Solicitation 1710-197

Brushy Creek Regional Trail at Champion Park

Bid Designation: Public

Williamson County, Texas

Bid 1710-197
Brushy Creek Regional Trail at Champion Park

Bid Number	1710-197
Bid Title	Brushy Creek Regional Trail at Champion Park
Expected Expenditure	**$900,000.00** (This price is expected - not guaranteed)
Bid Start Date	In Held
Bid End Date	Nov 13, 2017 5:00:00 PM CST
Question & Answer End Date	Nov 10, 2017 5:00:00 PM CST
Bid Contact	Blake Skiles Purchasing Specialist III 512-**943**-1478 blake.skiles@wilco.org
Contract Duration	**1 year**
Contract Renewal	Not Applicable
Prices Good for	**1 year**
Pre-Bid Conference	**Nov 1, 2017 1:30:00 PM CDT** **Attendance is mandatory** **Location: Champion Park Pavilion** **3830 Brushy Creek Road** **Cedar Park, TX 78613**
Bid Comments	**Williamson County is seeking bids from qualified companies to provide construction services for trail construction at Champion Park. Base bid for the project will be trail construction from WCID Dam 7 to Champion Park. Alternate bids include several opportunities to renovate and expand current facilities at Champion Park. Substantial completion of this project will be expected by March 9, 2018.**

Item Response Form

Item	**1710-197-01-01** - Construct Section of Brushy Creek Regional Trail at Champion Park
Quantity	**1 each**
Unit Price	
Delivery Location	**Williamson County, Texas** No Location Specified

Qty 1

Description
Construct Section of Brushy Creek Regional Trail at Champion

Item	**1710-197-01-01-01** - Constructed w/ Decomposed Granite gravel w/ stabilizer solution & **ribbon curb**
Quantity	**1 each**

Unit Price

Delivery Location **Williamson County, Texas**

No Location Specified

Qty 1

Description
Alternate Bid 1A - Trail constructed with Decomposed Granite gravel with stabilizer solution and ribbon curb

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Item **1710-197-01-01-02 -** Champion Park Pavilion

Quantity **1 each**

Unit Price

Delivery Location **Williamson County, Texas**

No Location Specified

Qty 1

Description
Alternate Bid 2A - Champion Park Pavilion.

Item **1710-197-01-01-03 -** Champion Park Parking Lot

Quantity **1 each**

Unit Price

Delivery Location **Williamson County, Texas**

No Location Specified

Qty 1

Description
Alternate Bid 3A - Champion Park Parking Lot.

Item **1710-197-01-01-04 -** Champion Park Parking Lot light fixtures

Quantity **1 each**

Unit Price

Delivery Location **Williamson County, Texas**

No Location Specified

Qty 1

Description
Alternate Bid 3B - Champion Park Parking Lot light fixtures.

PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

WILLIAMSON COUNTY PURCHASING DEPARTMENT
SOLICITATION 1710-197
Brushy Creek Regional Trail at Champion Park

BIDS MUST BE RECEIVED ON OR BEFORE:
Nov 13, 2017 5:00:00 PM CST

BIDS WILL BE PUBLICLY OPENED:
Nov 13, 2017 5:00:00 PM CST

Notice is hereby given that sealed Bids for the above-mentioned goods and/or services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive bids. Specifications for this IFB may be obtained by registering at www.bidsync.com.

Williamson County prefers and requests electronic submittal of this Bid.

All electronic bids must be submitted via: www.bidsync.com

Electronic bids are requested, however paper bids will currently still be received, until further notice and may be mailed or delivered to the address listed below.

Bidders are strongly encouraged to carefully read this entire IFB.

All interested Bidders are invited to submit a Bid in accordance with the Instructions and General Requirements, Bid Format, Bid Specifications, and Definitions, Terms and Conditions stated in this IFB.

Please note that a complete package must be submitted choosing one of the above two methods. Split packages submitted will be considered "unresponsive" and will not be accepted or evaluated.

Williamson County will not accept any Bids received after the submittal deadline, and shall return such Bids unopened to the Bidder.

General Information:

- If mailed or delivered in person, Bids and Bid addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this IFB, to:

  Williamson County Purchasing Department
  Attn: **BID NAME AND NUMBER**
  901 South Austin Avenue
  Georgetown, Texas 78626

  - Bidders should list the Bid Number, Bid Name, Name and Address of Bidder, and the Date of the Bid opening on the outside of the box or envelope and note "Sealed Bid Enclosed."
  - Bidder should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Bids being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.

- Bids will be opened publicly in a manner; however, to avoid public disclosure of contents only the names and of Bidders and prices will be read aloud.

- All submitted questions with their answers will be posted and updated on www.bidsync.com.

- It is the Bidder's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.

  - Any Addenda and/or other information relevant to the IFB will be posted on www.bidsync.com.

  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Bidder has obtained any outstanding addenda or additional information.

