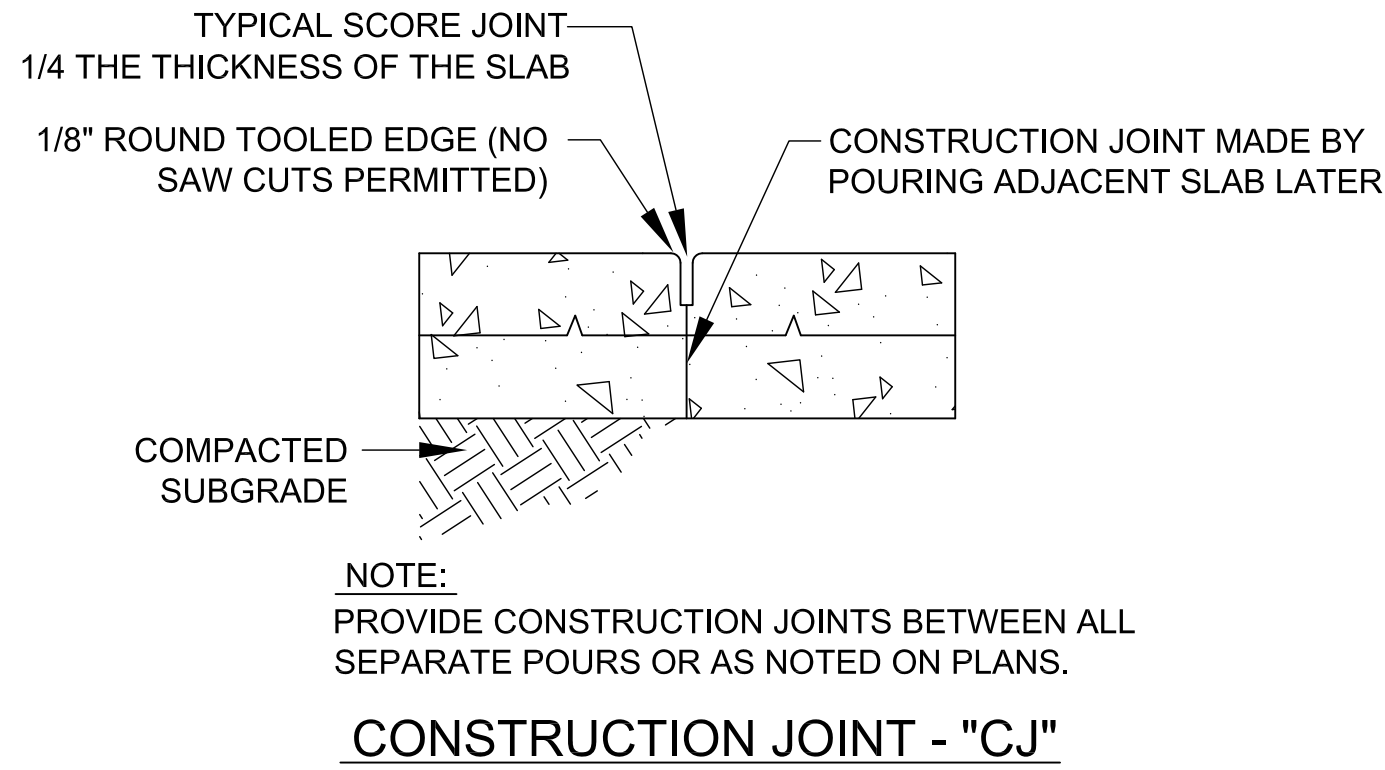
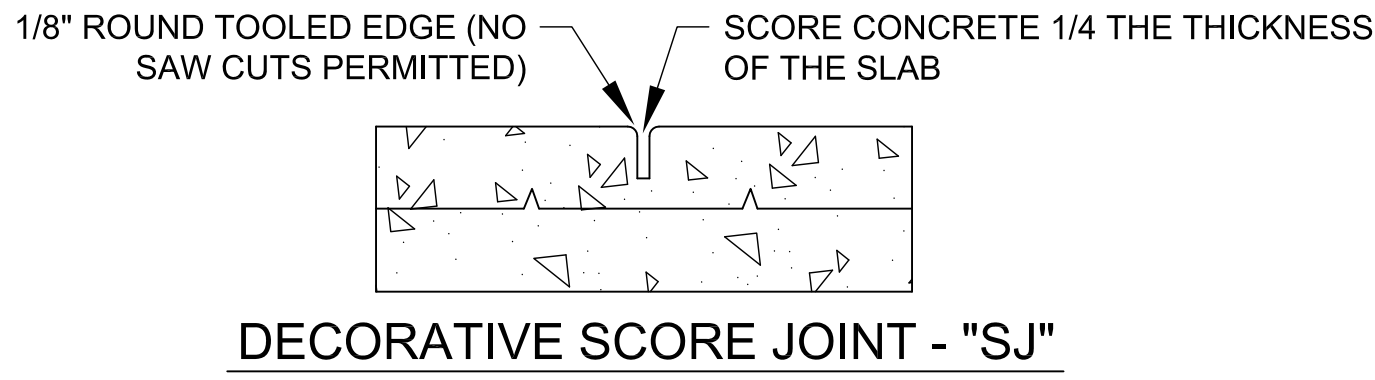
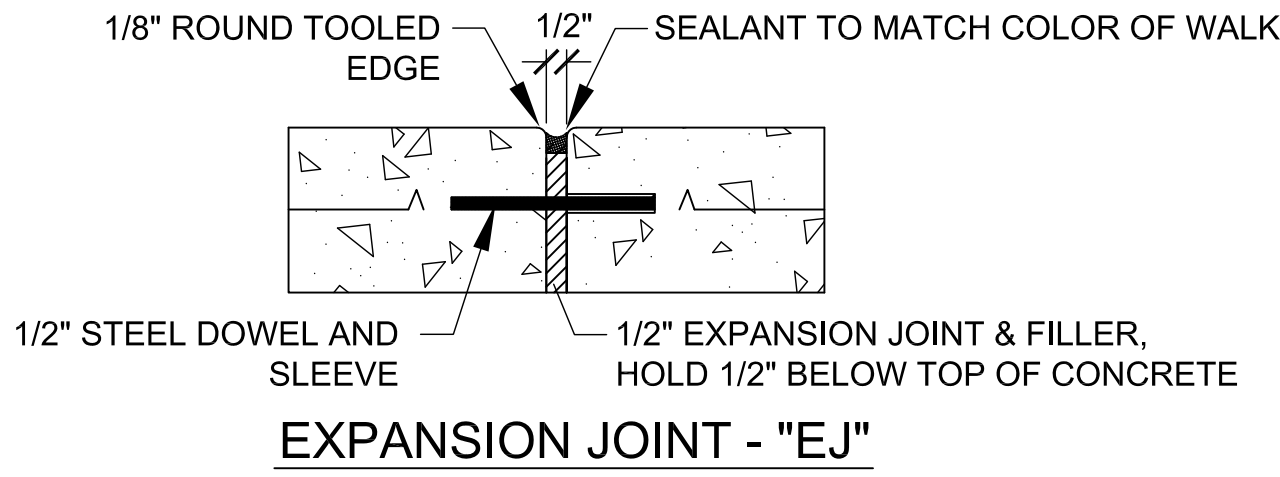
REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

**Enlarged Site Plan:
Park Structures &
Furniture**

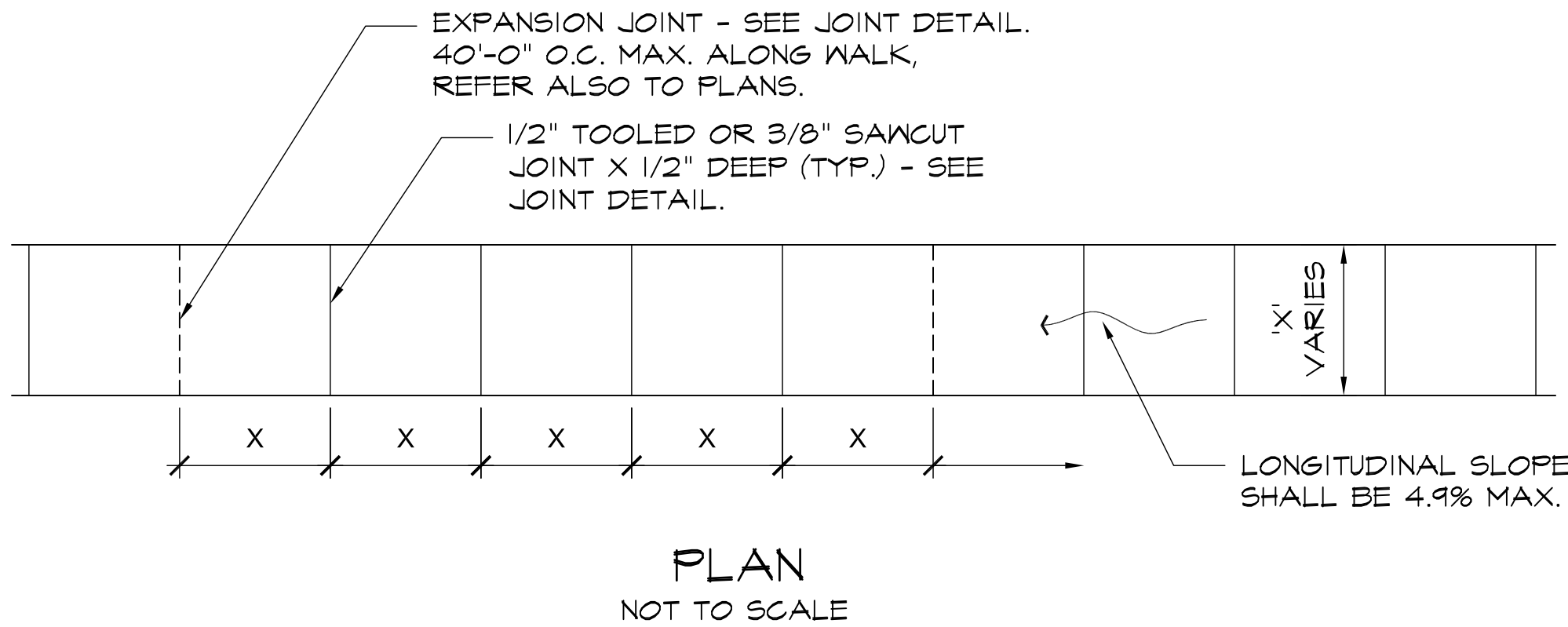
SHEET NUMBER
L3-01

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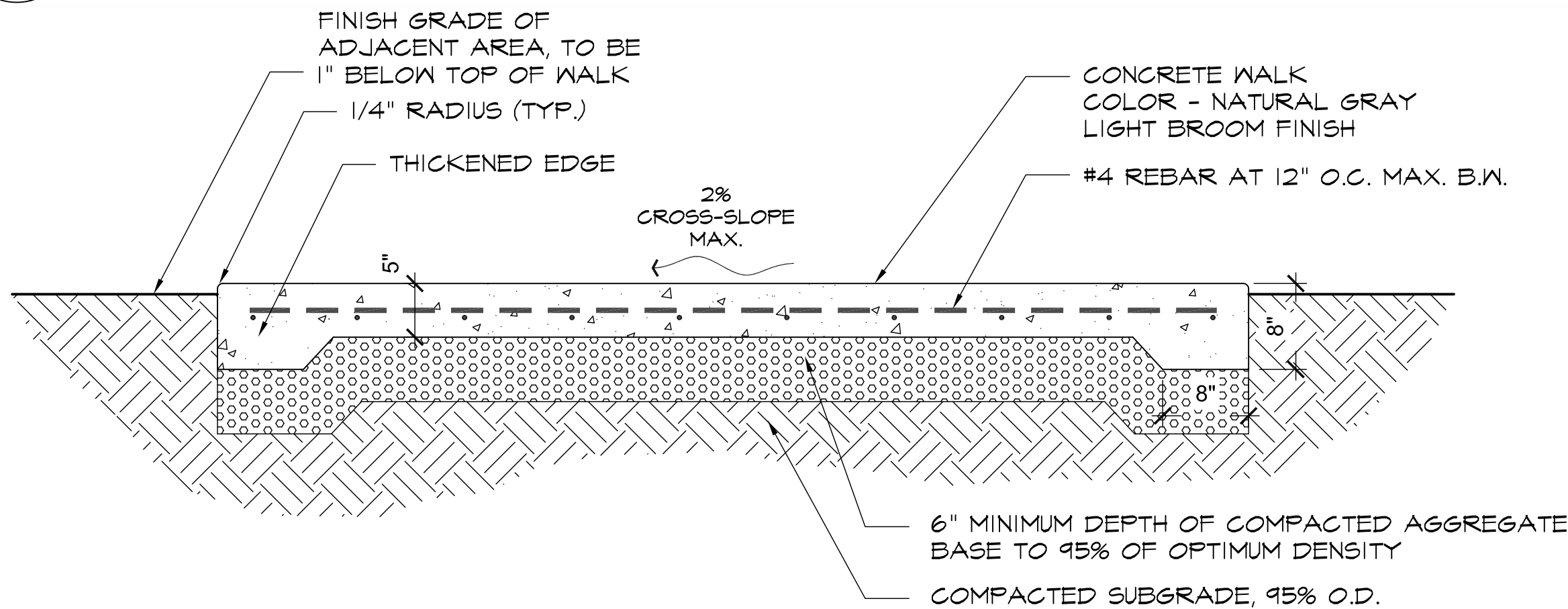
1 Detail Sections: Paving Joints

Scale 1" = 1'-0"



2 Detail Plan: Paving Joints and Typical Scoring

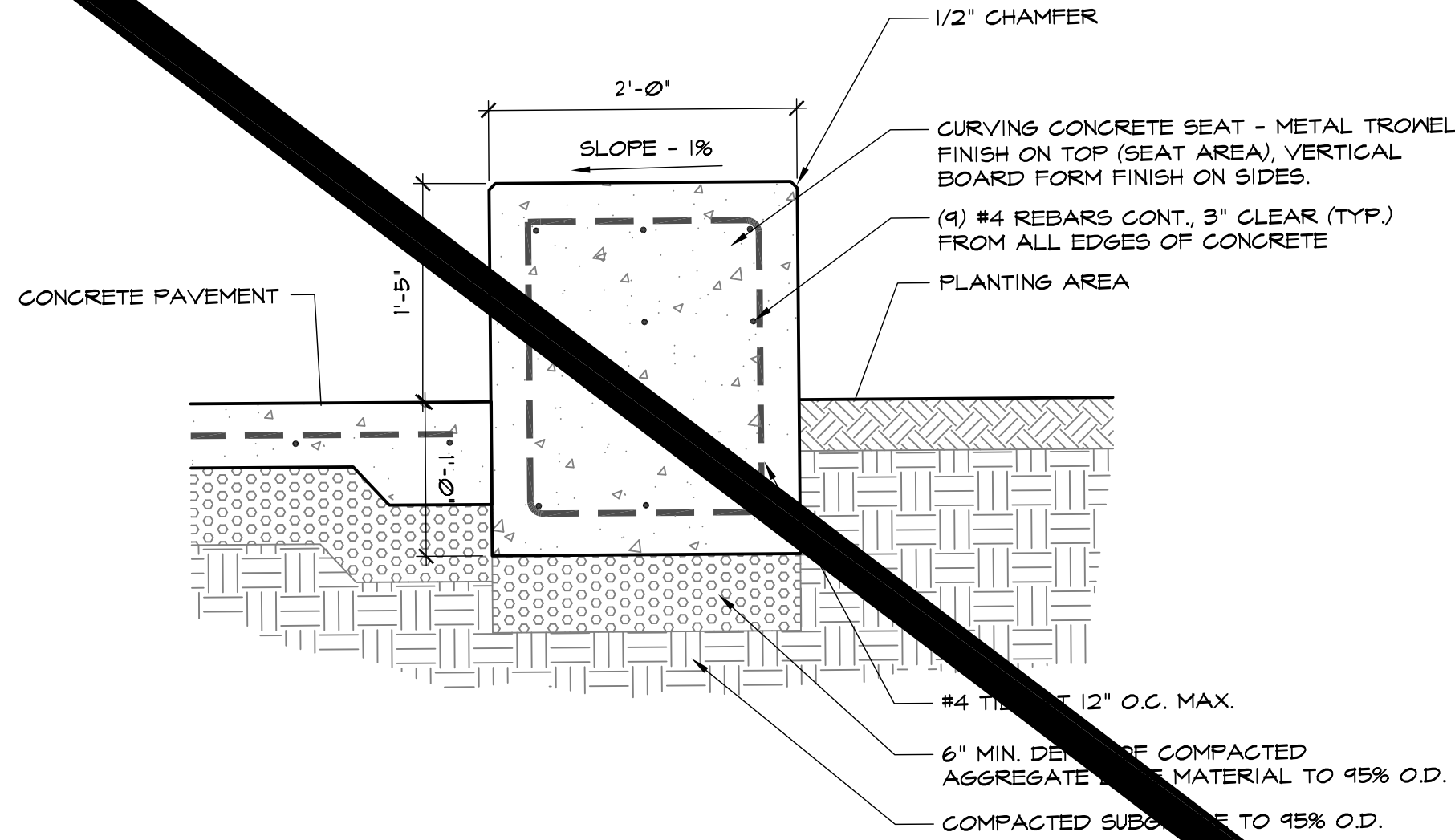
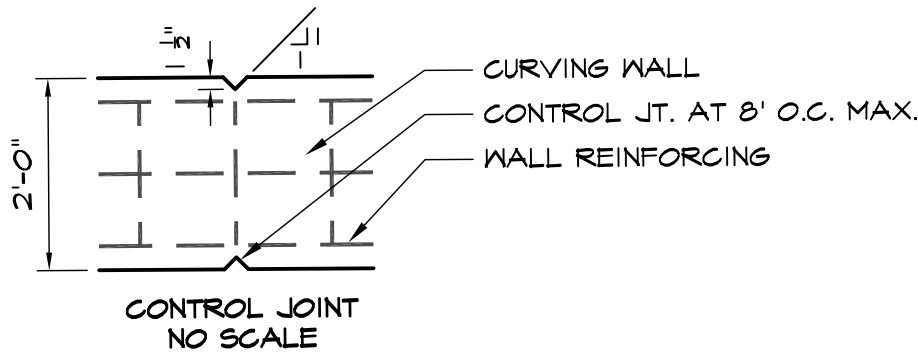
Not to Scale



3 Detail Sections: Typical Concrete Walk

Scale 1" = 1'-0"

Not Used



4

Section: Seating Wall

Scale 1" = 1'-0"

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

North Mittman St.
SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE




Details:
Concrete & Stone

SHEET NUMBER
L4-00

North Mittman St.
SAN ANTONIO, TEXAS 78202

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT



1211
TX REGISTRATION NO.

2018-9-28
DATE



**BENDER
WELLS
CLARK
DESIGN**

**Landscape
Architecture**

Urban Design

Planning

830 North Alamo Street
San Antonio, Texas 78215

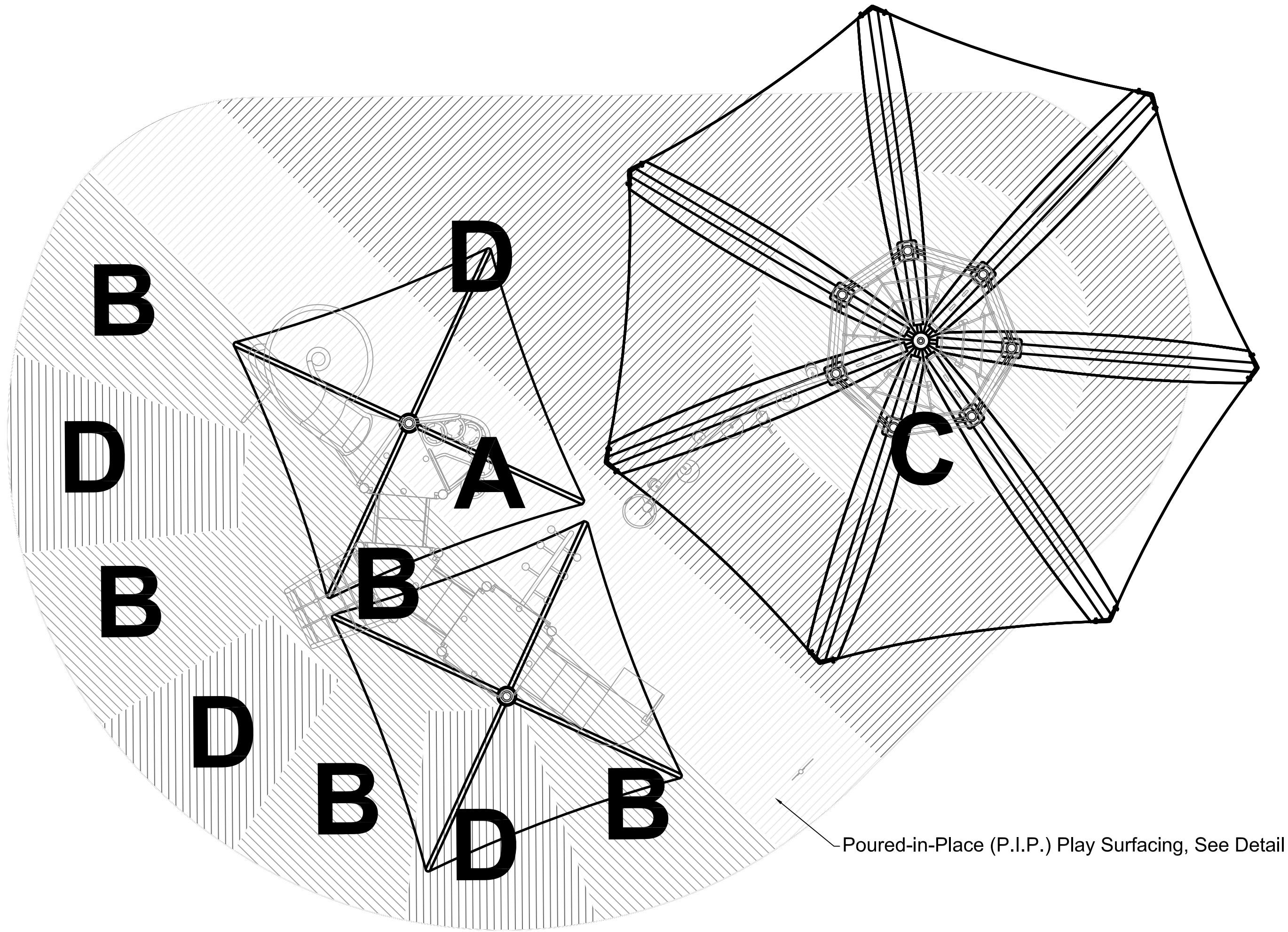
210-692-9221
www.bwcdesign.com

SHEET NUMBER

L4-01



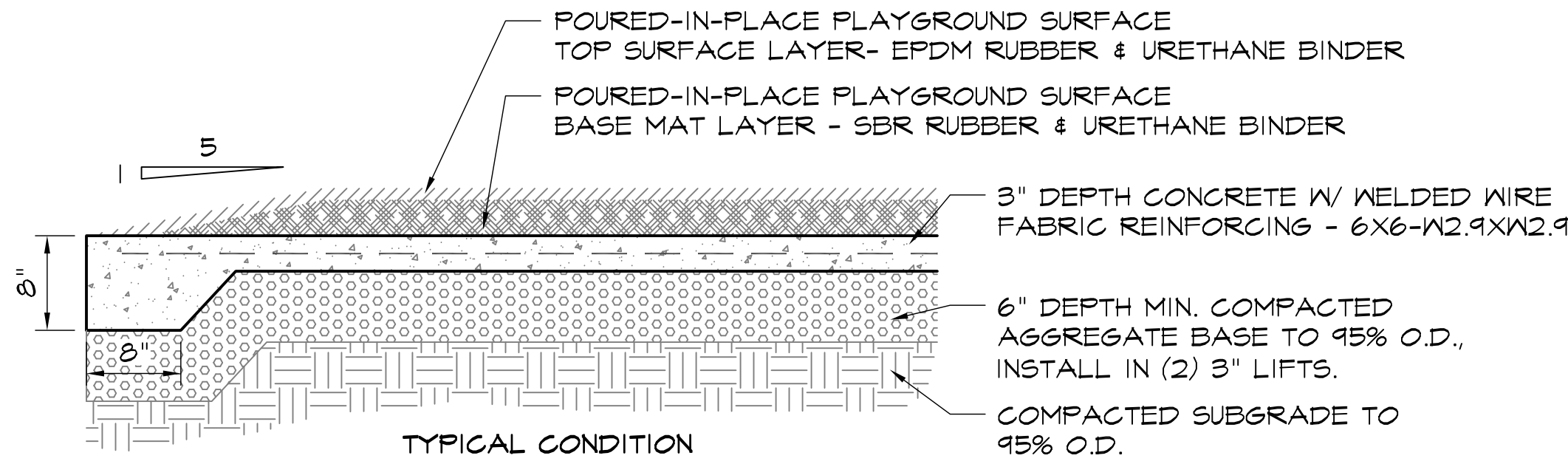
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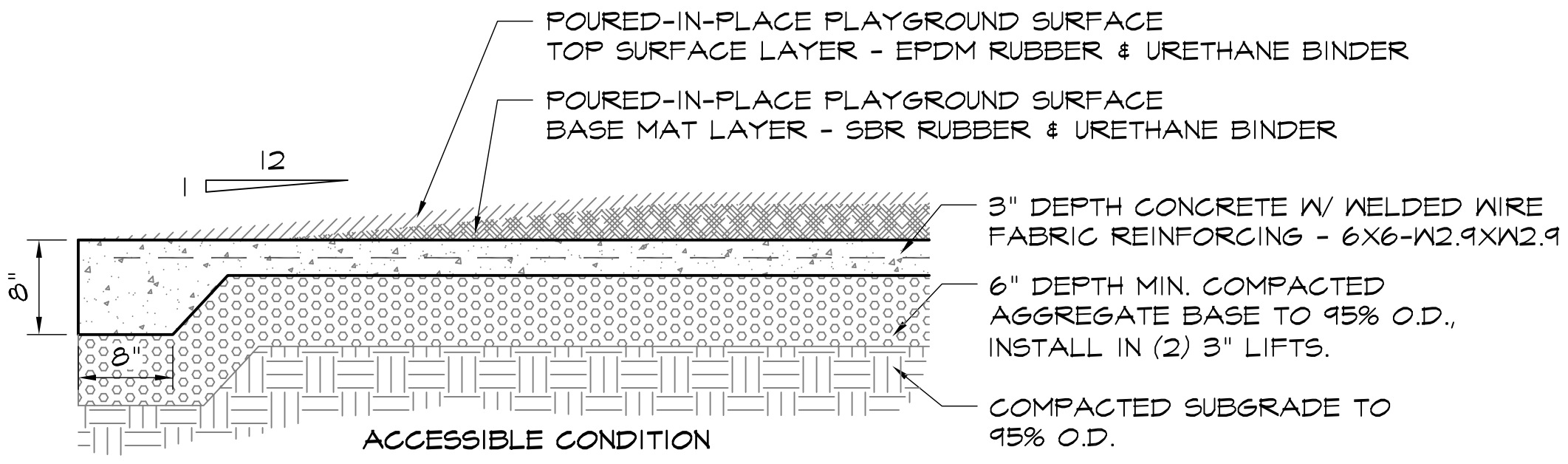
KEY TO P.I.P. SURFACE COLORS
A =BRIGHT GREEN
B =TEAL GREEN
C =ORANGE
D =LIGHT GRAY

Submittals of materials and color charts for Poured-in-Place (P.I.P.) Play Surfacing colors shall be submitted for review and approval by the Landscape Architect, as per Specification Section 32 18 16.13

1 Enlarged Plan: Play Area Surfacing Layout
Scale 1" = 4'-0"

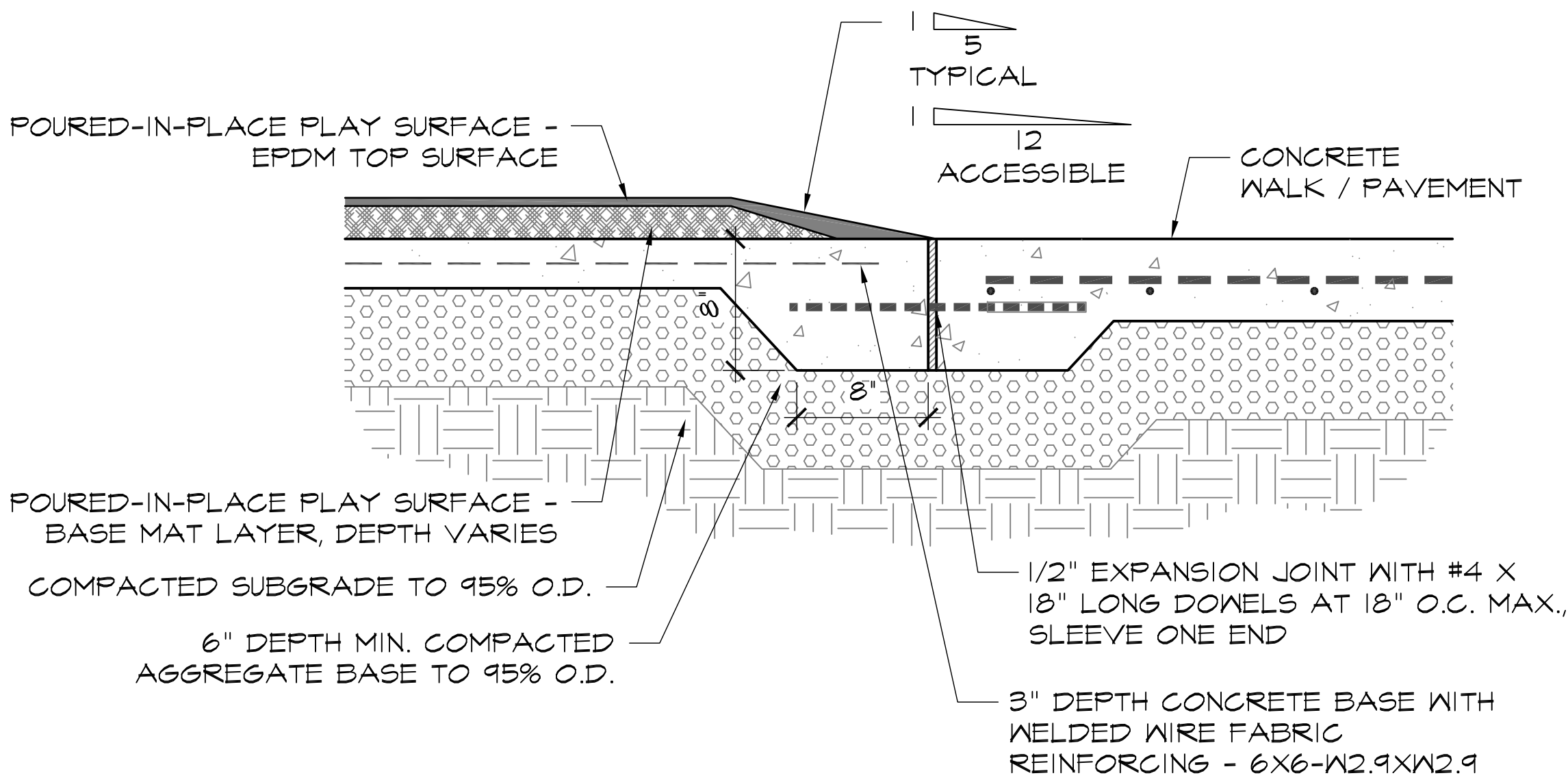


2 DETAIL: P.I.P. Fall Safety Surfacing
Not to Scale



NOTES:
1. THICKNESS OF PLAY SAFETY SURFACING BASE MAT LAYER SHALL BE PROVIDED PER THE MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE FALL HEIGHT WITHIN THE FALL ZONE OF PLAY EQUIPMENT AND FOR 4' FALL HEIGHT OUTSIDE EQUIPMENT FALL ZONE (RECOMMENDED THICKNESS VARIES BY MANUFACTURER).
2. THICKNESS OF SURFACE LAYER SHALL BE 1/2" TYPICAL. REFER TO PLAY AREA PLAN FOR COLOR LAYOUT.

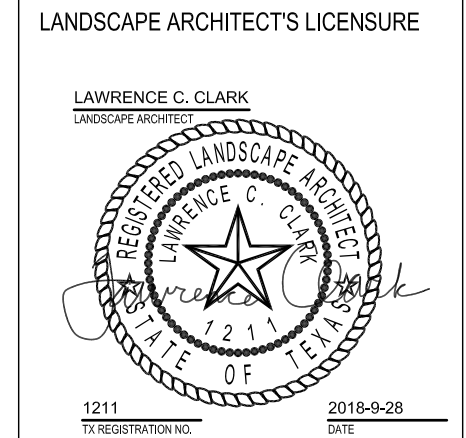
3 DETAIL: Accessible Edge at Fall Safety Surfacing
Not to Scale



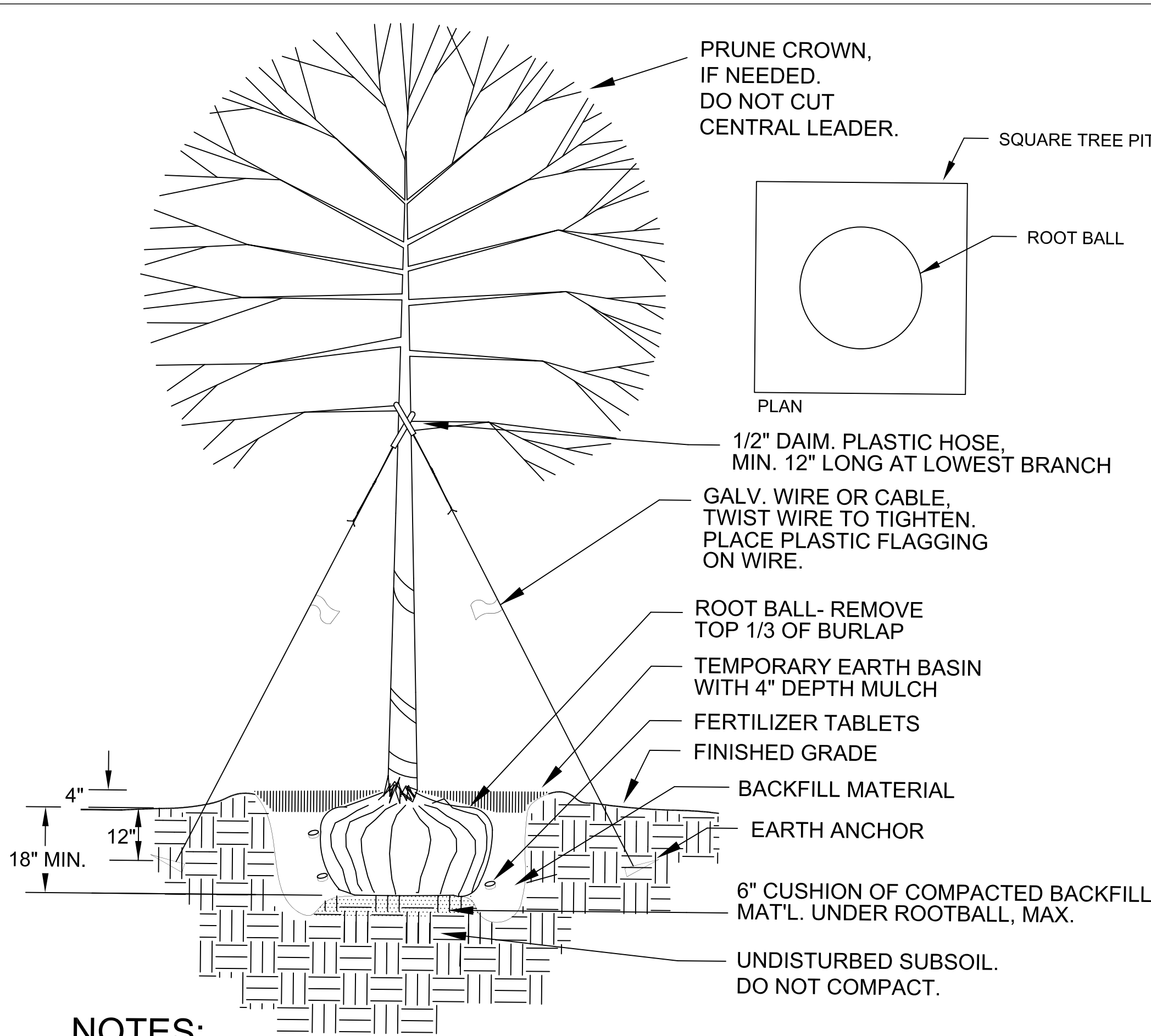
4 DETAIL: Fall Safety Surfacing at EJ
Not to Scale

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202



Date: Sep 28, 2018, 11:58am User ID: LARRYCLARK File: S:\2018 PROJECTS\DHR Phillis Wheatley Park\Workfile\2018-9-28PWP CD.dwg

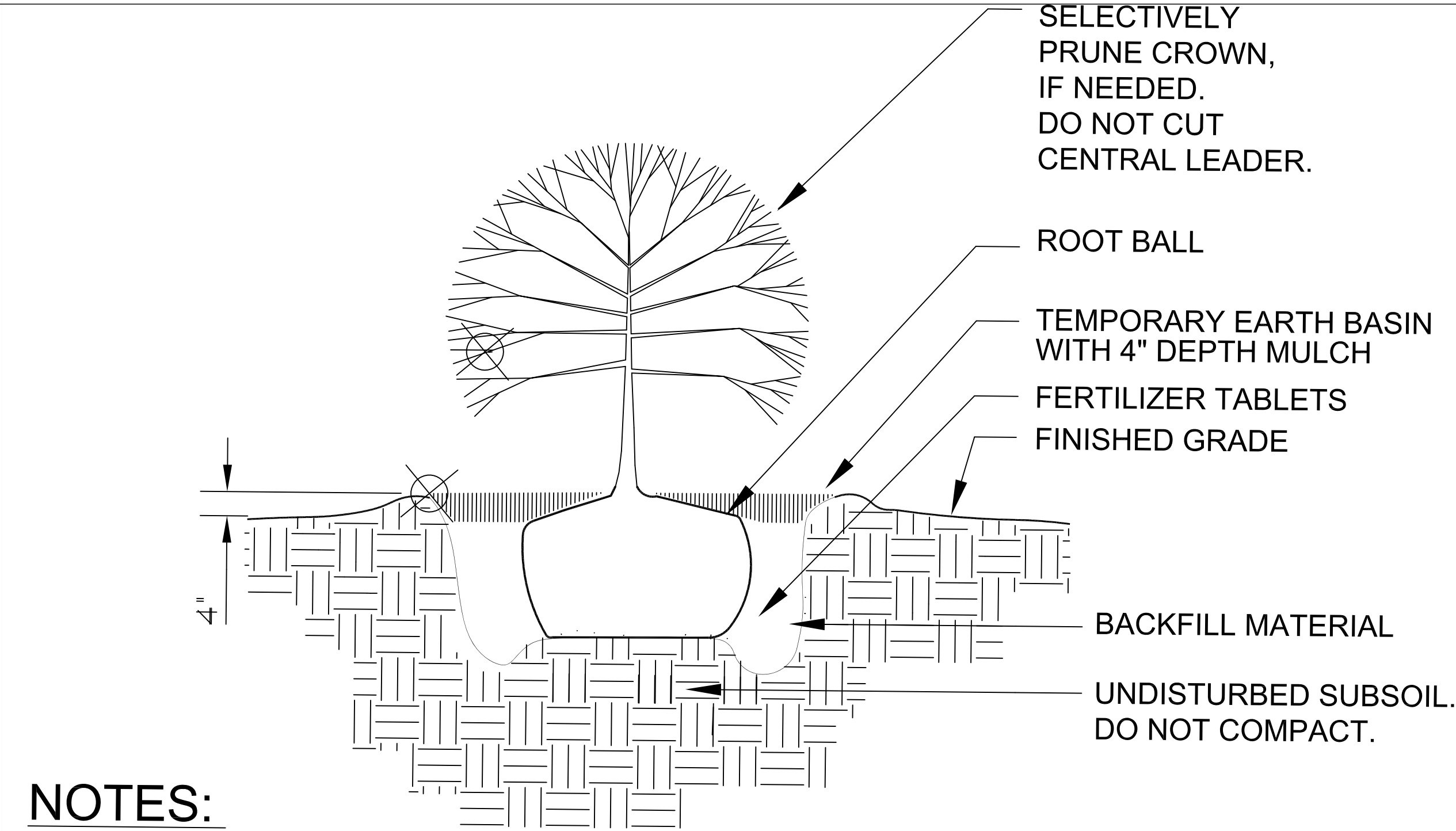


NOTES:

1. PIT SIZE: WIDTH TO BE A MINIMUM OF TWICE AS WIDE AS ROOT BALL, SQUARED CORNERS, TYPICAL. DEPTH OF PIT TO BE EQUAL TO ROOTBALL DEPTH, PLUS 6", TYP.
2. PLANTING DEPTH: TOP OF ROOT BALL ONE INCH ABOVE FINISHED GRADE.
3. BACKFILL MATERIAL: 6 PARTS APPROVED TOPSOIL, 2 PARTS COMPOSTED WOOD MULCH & 1 PART SHARP RED SAND. SOAK TO REDUCE SETTLING.
4. PLANTING TABLETS: 21 GRAM AGRIFORM TABLETS (20-10-5). USE 3 FOR 5 GAL. SIZE, 6 FOR 15 GAL. SIZE, 12 FOR 24" BOX SIZE.
5. EARTH BASIN: 12" DIAMETER LARGER THAN ROOT BALL.
6. MULCH: APPROVED UNTREATED 90% MIN. BARK BASE PRODUCT, SEE SPEC.
7. ROOT STIMULATOR: GREENLITE ROOT STIMULATOR OR EQUAL. APPLY AS PER MANUFACTURER'S INSTRUCTIONS (3 TIMES @ 2 WEEK INTERVALS)
8. STAKES: STRAIGHT 2X2 SYP TREATED WITH LP 22, 8' LENGTH, TAPER POINT.
9. STAKING HEIGHT: SUFFICIENT TO SUPPORT TRUNK IN VERTICAL, UNBENDING POSITION WHEN SECURED WITH CABLE TIES, 2' TO 3' ABOVE GRADE, TYPICAL.
10. TREE GUYING: TREES NORMALLY DO NOT NEED TO BE STAKED OR GUYED. DO SO ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT. IF REQUIRED, USE EARTH ANCHOR GUYING SUCH AS 'ARBOR BRACE', OR 'DUCKBILL' WITH ALL STAKING DONE OUTSIDE OF THE ROOTBALL. PLACE PLASTIC FLAGGING OR OTHER VISUAL MARKERS ON EACH GUY WIRE.
11. TEST ALL TREE PITS FOR DRAINAGE PER SPECIFICATIONS.