Williamson County – Invitation for Bid (IFB)

SECTION 1 - DEFINITIONS

Addendum/Addenda – means any written or graphic instruments issued by the County prior to the consideration of Bids which modify or interpret the Bid Documents by additions, deletions, clarifications, or corrections.

Agreement/Ensuing Agreement(s) – means the Successful Bidder may be required by the County to sign an additional Agreement containing terms necessary to ensure compliance with the IFB and the Bidder's Bid. Such Ensuing Agreement(s) shall contain the Bid specifications, terms and conditions that are derived from the IFB.

Bid Documents – means the Legal Notice, IFB including attachments, and any Addenda issued by the County prior to the consideration of any Bids.

Bid – means the completed and signed bid form, (sometimes referred to as the Price Sheet), and ALL required forms and documentation listed in the IFB package which have been submitted in accordance with the terms and conditions described in the IFB package. A Bid submitted in accordance with this IFB is irrevocable during the specified period for evaluation and acceptance of Bids unless a waiver is obtained from the Williamson County Purchasing Agent.

Bidder – means a person or entity who submits a Bid in response to this IFB.

Contract – means this IFB and the Bid of the Successful Bidder shall become a Contract between the Successful Bidder and the County once the Successful Bidder's Bid is properly accepted by the Williamson County Commissioners Court.

Commissioner's Court – means the Williamson County Commissioners Court.

County – means Williamson County, a political subdivision of the State of Texas.

Invitation for Bid (IFB) – means this document, together with the attachments thereto and any future Addenda issued by the County.

Successful Bidder – means the liable Bidder to whom the County intends to award the Contract.

SECTION 2 - BID FORMAT AND SUBMISSION

2.1 ORGANIZATION OF BID CONTENTS FOR SUBMITTAL

Each Bid should be organized and items submitted in the order described below:

A. Transmittal Letter. Please see Section 2.3, Transmittal Letter, for more information.

B. Price Sheet.

C. Conflict of Interest Questionnaire. Please see Section 2.2, Conflict of Interest, for more information in regards to this. Please note that even if you deem there to be no Conflict of Interest, this signed questionnaire must be included in your package.

D. References. Please see Section 3.15, References, for more information.

E. Bid Affidavit.

F. Form 1295. Please see Section 2.4, Certificate of Interested Parties – Form 1295.

2.2 CONFLICT OF INTEREST

No public official shall have interest in a Contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code, Title 5, Subtitle C, Chapter 171, as amended.

As of January 1, 2006, all Bidders are responsible for complying with Local Government Code, Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County's website at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en US/Default.aspx

Each Bidder must disclose any existing or potential conflict of interest relative to the performance of the requirements of this IFB. **Examples of potential conflicts of interest may include an existing business or personal relationship between the Bidder, its principal, or any affiliate or subcontractor with the County or any other entity or person involved in any way with the project that is subject to this IFB**. Similarly, any personal or business relationship between the Bidder, the principals, or any affiliate or subcontractor with any employee, or official of the County or its suppliers must be disclosed. Any such relationship that might be perceived or represented as a conflict must be disclosed. Failure to disclose any such relationship or reveal personal relationships with the County employees or officials may be cause for termination.

The County will decide if an actual or perceived conflict should result in Bid disqualification.

By submitting a Bid in response to this IFB, all Bidders affirm they have not given, nor intend to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a the County public servant or any employee, official or representative of same, in connection with this procurement.

Each Bidder must provide a Conflict of Interest Statement with their Bid Package. Package may be deemed incomplete without this form.

2.3 TRANSMITTAL LETTER

The Bidder should submit a Transmittal Letter that provides the following information:

A. Name and address of individual or business entity submitting the Bid.

B. Name, physical address, email address, business and fax number of the Bidder's principal contact person regarding all contractual matters relating to this IFB.

C. The Bid's Federal Employer Identification Number.

D. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. See Section 4.36, Air Quality for more information.

2.4 CERTIFICATE OF INTERESTED PARTIES – FORM 1295

As of January 1, 2016, all Successful Bidders are responsible for complying with the Texas Government Code, Section 2252.908. The law states that the County may not enter into certain contracts with a Bidder unless the Bidder submits a disclosure of interested parties to the County at the time the Bidder submits the signed Contract. The law applies only to a Contract of the County on or after January 1, 2016 that either:

A. Requires an action or vote by the Commissioners Court before the Contract may be signed (all contracts that fall under the jurisdiction of the Commissioners Court approval, such as contracts resulting from an Initiation for Bid (IFB), RFP, Request for Qualifications (RFQ), etc., excluding, but not limited to, certain Juvenile Service contracts, contracts funded with Sheriff's seized fun monies, etc.); or
B. Has a value of at least $1,000,000.

By January 1, 2016, the Texas Ethics Commission will make available on its website, a new filing application that must be used to file Form 1295. Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A Respondent must:

A. Use the online application to process the required information on Form 1295.

B. Print a copy of the form which will contain a unique certification number.

C. An authorized agent of the Bidder must sign the printed copy of the form.

D. Have the form notarized.

E. File the completed Form 1295 and certification of filing (scanning and emailing form is sufficient) with Williamson County Purchasing Agent at the time the signed Contract is submitted for approval.

After the Commissioners Court award of the Contract, the County shall notify the Texas Ethics Commission, using the Texas Ethics Commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the Contract binds all parties to the Contract. The Texas Ethics Commission will post the completed Form 1295 to its website within seven business days after receiving notice from the County.

2.5 ETHICS

The Bidder shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official or agent of the County.

2.6 BID SUBMITTAL DEADLINE

The Bid is due no later than the submittal date and time set forth in the Public Announcement and General Information listed in this IFB package. Contents of each Bid shall be submitted in accordance with this IFB.

2.7 DELIVERY OF BIDS

The County uses BidSync to distribute and receive Bids and proposals. It is preferred that Bids submitted electronically through BidSync; however, Bidders can submit a hard copy.

Refer to www.bidsync.com for further information on how to submit electronically.

If mailed or delivered in person, Bids and Bid Addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed in this IFB package, to:

Williamson County Purchasing Department
Attn: **Bid Name and Number**
901 South Austin Avenue
Georgetown, Texas 78626

Also, all Bidders should list their Name and Address, and the Date of the Bid opening on the outside the box or envelope and note "Sealed Bid Enclosed." The County will not accept any Bids received after the submittal deadline, and shall return such Bids unopened to the Bidder. The County will not accept any responsibility for Bids being delivered by third party carriers.

Bids will be opened publically and the names of Bidders and pricing will be read aloud.

SECTION 3 - INSTRUCTIONS AND GENERAL REQUIREMENTS

3.1 INSTRUCTIONS

Read this document carefully, and follow all instructions and requirements. All Bidders are responsible for fulfilling all requirements and specifications. Be sure to have a clear understanding of this IFB.

General requirements apply to all advertised IFBs; however, these may be superseded, in whole or in part, by the bid specifications, Addenda and modifications issued as a part of this IFB. Be sure your Bid package is complete.

3.2 AMBIGUITY, CONFLICT, OR OTHER ERRORS IN THIS IFB

If a Bidder discovers any ambiguity, conflict, discrepancy, omission or other error in this IFB, the Bidder shall immediately notify the County Purchasing Department of such error in writing and request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Bidder fails to notify the County prior to the date and time fixed for submission of Bids of an error or ambiguity in the IFB known to the Bidder, or an error or ambiguity that reasonably should have been known to the Bidder, then the Bidder shall be deemed to have waived the error or ambiguity or its later resolution.

The County may also modify the IFB, no later than forty-eight (48) hours prior to the date and time fixed for submission of Bids, by issuance of an Addendum. All Addenda will be numbered consecutively, beginning with one (1).

3.3 NOTIFICATION OF MOST CURRENT ADDRESS

All Bidders in receipt of this IFB shall notify the Williamson County Purchasing Department of any address changes, contact person changes, and/or telephone number changes no later than forty-eight (48) hours prior to the date and time fixed for submission of Bids.

3.4 SIGNATURE OF BIDDER

A. If the Bidder is a Corporation or Limited Liability Company, the legal name of the Corporation Limited Liability Company shall be provided together with the signature of the officer or officers authorized to sign on behalf of such entity.

B. If the Bidder is a General Partnership, the true name of the firm shall be provided with the signature of each partner authorized to sign.

C. If the Bidder is a Limited Partnership, the name of the Limited Partner's General Partner shall provided with the signature of the officer authorized to sign on behalf of the General Partner.

D. If the Bidder is a Sole Proprietor(s) (individual), each Sole Proprietor(s) shall sign.

E. If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited Liability Company, General Partner or a member of a General Partnership, a power of attorney equivalent document must be submitted to the Williamson County Purchasing Department.

3.5 ASSUMED BUSINESS NAME

If the Bidder operates business under an Assumed Business Name, the Bidder must have on file with the

Williamson County Clerk a current Assumed Name Certificate and provide a file marked copy of same.

3.6 BID OBLIGATION

The contents of the IFB, Bid, and any clarification thereof submitted by the Successful Bidder shall become part of the contractual obligation and incorporated by reference into the Contract and any Ensuing Agreement(s).

3.7 COMPLIANCE WITH IFB SPECIFICATIONS

It is intended that this IFB describe the requirements and the Bid format in sufficient detail to secure comparable Bids. Failure to comply with all provisions of the IFB may, at the sole discretion of the County, result in disqualification.

3.8 WITHDRAWAL OF BID

The Bidder may withdraw its Bid by submitting a written request with the company letterhead and the signature of an authorized individual, as described in Section 3.4, Signature of Bidder, to the Williamson County Purchasing Department any time prior to the submission deadline.