1 DETAIL: Tree Planting

Not to Scale

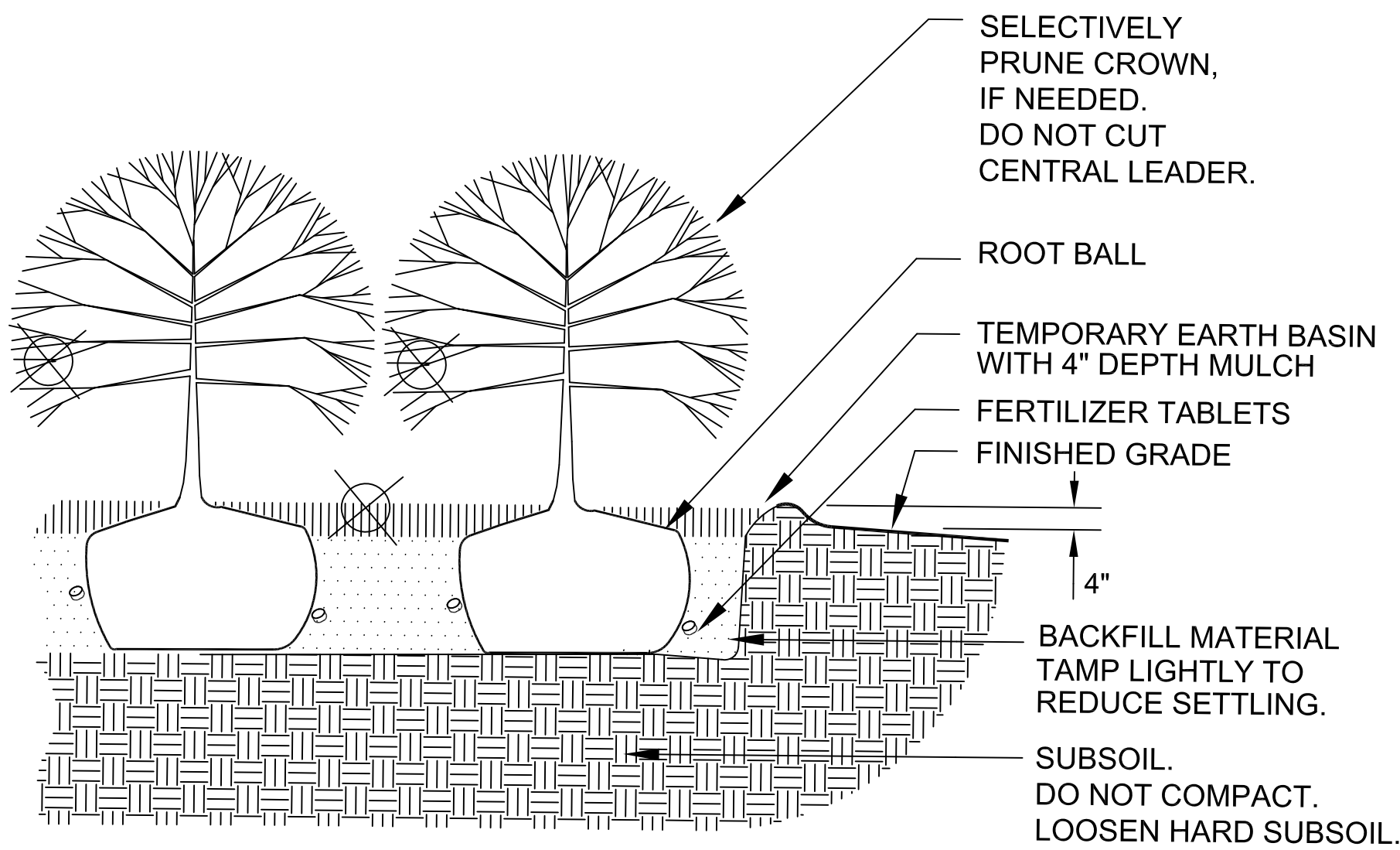


NOTES:

1. PIT SIZE: TWICE AS WIDE AS ROOT BALL.
2. PLANTING DEPTH: TOP OF ROOT BALL TWO INCHES ABOVE FINISHED GRADE.
3. BACKFILL MATERIAL: 50% APPROVED TOPSOIL AND 50% COMPOSTED WOOD MULCH 0 - 1" SIZE. TAMP LIGHTLY TO REDUCE SETTLING. USE SAME AS #3 ABOVE. 3 PARTS TOPSOIL, 2 PARTS COMPOSTED MULCH, 1 PART SHARP RED SAND.
4. PLANTING TABLETS: 21 GRAM AGRIFORM TABLETS (20-10-5). USE 1 FOR 1 GAL. SIZE, 3 FOR 5 GAL. SIZE, 6 FOR 15 GAL. SIZE
5. EARTH BASIN: 12" DIAMETER LARGER THAN ROOT BALL.
6. MULCH: APPROVED UNTREATED 90% MIN. BARK BASE PRODUCT, SEE SPEC.
7. ROOT STIMULATOR: GREENLITE ROOT STIMULATOR OR EQUAL. APPLY AS PER MANUFACTURER'S INSTRUCTIONS (3 TIMES AT 2 WEEK INTERVALS).

2 DETAIL: Shrub Planting

Not to Scale



NOTES:

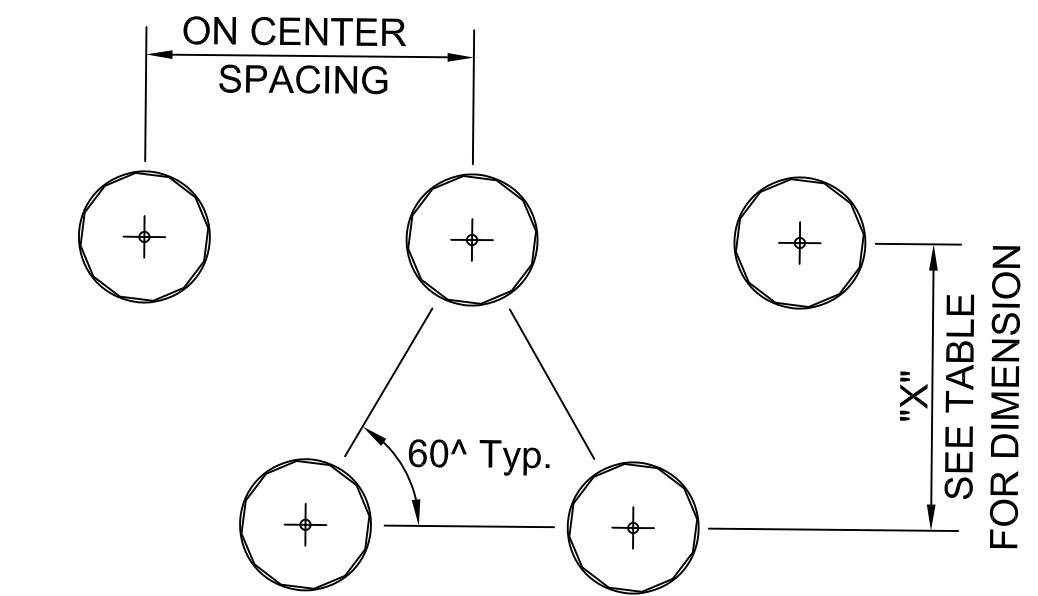
1. PIT SIZE: EXTEND TO TWICE WIDTH OF ROOTBALL AT OUTSIDE EDGE PLANTINGS.
2. PLANTING DEPTH: TOP OF ROOT BALL TWO INCHES ABOVE FINISHED GRADE.
3. BACKFILL MATERIAL: 3 PARTS APPROVED TOPSOIL, 2 PARTS COMPOSTED WOOD MULCH OR ORGANIC MATERIAL AND 1 PART APPROVED SHARP RED SAND.
4. PLANTING TABLETS: 21 GRAM AGRIFORM TABLETS (20-10-5), OR APPROVED EQUAL. USE 1 FOR 1 GAL. SIZE, 3 FOR 5 GAL. SIZE, 6 FOR 15 GAL. SIZE
5. EARTH BASIN: 12" DIAMETER LARGER THAN ROOT BALL AT OUTSIDE EDGE OF PLANTING AREA
6. MULCH: APPROVED UNTREATED 90% MIN. BARK BASE PRODUCT, SEE SPEC.
7. ROOT STIMULATOR: GREENLITE ROOT STIMULATOR, OR EQUAL. APPLY AS PER MANUFACTURER'S INSTRUCTIONS (3 TIMES AT 2 WEEK INTERVALS).

Refer to Irrigation Drawings for Irrigation System requirements.

4 DETAIL: Mass Planting

Not to Scale

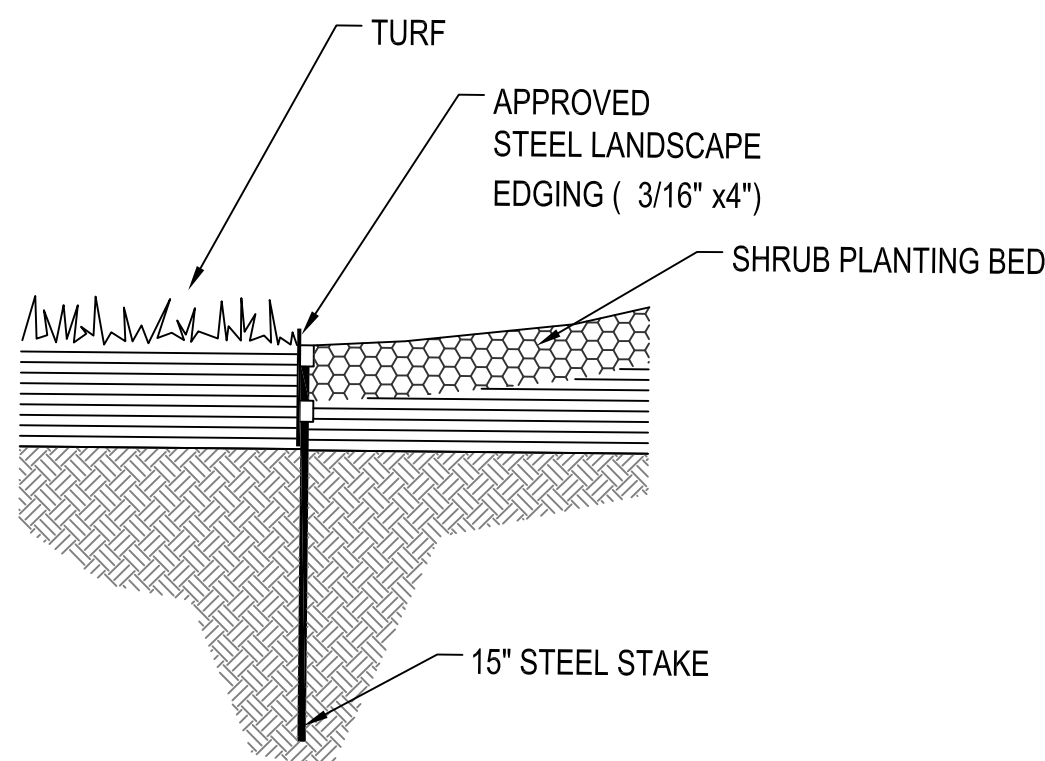
ON CENTER SPACING (IN.)	"X"
4"	3.5"
6"	5"
9"	8"
12"	10.5"
15"	13"
18"	15.5"
21"	18"
24"	21"
30"	26"
36"	31"
42"	36.5"



NOTE: DIMENSIONS TYPICAL. SEE PLANT LIST FOR SPACING OF INDIVIDUAL MATERIALS.

3 DETAIL: On-Center Spacing

Not to Scale



3 DETAIL: Metal Edger

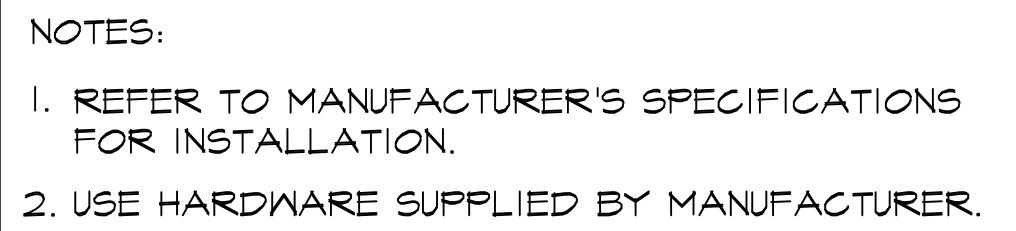
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REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK

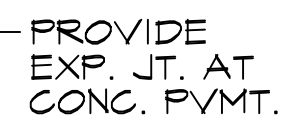
North Mittman St.
SAN ANTONIO, TEXAS 78202

Details: Site Planting



Not to Scale

1. CONTRACTOR MAY USE A PRODUCT SUBSTITUTION WITH APPROVAL FROM THE LANDSCAPE ARCHITECT.
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

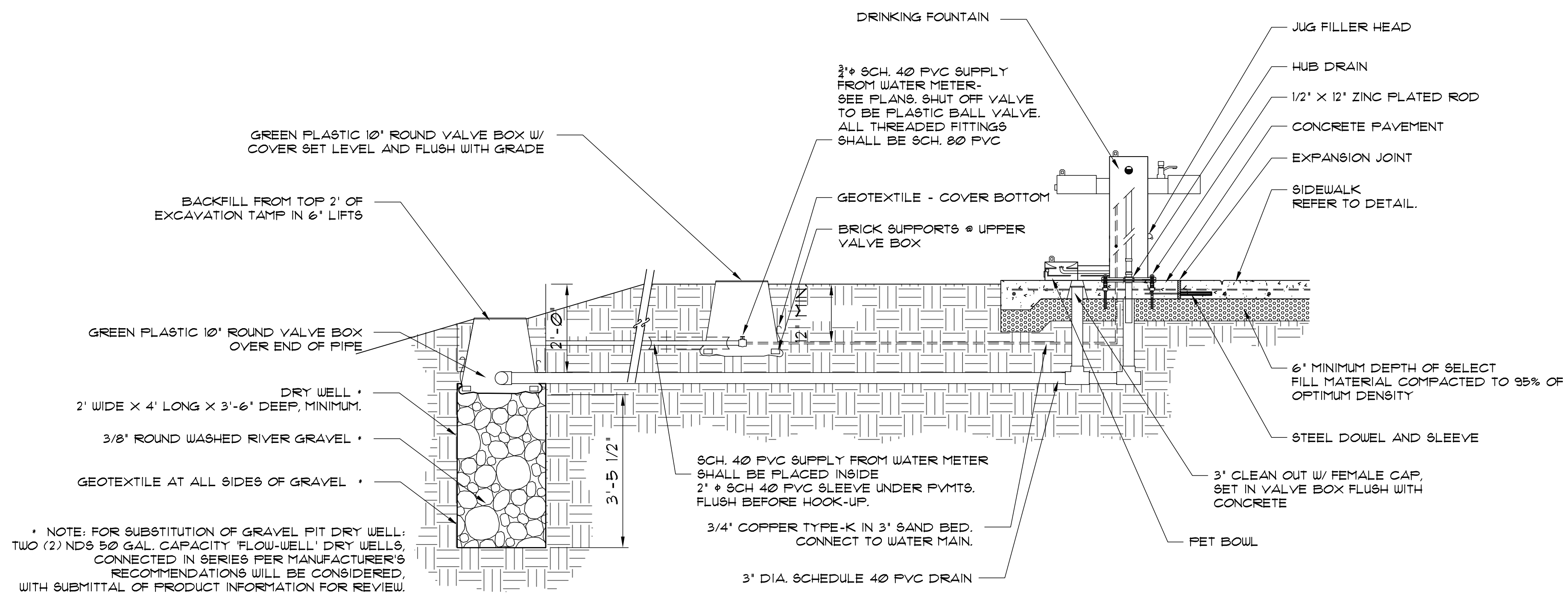


FRONT



3

Not to Scale



2

Not to Scale



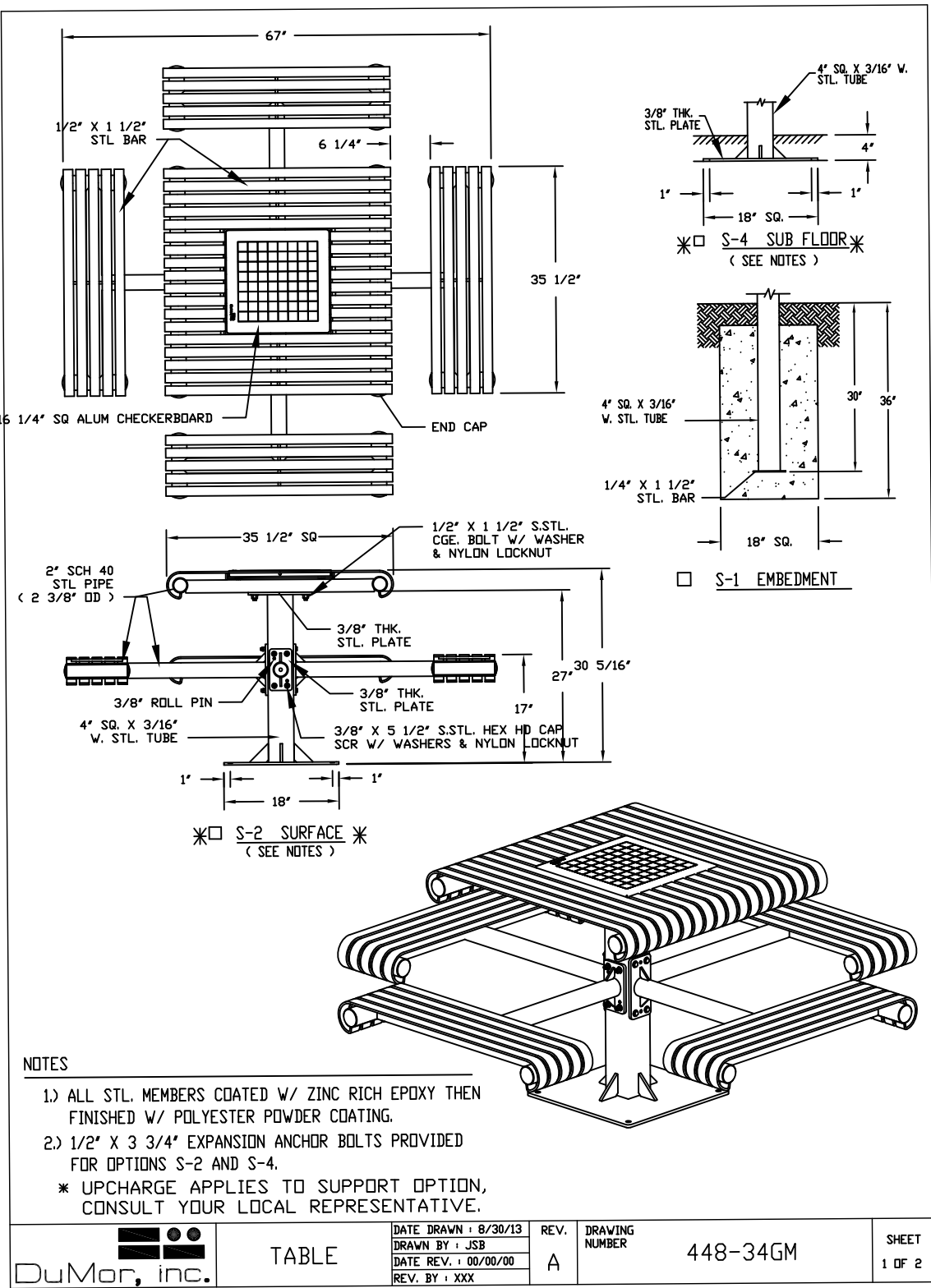
4

Not to Scale

CARSON INDUSTRIES OR APPROVED EQUAL.

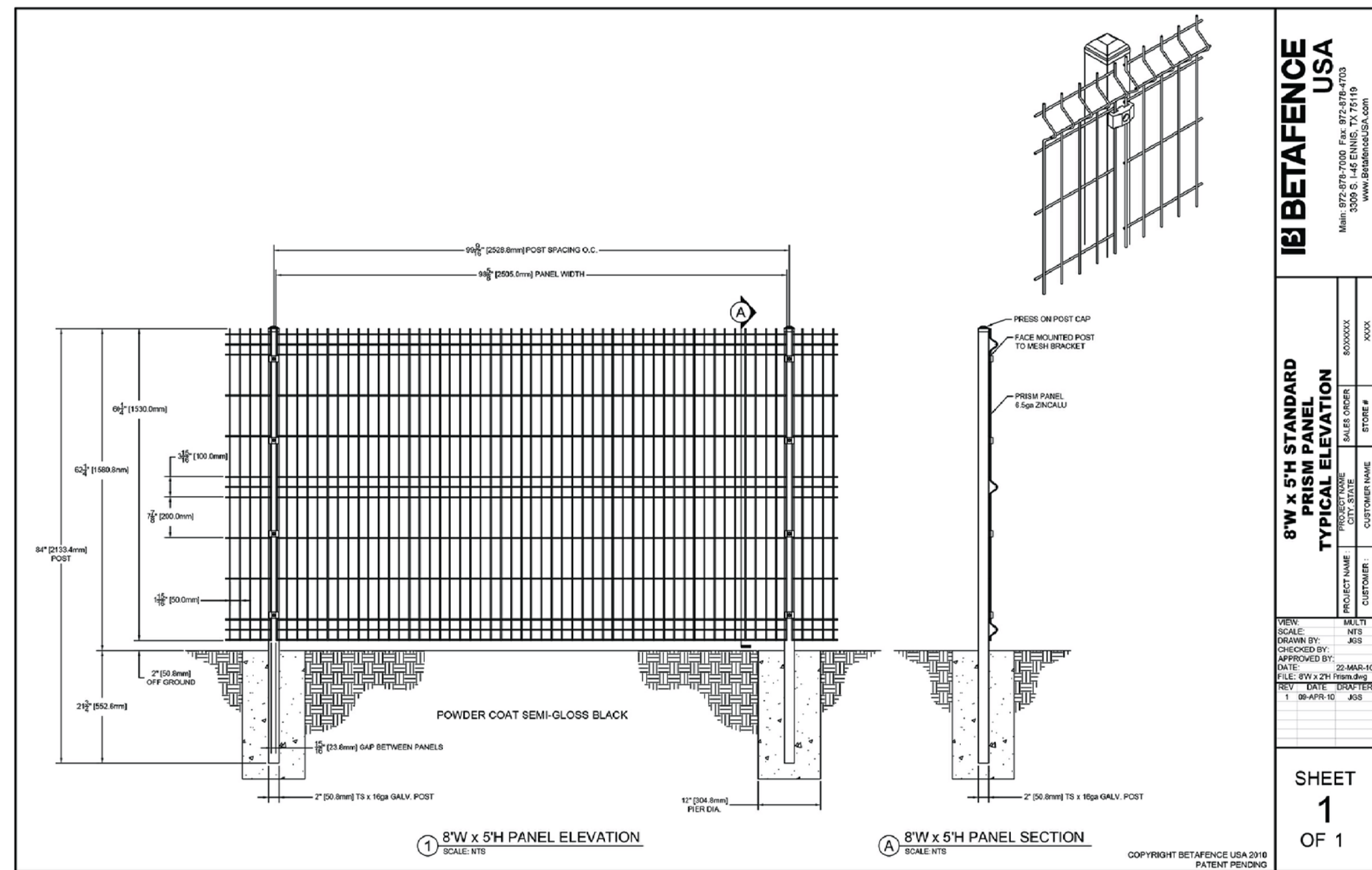


- NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL RECEPTACLES & FOOTINGS.
 2. REFER TO THE MATERIALS LEGEND FOR LOCAL MANUFACTURER OF THE STANDARD COSA TRASH & RECYCLE RECEPTACLES.
 3. ALL RECEPTACLE POSTS SHALL BE INSTALLED 1'-6" FROM A PAVEMENT EDGE.



1 DETAIL: Trash Receptacle

Not to Scale



2 Fence Details

Not to Scale

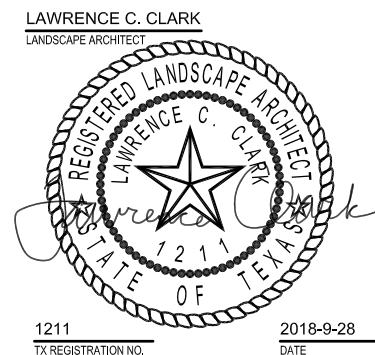
3 DETAIL: Tables at Shade Structure

NOTE: 4-Seat Table Shown. See Plans. Not to Scale

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

LANDSCAPE ARCHITECT'S LICENSURE



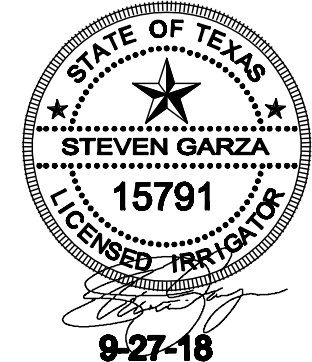
Details: Site Furnishings

SHEET NUMBER
L4-05

REVISIONS		
ISSUE	DESCRIPTION	DATE

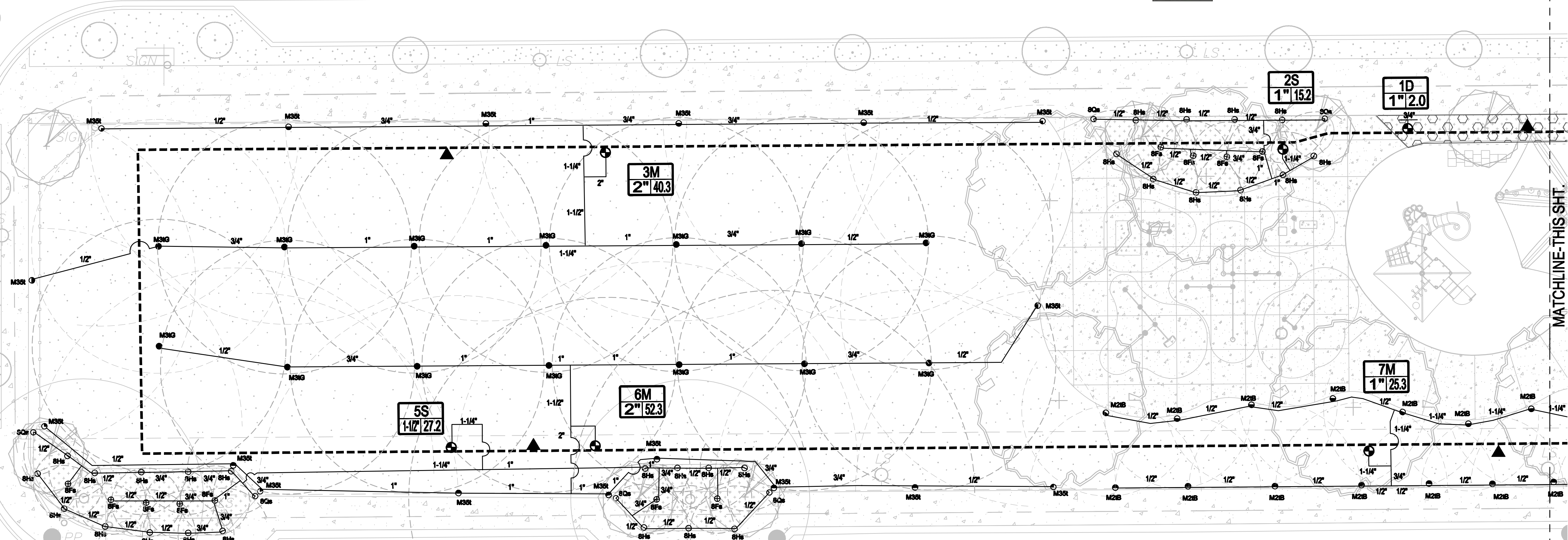
NEW PHILLIS WHEATLEY PARK
North Mitman St.
SAN ANTONIO, TEXAS 78202

LOCATION:

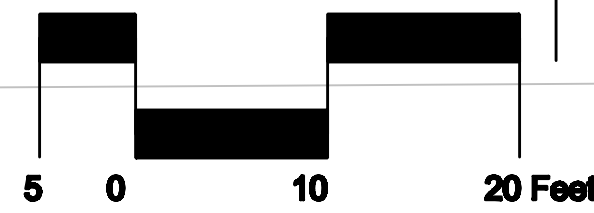


Irrigation Plan
SHEET NUMBER
IR-00

MHW



1 IRRIGATION PLAN
Scale 1" = 10'-0"



LEGEND

- TURF SPRAY HEAD - AS MANUFACTURED BY HUNTER, PRO SPRAY PROS-PR840-04-CV IN TURF AREAS. USE PRO SPRAY SERIES NOZZLES OR MP ROTATOR NOZZLES WHERE INDICATED ON PLANS.
- PLANTING SPRAY HEAD - AS MANUFACTURED BY HUNTER, PRO SPRAY PROS-06-CV/12-CV. 12" POP-UPS IN GROUND COVER AREAS. 6" POP-UPS IN SHRUB AREAS. USE PRO SPRAY SERIES NOZZLES.

- MP-ROTATOR STRIP NOZZLE - SIDE/RIGHT/LEFT STRIP SPRINKLER. SUB-LETTER WILL INDICATE TURF OR GROUND COVER APPLICATION.
- BBL BUBBLER - PRESSURE COMPENSATING BUBBLER (1 G.P.M.) - PCN-10 BY HUNTER

INDICATES DRIP TUBING BY NETAFIM, NETAFIM TECHLINE CV TLOCV-180X

INDICATES MFG'S STANDARD CATALOGUED SPACING WITHOUT WIND ALLOWANCE. THIS NUMBER IS FOR REFERENCE AND DOES NOT INDICATE ACCEPTANCE OF DEVIATION FROM DESIGN SPACING TO THIS STANDARD.

INDICATES ANGLE OF COVERAGE. FOR EXAMPLE: H=180 DEG, F=900. SUB-LETTER 'V' INDICATES GROUND COVER. 'S', SHRUB APPLICATION.

IDENTIFIES MP-ROTATOR NOZZLE BY SERIES. EX: M1=M1000, M3SR INDICATES MP3500 NOZZLE. INDICATES AREA OF COVERAGE BY COLOR. EXAMPLE: M=(MAROON) M1000-90-210 DEG.

INDICATES APPLICATION. EX: t=TURF HEAD, 4" POP UP, g=GROUND COVER 12" POP UP.

CONTROLLER - HUNTER DUAL FOR ICORE IN METAL ENCLOSURE. FINAL LOCATION IS TO BE DETERMINED BY OWNER OR HIS REPRESENTATIVE AFTER CONSULTING WITH PROJECT ARCHITECT.

REMOTE CONTROL VALVE - SERIES 11000FCR AS MFGD BY WEATHERMATIC. SIZE AS NOTED ON PLAN. USE ONLY APPROVED SPLICE KITS SUCH AS WADE WC-614 CONNECTORS.

QUICK COUPLING VALVE - SERIES 44LRC AS MFGD BY RAINBIRD. PROVIDE A QUICK COUPLER KEY W/ SWIVEL HOSE ELL. FOR EVERY THREE (3) VALVES.

ISOLATION GATE VALVE - LINE SIZE

BACKFLOW PREVENTER-D.C.V. ASSEMBLY

2" WATER METER

ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
VALVE SIZE THIS ZONE

LATERAL LINE - SIZE AS NOTED ON PLAN. DO NOT DEVIATE ON SIZING. USE ONLY CLASS 200 OR 315 PVC PIPE.

MAIN LINE - USE 2-1/2" SCH 40 PVC PIPE AS DESIGNATED ON PLANS.

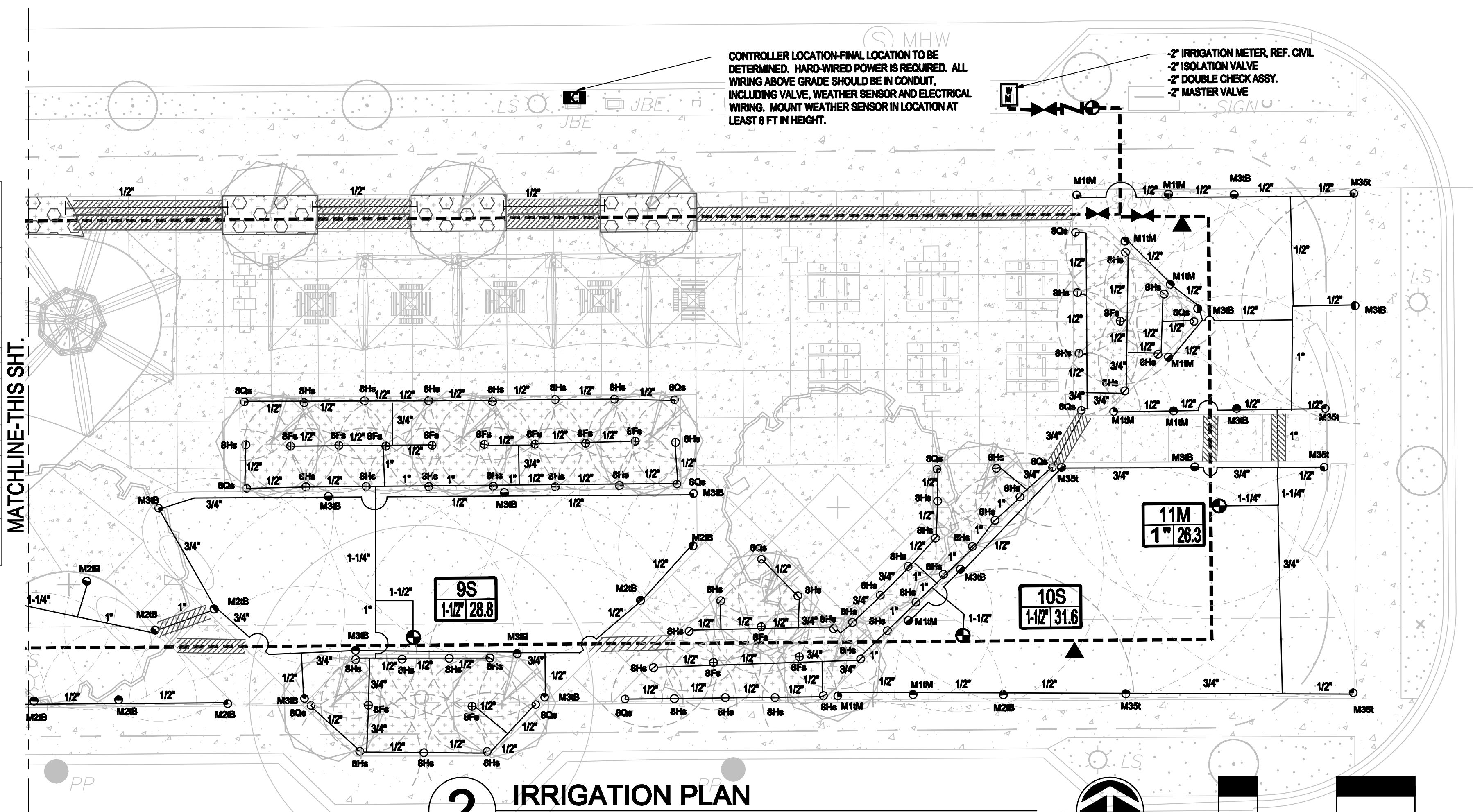
SLEEVE - USE TWO (2) SIZES LARGER THAN SPRINKLER PIPE DESIGNATED FOR CROSSING PAVING. WHERE REQUIRED, VALVE WIRING MAY BE RUN IN THE SAME SLEEVES. USE SCH 40 PVC PIPE OR AS DESIGNATED ON PLANS.

NOTE: PROVIDE AN EXTRA 2" SCH 40 PVC SLEEVE NEXT TO ALL MAINLINE SLEEVE LOCATIONS TO ALLOW FOR ELEC. VALVE WIRING FROM CONTROLLER.

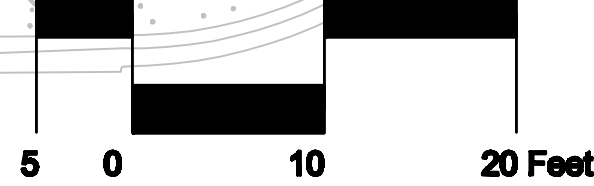
MOST CRITICAL ZONE CHART	
PRESSURE REQUIREMENT CALCULATIONS AT FARTHEST ZONE	
DESIGN STATISTICS FOR CALCULATIONS	
SPRINKLER HEAD REQUIREMENT:	30 PSI
TOTAL ZONE FLOW:	53.3 GPM
ELECTRIC VALVE SIZE:	2"
STATIC PRESSURE LESS 10%:	58 PSI
ACCUMULATIVE LOSSES FROM WATER SOURCE TO FURTHEST HEAD	
ZONE PIPE/FITTING LOSS:	1.4 PSI
2" ELECTRIC VALVE LOSS:	3.3 PSI
ELEVATION NET GAIN/LOSS:	0 PSI
TYPE K COPPER LOSS:	2.5 PSI
SYSTEM MAINLINE LOSS:	2.8 PSI
WATER METER LOSS:	2.5 PSI
BACKFLOW LOSS:	5 PSI
2" MASTER VALVE LOSS:	3.3 PSI
TYPE K COPPER LOSS:	2.5 PSI
DESIGN PRESSURE:	50.8 PSI
TOTAL NET LOSS:	
20.8 PSI	
NOTE:	
IF DESIGN PRESSURE IS LESS THAN STATIC PRESSURE, CONTACT IRRIGATION CONSULTANT.	