The Bidder may submit a new Bid prior to the deadline. Alterations of the Bid in any manner will not be considered if submitted after the deadline. Withdrawal of a Bid after the deadline will be subject to written approval of the Williamson County Purchasing Agent.

3.9 EVALUATION AND AWARD

The County reserves the right to use all pertinent information (also learned from sources other than disclosed in the Bid process) that might affect the County's judgment as to the appropriateness of award to the lowest and best evaluated Bid. This information may be appended to the Bid evaluation process results. Information on a Bidder from reliable sources, and not within the Bidder's Bid, may also be noted and made part of the evaluation file. The County shall have sole discretion for determining the reliability of the source.

To ensure the proper and fair evaluation of a solicitation, the County prohibits unsolicited communication initiated by the Bidder to the County Official or Employee evaluating or considering the Bids prior to the time an award has been made. Unsolicited communication may be ground for disqualifying the offending Bidder from consideration or award of the solicitation, or any future solicitation.

Communication between the Bidder and the County will be initiated by the appropriate County Official Employee in order to obtain information or clarification needed to develop a proper and accurate evaluation of the solicitation.

The County intends to award a Contract to the most responsible and responsive Bidder whose Bid will be most advantageous to the County. In accordance with Texas Government Code and Local Government Code, the County may consider, to the extent allowed by law, the following:

A. Price;
B. The Bidder's experience and reputation;
C. Quality of the Bidder's goods and/or services;
D. The Bidder's safety record;
E. The Bidder's proposed personnel;
F. The Bidder's financial capabilities; and
G. Any other relevant factors specifically listed in this IFB or authorized by law.

3.10 CONDISERATION OF LOCATION OF PRINCIPAL OFFICE

Pursuant to Texas Local Government Code, Section 271.905, in purchasing any real property or personal property that is not affixed to real property, if the County receives one or more Bids from a Bidder whose principal place of business is in Williamson County and whose Bid is within three (3) percent of the lowest Bid price received by the County from a Bidder who is not a resident of Williamson County, the County may enter into a contract with:

A. The lowest Bidder; or the Bidder whose principal place of business is in Williamson County if the Commissioners Court determines, in writing, that the local Bidder offers the County the best combination of contract price and additional economic development opportunities Williamson County created by the contract award, including the employment of residents Williamson County and increased tax revenues to Williamson County.

It is understood that the Commissioners Court of Williamson County, Texas, reserves the right to accept or reject any and/or all Bids for any or all goods and/or services covered in this IFB, and to waive informalities or defects in the Bid or to accept such Bid, if it shall deem to be in the best interest of the County.

Awards should be made approximately sixty (60) business days after the Bid opening date. Results may be obtained by viewing the Williamson County vendor portal at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/SearchforaPastBid/tabid/5213/language/en-US/Default.aspx

3.11 RESPONSIBILITY

It is expected that a prospective Bidder will be able to affirmatively demonstrate responsibility. A prospective Bidder should be able to meet the following requirements:

A. Have adequate financial resources, or the ability to obtain such resources as required;
B. Be able to comply with the required or proposed delivery schedule;
C. Have a satisfactory record of performance that can be determined thru references provided; and
D. Be otherwise qualified and eligible to receive an award.

The County may request representation and other information sufficient to determine the Bidder's ability to meet these minimum standards listed above.

3.12 FIRM PRICING

For unit price items, all of the items listed are to be on a "per unit" basis, stating a firm price per unit or unit quantity of each item. The Bidder must submit a firm price that must be good from the date of Bid opening for the fixed period of time set out in this IFB. Unless the IFB expressly states otherwise, this period shall be until the end of the Initial Contract Period.

Bids which do not state a fixed price, or which are subject to change without notice, will not be considered. The Court may award a Contract for the period implied or expressly stated in the lowest and best Bid.

3.13 PURCHASE ORDERS

If required by the Williamson County Purchasing Department, a purchase order(s) may be generated to the Successful Bidder for goods and/or services. If a purchase order is issued, the purchase order number must appear on all itemized invoices and/or requests for payment.

3.14 SILENCE OF SPECIFICATIONS

The apparent silence of these specifications as to any detail or to the apparent omission from it of a

detailed description concerning any point, shall be regarded as meaning that only the best practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

3.15 REFERENCES

The County may require the Bidder to supply a list of at least three (3) references where like services and/or goods have been supplied by their firm within the past five (5) years, to include names, titles, phone numbers and email addresses of key personnel, and dates of performance.

The County may contact some or all of the references in order to determine the Respondent performance record on work similar to that described in this RFP. The County reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

References, if requested, should be provided in accordance with this IFB. Bid may not be deemed complete without the inclusion of requested references.

SECTION 4 - TERMS AND CONDITIONS

4.1 VENUE AND GOVERNING LAW

The Bidder hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this IFB, the Contract and any Ensuing Agreement(s), shall lie exclusively in either Williamson County, Texas or in the Austin Division of the Western Federal District of Texas, and the parties hereto expressly consent and submit to such jurisdiction. Furthermore, except to the extent that this IFB, the Contract and any Ensuing Agreement(s) is governed by the laws of the United States, this IFB, the Contract and any Ensuing Agreement(s) shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

4.2 INCORPORATION BY REFERENCE AND PRECEDENCE

A. The Contract shall be derived from the IFB and its Addenda (if applicable), and the Bidder's Bid. In the event of a dispute under the Contract, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The IFB and its Addenda (if applicable); and

   2. The Bidder's Bid.

B. In the event the County requires that an Ensuing Agreement be executed following award and a dispute arises between the terms and conditions of the Ensuing Agreement, the IFB and its Addenda (if applicable), and the Bidder's Bid, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. Terms and conditions of the Ensuing Agreement;

   2. The IFB its Addenda; and

   3. The Bidder's Bid.

4.3 OWNERSHIP OF BID

Each Bid shall become the property of the County upon submittal and will not be returned to Bidders unless received after the submittal deadline.

4.4 DISQUALIFICATION OF BIDDER

Upon signing and submittal of the Bid, a Bidder offering to sell supplies, materials, services, or equipment to the County, certifies that the Bidder has not violated the antitrust laws of the State of Texas codified in Business & Commerce Code, Section 15.01, or the Federal Antitrust Laws, and has not communicated directly or indirectly the offer made to any competitor or any other person engaged in such line of business. Any or all Bids may be rejected if the County believes that collusion exists among the Bidders.

4.5 FUNDING

The County intends to budget and make sufficient funds available and authorize funds for expenditure to finance the costs of the Contract. All Bidders understand and agree that the County's payment of amounts under the Contract shall be contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to make payments under this Contract.

4.6 ASSIGNMENT, SUCCESSORS AND ASSIGNS

The Successful Bidder may not assign, sell, or otherwise transfer the Contract or any other rights or interests obtained under the Contract without written permission of the Commissioners Court. The Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the contracting parties hereto and their respective successors and permitted assigns.

4.7 IMPLIED REQUIREMENTS

Products or services not specifically described or required in the IFB, but are necessary to provide the functional capabilities described by the Bidder, shall be implied and deemed to be included in the Bid.

4.8 TERMINATION

A. **Termination for Cause:** The County reserves the right to terminate the Contract and/or any Ensuing Agreement(s) for default if the Successful Bidder breaches any of the Bid specifications, terms and conditions, including warranties of the Bidder, if any, or if the Successful Bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies the County may have at law or in equity or as may otherwise provided hereunder. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all other requirements to the County's satisfaction, and/or to meet all other obligations and requirements.

B. **Termination for Convenience:** The County may terminate the Contract and/or any Ensuing Agreement(s) for convenience and without cause or further liability, upon no less than thirty (30) calendar days written notice to the Successful Bidder. The County reserves the right to extend this period if it is in the best interest of the County. In the event the County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to the Successful Bidder for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for the County termination for convenience.

4.9 NON-PERFORMANCE

It is the objective of the County to obtain complete and satisfactory performance of the requirements set forth herein. In addition to any other remedies available at law, in equity or that may be set out herein, failure to perform may result in a deduction of payment equal to the amount of the goods and/or services that were not provided and/or performed to the County's satisfaction.

In the event of such non-performance, the County shall have the right, but shall not be obligated, to complete the services itself or by others and/or purchase the goods from other sources. If the County elects to acquire the goods or perform the services itself or by others, pursuant to the foregoing, the Successful Bidder shall reimburse the County, within ten (10) calendar days of demand, for all costs incurred by the County (including, without limitation, applicable, general, and administrative expenses, and field overhead, and the cost of necessary equipment, materials, and field labor) in correcting the nonperformance which the Successful Bidder fails to meet pursuant to the requirements set out herein. In the event the Successful Bidder refuses to reimburse the County as set out in this provision, the County shall have the right to deduct such reimbursement amounts from any amounts that may be then owing or that may become owing in the future to the Successful Bidder.

4.10 PROPRIETARY INFORMATION AND THE TEXAS PUBLIC INFORMATION ACT

All material submitted to the County shall become public property and subject to the Texas Public Information Act upon receipt. If a Bidder does not desire proprietary information in the Bid to be

disclosed, each page must be clearly identified and marked proprietary at time of submittal or, more preferably, all proprietary information may be placed in a folder or appendix and be clearly identified and marked as being proprietary. Failure to clearly identify and mark information as being proprietary as set forth under this provision will result in all unmarked information being deemed non-proprietary and available to the public. For all information that has not been clearly identified and marked as proprietary by the Bidder, the County may choose to place such information on the County's website and/or a similar public database without obtaining any type of prior consent from the Bidder.