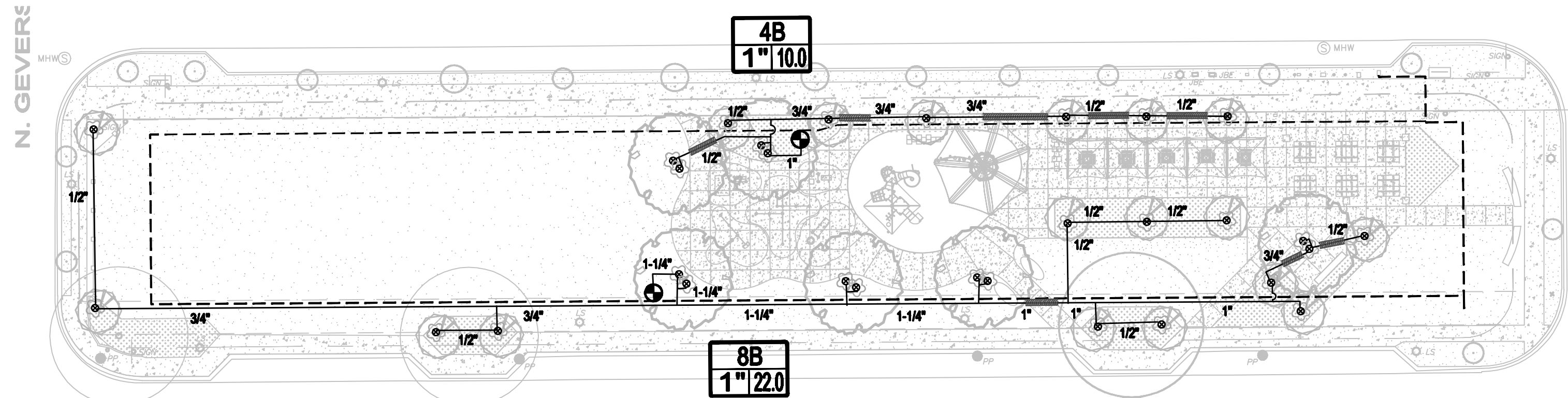
**Statement Of Irrigation Design Standards
Conformity:**

This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out in 35-510(j) and 35-511(c)(6) of the City of San Antonio Unified Development Code.

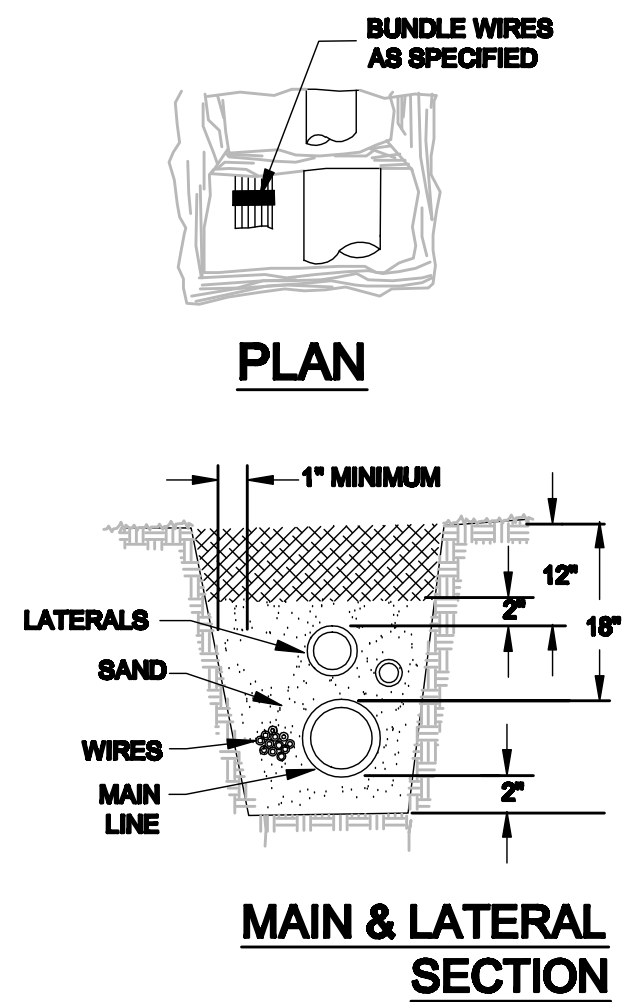
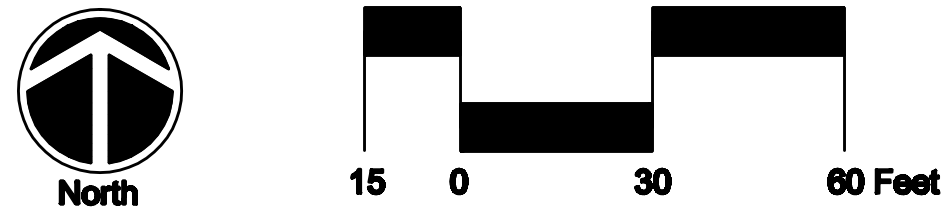


2 IRRIGATION PLAN
Scale 1" = 10'-0"

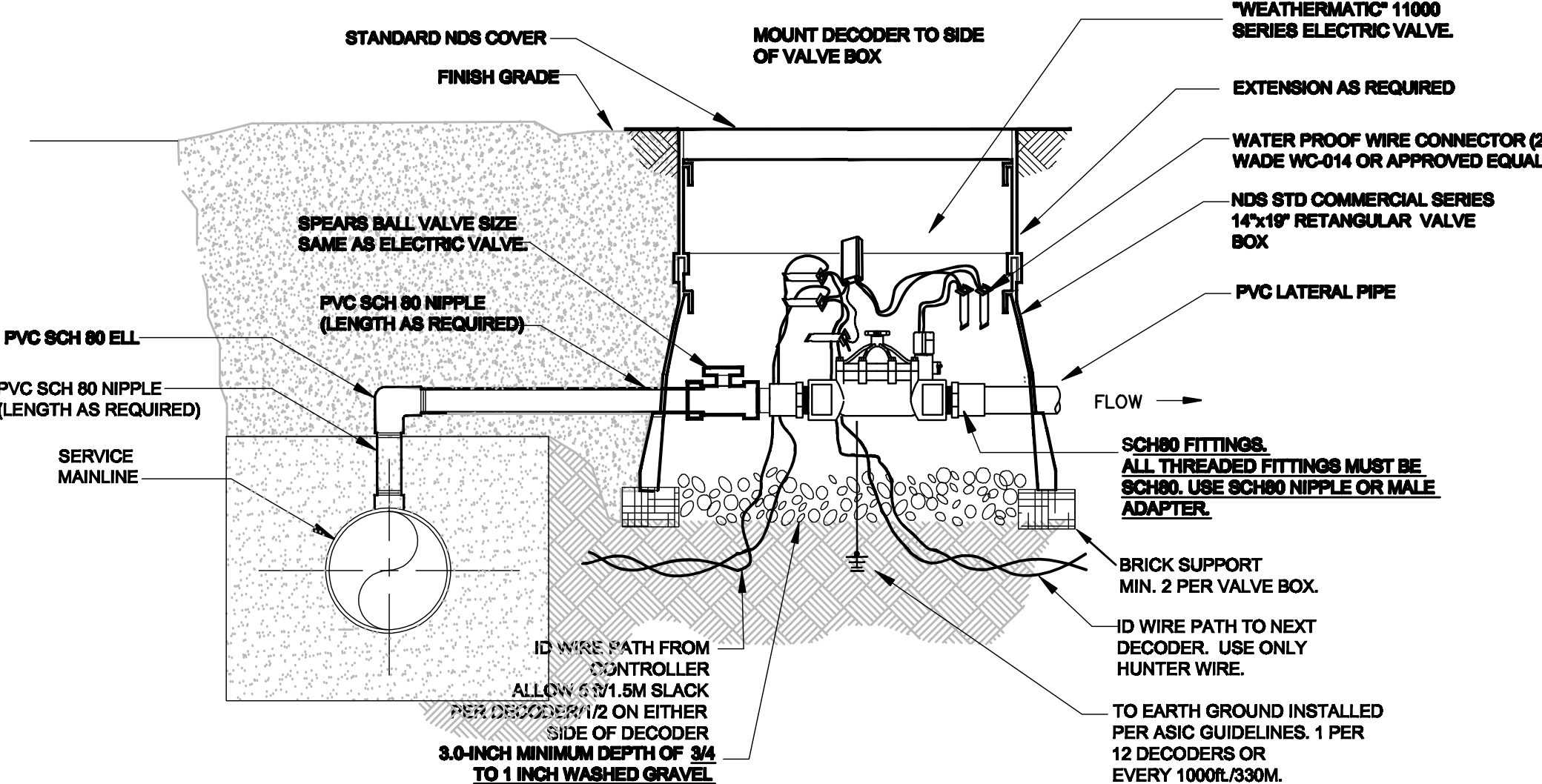
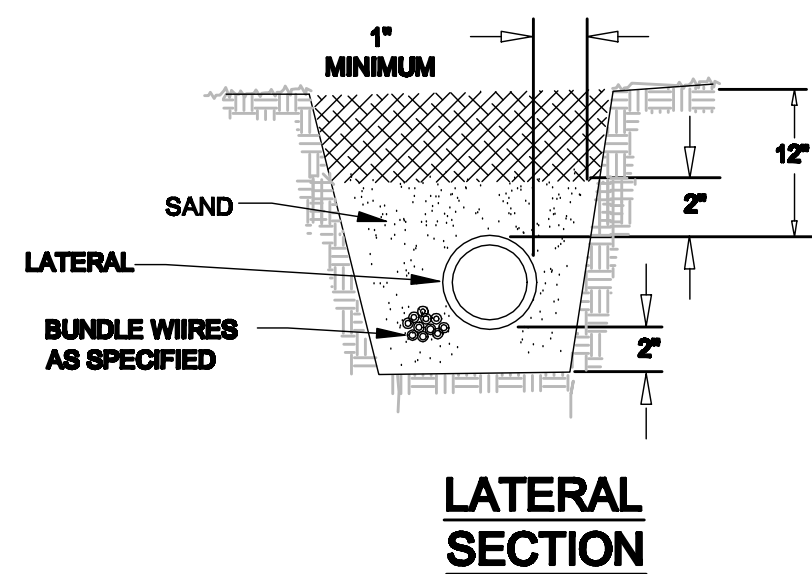




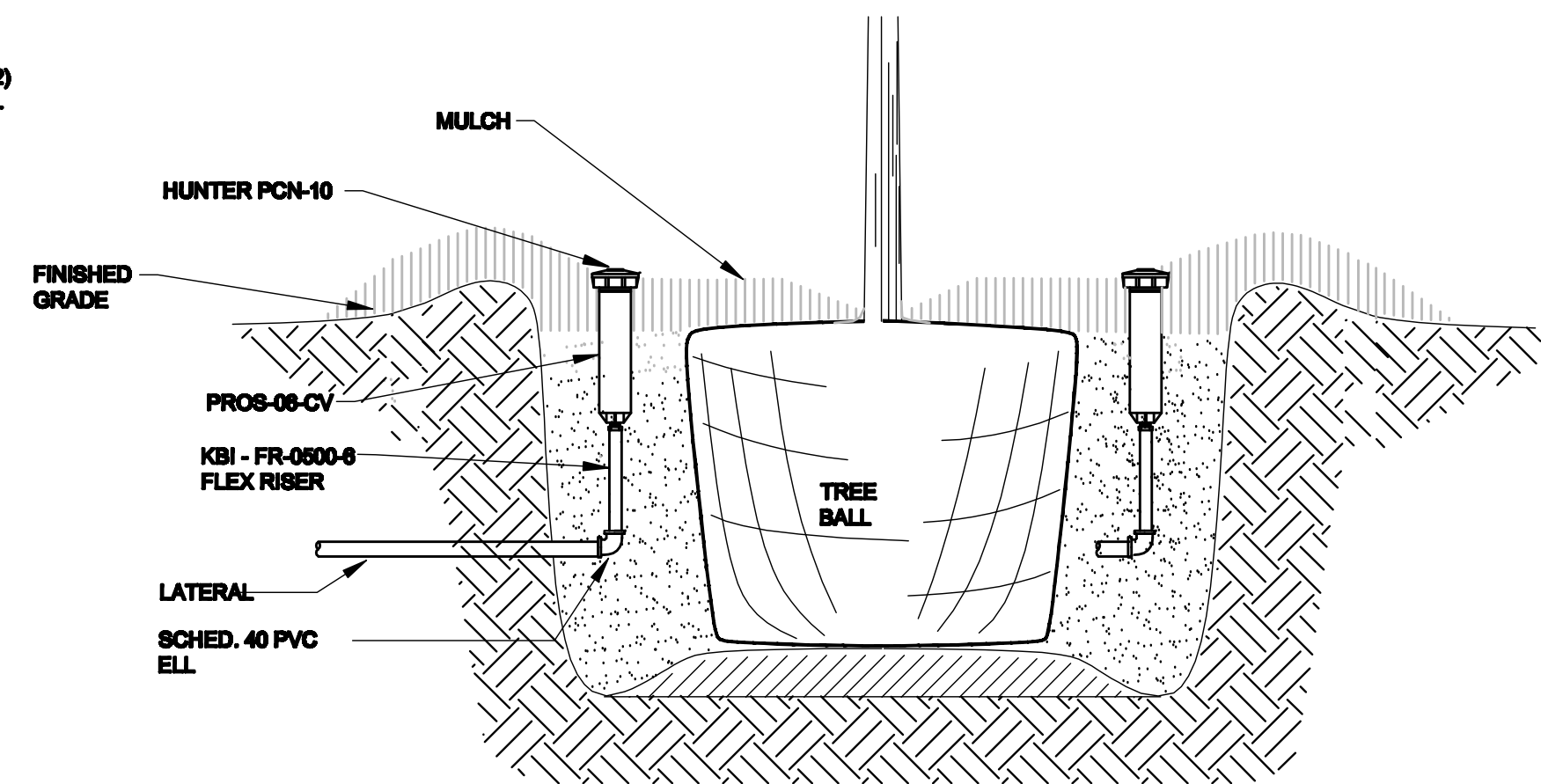
1 TREE BUBBLER PLAN
Scale 1" = 30'-0"



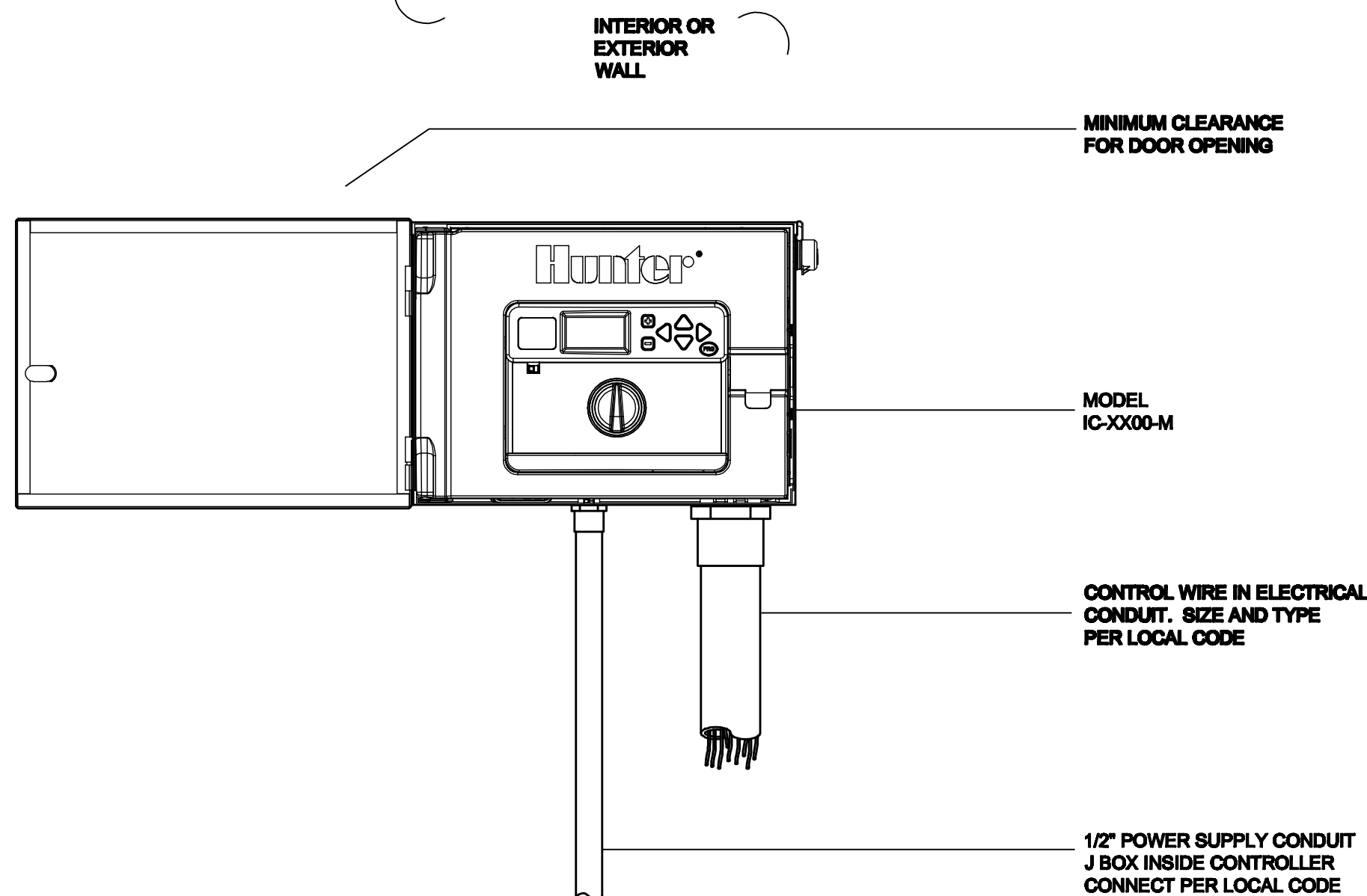
1 TYPICAL TRENCH DETAILS
NOT TO SCALE



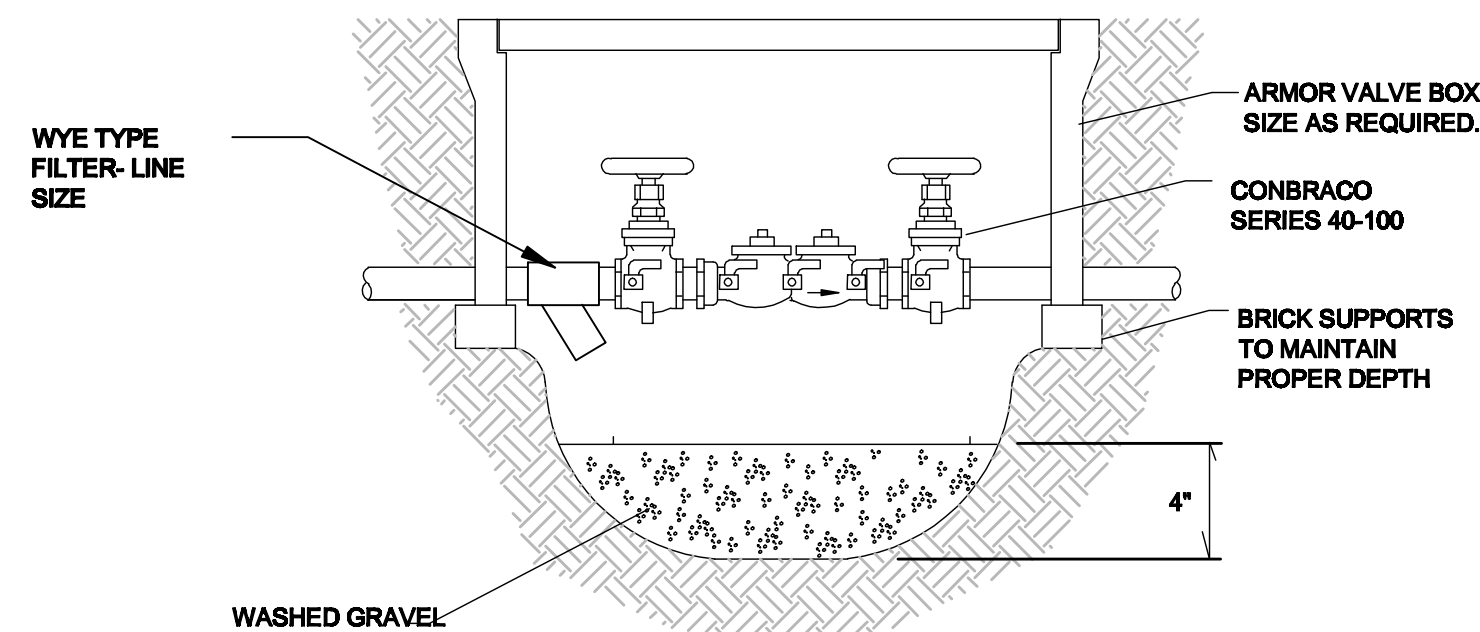
2 ELECTRIC VALVE (TWO WIRE) DETAIL AT SERVICE LINE
NOT TO SCALE



3 BUBBLERS AT TREE - SECTION
NOT TO SCALE



4 HUNTER DUAL FOR ICORE IN METAL ENCLOSURE
NOT TO SCALE



5 DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE



GARZA
CONSULTING
IRRIGATION DESIGN
PLANNING & COST ANALYSIS
P.O. BOX 681974
SAN ANTONIO, TX 78268
210-490-1191
WWW.GARZA-CONSULTING.COM

Scheduling Controller

Typical Weekly, Based on Precipitation Rate

Total Hours of Operation 13.58

ZONE TYPE	Precipitation Rate (in/hr)	Water Desired Inch/Week	Time per cycle (min)	No. of Zones	Total Minutes	Total Hours
MP ROTATOR	0.45	1.00	133.33	4	533.3	8.89
SHRUB	2.28	1.00	26.32	4	105.3	1.8
TREE BUBBLER	3.58	1.00	16.8	2	33.5	0.6
DRIP	0.42	1.00	142.9	1	142.9	2.4

NOTE:

IT WILL BE NECESSARY TO DIVIDE TIME INTO 2 TO 3 CYCLES TO MINIMIZE RUNOFF. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO DAYS PER WEEK. TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE. CONTRACTOR RESPONSIBLE FOR WATERING SCHEDULE DURING ESTABLISHMENT. FOLLOW LOCAL ORDINANCES DURING DROUGHT RESTRICTIONS

GENERAL NOTES

- SPRINKLER LINES AS SHOWN ARE DIAGRAMMATIC BUT SHOULD BE REASONABLY FOLLOWED. LOCATIONS OF SPRINKLER HEADS SHALL BE ESTABLISHED BY THE CONTRACTOR BUT DESIGN SPACING MAY NOT BE EXCEEDED WITHOUT AUTHORIZATION FROM LANDSCAPE ARCH.
- INSTALL ALL VALVES IN 12" RECTANGULAR VALVE BOXES. VALVE SHOULD BE CENTERED IN BOX TO ALLOW EASY ACCESS TO SOLENOID ASSEMBLY AND COVER BOLTS.
- ZONE PIPE SIZING IS PARTICULARLY IMPORTANT ON PROJECTS WHERE LONG RUNS ARE NECESSARY. "RULE OF THUMB" SIZING IS NOT ALLOWED ON THIS PROJECT. SIZING AS SHOWN MUST BE FOLLOWED.
- INSTALL RAIN & FREEZE SWITCHES IN AN ELEVATED LOCATION CLEAR OF TREES OR OTHER OBSTRUCTIONS. INSTALL IN LOCATION EXPOSED TO EXTERIOR AMBIENT CONDITION.
- ALLOW A MINIMUM OF 4" CLEARANCE FROM ANY STRUCTURE WHEN INSTALLING SPRINKLER HEADS. THIS INCLUDES SIDEWALKS, CURBS, BUILDINGS, ETC..
- INSTALL SLEEVING SUCH THAT A MINIMUM OF 6" EXTENDS BEYOND CURBS, WALKS, OR WALLS.
- AFTER INSTALLATION SYSTEM MUST BE BALANCED BY ADJUSTING FLOW CONTROLS ON VALVES. SPRAY ZONES SHALL BE ADJUSTED TO 25 PSI-30 PSI AT THE FURTHEST HEAD IN EACH ZONE.
- SYSTEM SHALL REQUIRE MINIMUM OF ___ LBS. STATIC PRESSURE FOR SYSTEM TO OPERATE PROPERLY. IRRIGATION CONTRACTOR SHALL NOTIFY SPRINKLER SYSTEM DESIGNER OF PRESSURE DEFICIENCIES OR ANY OTHER SITE PROBLEMS THAT MAY ALTER THE EFFECTIVENESS OF THE SYSTEM.
- ONLY HAND TRENCHING IS ALLOWED WITHIN THE ROOT PROTECTION ZONES OF EXISTING ZONES. NO CUTTING OF ROOTS LARGER THAN 2 INCHES.



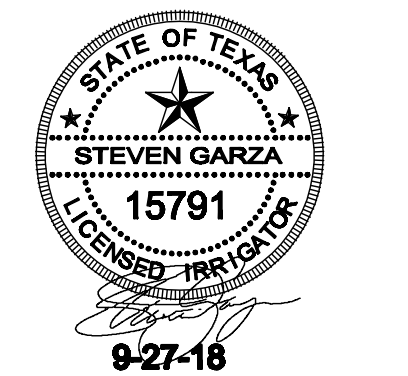
DURAND-HOLLIS RUPE
ARCHITECTS, INC.

14603 HUEBNER ROAD
BUILDING 18
SAN ANTONIO, TEXAS
78230

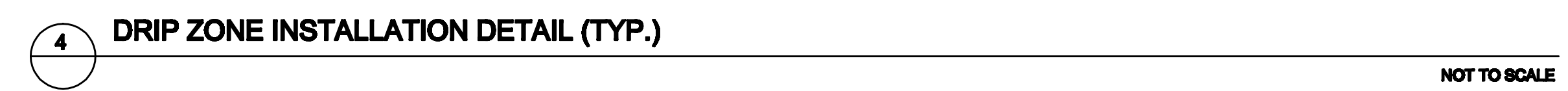
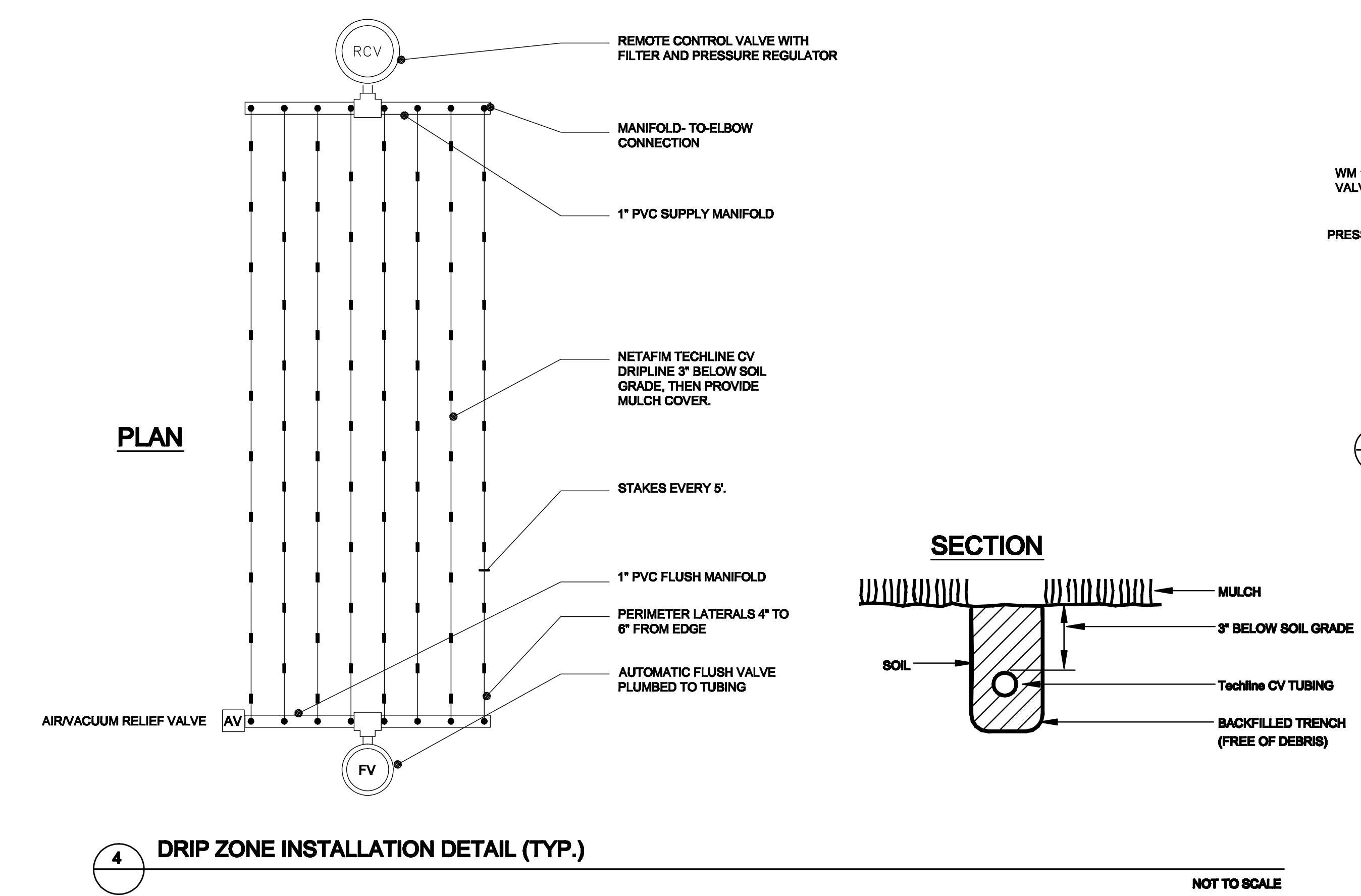
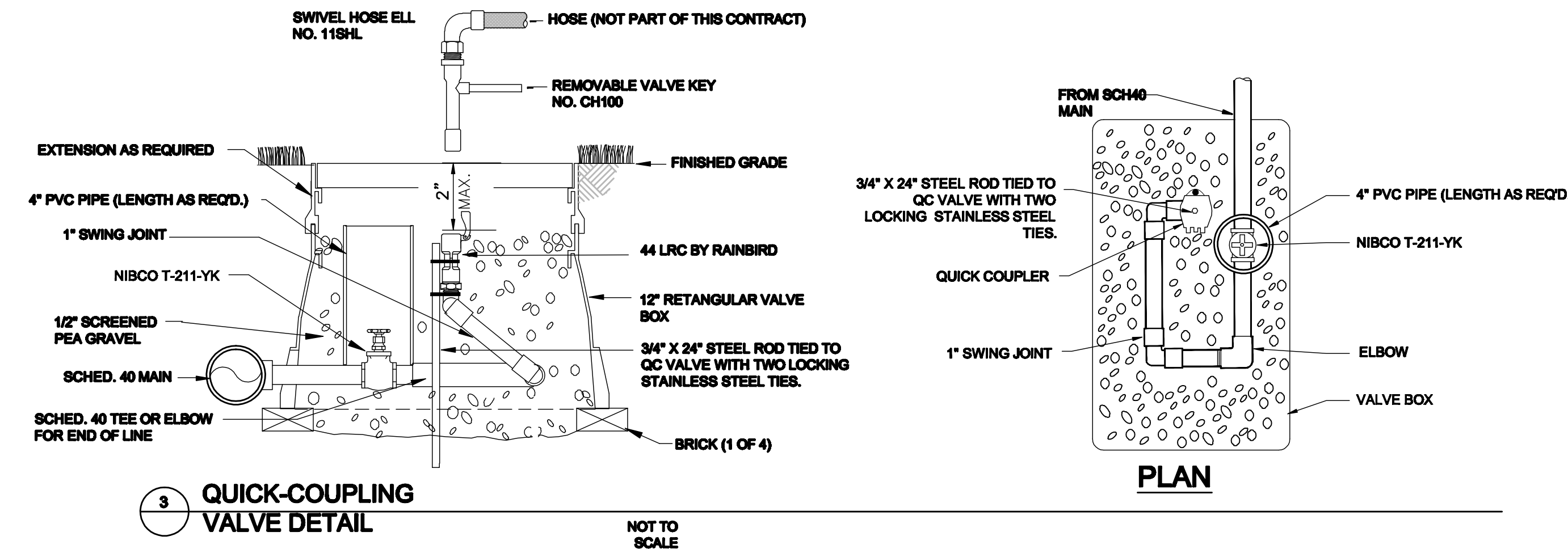
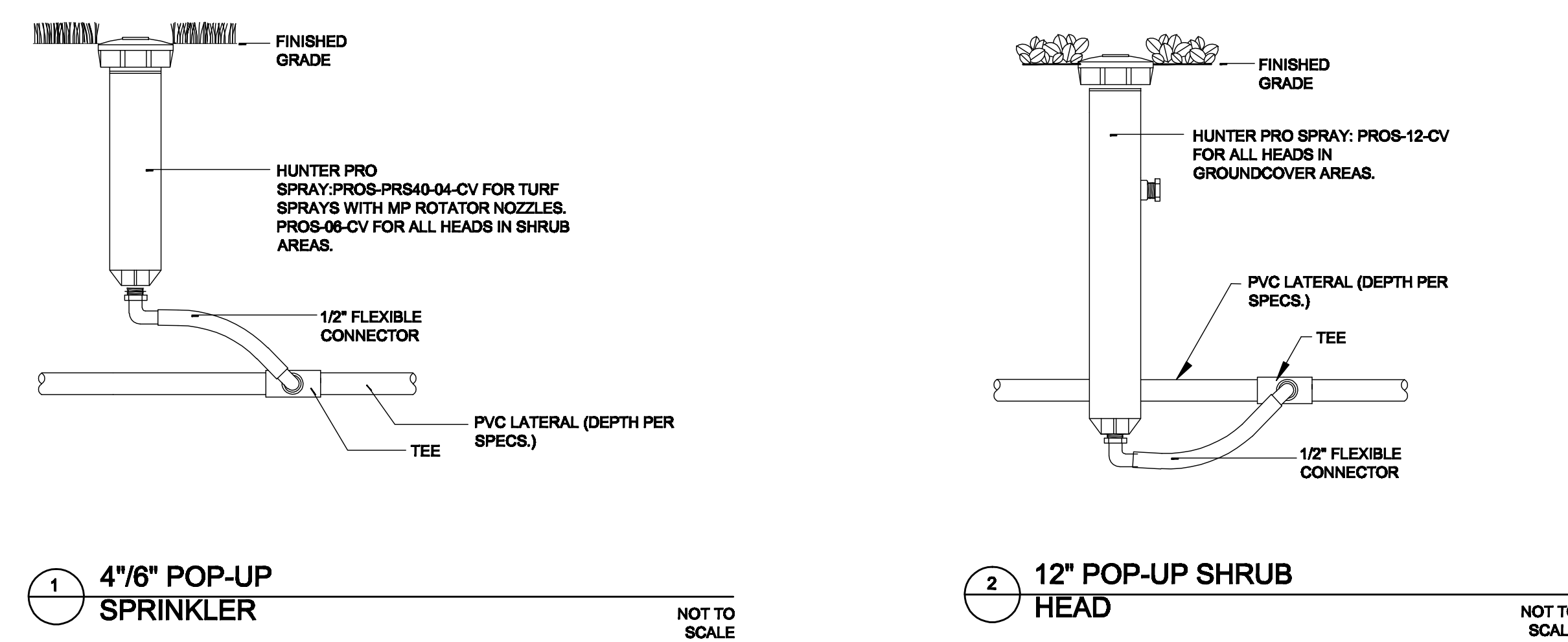
TEL. 210 308-0080
FAX. 210 697-3309
eMAIL OFFICE@DHRARCHITECTS.COM

REVISIONS		
ISSUE	DESCRIPTION	DATE

LOCATION:
NEW PHILLIS WHEATLEY PARK
North Mitman St.
SAN ANTONIO, TEXAS 78202

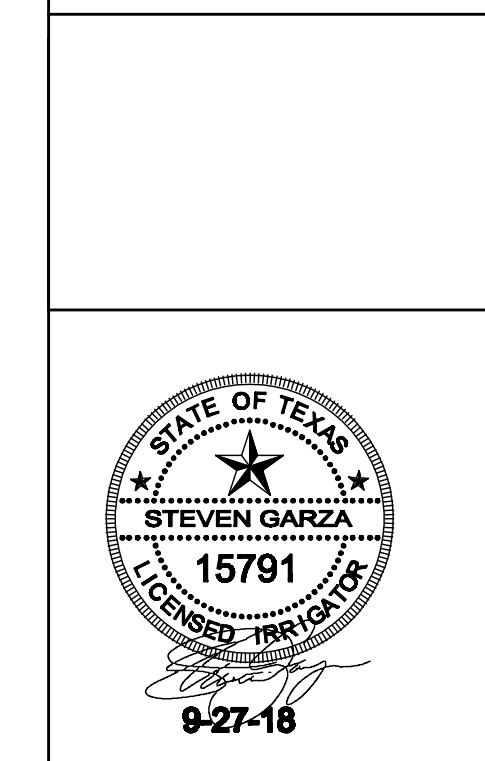


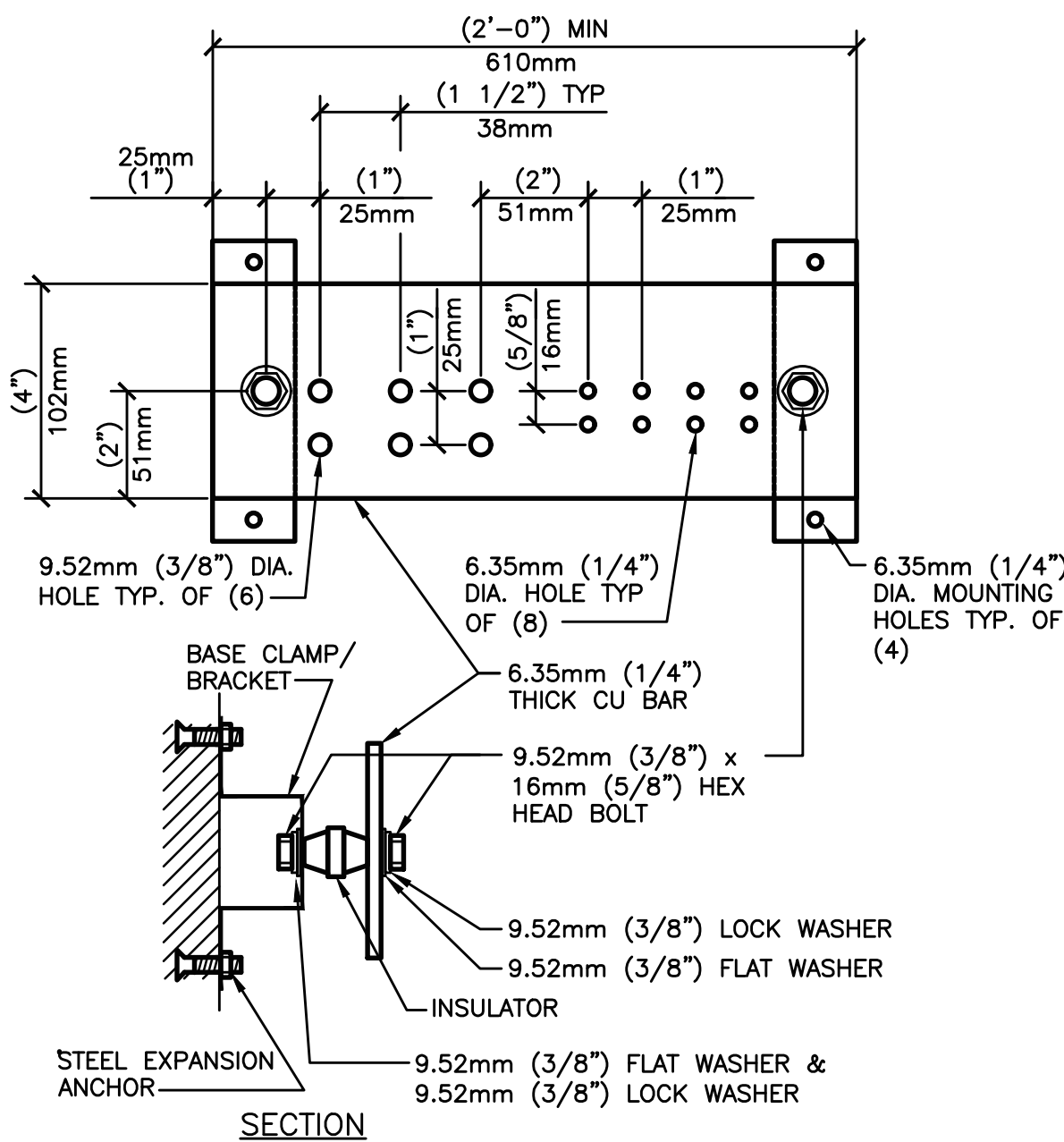
**Tree Bubbler
Plan/Irrigation
Details**
SHEET NUMBER
IR-01



REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
North Mittman St.
SAN ANTONIO, TEXAS 78202