The County will, to the extent allowed by law, endeavor to protect from public disclosure the information that has been identified and marked as proprietary. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General.

To the extent, if any, that any provision in this IFB or in the Bidder's Bid is in conflict with Texas Government Code, Chapter 552, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood, and agreed, that the County, and its officers and employees, may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to the County as to whether or not the same are available to the public. It is further understood that the County, and its officers and employees, shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that the County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to the County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

4.11 RIGHT TO AUDIT

The Successful Bidder agrees that the County or its duly authorized representatives shall, until the expiration of three (3) years after termination or expiration of the services to be performed, have access to and the right to examine and photocopy any and all books, documents, papers and records of the Successful Bidder, which are directly pertinent to the services to be performed or goods to be delivered for the purposes of making audits, examinations, excerpts and transcriptions. The Successful Bidder agrees that the County shall have access during normal working hours to all necessary facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give the Successful Bidder reasonable advance notice of intended audits.

4.12 TESTING AND INSPECTIONS

The County reserves the right to inspect and test equipment, supplies, materials and goods for quality and compliance with this IFB, and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the County can deem the Bidder to be in breach and terminate the Contract and/or any Ensuing Agreement(s).

4.13 BID PREPARATION COSTS

The cost of developing Bids is the sole responsibility of the Bidders and shall not be charged to the County. There is no expressed or implied obligation for the County to reimburse the Bidders for any expense incurred in preparing a Bid in response to this IFB and the County will not reimburse the Bidders for such expenses.

4.14 INDEMNIFICATION

The Successful Bidder shall indemnify, defend and save harmless, the County, its officials, employees, agents and agent's employees from, and against, all claims, liability, and expenses including reasonable attorneys' fees, arising from activities of the Bidder, its agents, servants or employees, performed

hereunder that result from the negligent act, error, or omission of the Bidder or any of the Bidder agents, servants or employees, as well as all claims of loss or damage to the Bidder's and the County property, equipment, and/or supplies.

Furthermore, the County, its officials, employees, agents and agents' employees shall not be liable for damages to the Successful Bidder arising from any act of any third party, including, but not limited to, theft. The Successful Bidder further agrees to indemnify, defend and save harmless, the County from its officials, employee, agents and agents' employees against all claims of whatever nature arising from any accident, injury, or damage whatsoever, caused to any person, or the property of any person, occurring in relation to the Successful Bidder's performance of any services requested hereunder during the term of the Contract and/or any Ensuing Agreement(s).

The Successful Bidder shall timely report all claims, demands, suits, actions, proceedings, liens or judgements to the County and shall, upon the receipt of any claim, demand, suit, action, proceeding, lien or judgement, not later than the fifteenth (15^{th}) day of each month; provide the County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of the County required by the Successful Bidder in the defense of each matter. The Successful Bidder's duty to defend, indemnify and hold the County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of the Contract and/or any Ensuing Agreement(s), unless otherwise agreed by the County in writing. The provisions of this section shall survive the termination of the Contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

In the event of any dispute between the parties, as to whether a claim, demand, suit, action, proceeding, lien or judgement, that appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of the County, the Bidder shall nevertheless fully defend such claim, demand, suit or action, proceeding, lien or judgement, until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of the Bidder are not an issue in the matter.

The Successful Bidder's indemnification shall cover, and the Successful Bidder agrees to, indemnify the County, in the event the County is found to have been negligent for having selected the Successful Bidder to perform the work described in this request. The provision by the Successful Bidder of insurance shall not limit the liability of the Successful Bidder under the Contract and/or any Ensuing Agreement(s).

4.15 WAIVER OF SUBROGATION

The Successful Bidder and the Successful Bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against the County as an indirect party to any suit arising out of personal or property damages resulting from the Bidder's performance under this Contract and any Ensuing Agreement(s).

4.16 RELATIONSHIP OF THE PARTIES

The Successful Bidder shall be an independent contractor and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions herein which may appear to give the County the right to direct the Successful Bidder as to details of doing work herein covered, or to exercise a measure of control over the work, shall be deemed to mean that the Successful Bidder shall follow the desires of the County in the results of the work only. The County shall not retain or have the right to control the Successful Bidder's means, methods or details pertaining to the Successful Bidder's performance of the work. The County and the Successful Bidder hereby agree and declare that the Successful Bidder is an independent contractor and as such meets the qualifications of an "Independent Contractor" under Texas Workers Compensation Act, Texas Labor Code, Section 406.141, that the Successful Bidder is not an employee of the County, and that the Successful Bidder and its employees, agents and subcontractors shall not be entitled to workers compensation coverage or any other type of insurance coverage held by the County.

4.17 SOLE PROVIDER

The Successful Bidder agrees and acknowledges that it shall not be considered a sole provider of the goods and/or services described herein and that the County may contract with other providers of such goods and/or services if the County deems, at its sole discretion, that multiple providers of the same goods and/or services will serve the best interest of the County.