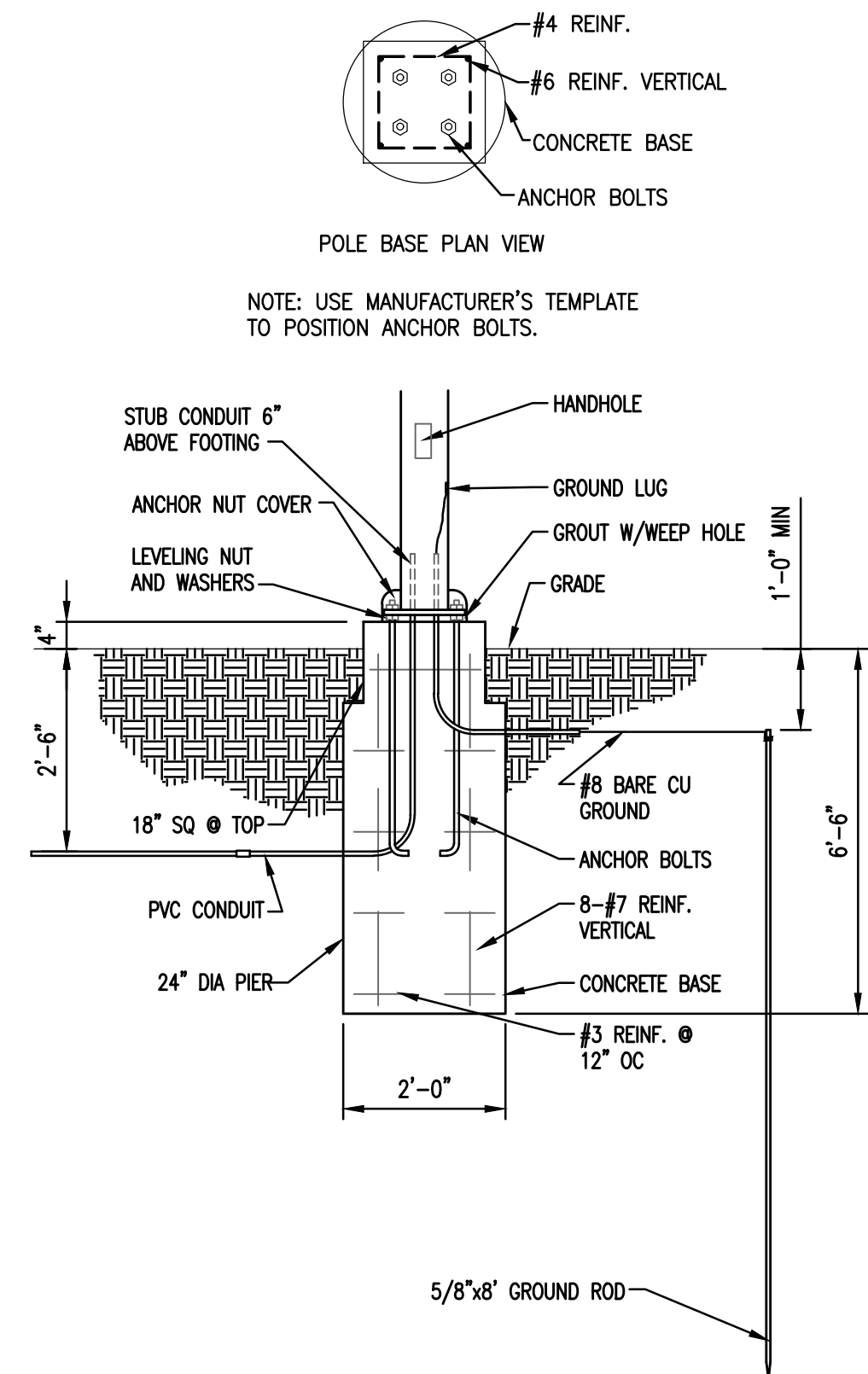




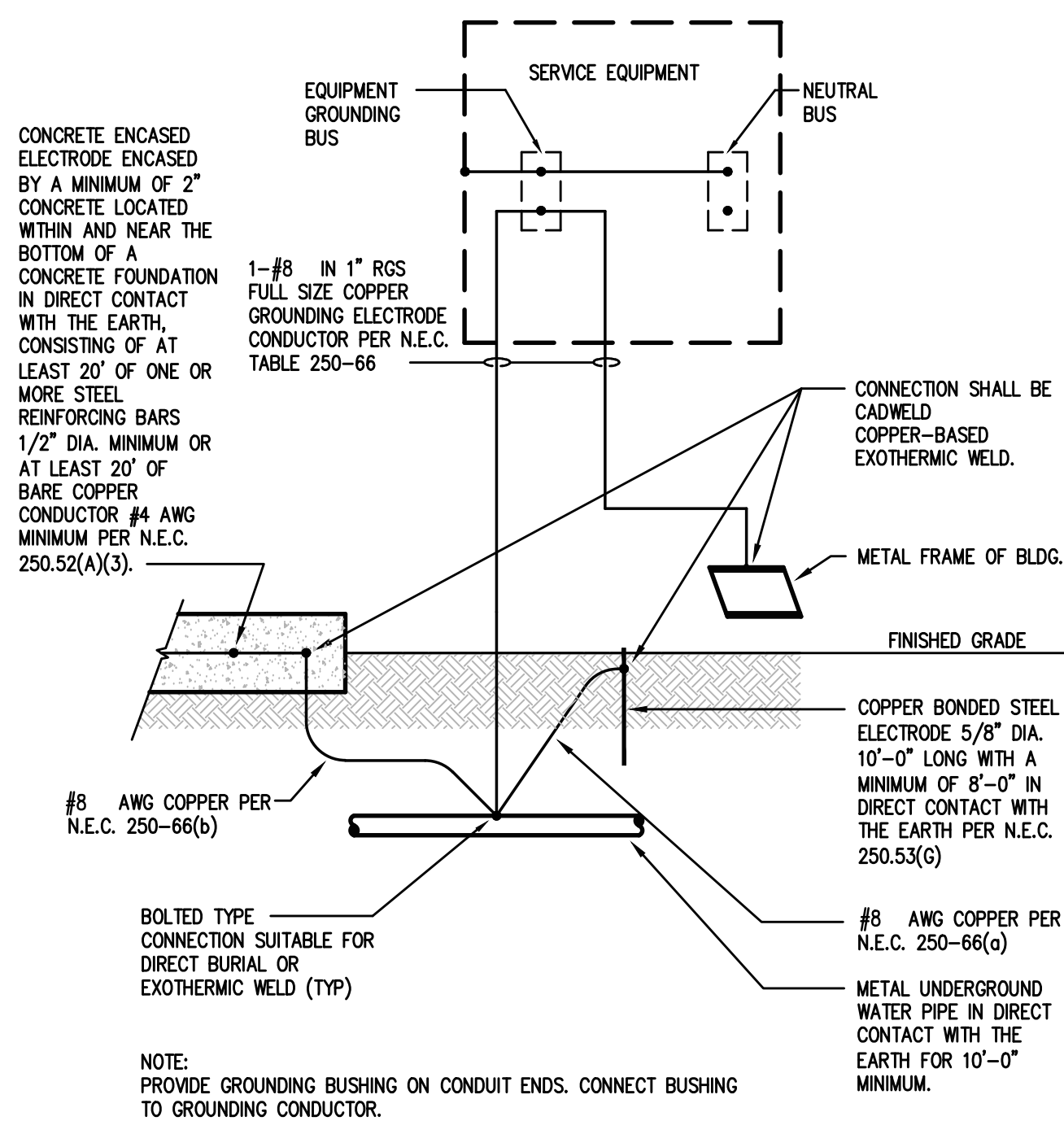
GENERAL NOTES:

- ALL HARDWARE SHALL BE STAINLESS STEEL.
- PROVIDE 1 MOUNTING POINT PER 305mm (12") OF BAR LENGTH.
- HOLES MAY BE ADDED IF REQUIRED.

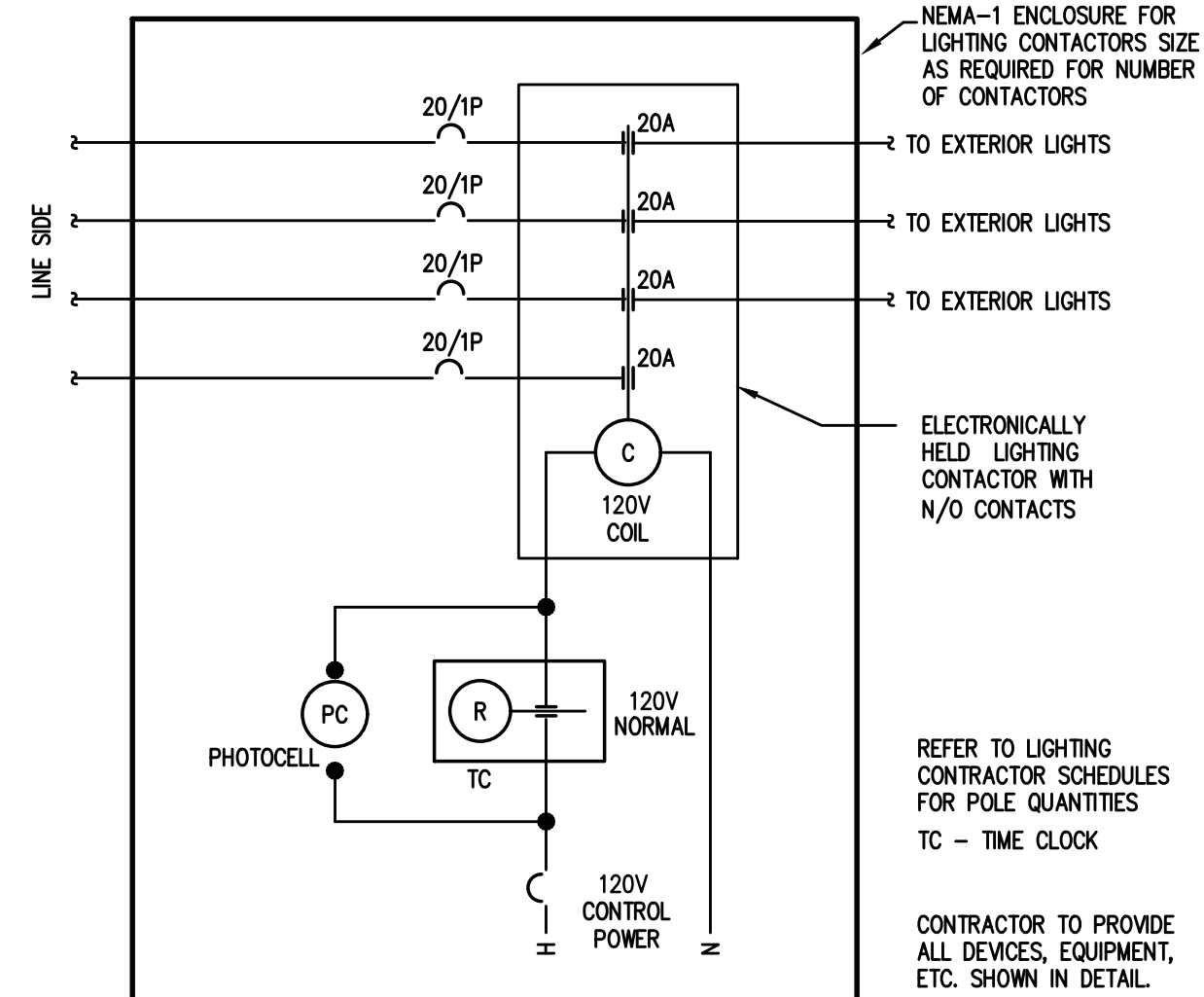
1 GROUNDING BAR DETAIL
NTS SD260526-01



3 PEDESTRIAN POLE BASE DETAIL
NO SCALE



2 GROUNDING ELECTRODE SYSTEM
NTS

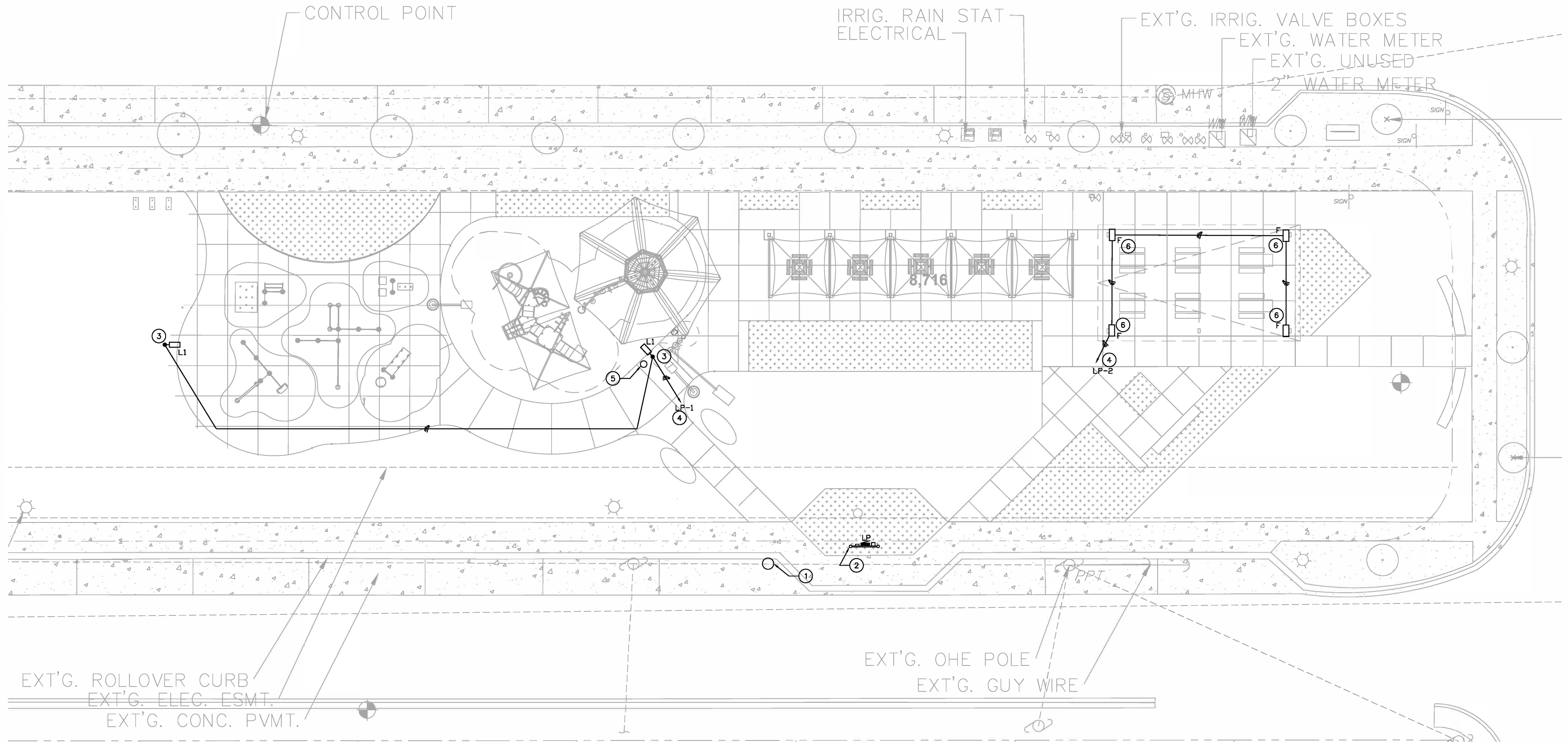


4 EXTERIOR LIGHTING CONTACTOR DETAIL
NTS

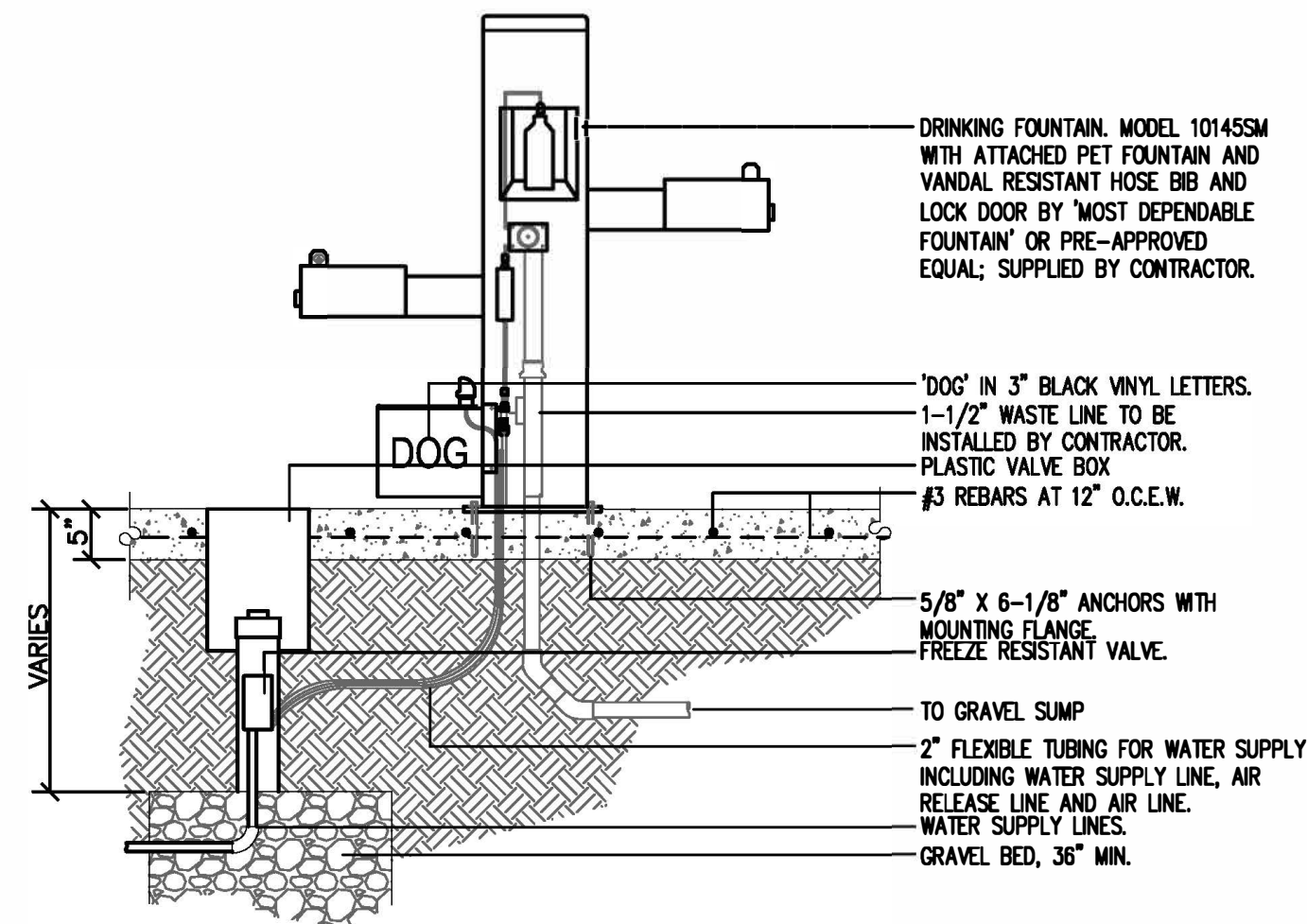
GENERAL SITE GROUNDING NOTES:

- ALL GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE CURRENT NEC WITH ALL CITY AMENDMENTS.
- THE PERIMETER GROUND LOOP CONDUCTOR SHALL BE MINIMUM 4/0 STRANDED BARE COPPER, BURIED NOT LESS THAN 24 INCHES BELOW GRADE AND 36 INCHES FROM THE BUILDING. IT SHALL BE EXOTHERMICALLY WELDED (CAD) TO COLUMN GROUNDS AND PERIMETER GROUND RODS.
- PERIMETER GROUND RODS SHALL BE MINIMUM 3/4 INCH AND 8 FOOT LONG COPPER OR COPPER CLAD, BURIED VERTICALLY TO A MINIMUM DEPTH OF 8 FOOT 6 INCH BELOW GRADE. DRIVE ALL GROUND RODS INTO EXPOSED EARTH. IF DUE TO CONSTRUCTION, THE EARTH HAS BEEN DISTURBED AT THE GROUND ROD POINT, COMPACT THE LOCATION AND INSTALL GROUND ROD.
- EXPOSED GROUNDING CONDUCTORS SHALL BE SUPPORTED BY MECHANICAL MEANS AND PROPERLY PROTECTED FROM DAMAGE. ALL GROUNDING CONDUCTORS SHALL BE SLEEVED THROUGH BUILDING WALLS.
- BOND THE GROUNDING SYSTEM TO THE WATER PIPE SYSTEM. IF THE WATER PIPING IS SUSPENDED BELOW THE STRUCTURE, BOND THE GROUND TO THE WATER PIPE AT THE GRADE POINT.
- BOND THE GROUND LOOP TO THE BUILDING COLUMN CASINGS. EXOTHERMICALLY WELD THE CONNECTIONS. IF THE COLUMN STEEL DOES NOT PENETRATE THE EARTH MORE THAN 4 FEET, PROVIDE COPPER BONDING JUMPER FROM THE CASING TO THE COLUMN.
- BOND BUILDING GROUND SYSTEM TO ALL BUILDING STEEL, TO INCLUDE BAR JOISTS OFF MASONRY WALLS. MECHANICAL BONDING CLAMPS ARE PERMITTED. ALL CONDUCTORS ON BEAMS SHALL BE SECURED 48" INTERVALS WITH MALLEABLE CABLE STRAPS. SAND AND CLEAN ALL BOLT-ON CONNECTIONS.
- PROVIDE GROUNDING SYSTEM PER NEC 250.32 FOR ALL STANDALONE STRUCTURES.

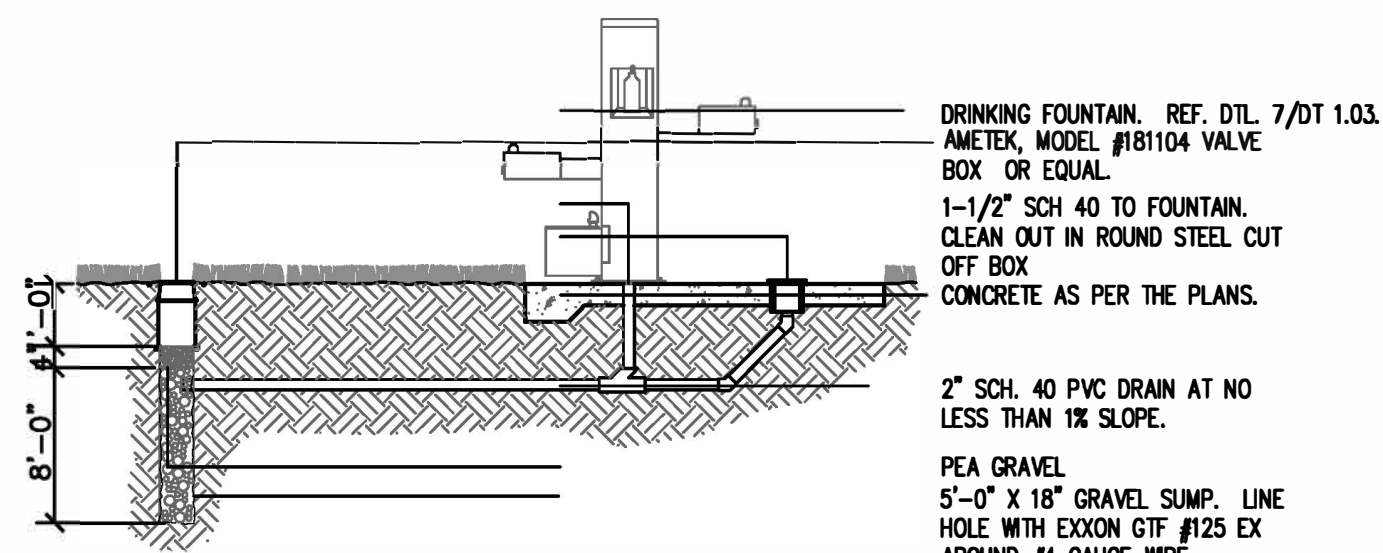
PANEL										LP	
VOLTAGE (L-N):				120		ENCLOSURE TYPE:				NEMA 3R	
VOLTAGE (L-L):				240		MOUNTING:				SURFACE	
PHASES, WIRES:				1 ϕ , 3 W		AIC RATING:				10000	
MINIMUM BUS CAPACITY (A):				60 A		NOTES:				-----	
MAIN O.C. DEVICE (A):				60 A							
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA)				POLE	TRIP AMPS	DESCRIPTION	CKT NO
				A		B					
1	AREA LIGHTING	20	1	432	516			1	20	PAVILION LIGHTING	2
3	SPARE	20	1			0	0	1	20	SPARE	4
5	BUSSED SPACE ONLY	-----	-----	0	0			-----	-----	BUSSED SPACE ONLY	6
7	BUSSED SPACE ONLY	-----	-----			0	0	-----	-----	BUSSED SPACE ONLY	8
9	BUSSED SPACE ONLY	-----	-----	0	0			-----	-----	BUSSED SPACE ONLY	10
11	BUSSED SPACE ONLY	-----	-----			0	0	-----	-----	BUSSED SPACE ONLY	12
				CONNECTED LOAD PHASE TOTALS (VA)							
				948		0					
				CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)		DEMAND LOAD		1.2 KVA	
Lighting				0.4	1.25	0.5		SPARE CAPACITY		8.4 KVA	
Lighting - Exterior				0.5	1.25	0.6		SPARE CAPACITY		35.1AMPS	
								SPARE CAPACITY		88 %	
TOTAL:				0.9		1.2					
LOAD (AMPS):				3.9		4.9					



1 ELECTRICAL SITE PLAN
3/32" = 1'-0"



1 DRINKING FOUNTAIN DETAIL
NTS



2 GRAVEL SUMP WELL DETAIL
NTS

GENERAL NOTE:

A. DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

KEYED NOTES:

- 1 NEW POLE MOUNTED TRANSFORMER AND OVERHEAD SERVICE DROP TO UNISTRUT SERVICE RACK/NEW METER LOOP PER LOCAL UTILITY REQUIREMENTS. NEW SERVICE RISER PER UTILITY STANDARDS.
- 2 NEW SERVICE RACK WITH METER, PANEL W/ MCB, AND EXTERIOR LIGHTING CONTROLS. REFER TO ONE-LINE DIAGRAM.
- 3 REFER TO POLE BASE DETAIL ON SHEET E0.1.
- 4 ROUTE THROUGH EXTERIOR PHOTOCELL/TIME CLOCK/CONTACTOR. REFER TO VOLTAGE DROP SCHEDULE FOR SIZING OF CONDUCTORS.
- 5 COORDINATE W/CIVIL FOR WATER SUPPLY CONNECTION TO DRINKING FOUNTAIN.
- 6 MOUNT ADJUSTABLE FLOODS TO STRUCTURE. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT.

20 AMP CIRCUIT VOLTAGE DROP		
120V 20 Amp CONDUCTOR	CONDUIT	MAX DISTANCE FROM PANEL TO LOAD
2 - #12 and 1 - #12 GRD	3/4" C	120 Feet
2 - #10 and 1 - #10 GRD	3/4" C	200 Feet
2 - #8 and 1 - #10 GRD	3/4" C	320 Feet
2 - #8 and 1 - #8 GRD	3/4" C	500 Feet
2 - #4 and 1 - #8 GRD	1" C	760 Feet
2 - #2 and 1 - #6 GRD	1 1/4" C	1100 Feet

Notes:
1) Contractor to follow feeder voltage drop distance for circuiting

HM3
ENGINEERING
CONSULTANTS

2902 NORTH FLORES
SAN ANTONIO, TEXAS 78212
210.393.1840 PHONE

SAN ANTONIO - RGW
TBPE FIRM REGISTRATION NO. 13361



DURAND-HOLLIS RUPE
ARCHITECTS, INC.
14603 HUEBNER ROAD
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SAN ANTONIO, TEXAS
78230
TEL. 210 308-0080
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eMAIL OFFICE@DHRARCHITECTS.COM

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
910 North Mittman St.
SAN ANTONIO, TEXAS 78202



09-28-2018

ELEC &
PLUMB
PLAN

SHEET NUMBER

E1.0

LE PROJECT NO.: 18-03308
LE FILE NO.: SAHA-S-100

SITE OBSERVATIONS BY STRUCTURAL ENGINEER		
SITE OBSERVATIONS WILL BE CONDUCTED IN ACCORDANCE WITH IBC SECTION 109 BY THE ENGINEER OF RECORD OR APPROVED AGENT AT THE STAGES OF CONSTRUCTION LISTED BELOW. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION HAS REACHED THE STAGE LISTED BELOW AND BEFORE THE WORK TO BE OBSERVED IS COVERED UP, WALLED IN, OR BECOMES OTHERWISE HIDDEN FROM VIEW OR INACCESSIBLE TO ANY NECESSARY CORRECTIONS. AT THE CONCLUSION OF THE PROJECT, THE ENGINEER OF RECORD WILL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE BUILDING HAS BEEN BUILT IN GENERAL CONFORMANCE TO THE STRUCTURAL PLANS AND SPECIFICATIONS. THESE OBSERVATIONS DO NOT CONSTITUTE THE SPECIAL INSPECTION REQUIREMENTS OF IBC SECTION 1704.		
OBSERVATION	STAGE OF CONSTRUCTION	DATE OBSERVED
SLAB ON GRADE	FORMS, VAPOR BARRIER, & REINFORCING IN PLACE. PRIOR TO CONCRETE PLACEMENT	

REQUIRED STRUCTURAL SPECIAL INSPECTIONS			
SPECIAL INSPECTION	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD
IBC 1705.3 – CONCRETE CONSTRUCTION			
1. INSPECT REINFORCING STEEL, INCLUDING PRE STRESSING TENDONS, AND PLACEMENT.	–	X	ACI 318 Ch. 20, 25.2, 25.3, 26.5.1–26.5.3, IBC 1908.4
2. REINFORCING BAR WELDING:	NOT PERMITTED		AWS D1.4 ACI 318: 26.5.4
3. INSPECT ANCHORS CAST IN CONCRETE	–	X	ACI 318: 17.8.2
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS			
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSIONS LOADS.	X	–	ACI 318: 17.8.2.4
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a	–	X	ACI 318: 17.8.2
5. VERIFY USE OF REQUIRED DESIGN MIX	–	X	ACI 318: Ch. 19, 26.4.3, 26.4.4, IBC 1904.1, IBC 1904.2, IBC 1908.2, IBC 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	X	ASTM C 172 ASTM C 31 ACI 318: 26.4.5, 26.12, IBC 1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	–	ACI 318: 26.4.5, IBC 1908.6, IBC 1908.7, IBC 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	–	X	ACI 318: 26.4.7–26.4.9, IBC 1908.9
9. VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	–	X	ACI 318: 26.10.2
10. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	–	X	ACI 318: 26.10.1(B)
IBC 1705.6 – SOILS			
EXCEPTIONS:			
1. WHERE IBC SECTION 1803 DOES NOT REQUIRE REPORTING OF MATERIALS AND PROCEDURES FOR FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH ASTM D 1557.			
VERIFICATION THAT PROPER MATERIALS AND PROCEDURES ARE USED DURING FILL PLACEMENT IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT		X	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X		
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY.		X	

STRUCTURAL SPECIAL INSPECTION NOTES:

SI-1 THE CONCRETE FOUNDATION WAS DESIGNED FOR A BUILDING PAD WITH A MAXIMUM PVR OF 2". THE BUILDING PAD WAS DESIGNED AND RECOMMENDATIONS PREPARED BY RABA KISTNER CONSULTANTS INC. OF SAN ANTONIO IN REPORT NO. ASA18-073-00. BUILDING PAD CUT AND FILL RECOMMENDATIONS FOR A 2" PVR HAVE BEEN REPRODUCED BELOW FOR CONVENIENCE. THE SOILS REPORT ALSO INCLUDES OTHER RECOMMENDATIONS THAT EFFECT THE LONG TERM PERFORMANCE OF THE FOUNDATION WHICH ARE BEYOND THE SCOPE OF LEHMANN ENGINEERING'S SERVICES. THE CONTRACTOR AND OWNER SHALL REVIEW THE SOILS REPORT AND IMPLEMENT RECOMMENDATIONS PROVIDED WITHIN (I.E. LANDSCAPING VEGETATION, ROOT BARRIERS, SITE DRAINAGE, BUILDING PAD DRAINAGE SYSTEMS, ROOF DRAINS, SOIL MOISTURE MAINTENANCE, ETC.)

SI-2 UNLESS OTHERWISE REQUIRED BY THE BUILDING OFFICIAL, SPECIAL INSPECTIONS ARE NOT REQUIRED FOR GROUP U OCCUPANCIES THAT ARE ACCESSORY TO A RESIDENTIAL OCCUPANCY INCLUDING, BUT NOT LIMITED TO, THOSE LISTED IN IBC SECTION 312.1.

SI-3 SPECIAL INSPECTIONS ARE NOT REQUIRED FOR PORTIONS OF STRUCTURES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION PROVISIONS OF IBC SECTION 2211.7 OR THE CONVENTIONAL LIGHT-FRAME CONSTRUCTION PROVISIONS OF IBC SECTION 2308.

SI-4 THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1705 OF THE INTERNATIONAL BUILDING CODE (2015). THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS IDENTIFIED IN SECTION 110.

SI-5 DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON EMPLOYED OR RETAINED BY AN APPROVED AGENCY WHO SHALL PROVE TO THE SATISFACTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND THE BUILDING OFFICIAL THAT HE/SHE HAS THE COMPETENCE NECESSARY TO INSPECT A PARTICULAR TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION.
- THE SPECIAL INSPECTOR IS RESPONSIBLE TO REVIEW THE APPROVED CONSTRUCTION DOCUMENTS THOROUGHLY AND SUFFICIENTLY AHEAD OF CONSTRUCTION TO ESTABLISH THEIR ABILITY TO INSPECTION OF THOSE ITEMS ENTRUSTED TO THEM. ALL ERRORS AND/OR OMISSIONS IN THE APPROVED PLANS THAT CREATE AND FORM OF AMBIGUITY OR DOUBT FOR THE SPECIAL INSPECTOR SHALL BE BROUGHT TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- THE SPECIAL INSPECTOR IS RESPONSIBLE FOR VERIFICATION OF ITEMS DETAILED IN THE DESIGN DRAWINGS AND SPECIFICATIONS BUILT INTO THE PROJECT.
- THE SPECIAL INSPECTOR SHALL NOT SUGGEST, DIRECT, OR APPROVE DEVIATION FROM THE DESIGN DRAWINGS AND SPECIFICATIONS OR THE APPROVED SHOP AND ERECTION DRAWINGS, OR APPROVE SUCH DEVIATION, WITHOUT THE WRITTEN APPROVAL BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- THE SPECIAL INSPECTOR SHALL BRING NON-COMPLYING ITEMS TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. IF CORRECTING THE NON-COMPLYING ITEMS IS NOT IN A TIMELY MANNER OR IGNORED, THE SPECIAL INSPECTOR IS TO PREPARE, SIGN AND SUBMIT A NOTICE OF NON-COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, THE BUILDING OFFICIAL, THE CONTRACTOR AND THE OWNER.
- THE SPECIAL INSPECTOR IS RESPONSIBLE TO KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL PREPARE, SIGN AND SUBMIT INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS OF REQUIRED SPECIAL INSPECTIONS. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.
- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTIONS WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE. CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL.

SI-6 WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF SPECIFIED QUALITY ASSURANCE TESTING, DUPLICATE INSPECTIONS WILL NOT BE REQUIRED.

STRUCTURAL EARTHWORK FOR GRADE SUPPORTED FOUNDATIONS:

SE-1 THE CONCRETE FOUNDATION WAS DESIGNED FOR A BUILDING PAD WITH A MAXIMUM PVR OF 2". THE BUILDING PAD WAS DESIGNED AND RECOMMENDATIONS PREPARED BY RABA KISTNER CONSULTANTS INC. OF SAN ANTONIO IN REPORT NO. ASA18-073-00. BUILDING PAD CUT AND FILL RECOMMENDATIONS FOR A 2" PVR HAVE BEEN REPRODUCED BELOW FOR CONVENIENCE. THE SOILS REPORT ALSO INCLUDES OTHER RECOMMENDATIONS THAT EFFECT THE LONG TERM PERFORMANCE OF THE FOUNDATION WHICH ARE BEYOND THE SCOPE OF LEHMANN ENGINEERING'S SERVICES. THE CONTRACTOR AND OWNER SHALL REVIEW THE SOILS REPORT AND IMPLEMENT RECOMMENDATIONS PROVIDED WITHIN (I.E. LANDSCAPING VEGETATION, ROOT BARRIERS, SITE DRAINAGE, BUILDING PAD DRAINAGE SYSTEMS, ROOF DRAINS, SOIL MOISTURE MAINTENANCE, ETC.)

SE-2 BEFORE ANY CONSTRUCTION IS BEGUN, PERFORM ROUGH GRADING AND CUT SWALES SO THAT GROUNDS WILL DRAIN AWAY FROM THE BUILDING. MAINTAIN DRAINAGE DURING ALL PHASES OF CONSTRUCTION SO THAT STORM WATER WILL BE CONDUCTED AWAY FROM THE BUILDING. KEEP EXCAVATIONS PUMPED FREE OF STORM WATER AT ALL TIMES.

SE-3 PRECAUTIONS SHALL BE TAKEN TO PROTECT OPEN EXCAVATIONS FROM EXCESSIVE LOSS OR GAIN IN NATURAL MOISTURE LEVEL PRIOR TO PLACEMENT OF BASE MATERIAL. KEEP MOIST DURING DRY WEATHER AND KEEP STORM WATER PUMPED OUT, INCLUDING NIGHTS AND WEEKENDS, DURING RAINS.

SE-4 IN THE AREA OCCUPIED BY THE FOUNDATION, PLUS 3'-0", REMOVE A MINIMUM OF 3'-0" EXPANSIVE SOIL INCLUDING ALL ORGANIC MATERIALS, ROOTS, ETC. FROM THE SITE. DO NOT USE FOR UNDER FLOOR FILL. REMOVE ADDITIONAL MATERIAL AS NECESSARY TO PROVIDE A MINIMUM OF 3'-0" OF SELECT FILL. DO NOT UNDERCUT EXISTING FOUNDATION ELEMENTS. EXCAVATE AT 45 DEGREES FROM BASE OF EXISTING FOUNDATION TO REQUIRED DEPTH. THE EXCAVATION SHALL BE BENCHED IN HORIZONTAL PLANES AS REQUIRED TO MEET MINIMUM CUT AND FILL REQUIREMENTS.

SE-5 THE SUB GRADE SHALL BE SCARIFIED JUST PRIOR TO FILL PLACEMENT TO A MINIMUM DEPTH OF 6" AND RECOMPACTED TO MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE ASTM D698 COMPACTION TEST, MAINTAINING MOISTURE CONTENT BETWEEN 0 AND +3 PERCENTAGE POINTS UNTIL COVERED.

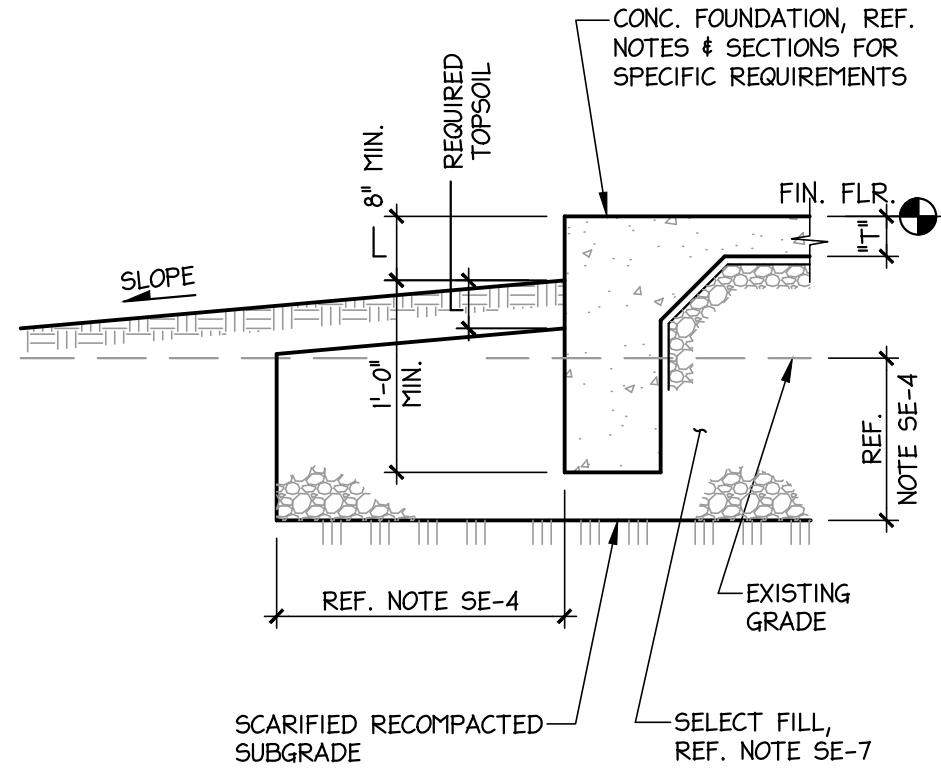
SE-6 SELECT FILL SHALL CONFORM TO TxDOT SPECIFICATIONS, ITEM 247, TYPE "A" GRADE 2 OR AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO DIRT FILL SHALL BE USED UNDER THE BUILDING FOUNDATION. SUBMIT WRITTEN CERTIFICATION OF COMPLIANCE WITH TxDOT, ITEM 247 SPECIFICATIONS BY TEST PERFORMED ON FIELD EXAMPLES.