4.18 FORCE MAJEURE

If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

4.19 SEVERABILITY

If any provision of this IFB, the Contract or any Ensuing Agreement(s) shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof, but rather the entire IFB, Contract or any Ensuing Agreement (s) will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the parties shall be construed and enforced in accordance therewith. The parties acknowledge that if any provision of this IFB, the Contract or any Ensuing Agreement(s) is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this IFB, the Contract or any Ensuing Agreement(s) and be deemed to be validated and enforceable.

4.20 EQUAL OPPORTUNITY

Neither party shall discriminate against any employee or applicant for employment because of race, color, sex, religion or national origin.

4.21 NOTICE

Any notice to be given shall be in writing and may be distributed by personal delivery, or by registered or certified mail, return receipt requested, addressed to the proper party, at the following address:

The County: Williamson County Purchasing Department
Attn: Purchasing Agent
901 South Austin Avenue
Georgetown, Texas 78626

The Bidder: Address set out in Bidder's Transmittal Letter.

Notices given in accordance with this provision shall be effective upon (1) receipt by the party to which notice is given, or (2) on the third (3rd) calendar day following mailing, whichever occurs first.

4.22 SALES AND USE TAX EXEMPTION

The County is a body, corporate and politic, under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code, Section 151.309, as amended, and the services and/or goods subject hereof are being secured for use by the County.

4.23 COMPLIANCE WITH LAWS

The County and the Successful Bidder shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of the Contract and any Ensuing Agreement(s), including, without limitation, Workers' Compensation laws, salary and wage statutes and regulations, licensing laws and regulations. When required, the Successful Bidder shall furnish the County with certification of compliance with said laws, statues, ordinances, rules, regulations, orders, and decrees above specified.

4.24 INCORPORATION OF EXHIBITS, APPENDICES AND ATTACHMENTS

All of the Exhibits, Appendices and Attachments referred to herein are incorporated by reference as if set forth verbatim herein. Any conflicting terms in the Contract documents will be resolved at the sole discretion of the Commissioners Court.

4.25 NO WAIVER OF IMMUNITIES

Nothing herein shall be deemed to waive, modify or amend any legal defense available at law or in equity to the County, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. The County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4.26 NO WAIVER

The failure or delay of any party to enforce at any time or any period of time any of the provisions of this IFB, the Contract or any Ensuing Agreement(s) shall not constitute a present or future waiver of such provisions nor the right of either party to enforce each and every provision. Furthermore, no term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of or excuse for any other, different or subsequent breach.

4.27 CURRENT REVENUES

The obligations of the parties under the Contract and any Ensuing Agreement(s) do not constitute a general obligation or indebtedness of the County for which the County is obligated to levy, pledge, or collect any of taxation. It is understood and agreed that the County shall have the right to terminate the Contract and any Ensuing Agreement(s) at the end of any the County fiscal year if the governing body of the County does not appropriate sufficient funds as determined by the County's budget for the fiscal year in question. The County may effect such termination by giving written notice of termination to the Successful Bidder at the end of its then-current fiscal year.

4.28 FOB DESTINATION

To the extent applicable to this IFB, all of the items listed are to be Free On Board to final destination (FOB Destination) with all transportation charges if applicable to be included in the Bid, unless otherwise specified in the Invitation for Bids. The title and risk of loss of the goods shall not pass to the County until receipt and acceptance takes place at the FOB Destination point.

4.29 BINDING EFFECT

This Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the parties

and their respective permitted assigns and successors.

4.30 ASSIGNMENT

The Successful Bidder's interest and duties hereunder may not be assigned or delegated to a third party without the express written consent of the County.

4.31 SAFETY

The Successful Bidder is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with any services to be provided hereunder. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

4.32 GENERAL OBLIGATIONS AND RELIANCE

The Successful Bidder shall perform all services and/or provide all goods, as well as those reasonably inferable and necessary for completion and provision of services and/or goods required hereunder. The Successful Bidder shall keep the County informed of the progress and quality of the services. The Successful Bidder agrees and acknowledges that the County is relying on the Successful Bidder's represented expertise and ability to provide the goods and/or services described herein. The Successful Bidder agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of the County accordance with the County's requirements and procedures. The Successful Bidder's duties, set forth herein, shall at no time be in any way diminished by reason of any approval by the County, n shall the Successful Bidder be released from any liability by reason of such approval by the County, it being understood that the County at all times is ultimately relying upon the Successful Bidder's skill and knowledge in performing the services and providing any goods required hereunder.

4.33 ESTIMATED QUANTITIES

To the extent applicable to this IFB, the estimated quantity of each item listed in this IFB is only estimate; the actual quantity to be purchased may be more or less. The County is not obligated purchase any minimum amount, and the County may purchase any reasonable amount greater than t estimate for the same unit price. Any limit on quantities available must be stated expressly in the Bid.