SE-7 FOR A DISTANCE OF 3'-0" OUTSIDE OF THE BUILDING LINE, AND BEGINNING AT THE LOW END, BUILD UP TO THE ELEVATION OF THE BOTTOM OF THE SLAB WITH SELECT FILL. REFERENCE SE-4 FOR MINIMUM FILL THICKNESS REQUIREMENTS. ALL FILL SHALL BE PLACED IN 8" LOOSE HORIZONTAL LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698 COMPACTION TEST.

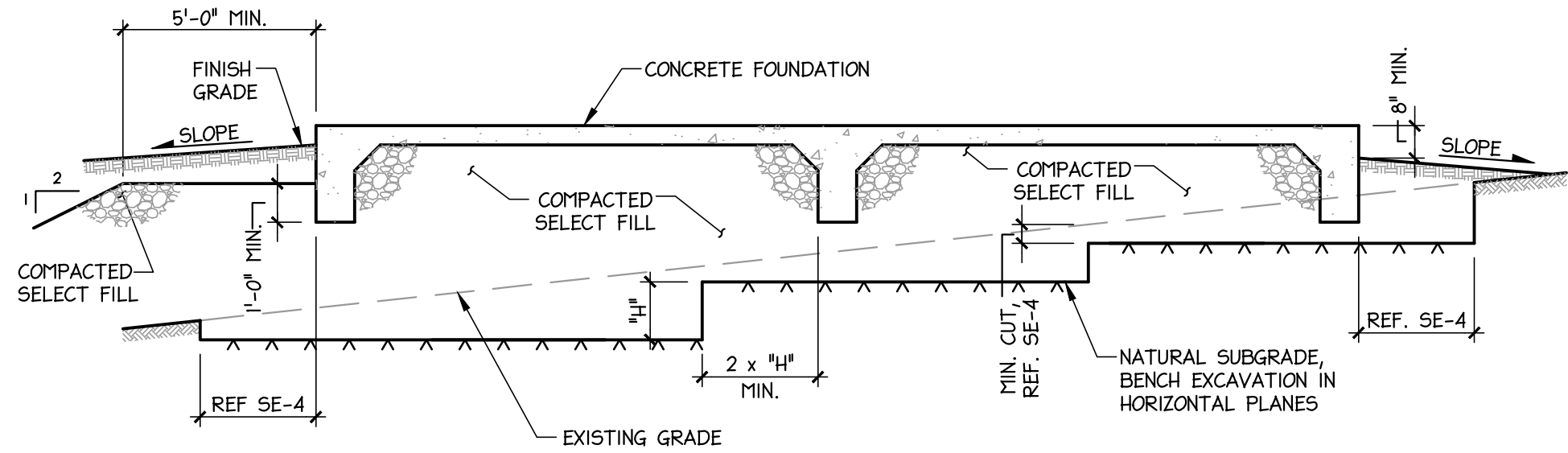
SE-9 PERFORM ALL EARTHWORK DESCRIBED ABOVE BEFORE TRENCHING FOR GRADE BEAMS OR MECHANICAL LINES.

SE-10 EXCESS FILL AT BUILDING PERIMETER SHALL BE CUT AND GRADED TO COMPLY WITH FINISHED GRADE REQUIREMENTS. FINISH GRADE SHALL PROVIDE PERMANENT DRAINAGE AWAY FROM BUILDING. PLACE IN 8" THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY PER ASTM D698.

SE-11 OWNER SHALL EMPLOY GEOTECHNICAL ENGINEER TO VERIFY EXCAVATION DEPTH AND TAKE DENSITY TESTS OF RECOMPACTED SCARIFIED MATERIAL AND DENSITY TESTS OF EACH LIFT OF SELECT FILL, AT THE RATE OF ONE TEST PER EACH 3,000 SQ. FT. WITH A MINIMUM OF THREE (3) TESTS PER LIFT.



① DETAIL TYPICAL STRUCTURAL EARTHWORK SCALE: 1/2" = 1'-0"



② DETAIL TYPICAL STRUCTURAL EARTHWORK SCALE: N.T.S.

GENERAL NOTES:

GN-1 THIS STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (2015) AS AMENDED AND ADOPTED BY THE CITY OF SAN ANTONIO, AND APPLICABLE INDUSTRY STANDARDS (ASCE, ACI, ETC.).

GN-2 DESIGN CRITERIA: DEAD LOADS – THE WEIGHT OF THE MATERIALS FORMING THE PERMANENT PART OF THE BUILDING. A SUPERIMPOSED DEAD LOAD OF 5 PSF HAS BEEN APPLIED FOR MECHANICAL DUCTS, CONDUITS, CEILING, ETC.

LIVE LOADS - IN ACCORDANCE WITH IBC SECTION 1607	
FLOORS:	LOADS
ALL FLOORS	100 PSF
ROOFS:	LOADS
ROOF	20 PSF
MECHANICAL EQUIPMENT	AS INDICATED ON PLANS

LIVE LOADS REDUCTIONS - FLOORS IN ACCORDANCE WITH IBC SECTION 1607.9

LIVE LOADS REDUCTIONS - ROOFS IN ACCORDANCE WITH IBC SECTION 1607.11

WIND LOADS - PER IBC SECTION 1609	
ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), V-ult	115 MPH
NOMINAL DESIGN WIND SPEED, V-osd	89 MPH
EXPOSURE CATEGORY	C
RISK CATEGORY	II
SNOW LOADS - PER IBC SECTION 1608	
SNOW LOADS	5 PSF

EARTHQUAKE LOADS - PER IBC SECTIONS 1613	
IMPORTANCE FACTOR	I
OCCUPANCY CATEGORY	I
0.2 SEC SPECTRAL RESPONSE ACCELERATION (Ss)	0.1000
1 SEC SPECTRAL RESPONSE ACCELERATION (S1)	0.030
SITE CLASS	D
0.2 SEC SPECTRAL RESPONSE COEFFICIENT (SDs)	0.1070
1 SEC SPECTRAL RESPONSE COEFFICIENT (SD1)	0.048
SEISMIC DESIGN CATEGORY	A
RESISTING SYSTEM	PER PEMB
ANALYSIS PROCEDURE	PER PEMB
RESPONSE COEFFICIENT	PER PEMB
MODIFICATION FACTOR	PER PEMB
BASE SHEAR	PER PEMB

GN-3 THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. CONTRACTOR SHALL CONSIDER ALL LOADS APPLIED TO THE PARTIALLY COMPLETED STRUCTURE AND PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS ARE MADE. ANY PROPOSED APPLICATION OF CONSTRUCTION LOADS WHICH EXCEED THE DESIGN LOADS WILL REQUIRE REANALYSIS AND PROBABLE REDESIGN.

GN-4 THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY RABA KISTNER CONSULTANTS INC. (PROJECT NO. ASA 18-073-00, SEPTEMBER 7, 2018). THE GEOTECHNICAL ENGINEERING STUDY REPORT INCLUDES OTHER RECOMMENDATIONS THAT EFFECT THE LONG TERM PERFORMANCE OF THE FOUNDATION WHICH ARE BEYOND THE SCOPE OF LEHMANN ENGINEERING'S SERVICES. THE CONTRACTOR AND OWNER SHALL REVIEW THE SOILS REPORT AND IMPLEMENT RECOMMENDATIONS PROVIDED WITH (I.E. LANDSCAPING VEGETATION, ROOT BARRIERS, SITE DRAINAGE, ROOF DRAINS, SOIL MOISTURE MAINTENANCE, ETC.)

GN-5 PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

GN-6 VERIFY REQUIREMENTS OF OTHER TRADES (MECHANICAL, ELECTRICAL, ETC.) PRIOR TO PROCEEDING WITH FABRICATION OR INSTALLATION OF MATERIALS.

GN-7 UTILITIES PENETRATING BUILDING SHALL BE FLEXIBLE, USING SLEEVE JOINTS, BENDS, LOOPS, ETC. TO PERMIT MOVEMENTS DUE TO EXPANSIVE UNDERLYING SOILS.

GN-8 THE DETAILS DESIGNATED AS "TYPICAL DETAILS", APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN DETAILS.

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GN-10 CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER AT LEAST 24 HOURS IN ADVANCE OF ANY CONCRETE POUR OR OTHER ACTION THAT WILL COVER UP STRUCTURAL ELEMENTS SO THE ENGINEER CAN CONDUCT PERIODIC SITE OBSERVATIONS AS REQUIRED TO PROVIDE A FINAL LETTER OF GENERAL COMPLIANCE TO THE OWNER AND/OR BUILDING AUTHORITY. PERIODIC SITE OBSERVATIONS ARE SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND ARE NOT INTENDED TO BE A COMPREHENSIVE OR EXHAUSTIVE CHECK OF THE QUALITY AND/OR QUANTITY OF THE WORK. THESE OBSERVATIONS DO NOT CONSTITUTE THE SPECIAL INSPECTION REQUIREMENTS OF THE IBC SECTION 1704.

GN-11 THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

GN-12 THE OWNER SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY TO PERFORM CONSTRUCTION MATERIALS TESTING FOR THE PROJECT. REFERENCE SPECIFIC SECTIONS FOR TESTING REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER OF THIS REQUIREMENT AND COORDINATE THESE SERVICES AS NECESSARY THROUGHOUT THE PROCESS OF CONSTRUCTION.

DHR

DURAND--HOLLIS RUPE ARCHITECTS, INC.

14603 HUEBNER ROAD
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REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
N. MITTMAN ST
SAN ANTONIO, TEXAS 78202

LOCATION:

STATE OF TEXAS

MATTHEW J. HOFFER

127512

PROFESSIONAL ENGINEER

09/27/18

THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND SHALL BE USED ONLY ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, DEAS AND DESIGNS, INCLUDING THE PHYSICAL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS EXPRESSLY PROHIBITED.

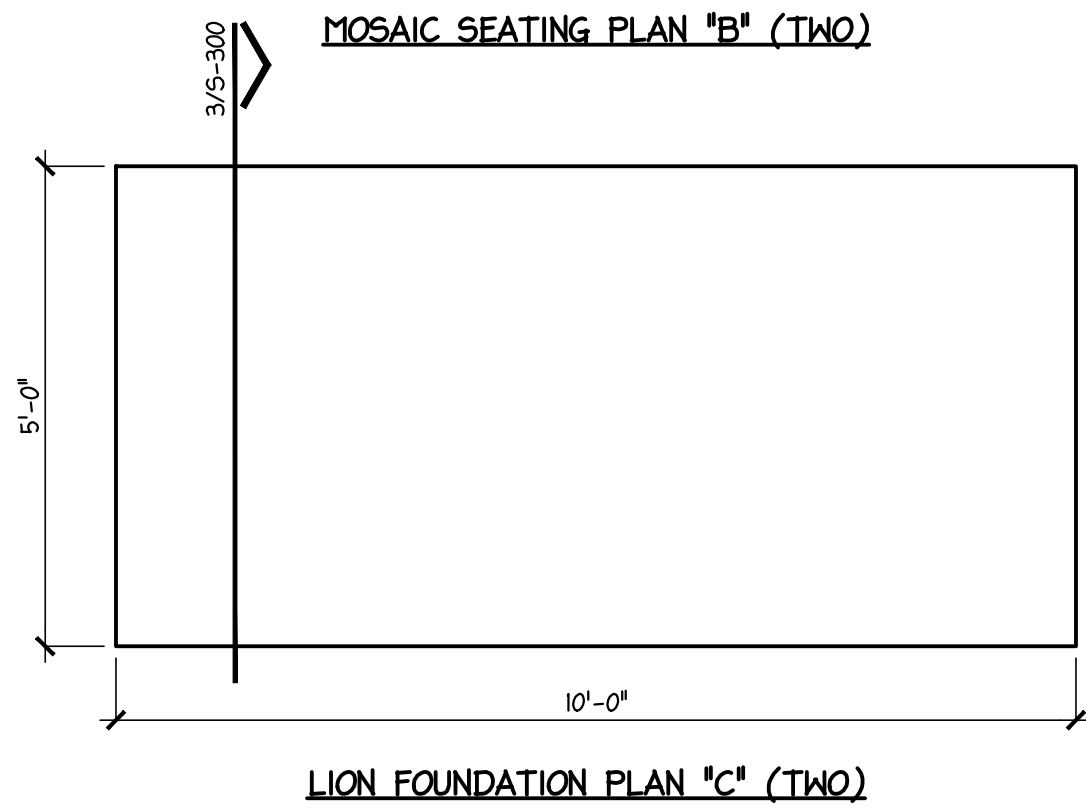
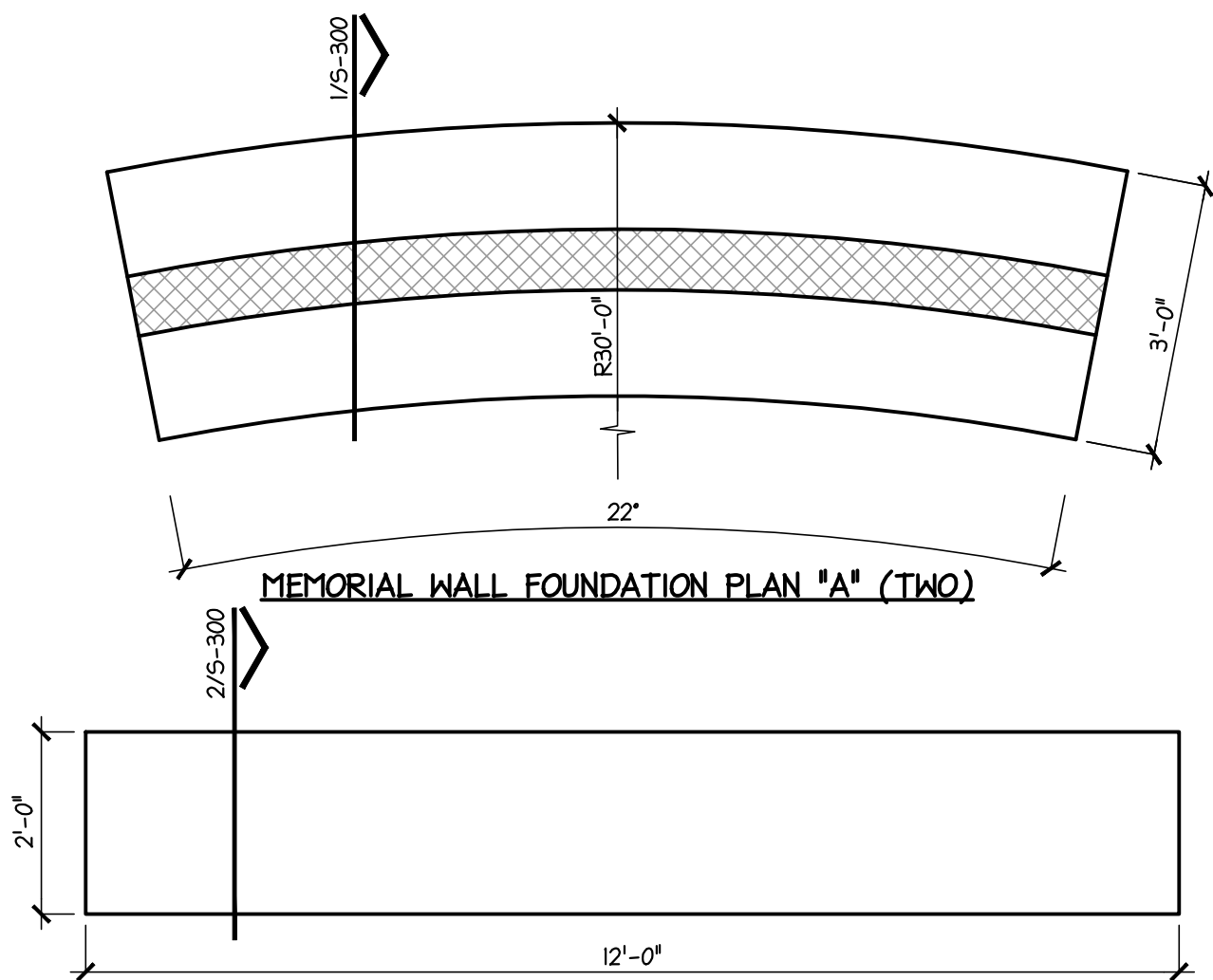
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PROJECT ARCHITECT
CARLOS TORRES-HERRERA
TEXAS LICENSE NO. 10-861

GENERAL NOTES
& DETAILS

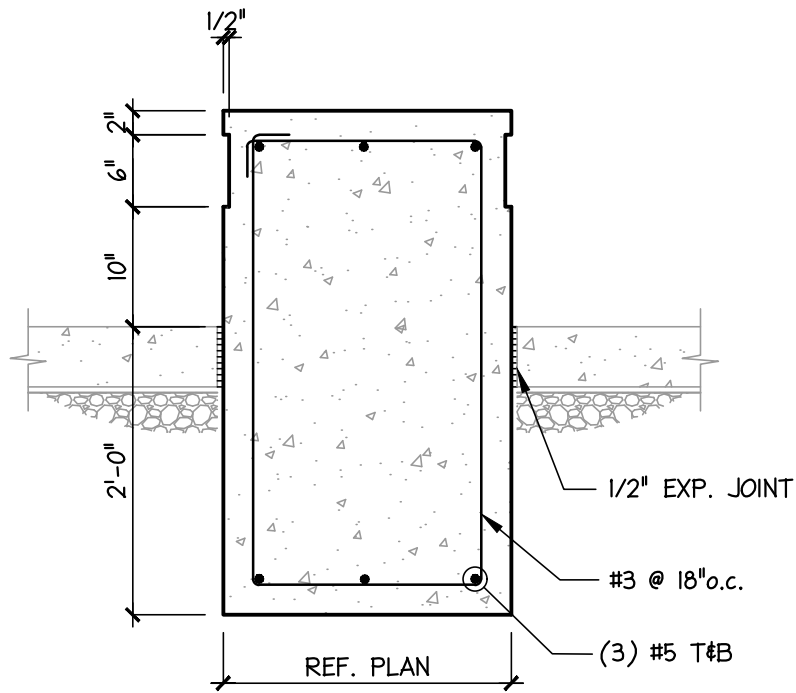
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LE FILE NO.: SAHA-300

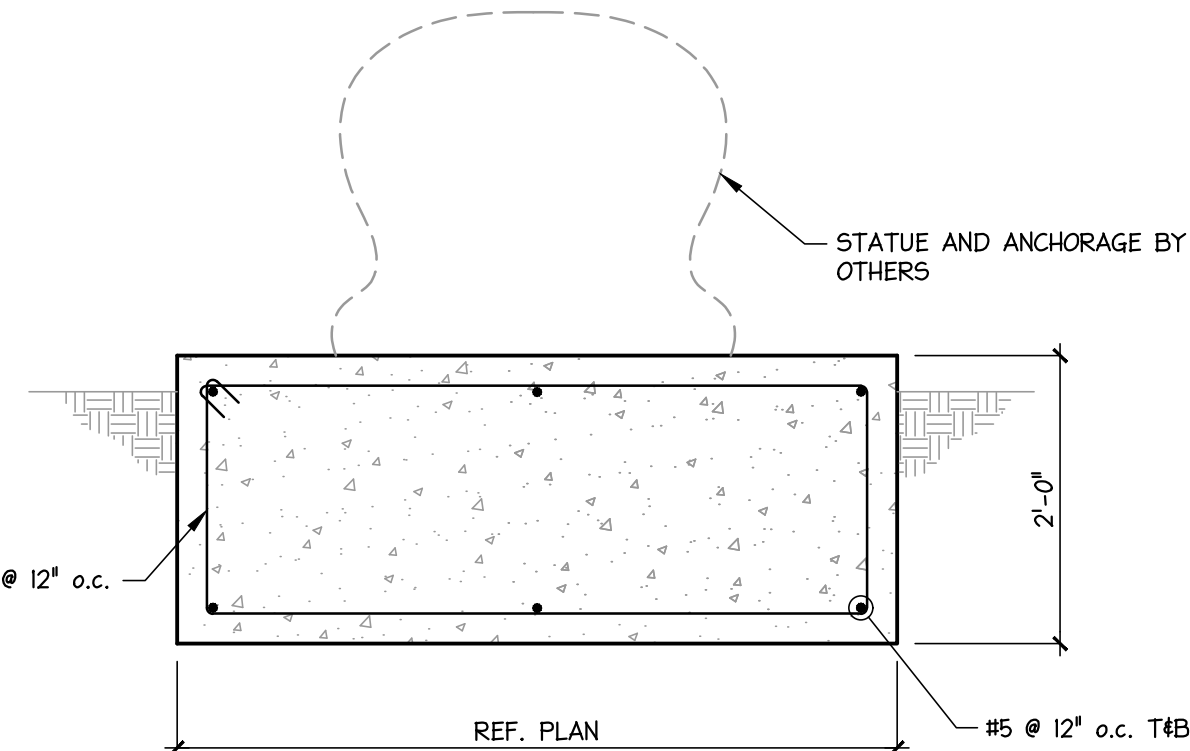


LION FOUNDATION PLAN "C" (TWO)

FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



SECTION (TWO)
SCALE: 3/4" = 1'-0"



SECTION (TWO)
SCALE: 3/4" = 1'-0"

REINFORCED CONCRETE MASONRY NOTES:

MN-1 ALL CONCRETE MASONRY SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES," ACI 530, AND ACI 530.1.

MN-2 CONCRETE MASONRY UNITS (CMU) SHALL BE HOLLOW, LOAD BEARING LIGHTWEIGHT UNITS CONFORMING TO ASTM C90 GRADE N, TYPE 1.

MN-3 REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, HORIZONTAL JOINT REINFORCING SHALL BE TRUSS TYPE CONFORMING TO ASTM B2, HOT DIP GALVANIZE JOINT REINFORCING AFTER FABRICATION TO COMPLY WITH ASTM A153, CLASS B2.

MN-4 MORTAR SHALL CONFORM TO ASTM C270, TYPE "S".

MN-5 GROUT FOR FILLING CELLS SHALL CONFORM TO ASTM C476. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.

MN-6 REINFORCED CMU SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF $f'_m=1,500$ PSI. COMPRESSIVE WALL DESIGN STRENGTH (f_m) SHALL BE VERIFIED BY INDEPENDENT TESTING LAB BY PRISM TESTS OR UNIT STRENGTH METHOD BEFORE MASONRY CONSTRUCTION BEGINS.

MN-7 PROVIDE GROUTED REINFORCED VERTICAL CELLS AND HORIZONTAL BOND BEAMS AT WALL TOP EDGES, CORNERS, FREE ENDS, WINDOW AND DOOR JAMBS, LINTELS AND OTHER LOCATIONS WHERE SHOWN ON ARCHITECTURAL DRAWINGS. REINFORCE EACH GROUTED CELL AND BOND BEAM WITH 1-#5 BAR CONTINUOUS (REINFORCE LINTELS AS SPECIFIED BELOW). PROVIDE WATCHING DOWELS IN FOUNDATION FOR VERTICAL REINFORCEMENT WITH 40 DIAMETER EMBEDMENT AND 40 DIAMETER LAP SPLICE.

MN-8 BASIC VERTICAL REINFORCEMENT FOR EXTERIOR WALLS SHALL BE #5 @ 24" o.c. (EVERY 3rd VERTICAL CELL). REINFORCE EVERY OTHER HORIZONTAL MASONRY JOINT (VERTICAL SPACING OF 16" o.c.) WITH JOINT REINFORCING (3/16 INCH SIDE RAILS AND 3/16 INCH CROSS TIES), OVERLAP 6" AT SPLICES.

MN-19 QUALITY ASSURANCE MATERIAL TESTING AND INSPECTION SERVICES SHALL BE CONDUCTED IN ACCORDANCE WITH ACI 530.1, SECTION 1.6, LEVEL A QUALITY ASSURANCE.

CONCRETE NOTES:

CN-1 ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

CN-2 CONSTRUCTION TOLERANCES SHALL CONFORM TO ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."

CN-3 CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWINGS:

REINFORCING STEEL - DETAILING FABRICATION AND ERECTION OF ALL REINFORCING BARS INCLUDING ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE."

CONCRETE MIX DESIGN - FOR EACH TYPE OF CONCRETE TO BE USED BASED ON AGGREGATE SIZE AND CEMENT PROPORTION. MIX DESIGN SHALL INCLUDE CERTIFICATION OF COMPLIANCE WITH SPECIFIED MATERIALS BASED ON FIELD SAMPLES AND COMPRESSION TEST DATA FOR LABORATORY PREPARED TRIAL MIX OR FIELD TEST DATA FOR SPECIFIED MIX. FIELD TEST DATA SHALL BE FROM AN IDENTICAL MIX DESIGN SUPPLIED FROM PROPOSED BATCH PLANT AND SHALL HAVE BEEN PREPARED WITHIN THE PRECEDING SIX MONTHS.

CN-4 CONTRACTOR SHALL DESIGN, CONSTRUCT, ERECT, SHORE, BRACE AND MAINTAIN FORM WORK ACCORDING TO ACI 301. WOOD FORM WORK SHALL BE #2 COMMON OR BETTER PLYWOOD. EXPOSED SURFACES SHALL BE NEW OR LIKE NEW MOISTURE RESISTANT FIR FORM PLYWOOD. LIGHTLY COAT FORMS WITH NON-STAINING FORM OIL. REMOVE SURPLUS OIL.

CN-5 REINFORCING STEEL SHALL BE DOMESTIC NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60, EXCEPT TIES AND STIRRUPS MAY BE GRADE 40. BARS DESIGNATED AS CONTINUOUS SHALL BE LAPPED 48 BAR DIAMETERS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE LAPPED 8" MINIMUM AT SPLICE POINTS OR 1 1/2 MESHES, WHICHEVER IS GREATER.

CN-6 PORTLAND CEMENT SHALL COMPLY WITH ASTM C-150, TYPE 1. FLY ASH SHALL CONFORM TO ASTM C-618, NORMAL WEIGHT AGGREGATE SHALL COMPLY WITH ASTM C33. WATER SHALL BE POTABLE AND COMPLY WITH ASTM C1602. ADMIXTURES SHALL COMPLY WITH THE FOLLOWING PROVISIONS: WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494, PRODUCING FLOWING CONCRETE: ASTM C1017, AIR ENTRAINMENT: ASTM C260, INHIBITING CHLORIDE-INDUCED CORROSION: ASTM C1182.

CN-7 CONCRETE SHALL BE NORMAL WEIGHT, LABORATORY DESIGNED TO DEVELOP MINIMUM SPECIFIED 28 DAY COMPRESSIVE STRENGTH AND PROPORTIONED AS FOLLOWS:

CONCRETE MIXTURE REQUIREMENTS

APPL.	DESIGN STRENGTH, f'_c	w/cm RATIO	MAX AGGR. SIZE	AIR ENTR.	EXPOSURE CLASS
SLAB ON GRADE	3000	NA	1 1/2	NA	NA

W/cm RATIOS NOT SPECIFIED SHALL BE AS REQUIRED TO ACHIEVE DESIGN STRENGTH IF AN EXPOSURE CLASS IS SPECIFIED, PROVIDE MIX DESIGNS PER ACI 301

CN-8 ALL REINFORCING STEEL SHALL BE FREE OF RUST, SCALE, AND DRIED CONCRETE, AND SHALL BE ACCURATELY BENT AND SECURELY TIED INTO POSITION TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. RAISING REINFORCEMENT DURING POUR WILL NOT BE PERMITTED.

CN-9 CONCRETE COVER SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

- CONCRETE CAST AGAINST EARTH - 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER: BARS 3/4" AND LARGER IN DIAMETER - 2 INCHES BARS SMALLER THAN 3/4" DIAMETER - 1 1/2"
- CONCRETE NOT EXPOSED TO WEATHER OR GROUND: SLAB ON GRADE - 1 1/2" FROM TOP OF SLAB

CN-10 SET AND BUILD ANCHORAGE AND OTHER EMBEDDED ITEMS INTO FORM WORK AS REQUIRED FOR OTHER WORK THAT IS ATTACHED TO OR DELIVERED BY CONCRETE. COORDINATE WITH OTHER DISCIPLINES.

CN-11 CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 "STANDARD SPECIFICATION FOR READY-MIXED CONCRETE."

CN-12 CONCRETE WHEN DEPOSITED SHALL HAVE A TEMPERATURE NOT BELOW 50°F OR ABOVE 90°F. APPROPRIATE MEASURES SHALL BE TAKEN TO MAINTAIN TEMPERATURE RANGE AND PREVENT WATER EVAPORATION FOR 5 DAYS AFTER PLACEMENT. SALT OR OTHER CHEMICALS SHALL NOT BE ADDED TO PREVENT FREEZING.

CN-13 CONCRETE SHALL BE CONVEYED TO AND DEPOSITED IN FORM WORK NEAR ITS FINAL POSITION, WITH A FREE VERTICAL DROP NOT EXCEEDING 3 FEET. PLACE CONCRETE IN 12 INCH MAXIMUM LAYERS AND COMPACT EACH LAYER BY MECHANICAL VIBRATING.

CN-14 CONSTRUCTION JOINTS IN MONOLITHIC FRAMING SHALL HAVE PRIOR APPROVAL OF THE ARCHITECT/ENGINEER, U.N.O.

CN-15 SCREENING, RE-STRAIGHTENING, AND FINISHING OPERATIONS SHALL COMPLY WITH ACI 302.1R. COORDINATE ALL FINISHES WITH ARCHITECTURAL DRAWINGS AND FLOOR FINISH REQUIREMENTS. CAREFULLY TOOL ALL EXPOSED EDGES.

CN-16 CURE CONCRETE FOR AT LEAST SEVEN DAYS BY MOISTURE CURING, SEALED MOISTURE RETAINING COVER CURING, OR A CLEAR WATERBORNE CURING COMPOUND CONFORMING TO ASTM C309.

CN-17 SIDE FORMS MAY BE REMOVED AFTER CUMULATIVE CURING AT NOT LESS THAN 50°F FOR 24 HOURS AFTER PLACING CONCRETE. RESHORE AS REQUIRED FOR CONSTRUCTION LOADS.

CN-18 PATCH HONEYCOMB, THE HOLES, AND MINOR DEFECTS WITH ONE PART CEMENT AND TWO PARTS SAND IMMEDIATELY AFTER REMOVING FORMS.

CN-19 EXPOSED CONCRETE SHALL BE RUBBED WITH CARBORUNDUM BRICKS AND WATER AFTER 48 HOURS BUT BEFORE ONE WEEK. PLASTERING SURFACES WILL NOT BE PERMITTED.

CN-20 NOTIFY ENGINEER WHEN FORM WORK AND REINFORCING IS IN PLACE SO ENGINEER CAN OBSERVE REINFORCING STEEL PRIOR TO ALL CONCRETE POURS.

CN-21 INDEPENDENT TESTING LABORATORY SHALL TAKE SAMPLES AND PERFORM SLUMP AND COMPRESSION TESTS PER ASTM C-39 ON CONCRETE PLACED EACH DAY AT THE RATE OF ONE SET OF FOUR CYLINDERS FOR EACH 80 CU. YDS. OR FRACTION THEREOF WITH A MINIMUM INTERVAL OF 50 CU. YDS. BETWEEN SAMPLES.

GENERAL NOTES:

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GN-5 PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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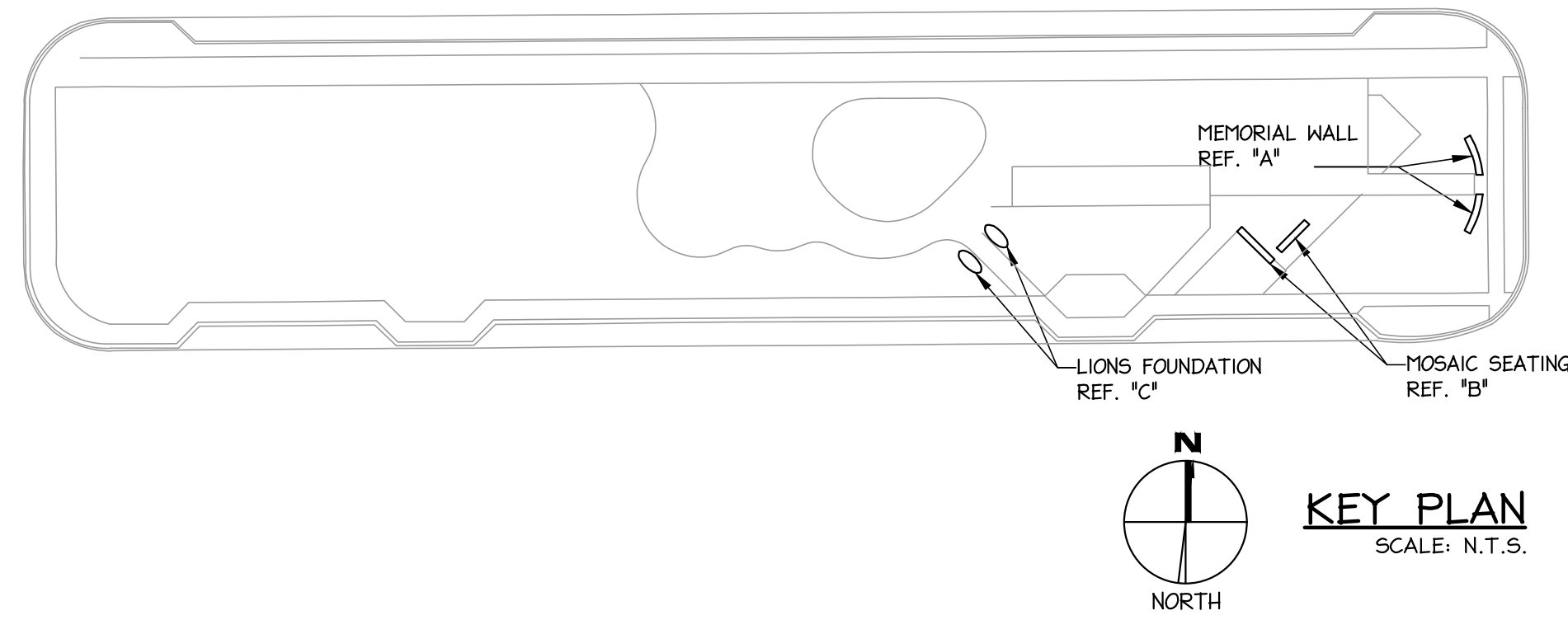
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LIVE LOADS - IN ACCORDANCE WITH IBC SECTION 1607	
FLOORS:	LOADS
ALL FLOORS	100 PSF
WIND LOADS - PER IBC SECTION 1609	
ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), V -ult	115 MPH
NOMINAL DESIGN WIND SPEED, V -asd	89 MPH
EXPOSURE CATEGORY	B
RISK CATEGORY	II
SNOW LOADS - PER IBC SECTION 1608	
	5 PSF
EARTHQUAKE LOADS - PER IBC SECTIONS 1613	
IMPORTANCE FACTOR	1
OCCUPANCY CATEGORY	11
0.2 SEC SPECTRAL RESPONSE ACCELERATION (S_s)	0.1000
1 SEC SPECTRAL RESPONSE ACCELERATION (S_1)	0.0300
SITE CLASS	D
0.2 SEC SPECTRAL RESPONSE COEFFICIENT (SD_s)	0.1070
1 SEC SPECTRAL RESPONSE COEFFICIENT (SD_1)	0.048
SEISMIC DESIGN CATEGORY	A
RESISTING SYSTEM	N/A
ANALYSIS PROCEDURE	ASCE 7-11.7
RESPONSE COEFFICIENT	N/A
MODIFICATION FACTOR	N/A
BASE SHEAR	N/A

NOTE: ALL FOUNDATIONS FOR ART ELEMENTS ARE ALTERNATE #2. (REFER TO SPECIFICATION SECTION 012300-ALTERNATES)



ADD ALTERNATE #2

DHR DURAND-HOLLIS RUPE ARCHITECTS, INC.

14603 HUEBNER ROAD
BUILDING 18
SAN ANTONIO, TEXAS 78230

TEL. 210 308-0080
FAX: 210 697-3309
eMAIL: office@dhrarchitects.com

REVISIONS		
ISSUE	DESCRIPTION	DATE

NEW PHILLIS WHEATLEY PARK
N. MITTMAN ST
SAN ANTONIO, TEXAS 78202

LOCATION:

STATE OF TEXAS
MATTHEW J. HOFFER
127512
LICENSED PROFESSIONAL ENGINEER

09/27/18

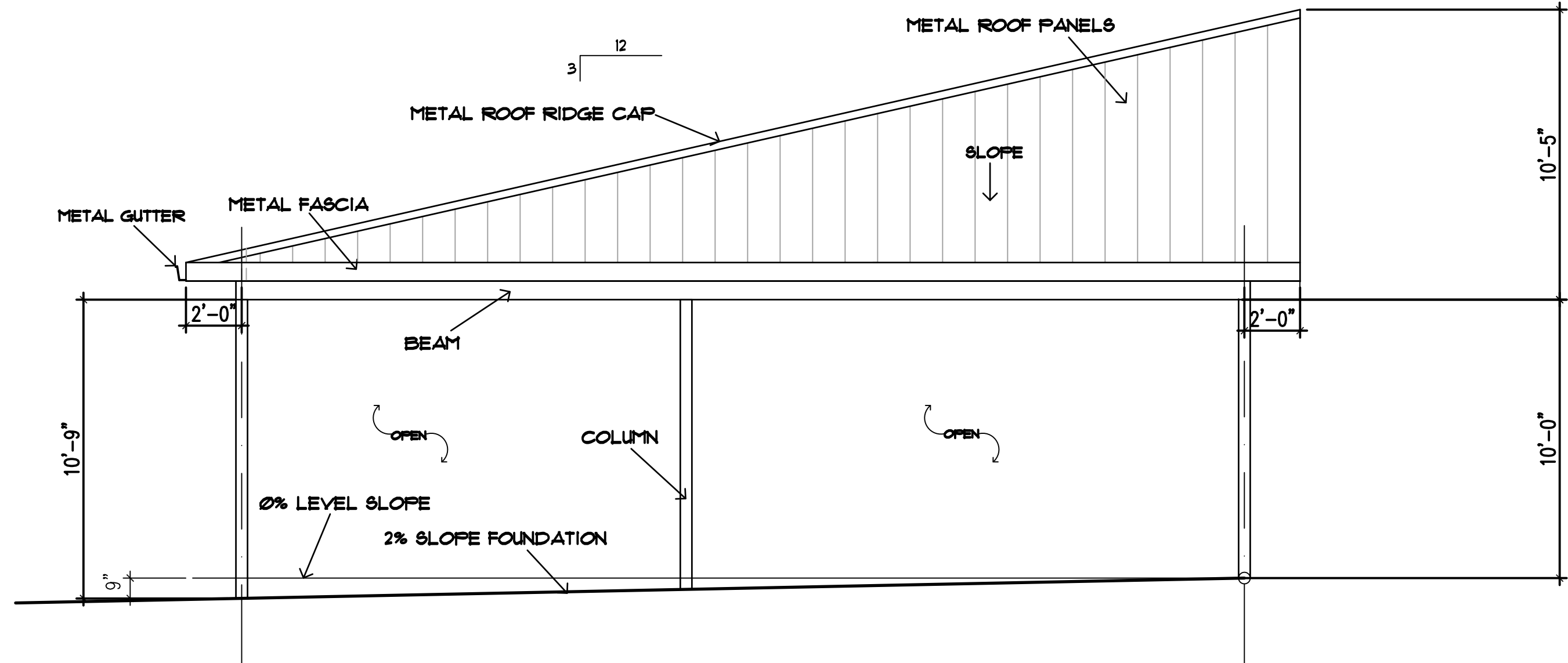
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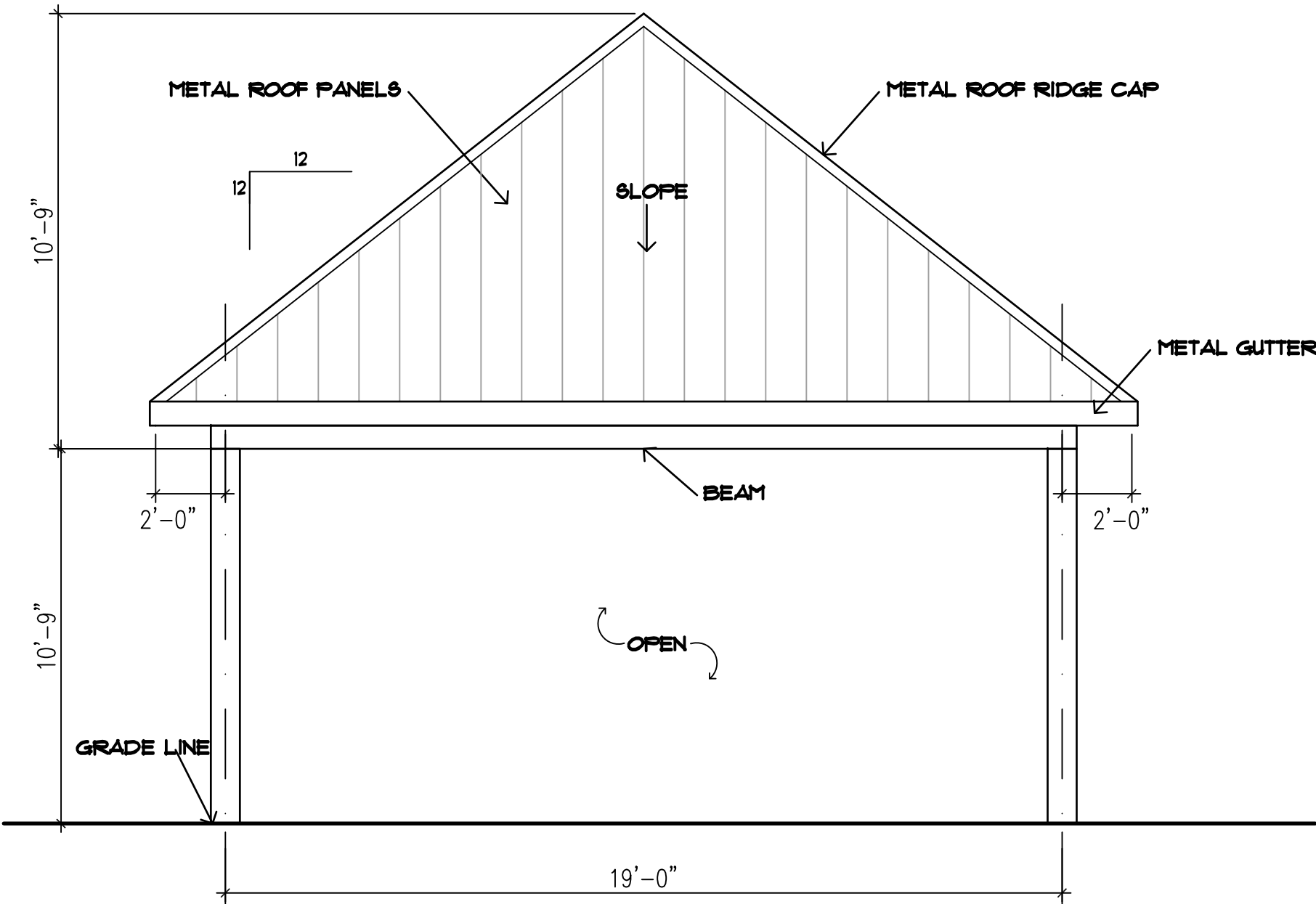
PROJECT ARCHITECT
LARRY THOMAS-WELLS, AIA
TEXAS LICENSE NO. 10-861

PARK ART
ELEMENTS
FOUNDATIONS

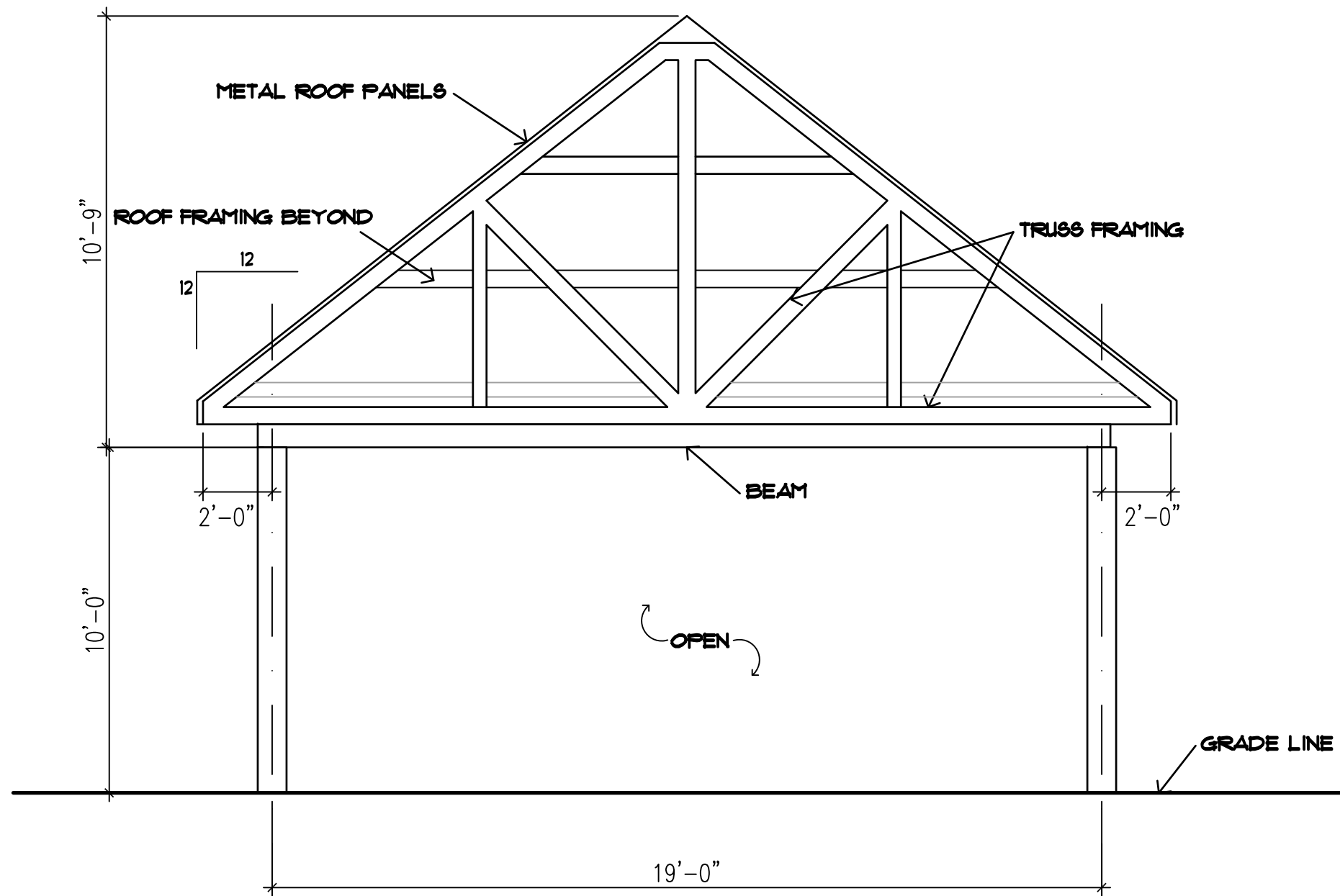
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S-300



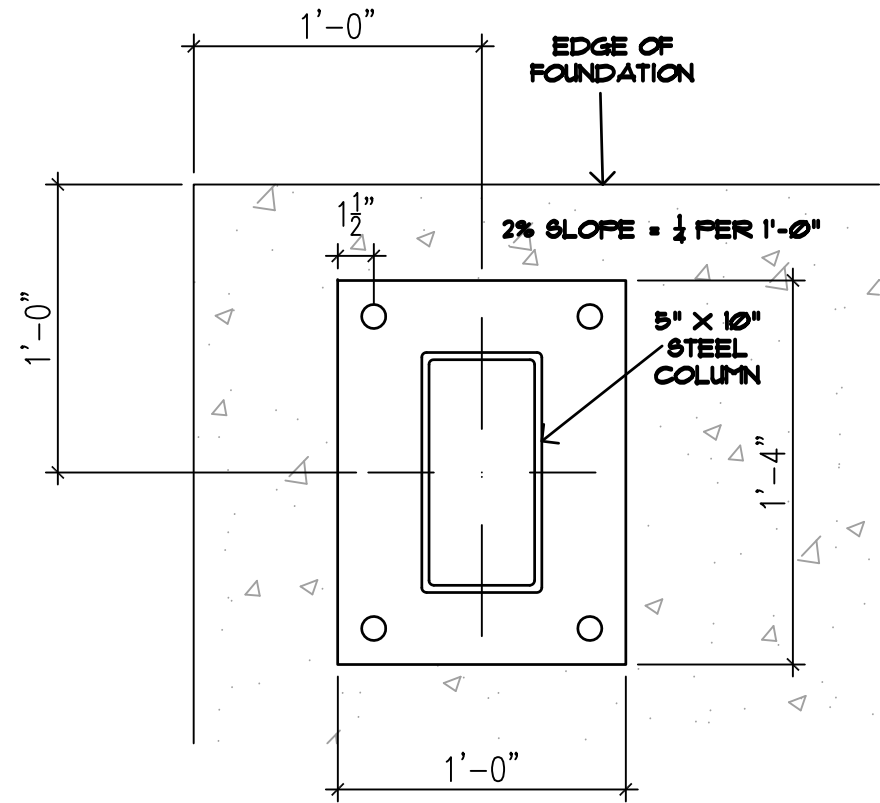
2 PAVILION NORTH/SOUTH ELEVATION
SCALE: 3/8"=1'-0"



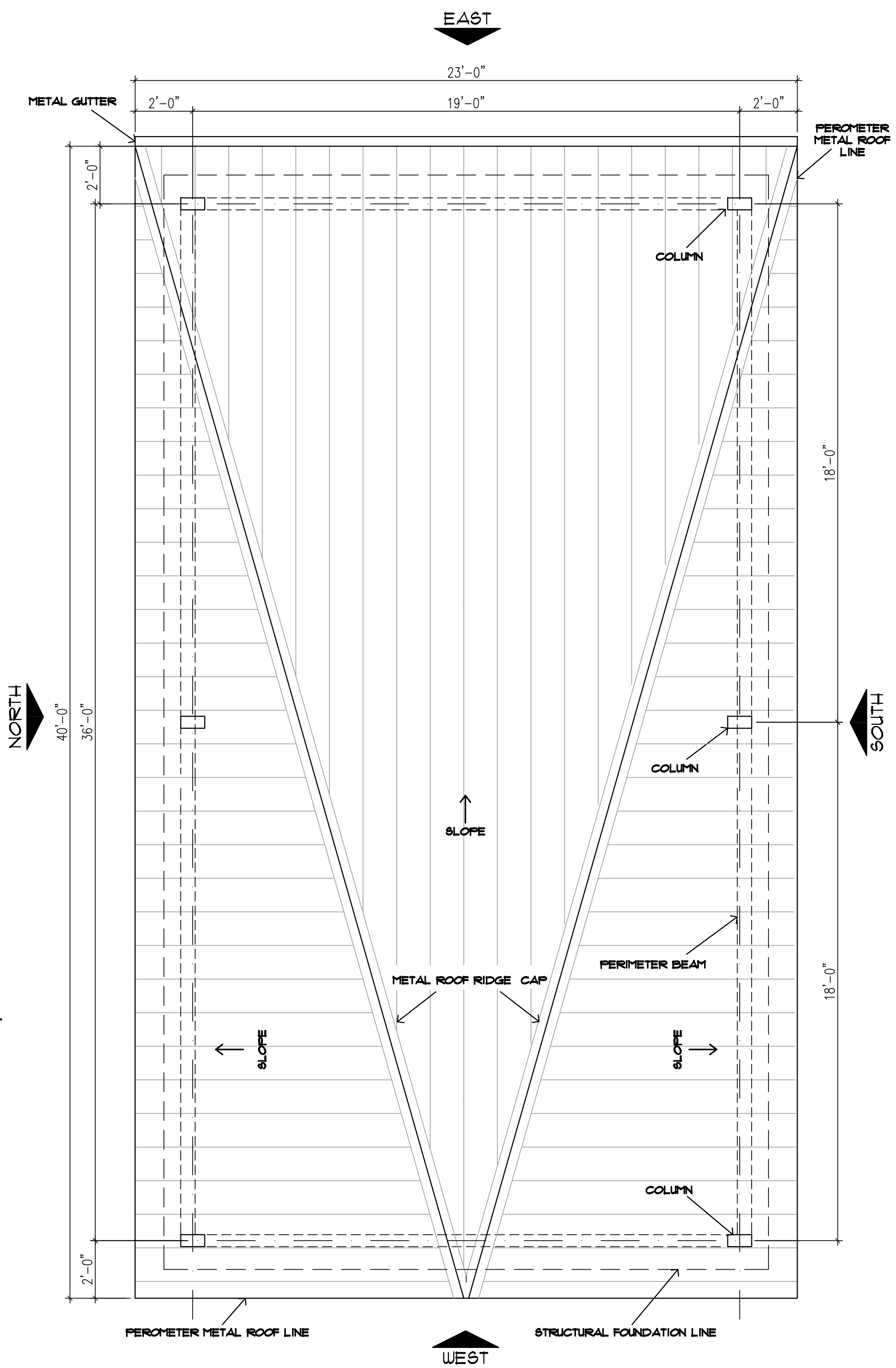
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4 PAVILION WEST ELEVATION
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5 COLUMN BASE PLATE
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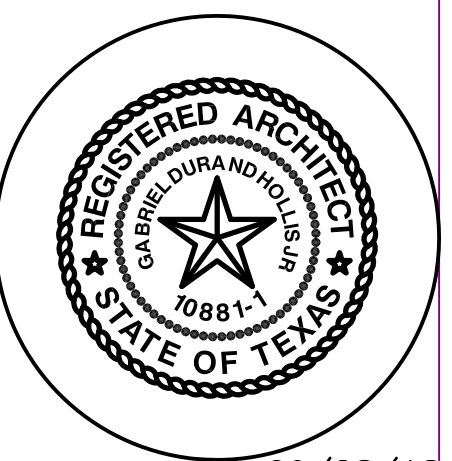


1 PAVILION ROOF PLAN
SCALE: 3/8"=1'-0"

REVISIONS		
ISSUE	DESCRIPTION	DATE

LOCATION:
NEW PHILLIS WHEATLEY PARK
N. MITTMAN ST
SAN ANTONIO, TEXAS 78202

PROJECT #18-010

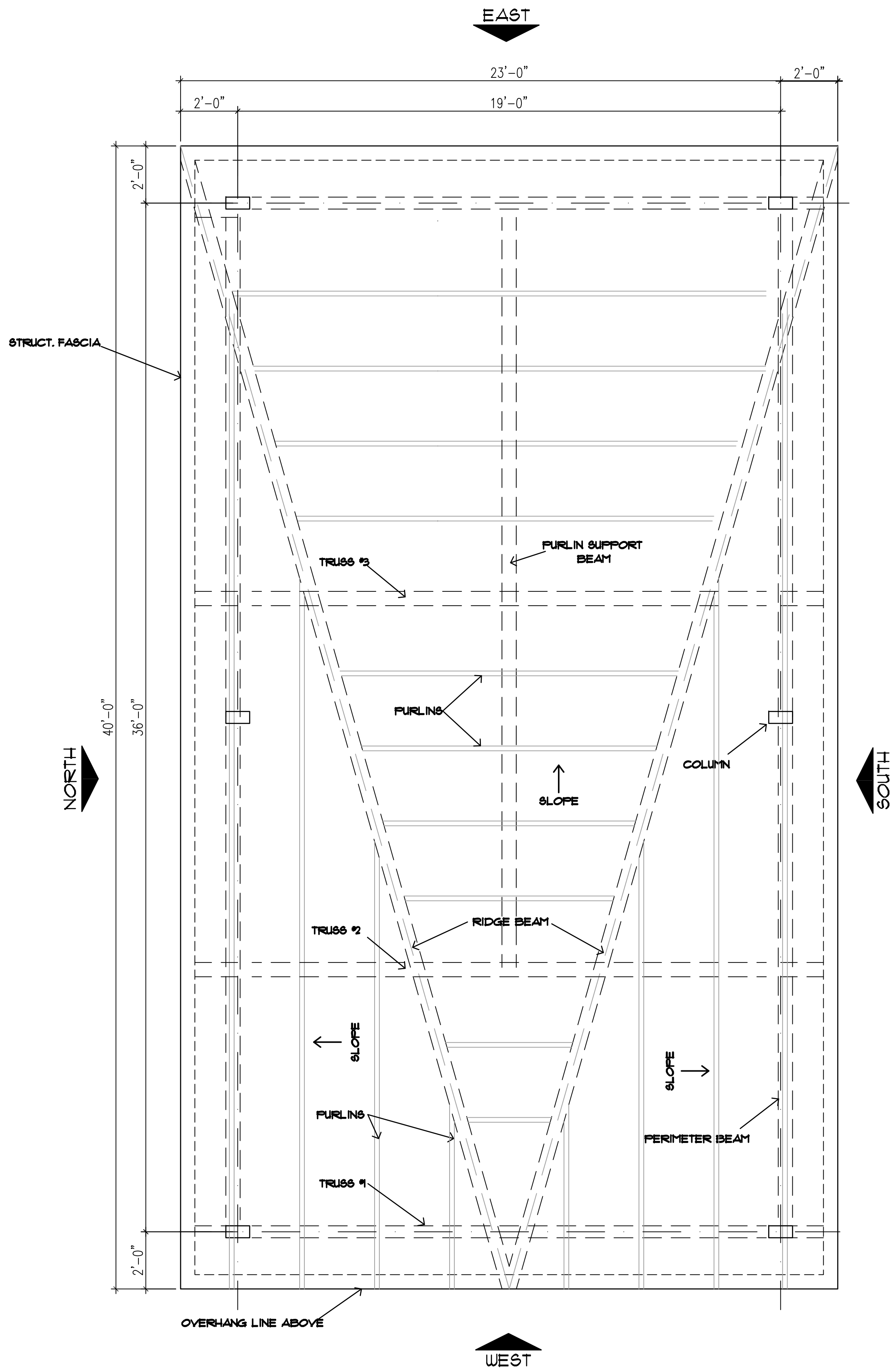


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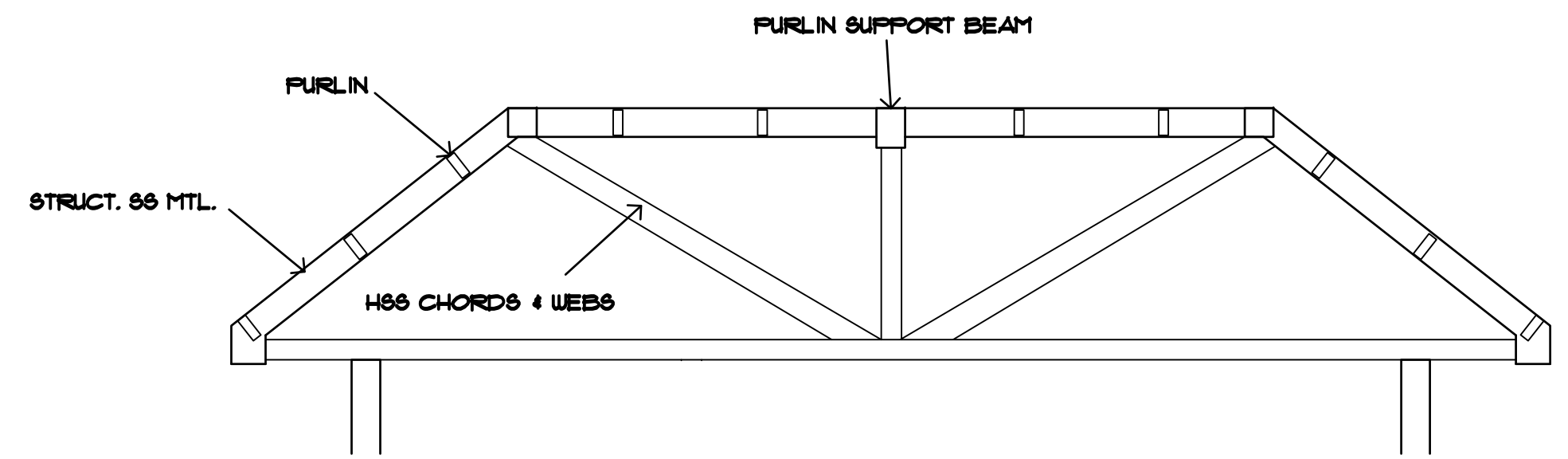
PROJECT ARCHITECT
DHR, DURAND-HOLLIS, RP
TEXAS LICENSE NO. 10-881

PAVILION ROOF PLAN & ELEVATIONS

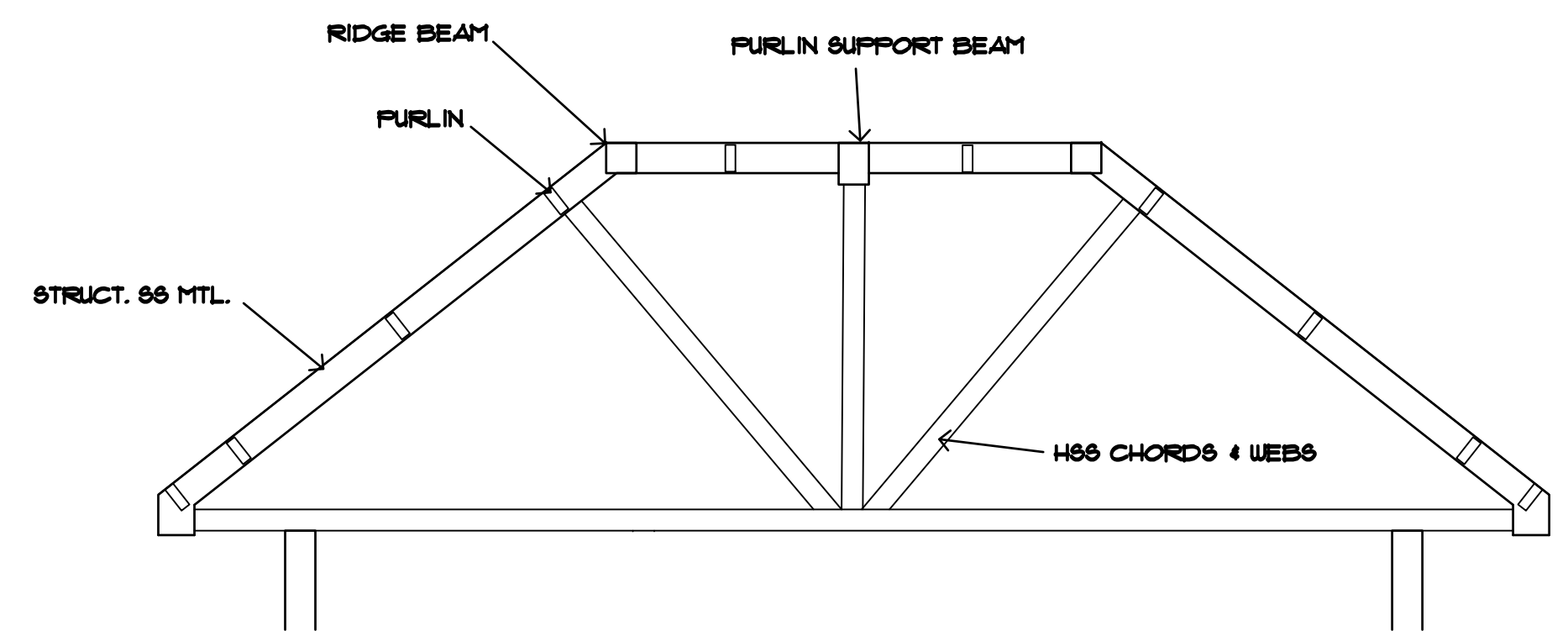
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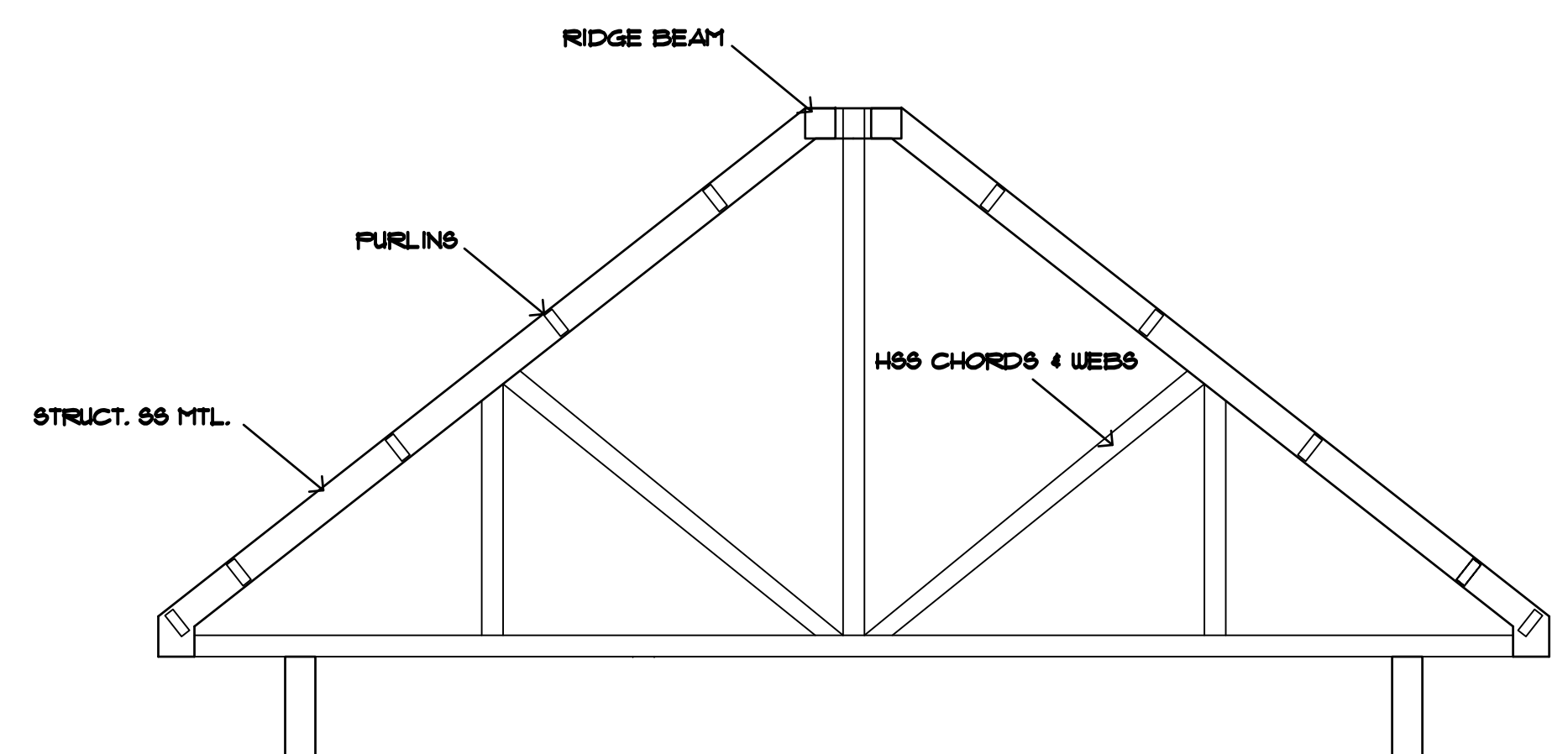
1 PAVILION ROOF FRAMING PLAN
SCALE: 3/8"=1'-0"



TRUSS #3



TRUSS #2



TRUSS #1

2 TRUSS FRAMING
SCALE: 3/8"=1'-0"

GABLE TRUSS

DHR

ARCHITECTS

DURAND-HOLLIS RUPE

ARCHITECTS, INC.

14603 HUEBNER ROAD

BUILDING 18

SAN ANTONIO, TEXAS

78230

TEL. 210 308-0080

FAX. 210 697-3309

eMAIL OFFICE@DHRARCHITECTS.COM

REVISIONS		
ISSUE	DESCRIPTION	DATE

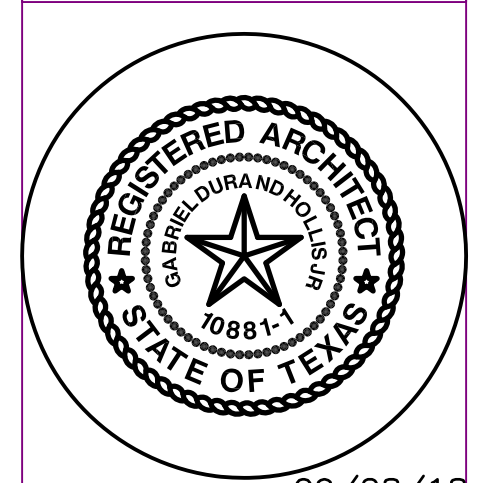
LOCATION:

NEW PHILLIS WHEATLEY PARK

N. MITTMAN ST

SAN ANTONIO, TEXAS 78202

PROJECT #18-010



09/28/18

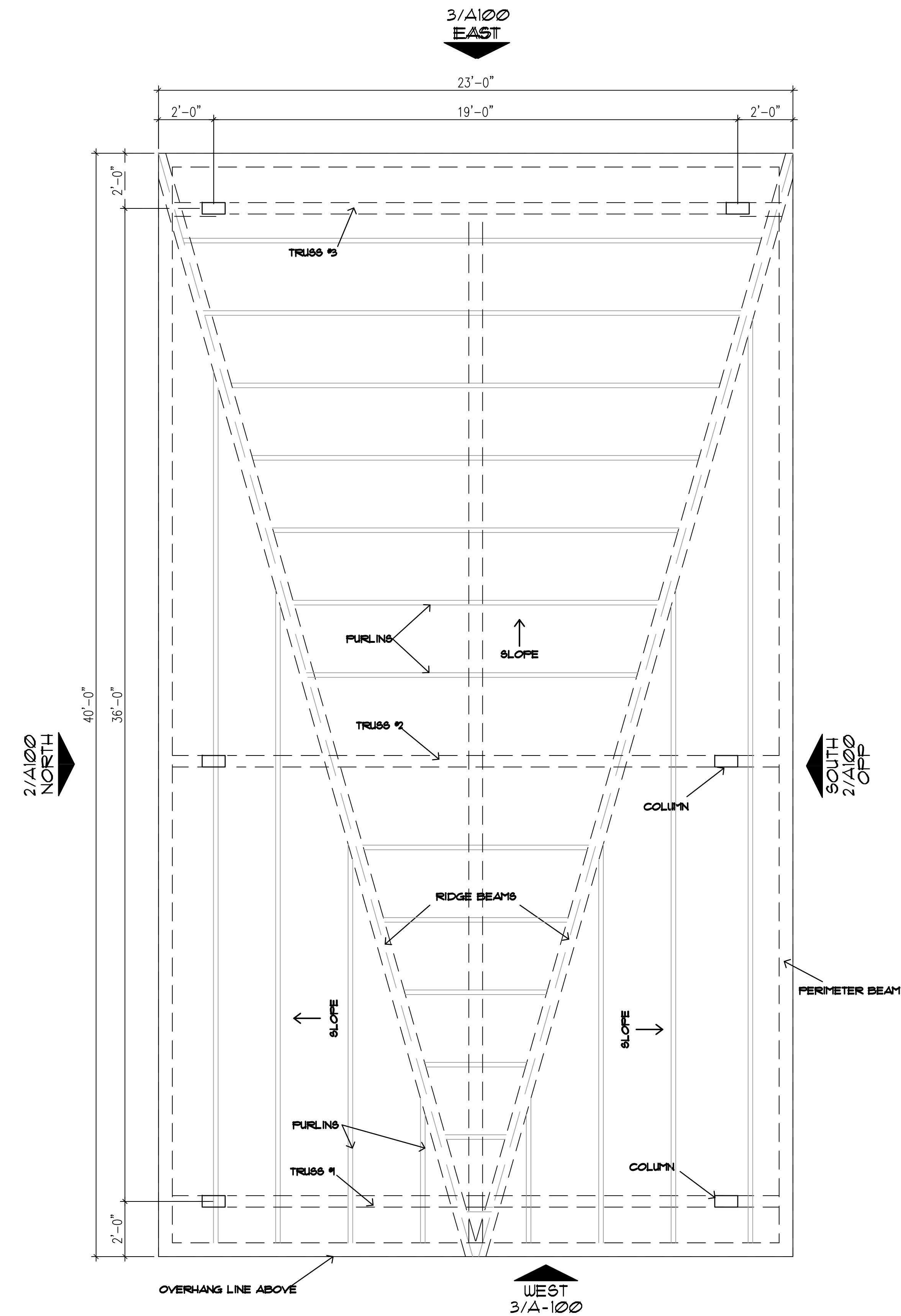
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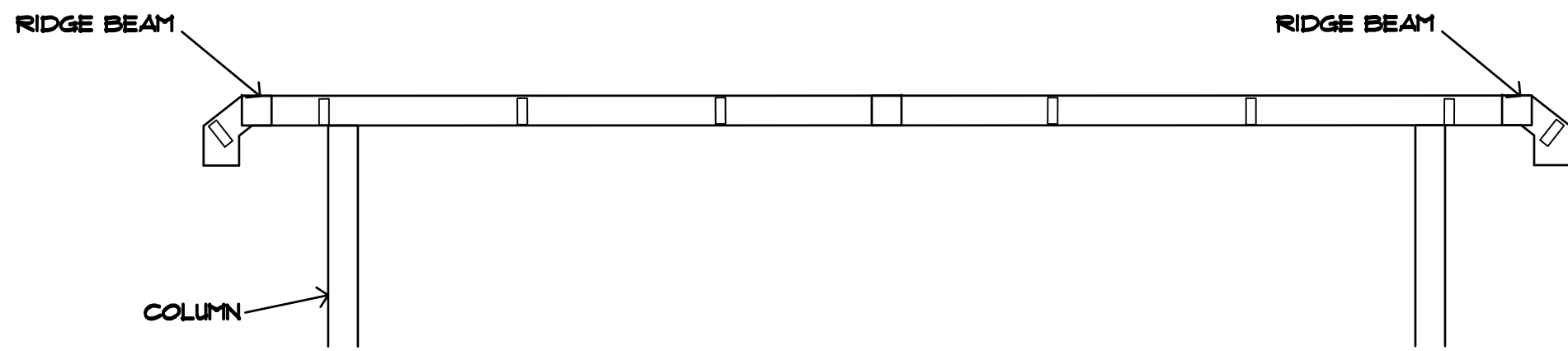
PROJECT ARCHITECT
GABRIEL DURAND-HOLLIS, AIA
TEXAS LICENSE NO. 10480

ROOF FRAMING & ELEVATIONS

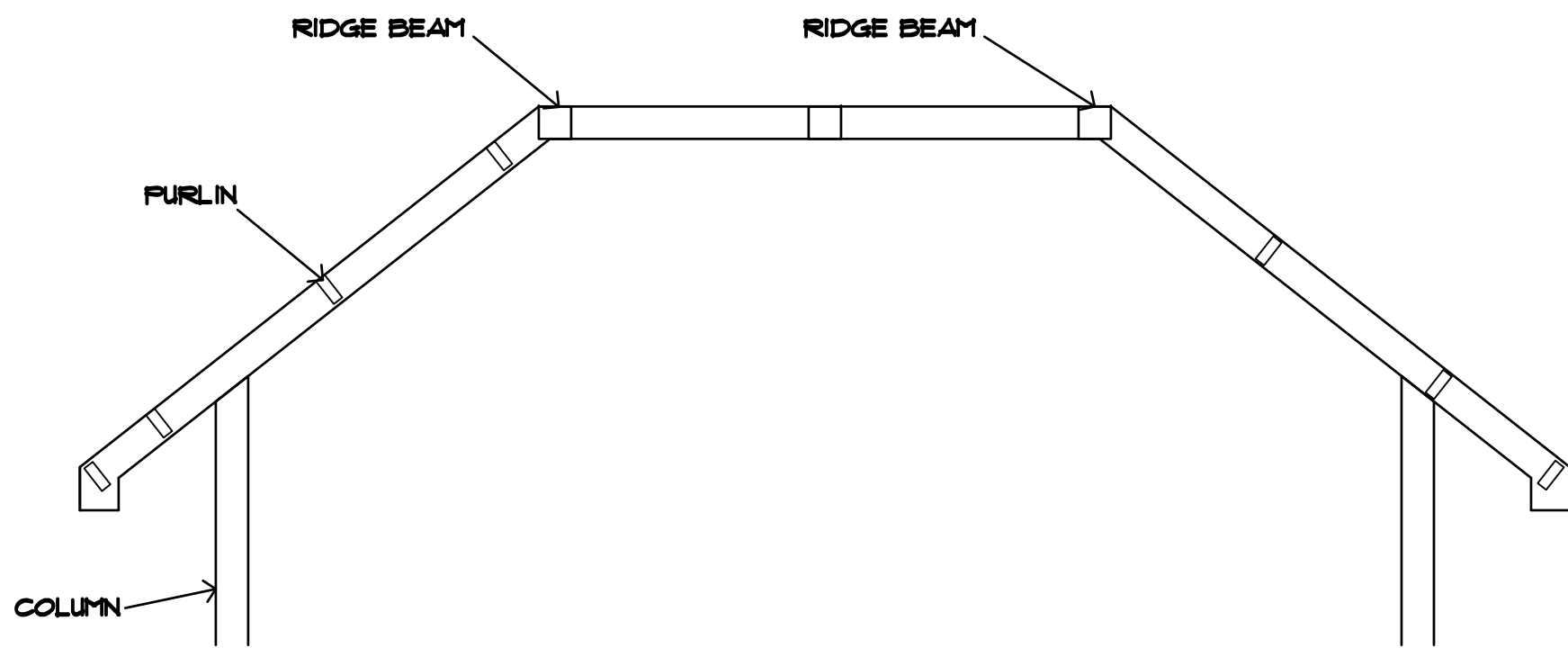
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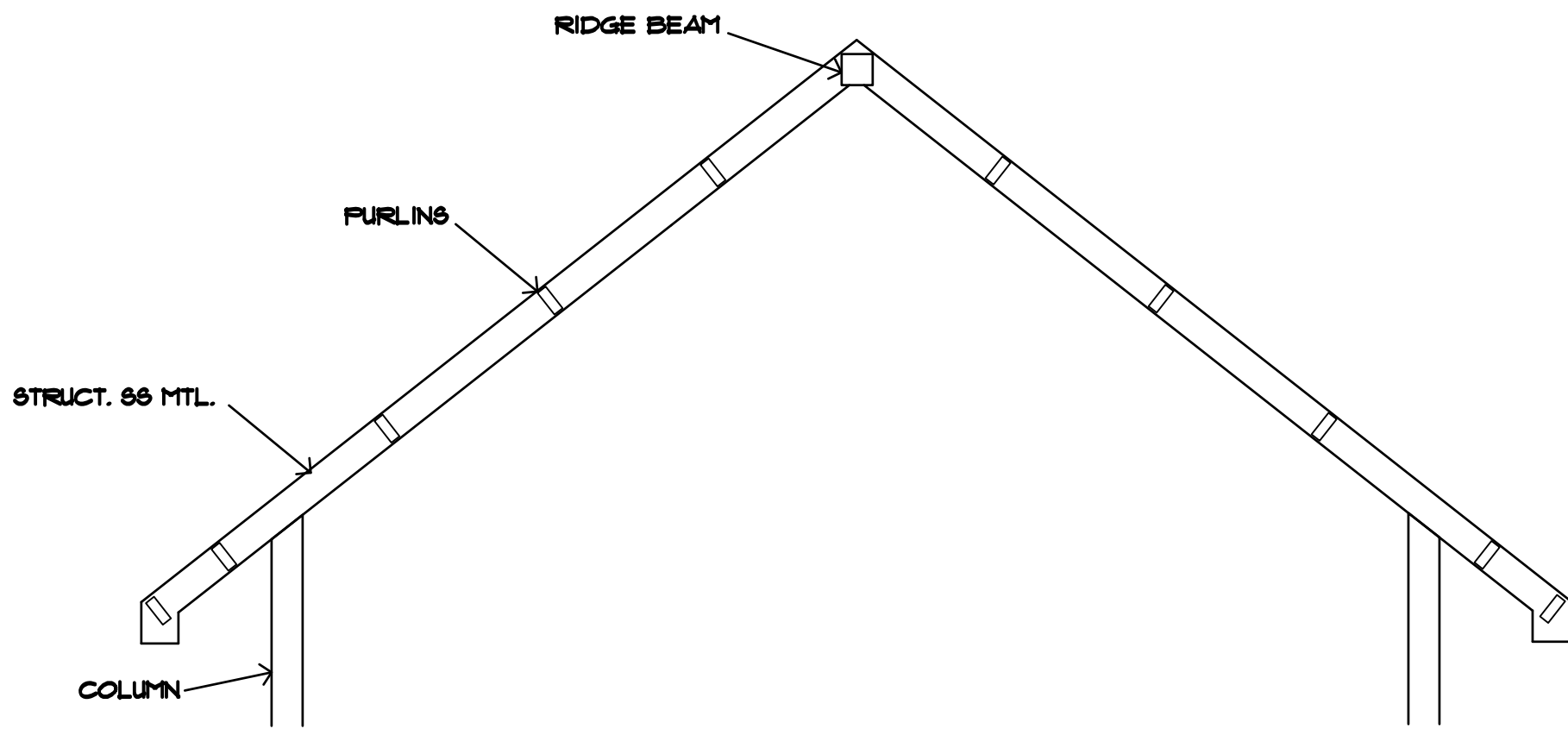
1 PAVILION ROOF FRAMING PLAN
SCALE: 3/8"=1'-0"



TRUSS #3



TRUSS #2



TRUSS #1

2 FRAMING
SCALE: 3/8"=1'-0"

NO TRUSS

REVISIONS		
ISSUE	DESCRIPTION	DATE

LOCATION:

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N. MITTMAN ST
SAN ANTONIO, TEXAS 78202

PROJECT #18-010

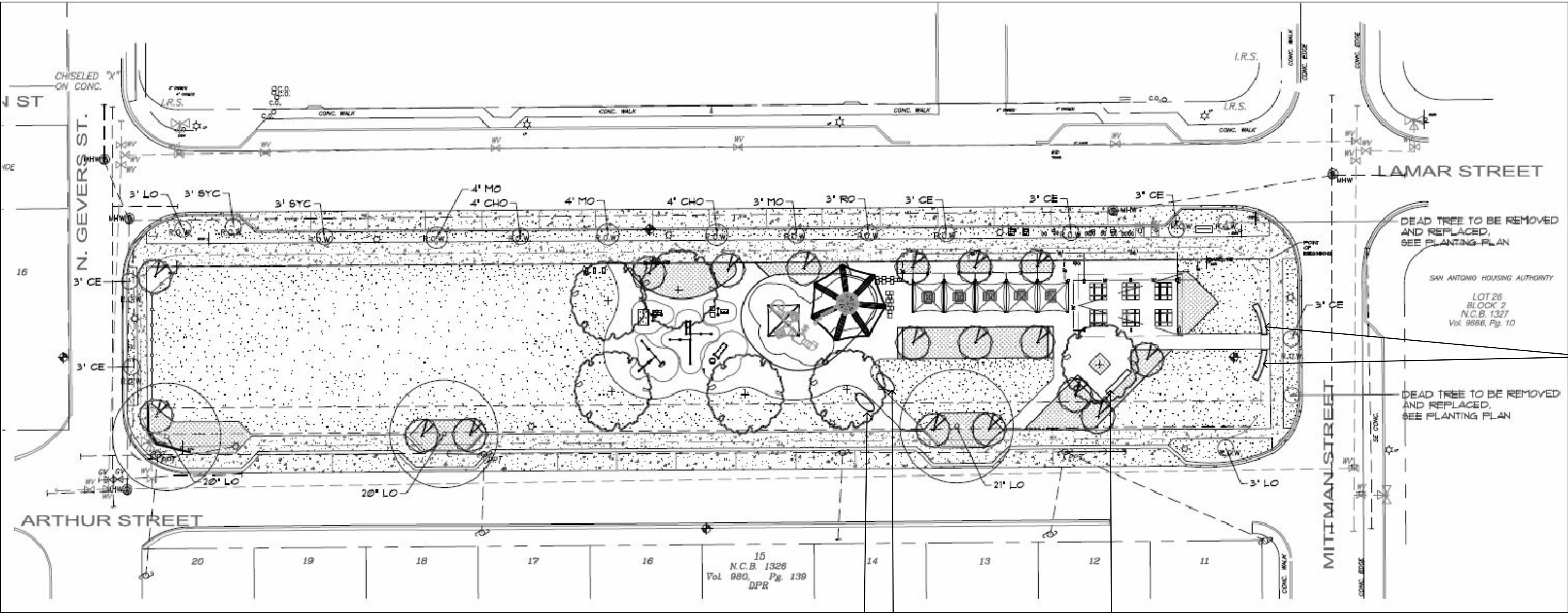
REGISTERED ARCHITECT
GABRIEL DURAND-HOLLIS, III
10881-1
STATE OF TEXAS
09/28/18

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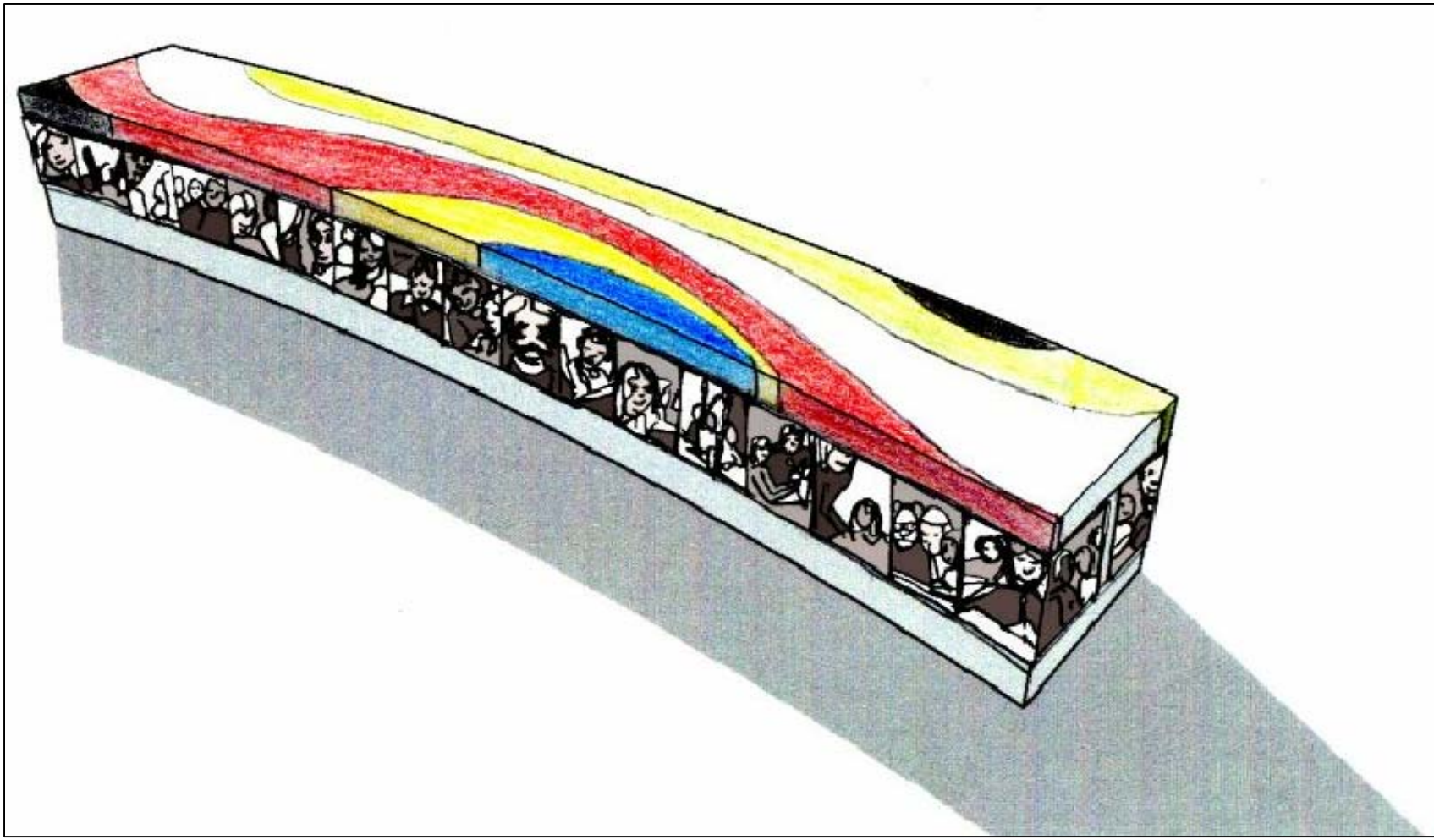
PROJECT ARCHITECT
DHR, DURAND-HOLLIS, III
TEXAS LICENSE NO. 10-481

**PAVILION
ROOF FRAMING &
TRUSSES**

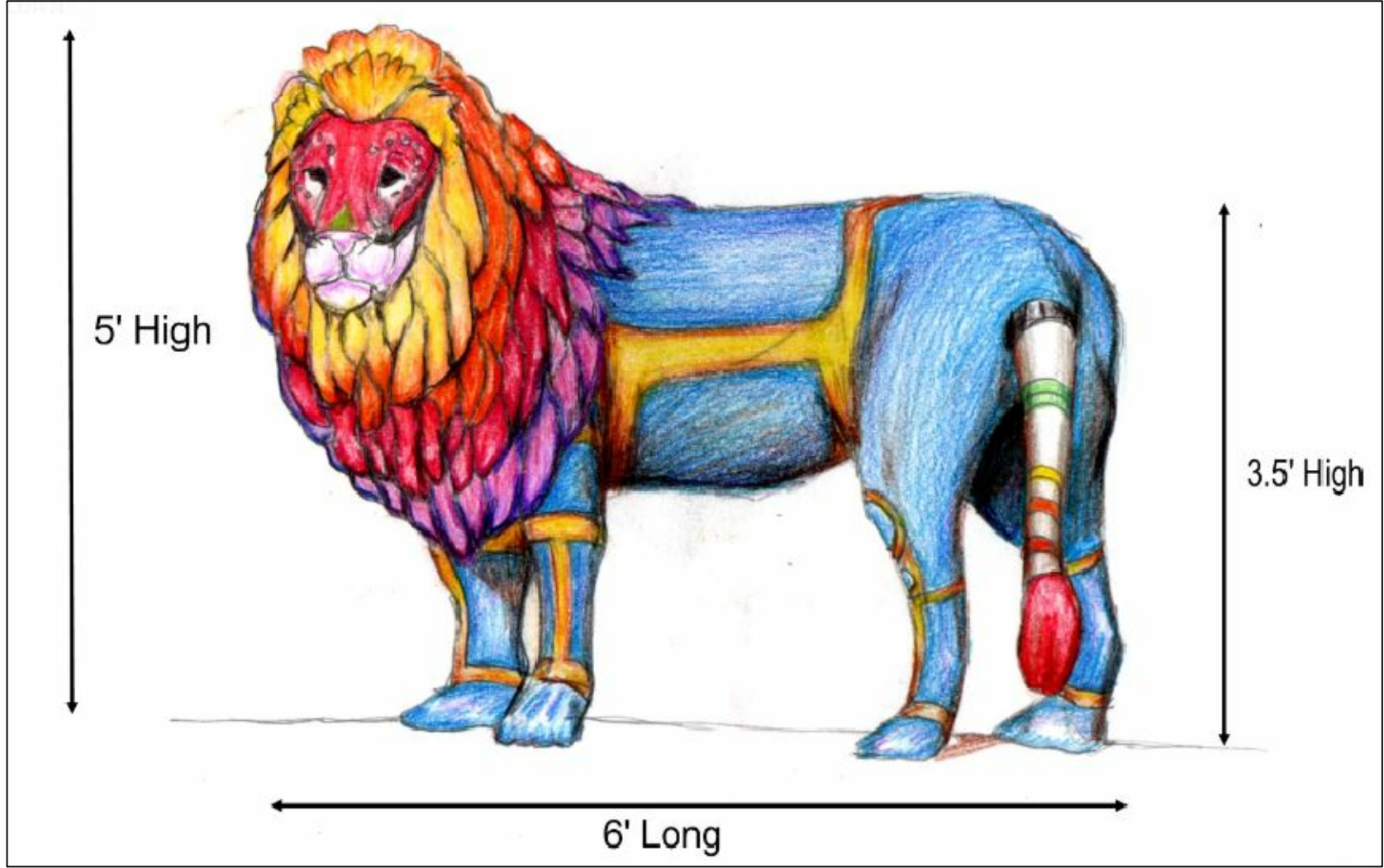
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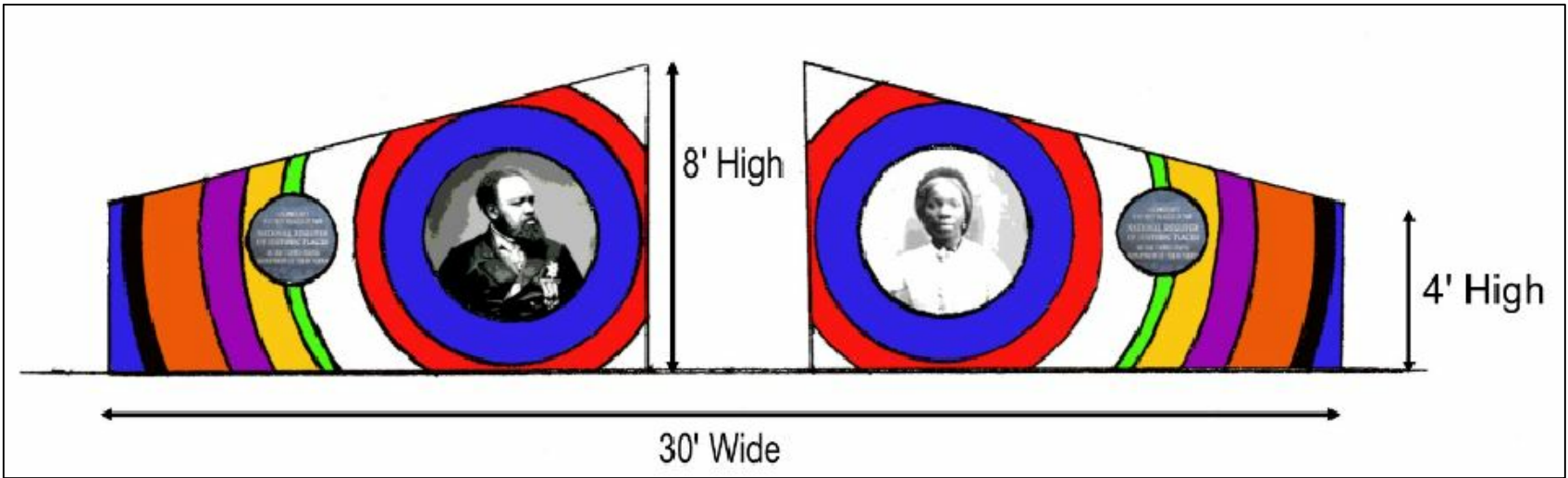
5 KEY SITE PLAN
NOT TO SCALE



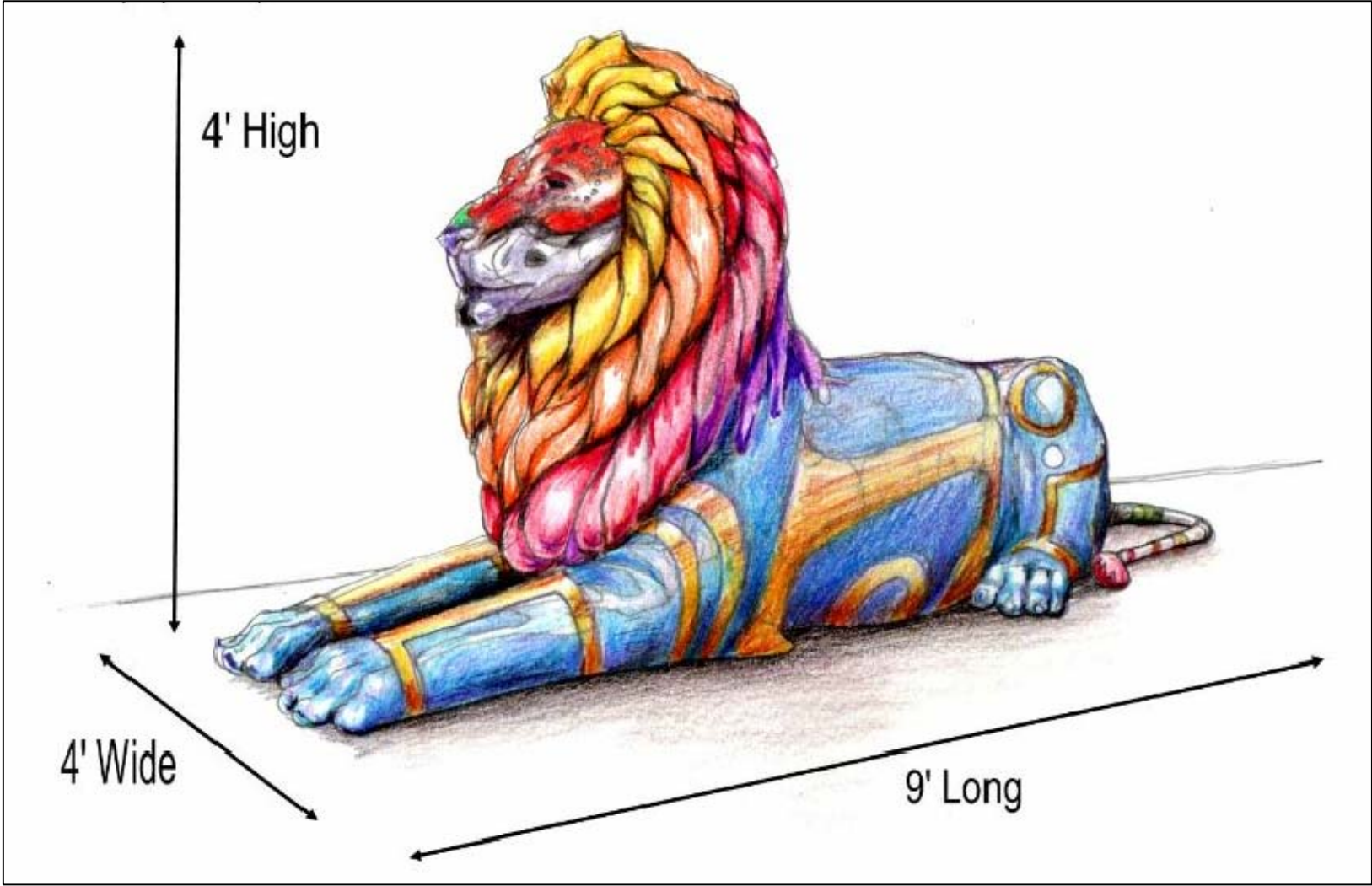
3 BENCH
NOT TO SCALE



2 LION 2
NOT TO SCALE



4 MEMORIAL WALL
NOT TO SCALE



1 LION 1
NOT TO SCALE

KEYED NOTES

1. LION 1
2. LION 2
3. BENCH
4. MEMORIAL WALL

DHR ARCHITECTS

DURAND-HOLLIS RUPE
ARCHITECTS, INC.

14603 HUEBNER ROAD
BUILDING 18
SAN ANTONIO, TEXAS
78230

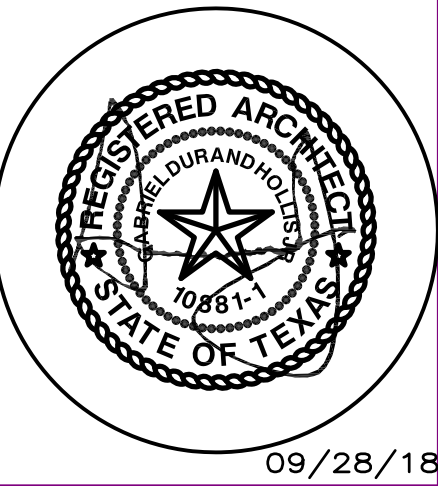
TEL. 210 308-0080
FAX. 210 697-3309
eMAIL OFFICE@DHRARCHITECTS.COM

REVISIONS		
ISSUE	DESCRIPTION	DATE

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SAN ANTONIO, TEXAS 78202

LOCATION:

PROJECT #18-010



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PROJECT ARCHITECT
GABRIEL DURAND-HOLLIS, AIA
TEXAS LICENSE NO. 15-881

PARK ART ELEMENTS

SHEET NUMBER
A-103

ATTACHMENT B
HUD Forms and
Conflict of Interest Questionnaire
Form 1295 Certificate of Interested Parties

*(Form 1295 is to be completed online by the **Selected Respondent** and submitted to the Texas Ethics Commission pursuant to Government Code 2252.908 and a copy returned to SAHA with the Certification prior to contract execution. A copy of the 1295 Form is included herein for information purposes only).*

**U.S. Department of Housing and
Urban Development**
Office of Public and Indian Housing

**Instructions to Bidders for Contracts
Public and Indian Housing Programs**

Instructions to Bidders for Contracts

Public and Indian Housing Programs

Table of Contents

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1. Bid Preparation and Submission

(a) Bidders are expected to examine the specifications, drawings, all instructions, and, if applicable, the construction site (see also the contract clause entitled **Site Investigation and Conditions Affecting the Work** of the *General Conditions of the Contract for Construction*). Failure to do so will be at the bidders' risk.

(b) All bids must be submitted on the forms provided by the Public Housing Agency/Indian Housing Authority (PHA/IHA). Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidder's name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of that agent's authority. (Bidders should retain a copy of their bid for their records.)

(c) Bidders must submit as part of their bid a completed form HUD-5369-A, "Representations, Certifications, and Other Statements of Bidders."

(d) All bid documents shall be sealed in an envelope which shall be clearly marked with the words "Bid Documents," the Invitation for Bids (IFB) number, any project or other identifying number, the bidder's name, and the date and time for receipt of bids.

(e) If this solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "No Bid" in the space provided for any item on which no price is submitted.

(f) Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.

(g) Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph or facsimile (fax) machines will not be considered.

(h) If the proposed contract is for a Mutual Help project (as described in 24 CFR Part 905, Subpart E) that involves Mutual Help contributions of work, material, or equipment, supplemental information regarding the bid advertisement is provided as an attachment to this solicitation.

2. Explanations and Interpretations to Prospective Bidders

(a) Any prospective bidder desiring an explanation or interpretation of the solicitation, specifications, drawings, etc., must request it at least 7 days before the scheduled time for bid opening. Requests may be oral or written. Oral requests must be confirmed in writing. The only oral clarifications that will be provided will be those clearly related to solicitation procedures, i.e., not substantive technical information. No other oral explanation or interpretation will be provided. Any information given a prospective bidder concerning this solicitation will be furnished promptly to all other prospective bidders as a written amendment to the solicitation, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to other prospective bidders.

(b) Any information obtained by, or provided to, a bidder other than by formal amendment to the solicitation shall not constitute a change to the solicitation.

3. Amendments to Invitations for Bids

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date on the bid form, or (3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation. The PHA/IHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's/IHA's requirements.

(c) Amendments will be on file in the offices of the PHA/IHA and the Architect at least 7 days before bid opening.

4. Responsibility of Prospective Contractor

(a) The PHA/IHA will award contracts only to responsible prospective contractors who have the ability to perform successfully under the terms and conditions of the proposed contract. In determining the responsibility of a bidder, the PHA/IHA will consider such matters as the bidder's:

- (1) Integrity;
- (2) Compliance with public policy;
- (3) Record of past performance; and
- (4) Financial and technical resources (including construction and technical equipment).

(b) Before a bid is considered for award, the bidder may be requested by the PHA/IHA to submit a statement or other documentation regarding any of the items in paragraph (a) above. Failure by the bidder to provide such additional information shall render the bidder nonresponsible and ineligible for award.

5. Late Submissions, Modifications, and Withdrawal of Bids

(a) Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it:

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the PHA/IHA that the late receipt was due solely to mishandling by the PHA/IHA after receipt at the PHA/IHA; or

(3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and observed holidays.

(b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.

(c) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the bid, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, bidders should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(d) The only acceptable evidence to establish the time of receipt at the PHA/IHA is the time/date stamp of PHA/IHA on the proposal wrapper or other documentary evidence of receipt maintained by the PHA/IHA.

(e) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and Failure by a bidder to acknowledge receipt of the envelope or wrapper.

(f) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the PHA/IHA will be considered at any time it is received and may be accepted.

(g) Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids; provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

6. Bid Opening

All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

7. Service of Protest

(a) Definitions. As used in this provision:

"Interested party" means an actual or prospective bidder whose direct economic interest would be affected by the award of the contract.

"Protest" means a written objection by an interested party to this solicitation or to a proposed or actual award of a contract pursuant to this solicitation.

(b) Protests shall be served on the Contracting Officer by obtaining written and dated acknowledgement from —

Director Of Procurement
San Antonio Housing Authority
818 S. Flores
San Antonio, TX 78204

[Contracting Officer designate the official or location where a protest may be served on the Contracting Officer]

(c) All protests shall be resolved in accordance with the PHA's/IHA's protest policy and procedures, copies of which are maintained at the PHA/IHA.

8. Contract Award

(a) The PHA/IHA will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the PHA/IHA considering only price and any price-related factors specified in the solicitation.

(b) If the apparent low bid received in response to this solicitation exceeds the PHA's/IHA's available funding for the proposed contract work, the PHA/IHA may either accept separately priced items (see 8(e) below) or use the following procedure to determine contract award. The PHA/IHA shall apply in turn to each bid (proceeding in order from the apparent low bid to the high bid) each of the separately priced bid deductible items, if any, in their priority order set forth in this solicitation. If upon the application of the first deductible item to all initial bids, a new low bid is within the PHA's/IHA's available funding, then award shall be made to that bidder. If no bid is within the available funding amount, then the PHA/IHA shall apply the second deductible item. The PHA/IHA shall continue this process until an evaluated low bid, if any, is within the PHA's/IHA's available funding. If upon the application of all deductibles, no bid is within the PHA's/IHA's available funding, or if the solicitation does not request separately priced deductibles, the PHA/IHA shall follow its written policy and procedures in making any award under this solicitation.

(c) In the case of tie low bids, award shall be made in accordance with the PHA's/IHA's written policy and procedures.

(d) The PHA/IHA may reject any and all bids, accept other than the lowest bid (e.g., the apparent low bid is unreasonably low), and waive informalities or minor irregularities in bids received, in accordance with the PHA's/IHA's written policy and procedures.

(e) Unless precluded elsewhere in the solicitation, the PHA/IHA may accept any item or combination of items bid.

(f) The PHA/IHA may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(g) A written award shall be furnished to the successful bidder within the period for acceptance specified in the bid and shall result in a binding contract without further action by either party.

9. Bid Guarantee (applicable to construction and equipment contracts exceeding \$25,000)

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. In the case where the work under the contract will be performed on an Indian reservation area, the bid guarantee may also be an irrevocable Letter of Credit (see provision 10, Assurance of Completion, below). Certified checks and bank drafts must be made payable to the order of the PHA/IHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

10. Assurance of Completion

(a) Unless otherwise provided in State law, the successful bidder shall furnish an assurance of completion prior to the execution of any contract under this solicitation. This assurance may be [Contracting Officer check applicable items] —

[X] (1) a performance and payment bond in a penal sum of 100 percent of the contract price; or, as may be required or permitted by State law;

[] (2) separate performance and payment bonds, each for 50 percent or more of the contract price;

[] (3) a 20 percent cash escrow;

[] (4) a 25 percent irrevocable letter of credit; or,

[] (5) an irrevocable letter of credit for 10 percent of the total contract price with a monitoring and disbursements agreement with the IHA (applicable only to contracts awarded by an IHA under the Indian Housing Program).

(b) Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Individual sureties will not be considered. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of companies listed in this circular is mandatory. Copies of the circular may be downloaded on the U.S. Department of Treasury website <http://www.fms.treas.gov/c570/index.html>, or ordered for a minimum fee by contacting the Government Printing Office at (202) 512-2168.

(c) Each bond shall clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.

(d) Failure by the successful bidder to obtain the required assurance of completion within the time specified, or within such extended period as the PHA/IHA may grant based upon reasons determined adequate by the PHA/IHA, shall render the bidder ineligible for award. The PHA/IHA may then either award the contract to the next lowest responsible bidder or solicit new bids. The PHA/IHA may retain the ineligible bidder's bid guarantee.

11. Preconstruction Conference (applicable to construction contracts)

After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the PHA/IHA and its architect/engineer, and other interested parties convened by the PHA/IHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract (e.g., Equal Employment Opportunity, Labor Standards). The PHA/IHA will provide the successful bidder with the date, time, and place of the conference.

12. Indian Preference Requirements (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

(a) HUD has determined that the contract awarded under this solicitation is subject to the requirements of section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e(b)). Section 7(b) requires that any contract or subcontract entered into for the benefit of Indians shall require that, to the greatest extent feasible

(1) Preferences and opportunities for training and employment (other than core crew positions; see paragraph (h) below) in connection with the administration of such contracts or subcontracts be given to qualified "Indians." The Act defines "Indians" to mean persons who are members of an Indian tribe and defines "Indian tribe" to mean any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and,

(2) Preference in the award of contracts or subcontracts in connection with the administration of contracts be given to Indian organizations and to Indian-owned economic enterprises, as defined in section 3 of the Indian Financing Act of 1974 (25 U.S.C. 1452). That Act defines "economic enterprise" to mean any Indian-owned commercial, industrial, or business activity established or organized for the purpose of profit, except that the Indian ownership must constitute not less than 51 percent of the enterprise; "Indian organization" to mean the governing body of any Indian tribe or entity established or recognized by such governing body; "Indian" to mean any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act; and Indian "tribe" to mean any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including

corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

(b) (1) The successful Contractor under this solicitation shall comply with the requirements of this provision in awarding all subcontracts under the contract and in providing training and employment opportunities.

(2) A finding by the IHA that the contractor, either (i) awarded a subcontract without using the procedure required by the IHA, (ii) falsely represented that subcontracts would be awarded to Indian enterprises or organizations; or, (iii) failed to comply with the contractor's employment and training preference bid statement shall be grounds for termination of the contract or for the assessment of penalties or other remedies.

(c) If specified elsewhere in this solicitation, the IHA may restrict the solicitation to qualified Indian-owned enterprises and Indian organizations. If two or more (or a greater number as specified elsewhere in the solicitation) qualified Indian-owned enterprises or organizations submit responsive bids, award shall be made to the qualified enterprise or organization with the lowest responsive bid. If fewer than the minimum required number of qualified Indian-owned enterprises or organizations submit responsive bids, the IHA shall reject all bids and readvertise the solicitation in accordance with paragraph (d) below.

(d) If the IHA prefers not to restrict the solicitation as described in paragraph (c) above, or if after having restricted a solicitation an insufficient number of qualified Indian enterprises or organizations submit bids, the IHA may advertise for bids from non-Indian as well as Indian-owned enterprises and Indian organizations. Award shall be made to the qualified Indian enterprise or organization with the lowest responsive bid if that bid is -

(1) Within the maximum HUD-approved budget amount established for the specific project or activity for which bids are being solicited; and

(2) No more than the percentage specified in 24 CFR 905.175(c) higher than the total bid price of the lowest responsive bid from any qualified bidder. If no responsive bid by a qualified Indian-owned economic enterprise or organization is within the stated range of the total bid price of the lowest responsive bid from any qualified enterprise, award shall be made to the bidder with the lowest bid.

(e) Bidders seeking to qualify for preference in contracting or subcontracting shall submit proof of Indian ownership with their bids. Proof of Indian ownership shall include but not be limited to:

(1) Certification by a tribe or other evidence that the bidder is an Indian. The IHA shall accept the certification of a tribe that an individual is a member.

(2) Evidence such as stock ownership, structure, management, control, financing and salary or profit sharing arrangements of the enterprise.

(f) (1) All bidders must submit with their bids a statement describing how they will provide Indian preference in the award of subcontracts. The specific requirements of that statement and the factors to be used by the IHA in determining the statement's adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement shall be rejected as nonresponsive. The IHA may require that comparable statements be provided by subcontractors to the successful Contractor, and may require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.

(2) Bidders and prospective subcontractors shall submit a certification (supported by credible evidence) to the IHA in any instance where the bidder or subcontractor believes it is infeasible to provide Indian preference in subcontracting. The acceptance or rejection by the IHA of the certification shall be final. Rejection shall disqualify the bid from further consideration.

(g) All bidders must submit with their bids a statement detailing their employment and training opportunities and their plans to provide preference to Indians in implementing the contract; and the number or percentage of Indians anticipated to be employed and trained. Comparable statements from all proposed subcontractors must be submitted. The criteria to be used by the IHA in determining the statement(s)'s adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement(s), or that includes a statement that does not meet minimum standards required by the IHA shall be rejected as nonresponsive.

(h) Core crew employees. A core crew employee is an individual who is a bona fide employee of the contractor at the time the bid is submitted; or an individual who was not employed by the bidder at the time the bid was submitted, but who is regularly employed by the bidder in a supervisory or other key skilled position when work is available. Bidders shall submit with their bids a list of all core crew employees.

(i) Preference in contracting, subcontracting, employment, and training shall apply not only on-site, on the reservation, or within the IHA's jurisdiction, but also to contracts with firms that operate outside these areas (e.g., employment in modular or manufactured housing construction facilities).

(j) Bidders should contact the IHA to determine if any additional local preference requirements are applicable to this solicitation.

(k) The IHA [] does [] does not [Contracting Officer check applicable box] maintain lists of Indian-owned economic enterprises and Indian organizations by specialty (e.g., plumbing, electrical, foundations), which are available to bidders to assist them in meeting their responsibility to provide preference in connection with the administration of contracts and subcontracts.

General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing
OMB Approval No. 2577-0157 (exp. 3/31/2020)

Applicability. This form is applicable to any construction/development contract greater than \$150,000.

This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs).

The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, HAs would be unable to enforce their contracts.

Public reporting burden for this collection of information is estimated to average 1.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Responses to the collection of information are required to obtain a benefit or to retain a benefit.

The information requested does not lend itself to confidentiality.

HUD may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB number.

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1. Definitions

- (a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.
- (b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.
- (c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.
- (d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.
- (e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.
- (f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Contract (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.
- (g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.
- (h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.
- (i) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.
- (l) "Work" means materials, workmanship, and manufacture and fabrication of components.
- (a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.
- (b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.
- (c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.
- (d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.
- (e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.
- (f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.
- (g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.
- (h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

- (a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

2. Contractor's Responsibility for Work

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- (b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.
- (c) The Architect's duties and responsibilities may include but shall not be limited to:
- (1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;
 - (2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;
 - (3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,
 - (4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

- (a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.
- (b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

- (a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.
- (b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.
- (c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

- (a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

- (b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

- (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.
- (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.
- (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.
- (d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

- (a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be

promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.
- (c) Where "as shown" "as indicated", "as detailed", or of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".
- (d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.
- (e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.
- (f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.
- (g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

- (h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.
- (i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

- (a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."
- (b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.
- (c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

- (a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.
- (b) Approval of equipment and materials.
 - (1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the

machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

- (2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.
- (3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.
- (4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.
- (5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.
- (6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.
- (c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

- (a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

- (b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

- (a) In performing this contract, the Contractor shall:
 - (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
 - (2) Protect the lives, health, and safety of other persons;
 - (3) Prevent damage to property, materials, supplies, and equipment; and,
 - (4) Avoid work interruptions.
- (b) For these purposes, the Contractor shall:
 - (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
 - (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.
- (c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.
- (d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.
- (e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

- (a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.
- (b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

- (a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.
- (b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- (c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.
- (d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.
- (e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

- (f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
- (g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
- (h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
- (i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
- (j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
- (k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

- (a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- (b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contractor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

- (a) Definitions. As used in this clause -
 - (1) "Acceptance" means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
 - (2) "Inspection" means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
 - (3) "Testing" means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
- (b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
- (c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
- (d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
- (e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

- (f) The PHA may conduct routine inspections of the construction site on a daily basis.
- (g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
- (h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.
- (i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
- (j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

- (a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
- (b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas

occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

- (a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of 2 years (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.
- (b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
 - (1) The Contractor's failure to conform to contract requirements; or
 - (2) Any defects of equipment, material, workmanship or design furnished by the Contractor.
- (c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.
- (d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
- (e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- (f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
 - (1) Obtain all warranties that would be given in normal commercial practice;
 - (2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
 - (3) Enforce all warranties for the benefit of the PHA.
- (g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

- (h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.
- (i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.
- (j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

this contract within _____ calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

- (a) The PHA shall pay the Contractor the price as provided in this contract.
- (b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.
- (c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a

basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

- (d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved

submitted not later than 30 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

- (e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

Name:

Title:

Date:

- (f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.
- (g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

- (h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.
- (i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.
- (j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.
- (k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

- (a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.
- (b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or

responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

- (c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

- (a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
 - (1) In the specifications (including drawings and designs);
 - (2) In the method or manner of performance of the work;
 - (3) PHA-furnished facilities, equipment, materials, services, or site; or,
 - (4) Directing the acceleration in the performance of the work.
- (b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.
- (c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.
- (d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.
- (e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.
- (f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

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- (1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.
 - (2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.
 - (3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.
 - (g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.
 - (h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.
 - (i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.
 - (j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

- (a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.
- (b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have

been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

- (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

- (a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.
- (c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.
- (d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
- (e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.
- (f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

- (a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to

proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

- (b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—
- (1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
- (2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.
- (c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

- (a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of \$_____ [Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.
- (b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final

completion of the work together with any increased costs occasioned the PHA in completing the work.

- (c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination for Convenience

- (a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.
- (b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.
- (c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.
- (d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

- (a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:
- (1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.
- (2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$2MM [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

- (3) Automobile Liability on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$ 500K [Contracting Officer insert amount] per occurrence.

- (b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.
- (c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

- (a) Definitions. As used in this contract -
- (1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

- (2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

- (b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.
- (c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.
- (d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.
- (e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

- (a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;
- (d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and
- (e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

- (a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.
- (b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship.

- (c) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.
- (d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
- (e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.
- (f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.
- (g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (h) In the event of a determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts, or Federally assisted construction contracts under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.
- (i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the Secretary of Housing and Urban Development or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.
- (j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.

- (a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, 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.
- (b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.
- (c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.
- (e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.
- (f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- (g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

43. Limitations on Payments made to Influence Certain Federal Financial Transactions

- (a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

45. Examination and Retention of Contractor's Records

- (a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.
- (b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding \$10,000.
- (c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds \$2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

- (a) Minimum Wages.
 - (1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- (2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.
- (3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the

amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- (b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.
- (c) Payrolls and basic records.
- (1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- (2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)
- (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;
- (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and
- (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.
- (iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.
- (3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to

make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

- (d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

- the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
- (e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.
- (f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.
- (g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.
- (i) Certification of eligibility.
- (1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.
- (j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.
- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.
- (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.
- (k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

- (a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:
 - (1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;
- (b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or
- (c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

- (a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.
- (b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of \$10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of \$10,000 of the item both under and outside that contract.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 ☐ Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the goods or services to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party.

☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day
of _____, 20 _____, to certify which, witness my hand and seal of office.

Signature of officer administering oath

Printed name of officer administering oath

Title of officer administering oath

ADD ADDITIONAL PAGES AS NECESSARY

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance		2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award		3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____	
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: Congressional District, if known:			5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:		
6. Federal Department/Agency:			7. Federal Program Name/Description: CFDA Number, if applicable: _____		
8. Federal Action Number, if known:			9. Award Amount, if known: \$ _____		
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):			b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):		
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.			Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____		
Federal Use Only:				Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)	

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

Certification of Payments
to Influence Federal Transactions

U.S. Department of Housing
and Urban Development
Office of Public and Indian Housing

Applicant Name

Program/Activity Receiving Federal Grant Funding

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, Disclosure Form to Report Lobbying, in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

I hereby certify that all the information stated herein, as well as any information provided in the accompaniment herewith, is true and accurate.
Warning: HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

Form section for Name of Authorized Official, Title, Signature, and Date (mm/dd/yyyy).



NAME OF CONTRACTOR		OR SUBCONTRACTOR		ADDRESS		PROJECT OR CONTRACT NO.		OMB No.: 1215-0149 Expires: 12/31/2011		Rev. Dec. 2008	
PAYROLL NO.				FOR WEEK ENDING				PROJECT AND LOCATION			

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	(4) DAY AND DATE							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK	
			HOURS WORKED EACH DAY										FICA	WITH- HOLDING TAX	OTHER	TOTAL DEDUCTIONS			
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, ESA, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

Date _____

I, _____ (Name of Signatory Party) _____ (Title)
do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ on the _____
(Contractor or Subcontractor)
_____ (Building or Work); that during the payroll period commencing on the _____ day of _____, _____, and ending the _____ day of _____, _____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____

_____ (Contractor or Subcontractor) _____ from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

— in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

ATTACHMENT C

Profile of Firm Form Company Biography

PROFILE OF FIRM FORM (Page 1 of 2)

(1) Prime ____ Joint Venture/Partner ____ Sub-contractor ____ (This form shall be completed by and for each).

(2) Legal Name of Firm: _____ Telephone: _____ Fax: _____

dba if applicable: _____

(3) Street Address, City, State, Zip: _____

(4) Identify Principals/Partners in Firm

NAME	TITLE	% OF OWNERSHIP

(5) Please indicate the operating structure of your company.

☐ Publicly Held Corporation ☐ Privately Held Corporation ☐ Government Agency ☐ Non-Profit Organization ☐ Partnership ☐ Sole Proprietorship

(6) Bidder's Diversity Statement: You must check all of the following that apply to the ownership of this firm and enter where provided the correct percentage (%) of ownership of each:

{Minority (MBE), or Woman-Owned (WBE) Business Enterprises qualify by virtue of 51% or more ownership and active management in the firm.}

☐ African American ☐ Native American ☐ Hispanic American ☐ Asian/Pacific American ☐ Hasidic Jew ☐ Asian/Indian American
_____ % _____ % _____ % _____ % _____ % _____ %

☐ Woman-Owned (MBE) ☐ Woman-Owned (Caucasian) ☐ Disabled Veteran ☐ Caucasian American (Male) ☐ Other (Specify):
_____ % _____ % _____ % _____ % _____ %

(7) Is the business 51% or more owned by a public housing resident? ____ Yes ____ No. If yes, provide name and address of the public housing facility:

Facility Name: _____

Facility Address: _____ City: _____

SWMBE Certification Number: _____

Certification Agency: _____

(NOTE: A CERTIFICATION/NUMBER IS NOT REQUIRED – ENTER IF AVAILABLE)

(8) Federal Tax ID Number: _____

(9) City of San Antonio Business License No.: _____

(10) State of Texas License Type and No.: _____

PROFILE OF FIRM FORM (Page 2 of 2)

(11) Has your firm or any member of your firm been a party to litigation with a public entity? If yes, when, with whom and state the circumstances and any resolution.

(12) Has your firm or any member of your firm ever sued or been sued by the San Antonio Housing Authority or its affiliated entities? If yes, when and state the circumstances and any resolution of the lawsuit.

(13) Has your firm or any member of your firm ever had a claim brought against because of breach of contract or nonperformance? If yes, when and state the circumstances and any resolution of the matter.

(14) Debarred Statement: Has this firm, or any principal(s) ever been debarred from providing any services by the Federal Government, any state government, the State of Texas, or any local government agency within or without the State of Texas? Yes ☐ No ☐

Initials _____

If "Yes," please attach a full detailed explanation, including dates, circumstances and current status.

(15) Disclosure Statement: Does this firm or any principals thereof have any current, past personal or professional relationship with any Commissioner or Officer of SAHA? Yes ☐ No ☐

Initials _____

If "Yes," please attach a full detailed explanation, including dates, circumstances and current status.

(16) Verification Statement: The undersigned Offerer hereby states that by completing and submitting this form he/she is verifying that all information provided herein is, to the best of his/her knowledge, true and accurate, and agrees that if the SAHA discovers that any information entered herein is false, that shall entitle the SAHA to not consider nor make award or to cancel any award with the undersigned party.

Initials _____

(18) In performing this contract, the contractor(s) shall comply with any and all applicable federal, state or local laws including but not limited to: Occupational Safety & Health, Equal Employment Opportunity, Immigration and Naturalization, The Americans with Disabilities Act, State Tax and Insurance Law, and the Fair Housing Act.

Initials _____

Signature

Date

Printed Name

Company

Company Biography

Company Name: _____

Headquarters Location: _____

Field Office Locations: _____

Business Specialty or Focus: _____

Number of Full Time Staff: _____

Founding Date and Brief History: _____

Texas Projects and/or Clients: _____

(past & current)

Previous Housing Authority Experience: YES NO

List the Authorities: _____

Proposed Subcontractors

Note: A completed Profile of Firm Form must be submitted for each subcontractor.

Proposed Subcontractors					
Item	Company Name	Address	Phone	Specialty	S/W/M/V BE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

<p>I understand and agree that if awarded a contract as a result of this solicitation that the use of the above subcontractors is subject to the approval of SAHA and becomes a part of the contract. I further understand that any change in subcontractors also requires the pre-approval of SAHA.</p>	<div style="border-bottom: 1px solid black; margin-bottom: 10px;"></div> (Signature) <div style="border-bottom: 1px solid black; margin-bottom: 10px;"></div> (Printed Name & Title) <div style="border-bottom: 1px solid black; margin-bottom: 10px;"></div> (Company Name)
--	--

ATTACHMENT D

Section 3 Guidelines and Forms

SAN ANTONIO HOUSING AUTHORITY

SECTION 3 PROGRAM

CONTRACTOR COMPLIANCE GUIDE

BACKGROUND

The San Antonio Housing Authority (SAHA) adopted a formal Section 3 program, policy, and procedures on June 2, 2011 (Resolution 5164) to provide the framework for its compliance with Section 3 of the Housing and Urban Development (HUD) Act of 1968 which applies to all employment and economic projects funded in whole or in part by HUD.

Therefore, all prime contractors participating on a HUD-assisted project shall comply with all applicable sections of the SAHA Section 3 Program.

The objective of the SAHA Section 3 Program is to ensure to the greatest extent feasible that employment and other economic-related opportunities are directed to low- and very-low income individuals and businesses owned by such individuals.

SECTION 3 GUIDANCE

1. The SAHA Section 3 Program adopted on June 2, 2011 is hereby incorporated by reference as part of this Interim Section 3 Guidance. Notice is hereby given that it is the responsibility of bidder/proposer or contractor to ensure understanding and compliance with all applicable sections of the Section 3 Program. Bidders/proposers and/or prime contractors are directed to the SAHA website for more information on the Section 3 Program.
2. The Section 3 Program requirements apply to all HUD-assisted projects covered by Section 3 and are therefore applicable to SAHA bidders/proposers and recipients of contracts and subcontracts.
3. In order to achieve the Section 3 Program objectives, numerical goals for training/employment and subcontracting opportunities for Section 3 residents and Business Concerns have been established. The Section 3 goals (below) apply to the entire Section 3 covered project and represent minimum numerical goals set forth in the Section 3 Program. In the absence of evidence to the contrary, a contractor that meets the minimum numerical goals will be considered to have complied with the Section 3 Program requirements. SAHA reserves the right to increase project-specific goals as may be deemed appropriate by the SAHA representatives. Contractors are advised to read each solicitation carefully to determine the applicable goals for compliance. In the event the solicitation changes the goals listed below, Contractor must follow the stricter goals.

Employment: Thirty percent (30%) of new hires per contract should be Section 3 residents.

Contracting: Subcontract ten percent (10%) of the total value of a construction contract with Section 3 Business Concerns.

Professional Services: Subcontract three percent (3%) with Section 3 Business Concerns on non-construction contracts (professional services).

3. In order to ensure the greatest impact on employment, contracting and economic opportunities, SAHA contractors and subcontractors shall direct their efforts to Section 3 residents and Business Concerns on a “preference” tiered basis as follows:

Training/Employment

- a) Category 1: Residents of the housing development or developments for which the Section 3 covered assistance is expended.
- b) Category 2: Residents of the other housing developments managed by the housing authority that is expending the Section 3 covered assistance.
- c) Category 3: Participants in HUD Youthbuild programs being carried out in the metropolitan area in which the Section 3 covered assistance is expended.
- d) Other Section 3 residents.

Contracting Opportunities

- a) Category 1: Business Concerns that are 51 percent or more owned by residents of the housing development or developments for which the Section 3 covered assistance is expended, or whose full-time permanent workforce includes 30 percent of those persons as employees.
- b) Category 2: Business Concerns that are 51 percent or more owned by residents of other housing developments or developments managed by the housing authority that is expending the Section 3 covered assistance, or whose full-time permanent workforce includes 30 percent of those persons as employees.
- c) Category 3: HUD Youthbuild programs being carried out in the metropolitan area (or non-metropolitan county) in which the Section 3 covered assistance is expended.
- d) Category 4: Business concerns that are 51 percent or more owned by Section 3 residents or whose permanent, full-time workforce includes no less than 30 percent Section 3 residents, or that subcontract in excess of 25 percent of the total amount of subcontracts to Category 1 or 2 business concerns identified above.

4. To more effectively apply the Section 3 preferences, the following incentives shall be applicable to Section 3 HUD-assisted projects:

Solicitations Under \$50,000

On solicitations under \$50,000 and where two or more certified Section 3 Business Concerns are available to compete, SAHA will institute a “first source” solicitation initiative whereby two of the three solicited firms must be Section 3 Business Concerns.

Solicitations Greater than \$50,000

On Requests for Proposals the following incentives will be instituted:

- 1) A twenty percent (20%) preference will be instituted for Category 1 Section 3 Business Concerns bidding as prime contractors.
- 2) A fifteen percent (15%) preference will be instituted for Category 2 Section 3 Business Concerns bidding as prime contractors.
- 3) A ten percent (10%) preference will be instituted for Category 3 Section 3 Business Concerns bidding as prime contractors.
- 4) A five percent (5%) preference will be instituted for Category 4 Section 3 Business Concerns bidding as prime contractors.
- 5) A five percent (5%) preference will be provided to SAHA prime contractors that have achieved both the resident hires and business concern contracting goals in their immediate past contract performance within the last year.
- 6) A five percent (5%) preference will be provided to SAHA prime contractors participating in a SAHA approved Joint Venture or Mentor-Protégé program with an eligible Section 3 Business Concern.
- 7) A five percent (5%) preference will be provided to prime contractors that have formal apprenticeship programs approved by DOL and commit to training no less than ten (10) eligible Section 3 residents through such programs annually that provide no less than 250 hours of formal training.

On Invitations for Bids the following preference will be instituted:

- 1). Contractors who are certified as Section 3 Business Concerns and whose prices are within the independent cost estimate of the project and are both responsive and responsible, shall receive a preference according to the following table, where x is the amount by which the Section 3 Business Concern may be above the lowest responsive bid.

x=lesser of:

When the lowest responsive bid
is less than \$100,000 10% of that bid or \$9,000.

When the lowest responsive bid is:
At least \$100,000, but less than \$200,000 9% of that bid, or \$16,000.
At least \$200,000, but less than \$300,000 8% of that bid, or \$21,000.
At least \$300,000, but less than \$400,000 7% of that bid, or \$24,000.

At least \$400,000, but less than \$500,000 6% of that bid, or \$25,000.
 At least \$500,000, but less than \$1 million 5% of that bid, or \$40,000.
 At least \$1 million, but less than \$2 million 4% of that bid, or \$60,000.
 At least \$2 million, but less than \$4 million 3% of that bid, or \$80,000.
 At least \$4 million, but less than \$7 million 2% of that bid, or \$105,000.
 \$7 million or more 1½% of the lowest responsive bid, with no dollar limit.

2) Where two or more Section 3 business concerns are both responsive and responsible, the Section 3 business concern with the lowest price shall receive the contract award.

A successful contractor's usage of the above preferences shall be capped annually at \$1 million dollars in the aggregate. Once a contractor has been awarded annually \$1 million dollars in contracts as a result of a preference, the contractor is no longer eligible for the above preferences for the remainder of the calendar year.

5. Bidders/proposers must either achieve the Section 3 Program employment and subcontracting goals identified above (under number 3) or demonstrate acceptable good faith efforts to achieve the numerical goals in the proposal/bid. SAHA representatives shall review and deem acceptable, in their sole determination, a bidder or proposer's good faith efforts prior to the award of the contract. Please be advised that a contractor Section 3 performance will be considered and evaluated on future SAHA contracts and will be a factor in the selection and/or contract award.
6. To ensure that the SAHA Section 3 Program benefits individuals and businesses that are eligible Section 3 residents and Business Concerns, all Section 3 resident and Business Concerns must be deemed eligible through documentation of a "Section 3 Eligibility Form" for each eligible individual or business. Notice is hereby given that it is the responsibility of the prime contractor to ensure that all participating and eligible Section 3 residents and/or Business Concerns (vendors, suppliers or subcontractors) submit the necessary information for proper SAHA status review and credit.
7. All SAHA prime contractors must submit a Section 3 program compliance report on a monthly basis in the form and content as requested by SAHA staff. This report shall document Section 3 resident and Business Concern training, employment, and subcontracting monthly performance against goals and opportunities.
8. Failure or refusal by a SAHA bidder/proposer or contractor to satisfy or comply with the Section 3 Program requirements, either during the bid/proposal process or during the term of the SAHA agreement, shall constitute a material breach of contract whereupon the contract, at the option of SAHA, may be cancelled, terminated, or suspended in whole or in part; and, the contractor debarred from further contracts with SAHA as a non-responsible contractor. SAHA may at its discretion also declare bids/proposals not complying with the Section 3 Program requirements in whole or in part nonresponsive and eliminate them from consideration of a contract award.

INTERIM PRIME CONTRACTOR COMPLIANCE REQUIREMENTS

Prime contractors participating on SAHA Section 3 HUD-assisted projects are specifically required to address and satisfy the Section 3 Program requirements described below *prior* to the award of the contract. The Section 3 Program requirements shall be applicable throughout the duration of the contract and to any amendment and renewal.

1. In the absence of evidence to the contrary, a prime contractor that meets the minimum Section 3 Program numerical goals set forth in the solicitation will be considered to have complied with the Section 3 Program requirements. A prime contractor who meets this goal must submit with the bid/proposal a “*Good Faith Effort Compliance Plan*” (**Attachment A**) by simply completing Sections A and B which present the project and contractor information and goal commitment information respectfully.
2. In evaluating compliance, a prime contractor that *has not* met the numerical goals set forth in the solicitation has the burden of fully demonstrating its efforts to achieve the Section 3 goals through the submittal and approval of a “*Good Faith Effort Compliance Plan*” (**Attachment A**) to include completion of Sections A, B and C which must be included with the bid/proposal. SAHA representatives shall review and determine in their sole discretion whether a bidder or proposer’s (contractor) good faith effort compliance plan achieves the Section 3 Program goals and objectives. A responsive good faith effort compliance plan shall address all questions in Sections A, B and C and describe the concrete efforts that were taken and will be taken to reach numerical goals in hiring/employment, training, and contracting. The final agreed-upon plan shall become part of the SAHA contract.
3. SAHA reserves the right to disregard bids/proposals as non-responsive bids and proposals which fail to demonstrate a good faith effort towards compliance with the Section 3 Program requirements.
4. As required under the Section 3 Program’s contractual clause, prime contractors specifically agree to include the Section 3 Clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agree to take appropriate action, as provided in an applicable provision of the subcontract or in the Section 3 Clause, upon a finding that a subcontractor is in violation of the regulations in 24 CFR Part 135. A prime contractor shall not subcontract with any subcontractor where the bidder/proposer has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.
5. Prime contractors shall submit a properly completed and executed “Section 3 Eligibility Form” for all participating Section 3 residents and/or Section 3 Business Concerns (**Attachment B**). It is the responsibility of the prime contractor to ensure that eligible Section 3 residents and Business Concerns submit all necessary information for SAHA review and credit, to include an eligible Section 3 prime contractor, if applicable.

6. Prime contractors requesting a Section 3 Program preference based upon employment or ownership interest shall submit a properly completed and executed Section 3 Eligibility Forms for all employees and owners who qualify, and provide any supporting documentation that may subsequently be required by SAHA. Prime contractors and subcontractors must employ any Section 3 residents full-time for not less than one month prior to the submittal of the bid/proposal in order for the prime contractor to receive credit for employing the Section 3 resident for a preference.
7. Notwithstanding the fact that a prime contractor may have the capability to complete a total project with its own workforce and without the use of subcontractors, all SAHA prime contractors on a HUD-assisted project shall be required to achieve the Section 3 Program numerical goals or demonstrate a good faith effort to achieve those goals within the industry. Should the need arise to hire or subcontract during the term of a contract, the hiring and/or subcontracting goals shall still be applicable and the training component remains in force.
8. All changes to the original list of subcontractors submitted with the bid or proposal shall be submitted for review and approval in accordance with SAHA's procedures when adding, changing, or deleting subcontractors/sub-consultants. Prime contractors are required to make a good faith effort to replace any Section 3 Business Concern with another eligible Section 3 Business Concern. SAHA may deny such requests when it finds that a prime contractor fails to provide acceptable justification or when the effect of such change would dilute a preference received on a HUD-assisted contract.
9. All prime contractors participating on a HUD-assisted project shall submit a Section 3 Performance Report no later than the third business day of the following month detailing Section 3 employment and contracting activity not only for themselves but also all subcontractors on the project. The report is to also detail training and other economic opportunity activities by the prime contractor and subcontractors.

SAN ANTONIO HOUSING AUTHORITY SECTION 3 PROGRAM UTILIZATION PLAN

INSTRUCTION SHEET

Please read these instructions carefully before completing the required *Section 3 Utilization Plan* document. These instructions are designed to assist bidders/proposers document Section 3 Program compliance. or present a detailed explanation why, despite their best efforts the minimum numerical goals were not met. These numerical goals are **minimum** targets that must be reached in order for SAHA to consider a recipient in compliance.

Questions regarding completion of the *Section 3 Utilization Plan* document should be directed to:
Section 3 Coordinator, at 210 -477 -6165 or section3@saha.org.

- Bidders/proposers are required to make sincere efforts to achieve the Section 3 Program numerical goals as specified in solicitation documents. A bidders/proposers approved Section 3 Utilization Plan will be monitored throughout the duration of the SAHA contractual term.
- Contractor shall submit a *Section 3 Utilization Plan* at the time of bid/proposal submittal in order to be considered responsive.
- This *Section 3 Utilization Plan* is subject to SAHA's review and approval. SAHA may at its sole discretion approve or disapprove the plan. SAHA's determination is administratively appealable to the CEO and to the Board of Commissioners pursuant to SAHA's Section 3 Program, Policy & Procedures.
- All bidders/proposers are to complete the following:

- _____ **Section A**, Bidder/Proposer Information
- _____ **Section B**, Contractor Commitments - New Hires
- _____ **Section C**, Contractor Commitments - Subcontractors
- _____ **Section D**, Contractor Commitments – Other Economic Opportunities
- _____ **Section E**, Good Faith Efforts
- _____ **Section F**, Section 3 Compliance Certification

Optional:

- _____ Certification for Section 3 Business Concerns
- _____ Section 3 Individual Verification Form (S3-6003b REV 2/2016)

- SAHA requires all Section 3 residents and/or Business Concerns to certify or submit evidence to SAHA, contractor, or subcontractor, that the person or business is Section 3 eligible. SAHA has developed a Certification Process for this purpose. It is the responsibility of the Contractor to submit these forms to the SAHA Section 3 Coordinator at section3@saha.org.

SECTION 3 PROGRAM UTILIZATION PLAN

Project Title: _____

SECTION A – BIDDER/PROPOSER INFORMATION

Name of Firm: _____

Contact Person: _____ Telephone: _____

Email: _____

Is your firm a "Section 3 Business Concern": Yes _____ No _____

If "Yes"; complete the Certification for Section 3 Business Form and attach the Required Documentation.

SECTION B – CONTRACTOR COMMITMENTS – NEW HIRES (If more space is needed, please provide an attachment).

Hiring Goal: A minimum of Thirty percent (30%) of the aggregate number of new hires shall be Section 3 residents

B.1 Explain how you intend to recruit a minimum of 30% of Section 3 residents for **full-time new hires**, and what actions you will use to require subcontractors to do the same. **Note:** Section 3 individuals must work a minimum of 32 hours per week or 135 hours per month to be considered full-time employees.

--

B.2 Complete the table below to identify the bidder's/proposer's employee positions required for the execution of this project.

Job Category*	Number of Positions to be Filled with Section 3 Residents	Anticipated wages per hour
Professionals		
Technicians		
Office/Clerical		
Officers/Managers		
Sales		
Craft Workers (Skilled)		
Operatives (Semi-Skilled)		
Laborers (Unskilled)		
Service Workers		
Other List & describe		

B.3 The contractor has committed to employ _____ resident(s) in order to comply with its Section 3 requirements. Indicate the estimated percentage of Section 3 new hires for this project: _____

SECTION C – CONTRACTOR COMMITMENTS – SUBCONTRACTORS (If more space is needed, please provide an attachment).

Contracting Goal: A minimum of ten percent (10%) of all covered **construction** contracts shall be awarded to Section 3 business concerns C. Three percent (3%) of all covered **non-construction** contracts shall be awarded to Section 3 business concerns

C.1 Describe how bids from Section 3 businesses will be solicited for subcontracting.

--

C.2 Complete the table below to identify the subcontractors/suppliers that will be utilized for the execution of this project.

Subcontractor/Supplier Listing

Subcontractor or Supplier/ Name and Address and phone number	Scope of Work/Product	\$ Value	Certified Section 3 Business Concern (Y/N)

(Make Additional Copies as Necessary)

C.3 The Prime Contractor will subcontract with a total of _____ Section 3 Business Concerns totaling _____% of the Contract Value. **NOTE:** The contractual opportunity goal is a percentage of the total gross dollar value of the proposed contract awarded to a Section 3 eligible Business Concern. SAHA will only credit participation by Section 3 Business Concerns that submit documentation acceptable to SAHA certifying their Section 3 status.

B.3 The undersigned bidder/proposer will satisfy the Section 3 *other economic opportunity* goal:
Yes _____ No _____

NOTE: Fill this section only, if Plan as submitted fails to meet the employment and contractual opportunity goals as stated herein or as amended in the solicitation.

I CERTIFY THAT I HAVE REVIEWED AND FULLY UNDERSTAND SAHA'S SECTION 3 PROGRAM AND THE SECTION 3 CLAUSE INCORPORATED BY REFERENCE INTO THIS DOCUMENT. I HEREBY AFFIRM THAT THE INFORMATION SUBMITTED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I HEREBY CERTIFY THAT THE ABOVE TABLES IDENTIFY THE NUMBER OF SECTION 3 BUSINESS CONCERNS THE COMPANY WILL UTILIZE AND THE NUMBER OF SECTION 3 RESIDENTS THE COMPANY PROPOSES TO EMPLOY.

I FURTHER UNDERSTAND AND AGREE THAT, THIS DOCUMENT SHALL BE ATTACHED THERETO AND BECOME A BINDING PART OF THE SAHA CONTRACT.

Page 4 of 4
SAHA Section 3 Utilization Plan
Rev 3/2016

San Antonio Housing Authority

Section 3 Individual New Hire Verification Form

NEW HIRES MUST COMPLETE THIS FORM. The Section 3 Program requires that recipients of certain HUD financial assistance, to the greatest extent feasible provide employment, training or education opportunities for low- and very-low income persons in connection with projects and activities in their neighborhood. Completion of this form helps your new employer and SAHA monitor compliance to the Section 3 program and may help in obtaining future business with the Housing Authority. Your information is kept CONFIDENTIAL and will not affect any federal subsidies you currently receive, if any.

CONTACT INFORMATION					
First Name:		Last:		M.I.:	Suffix:
Residence Address:				City:	
State:	Zip:	County:		Phone:	
Email Address (required):				DOB:	
Date of Hire:		Company Name:			
Job Title:		Type of job:		Full-Time (32+ hours per week)	Part-Time

INCOME DISCLOSURE (CHECK ONE OPTION BELOW)

In order to be eligible as a Section 3 individual, your household income must meet the income criteria by household size. Individuals are eligible for Section 3 status if their household income is at or below 80% of Area Median Income in Bexar County during the current calendar year or be a resident of public housing or Section 8.

Option 1: I choose to disclose this information

Choose the number of individuals in your household in the chart below to determine your HUD income limit. The dollar amount below the number you indicate is your HUD income limit.

FY 2018 80% Area Median Income Limits (by Household Size)

Number of persons in household	1	2	3	4	5	6	7	8
80% of Area Median Income (FY 2018 HUD Income Limits)	\$37,450	\$42,800	\$48,150	\$53,450	\$57,750	\$62,050	\$66,300	\$70,600

YOU MUST ANSWER THE FOLLOWING QUESTIONS IF YOU ARE CLAIMING SECTION 3 ELIGIBILITY:

Is your household income at or below the HUD income limit for the current year? **Yes** **No**

If your answer is YES and you reside in Bexar County, you are a Section 3 individual, regardless of public housing status.

Are you a resident of public housing or Section 8? **Yes** **No**

If your answer is YES, you are a Section 3 individual regardless of your income.

Option 2: I choose NOT to disclose this information OR I do not qualify as a Section 3 eligible individual.

CERTIFICATION

By signing, I authorize my employer to release relevant information to the San Antonio Housing Authority (SAHA) for contract compliance purposes. I further affirm that the information on this form is to the best of my knowledge and belief true, correct, and complete.

Signature _____

DATE: _____

M/WBE UTILIZATION STATEMENT
SAN ANTONIO HOUSING AUTHORITY
M/WBE PROGRAM OFFICE

Please read these instructions carefully before completing the required Minority/Women Business Enterprise (M/WBE) Utilization Statement. These instructions are designed to assist prime contractors/consultants document M/WBE program compliance or in preparing the required detailed and complete good faith effort information.

Contractors/Consultants are required to submit detailed documentation when the contract specified M/WBE participation ranges or goals are not met. The SAHA M/WBE Program Manager will review and consider a bidder's or proposer's good faith efforts in assisting SAHA to meet its M/WBE policy and program objectives.

A. Bidders/Proposers are required to make sincere efforts in attempting to achieve the applicable SAHA M/WBE participation ranges or goals. The approved M/WBE participation ranges or goals will be monitored throughout the duration of the project;

B. All bidders/proposers are to complete Section A, Project Identification and Section B, Project M/WBE Utilization, if applicable. Should there be subcontracting/sub consulting opportunities, yet the bidder/proposer *not* achieve the project's applicable M/WBE participation range or goal, the bidder/proposer must complete all other sections of the Statement.

C. This Statement should be prepared by the company's project M/WBE Coordinator or designee. The Statement must be signed and dated by an authorized company official. The Coordinator or designee should have a working knowledge as to the project's subcontracting or sub-consulting and supplier activities (actual and anticipated). This individual shall be a key figure in directing the prime contractor's M/WBE activities.

D. The M/WBE Utilization Statement demonstrating a contractor's good faith efforts is subject to the SAHA M/WBE Program Coordinator's review and approval.

E. SAHA requires all M/WBE firms to be certified as such by an entity acceptable to SAHA for project M/WBE credit.

F. SAHA reserves the right to approve all additions or deletions of subcontractors, subconsultants, and/or major vendors. In the event that an M/WBE subcontractor, subconsultant, and/or major vendor is replaced, the contractor must make a good faith effort to involve and utilize another M/WBE subcontractor, sub consultant, and/or major vendor.

Should you have any questions or need additional information, please contact:

Charles Bode
818 S Flores
Asst. Director of Procurement
charles_bode@saha.org
210-477-6165

FOR SAHA PROCUREMENT DEPARTMENT USE ONLY

Reviewed by: _____

Date: _____

Signature of SAHA Official: _____

Recommendation: Approval: _____ Denial: _____

subject to the SAHA M/WBE Program Manager's review and approval.

M/WBE UTILIZATION STATEMENT
SAN ANTONIO HOUSING AUTHORITY
M/WBE PROGRAM OFFICE

SECTION A: PROJECT IDENTIFICATION

Project Number _____ Project Title _____

Contract Amount _____ Company Name _____

Project Participation Range/Goal: M/WBE ____ %

Contract Anticipated Participation Range: M/WBE ____ %

The M/WBE participation range/goal is expressed as a percentage of the total dollar amount of the prime contract awarded to M/WBEs. The goal is applicable for those areas, which the prime contractor has subcontracted, sub-consulted, and/or major supplies necessary in the performance of the contract.

SECTION B: SUBCONTRACTOR/SUB CONSULTANT/VENDOR UTILIZATION

1. List all actual *and* anticipated subcontracts, subconsultants, and/or major material purchases, include *both* M/WBE and non-M/WBE, to be utilized on the project (*use additional sheets if necessary*).

TRADE AREA	ESTIMATED AMOUNT (\$)	SUB/SUPPLIER	SUB/SUPPLIER	
			M/WBE Yes (✓) No	

2. MBE utilization in total dollars: _____ WBE utilization in total dollars: _____

3. Overall MBE utilization percentage (%): _____

4. Overall WBE utilization percentage (%): _____

5. Overall M/WBE utilization percentage (%): _____

6. Anticipated M/WBE utilization on this contract will occur:

Throughout ____ Beginning 1/3 ____ Middle 1/3 ____ Final 1/3 ____

Please Note: SAHA will credit only those M/WBEs that have been certified by an entity acceptable to SAHA. All changes, additions, or deletions occurring during the life of this contract relative to use of the listed subcontractors, sub-consultants and/or

major suppliers, M/WBE or otherwise, must be submitted to SAHA for review and approval.

If Bidder/Proposer is unable to meet the M/WBE participation range/goal, please proceed to complete Section C and submit documentation demonstrating contractual good faith efforts.

SECTION C: GOOD FAITH EFFORT

The following items are minimally considered as good faith efforts and demonstrate specific initiatives made in attempting to achieve SAHA's M/W/BE participation ranges. The bidder/proposer is not limited to these particular areas and may include other efforts deemed appropriate. Please feel free to elaborate on any question below.

Required Questions	Yes	No
1. If applicable, was your company represented at the pre-bid conference?		
2. Did your company request and obtain a copy of the certified M/WBE firms?		
3. Were M/WBE firms solicited for contract participation?		
4. Provide listing of solicited M/WBEs with whom contact was made? Please identify name of company, contact person, date, phone number and briefly describe nature of solicitation. (Include as an Attachment)		
5. Was direct contact made with SAHA's M/WBE Program Office? If yes, please identify date/person contacted and assistance sought. (Include as an Attachment)		
6. Identify all M/WBE support agencies/associations contacted for M/WBE assistance or solicitation (Minority Chamber's of Commerce, purchasing councils, contractor groups, etc.). (Please attach copies of solicitation letters of assistance and/or describe, as an Attachment to this section, the personal contact made)		
7. Were bid opportunities related to this project advertised in minority/women newspapers and trade journals? (If yes, please include a copy of the advertisement or detail the name of the publication(s), date of advertisement and describe the solicitation)		
8. Were copies of plans and specification furnished to any M/WBEs?		
9. Were subcontractors, subconsultants, and/or suppliers (if applicable) required to provide insurance or be bonded? (If yes, please detail any assistance that was provided or if they were referred, to whom)		
10. List, as an Attachment, all M/WBE bids received but rejected. Identify company name, contact person, telephone number, date, trade area, and the reason for rejecting the bid/proposal.		
11. Discuss any other effort(s) aimed at involving M/WBEs (Include as an Attachment) : (a) Identify any specific efforts to divide work, in accordance with normal industry practices, to allow maximum M/WBE participation.		

(b) Discuss joint ventures initiatives, requesting second-tier M/WBE subcontracting, etc., if any.		
(c) List all other good faith efforts employed, please elaborate.		

The undersigned acknowledges and states that all information submitted as part of this Good Faith Effort Statement is true and correct to the best of his/her knowledge. I further agree that this document shall be attached thereto and become a binding part of the SAHA contract.

Print Name

Title Date

Signature

Telephone Number

ATTACHMENT E

Wage Decision

General Decision Number: TX180016 01/05/2018 TX16
Superseded General Decision Number: TX20170016

State: Texas Construction Types: Heavy and Highway

Counties: Atascosa, Bandera, Bastrop, Bell, Bexar, Brazos, Burleson, Caldwell, Comal, Coryell, Guadalupe, Hays, Kendall, Lampasas, McLennan, Medina, Robertson, Travis, Williamson and Wilson Counties in Texas.

HEAVY (excluding tunnels and dams, not to be used for work on Sewage or Water Treatment Plants or Lift / Pump Stations in Bell, Coryell, McClellan and Williamson Counties) and HIGHWAY Construction Projects

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 01/05/2018

* SUTX2011-006 08/03/2011	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.56	
ELECTRICIAN.....	\$ 26.35	
FORM BUILDER/FORM SETTER		
Paving & Curb.....	\$ 12.94	
Structures.....	\$ 12.87	
LABORER		
Asphalt Raker.....	\$ 12.12	
Flagger.....	\$ 9.45	
Laborer, Common.....	\$ 10.50	
Laborer, Utility.....	\$ 12.27	
Pipelayer.....	\$ 12.79	
Work Zone Barricade Servicer.....	\$ 11.85	
PAINTER (Structures).....	\$ 18.34	
POWER EQUIPMENT OPERATOR:		
Agricultural Tractor.....	\$ 12.69	
Asphalt Distributor.....	\$ 15.55	
Asphalt Paving Machine.....	\$ 14.36	
Boom Truck.....	\$ 18.36	
Broom or Sweeper.....	\$ 11.04	
Concrete Pavement Finishing Machine.....	\$ 15.48	

Invitation For Bids (IFB)
INVITATION FOR BIDS (IFB) NO. 1810-912-31-4851 Phillis Wheatley Park Hardscape Construction

Crane, Hydraulic 80 tons or less.....	\$ 18.36
Crane, Lattice Boom 80 tons or less.....	\$ 15.87
Crane, Lattice Boom over 80 tons.....	\$ 19.38
Crawler Tractor.....	\$ 15.67
Directional Drilling Locator.....	\$ 11.67
Directional Drilling Operator.....	\$ 17.24
Excavator 50,000 lbs or Less.....	\$ 12.88
Excavator over 50,000 lbs.....	\$ 17.71
Foundation Drill, Truck Mounted.....	\$ 16.93
Front End Loader, 3 CY or Less.....	\$ 13.04
Front End Loader, Over 3 CY.....	\$ 13.21
Loader/Backhoe.....	\$ 14.12
Mechanic.....	\$ 17.10
Milling Machine.....	\$ 14.18
Motor Grader, Fine Grade.....	\$ 18.51
Motor Grader, Rough.....	\$ 14.63
Pavement Marking Machine.....	\$ 19.17
Reclaimer/Pulverizer.....	\$ 12.88
Roller, Asphalt.....	\$ 12.78
Roller, Other.....	\$ 10.50
Scraper.....	\$ 12.27
Spreader Box.....	\$ 14.04
Trenching Machine, Heavy.....	\$ 18.48
Servicer.....	\$ 14.51
Steel Worker	
Reinforcing.....	\$ 14.00
Structural.....	\$ 19.29
TRAFFIC SIGNAL INSTALLER	
Traffic Signal/Light Pole Worker.....	\$ 16.00
TRUCK DRIVER	
Lowboy-Float.....	\$ 15.66
Off Road Hauler.....	\$ 11.88
Single Axle.....	\$ 11.79
Single or Tandem Axle Dump Truck.....	\$ 11.68
Tandem Axle Tractor w/Semi Trailer.....	\$ 12.81
WELDER.....	\$ 15.97

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

ATTACHMENT F
Form of Bid
Bid Fee Sheet
Bidder's Certification

FORM OF BID

(This Form must be fully completed and placed under Tab #1 of the bid submittal.)

INSTRUCTIONS: The items listed below must be completed and included in the bid unless otherwise specifically noted. Please complete this form by marking X, where provided, to indicate that the referenced information has been included. Also, complete the Section 3 Statement and the Bidder's Statement noted on the subsequent page:

X=ITEM INCLUDED	SUBMITTAL ITEMS
<input type="checkbox"/>	Tab 1 Form of Bid (Attachment F)
<input type="checkbox"/>	Tab 2 HUD Forms & Conflict of Interest Questionnaire(Attachment B)
<input type="checkbox"/>	Tab 3 Profile of Firm Form, Company Profile (Attachment C)
<input type="checkbox"/>	Tab 4 Client Information
<input type="checkbox"/>	Tab 5 Joint Venture/Partnership Information
<input type="checkbox"/>	Tab 6 Subcontractor Information
<input type="checkbox"/>	Tab 7 Section 3 Preference
<input type="checkbox"/>	Tab 8 S/W/MBE Small Business Plan
<input type="checkbox"/>	Tab 9 Section 3 Good Faith Effort Compliance Plan
<input type="checkbox"/>	Tab 10 Financial Viability and Other Information

SECTION 3 STATEMENT

Are you claiming a Section 3 business preference? YES___ or NO___. If "YES," pursuant to the documentation justifying such submitted under Tab No. 8, which category are you claiming?

___ Category I

___ Category II

___ Category III

___ Category IV

Bid Fee Sheet

The undersigned proposer hereby states that by completing and submitting this Form and all other documents within this submittal, he/she is verifying that all information provided herein is, to the best of his/her knowledge, true and accurate, and that if SAHA discovers that any information entered herein to be false, that shall entitle SAHA to not consider or make award or to cancel any award with the undersigned party. Further, by completing and submitting the submittal, and by entering the costs where provided, the undersigned is thereby agreeing to abide by all terms and conditions pertaining to this IFB as issued by SAHA, in hard copy. Pursuant to all IFB Documents, all attachments, and all completed Documents submitted by proposer, including these forms, addendums, and all attachments, the undersigned proposes to supply SAHA with the services described herein for the fee(s) entered within the areas provided.

Base Bid:	Cost
Park Improvements as specified complete (Turnkey)	\$
Alternates:	Cost
Alternate #1 Truss Frame Pavilion in lieu of Open Frame Pavilion	\$
Alternate #2 Foundations for Art Work (Art provided by others)	\$
Time to complete improvements as specified*	days

*Unless specified otherwise construction will be completed in 180 days. Days means Calendar Days.

Addenda Acknowledgements

Addendum #1 _____ Date _____

Addendum #2 _____ Date _____

Addendum #3 _____ Date _____

_____ Signature	_____ Date
_____ Printed Name	_____ Company
_____ E-mail address if available	
_____ Phone	_____ Fax

Bidder's Certification

By signing below, Bidder certifies that the following statements are true and correct:

1. He/she has full authority to bind Bidder and that no member Bidder's organization is disbarred, suspended or otherwise prohibited from contracting with any federal, state or local agency,
2. Items and/or services for which Bids were provided herein will be delivered as specified in the Bid,
3. In performing this contract, the contractor(s) shall comply with any and all applicable federal, state or local laws including but not limited to: Occupational Safety & Health, Equal Employment Opportunity, Immigration and Naturalization, The Americans with Disabilities Act, State Tax and Insurance Law, and the Fair Housing Act.,
4. Bidder agrees that this bid shall remain open and valid for at least a period of 90 days from the date of the Bid Opening and that this bid shall constitute an offer, which, if accepted by SAHA and subject to the terms and conditions of such acceptance, shall result in a contract between SAHA and the undersigned Bidder,
5. He/she has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Bid,
6. Bidder, nor the firm, corporation, partnership, or institution represented by the Bidder, or anyone acting for such firm, corporation or institution has violated the antitrust laws of the State of Texas or the Federal Antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business,
7. Bidder has not received compensation for participation in the preparation of the specifications for this IFB,
8. **Non-Collusive Affidavit:** The undersigned party submitting this bid hereby certifies that such bid is genuine and not collusive and that said Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any Bidder or person, to put in a sham Bid or to refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other Bidder, to fix overhead, profit or cost element of said bid price, or that of any other Bidder or to secure any advantage against SAHA or any person interested in the proposed contract; and that all statements in said bid are true.
9. **Child Support:** Pursuant to Section 231.006 (d) of the Texas Family Code, regarding child support, the bidder certifies that the individual or business entity named in this bid is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.
10. **Lobbying Prohibition:** The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.
11. **Non-Boycott of Israel:** SAHA may not enter into a contract with a company for goods and services unless the contract contains a written verification from the company that; (i) it does not Boycott Israel; and (ii) will not Boycott Israel during the term of the contract. (Texas Government Code chapter 2270). The Contractor by accepting these General Conditions and any associated contract, the CONTRACTOR certifies that it does not Boycott Israel, and agrees that during the term of this contract will not Boycott Israel as that term is defined in the Texas Government Code Section 808.001, as amended.
12. **TX Gov. Code 2252.152:** Prohibits a government entity from awarding a contract to a company identified as Iran, Sudan, or a Foreign Terrorist Organization as identified on a list maintained by the Texas Comptroller of Public Accounts. By signature hereon bidder certifies that it is not affiliated in any manner with the businesses on this list.

SIGNED: _____

(Print Name)

(Print Company Name)

(Company Phone)

(Fax)

(Email Address)

(Date)