4.34 CONTRACTUAL DEVELOPMENT

The contents of the IFB and the Successful Bidder's Bid will become an integral part of the Contract, but may be modified, at the County's sole discretion, by provisions of an Ensuing Agreement. Therefore, the Bidder must agree to an inclusion of an Ensuing Agreement of the Bid specifications, terms and conditions of this IFB. If an Ensuing Agreement is required under this IFB, information relative to t Agreement will be located in the Special Provisions Section of this IFB.

4.35 SURVIVABILITY

All applicable agreements that were entered into between the Successful Bidder and the County, under the terms and conditions of the Contract and/or any Ensuing Agreement(s), shall survive the expiration or termination thereof for ninety (90) days unless a new contract has been awarded.

The County may exercise, by written notice to the Successful Bidder no later than ten (10) calendar days of the Contract expiration, this clause for emergencies only.

4.36 AIR QUALITY

In determining the overall best Bid, the County may, to the extent applicable, exercise the option granted to local governments under the Texas Local Government Code, Section 271.907.

This option allows the County to evaluate Bids and give preference to goods and/or services of a Bidder that demonstrates that the Bidder meets or exceeds any and all state or federal environmental standards, including voluntary standards, relating to air quality. If the Bid being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Bidder is encouraged to provide information in narrative indicating the anticipated air quality impact. All Bidders are expected to meet all mandated state and federal air quality standards.

4.37 ENTIRE AGREEMENT

The Contract and any Ensuing Agreement(s) shall supersede all prior Agreements, written or oral between the Successful Bidder and the County and shall constitute the entire Agreement and understanding between the parties with respect to the services and/or goods to be provided. Each of the provisions herein shall be binding upon the parties and may not be waived, modified, amended or altered, except by writing signed by the Successful Bidder and the County.

4.38 PAYMENT

The County's payment for goods and services shall be governed by the Texas Government Code, Chapter 2251. An invoice shall be deemed overdue the thirty-first (31st) day after the later of the following:

A. The date the County receives the goods under the Contract;
B. The date the performance of the service under the Contract is completed; or
C. The date the Williamson County Auditor receives an invoice for the goods or services.

Interest charges for any overdue payments shall be paid by the County in accordance with Texas Government Code, Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of the County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one (1) percent, and the prime rate published in the Wall Street Journal on the first (1st) day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice submitted by the Successful Bidder, the County shall notify the Successful Bidder of the error not later than the twenty-first (21st) day after the date the County receives the invoice. If the error is resolved in favor of the Successful Bidder, the Successful Bidder shall be entitled to receive interest on the unpaid balance of the invoice submitted by the Successful Bidder beginning on the date that the payment for the invoice became overdue. If the error is resolved in favor of the County, the Successful Bidder shall submit a corrected invoice that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by the Texas Government Code, Chapter 2251, if the corrected invoice is not paid by the appropriate date.

As a minimum, invoices shall include:

A. Name, address, and telephone number of the Successful Bidder and similar information in the event the payment is to be made to a different address.

B. The County Contract, Purchase Order.

C. Identification of items or service as outlined in the Contract.

D. Quantity or quantities, applicable unit prices, total prices and total amount.

E. Any additional payment information which may be called for by the Contract.

Payment inquiries should be directed to the following address:

Williamson County Auditor's Office, Accounts Payable Department
Email: accountspayable@wilco.org
Phone: 512-943-1500

4.39 CONTRACTUAL FORMATION AND ENSUING AGREEMENT

The IFB and the Bidder's Bid, when properly accepted by the Commissioners Court, shall constitute a Contract equally binding between the Successful Bidder and the County.

If an Ensuing Agreement is required by this IFB, that information will be provided in Special Provisions section of this IFB. The Successful Bidder shall be required to execute the Agreement at the Williamson County Purchasing Department approximately ten (10) calendar days after the Successful Bidder is notified of award. The Ensuing Agreement shall be in the same form as the Agreement which is attached to the end of this IFB. The only anticipated changes in the Ensuing Agreement will be to include additional exhibits, to fill in blanks to identify the Successful Bidder, and terms relating to the compensation, or to revise the Agreement to accommodate corrections, changes in the scope of services, or changes pursuant to Addenda issued. **Bidders should raise any questions regarding the terms of the Agreement in the form of written questions or submittals as described in the Public Announcement and General Information portion of this IFB.** Because the signed Ensuing Agreement will be substantively and substantially derived from the attached Agreement, each Bidder is urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the Agreement *before* submitting a Bid. Again, the attached Agreement, if applicable, contains important legal provisions and is considered part and parcel of this IFB. Failure or refusal to sign aforesaid Agreement shall be grounds for the County to revoke any award which has been issued, forfeit Bid security, if applicable, and select another Bidder.

4.40 COOPERATIVE PURCHASING PROGRAM

During the term of the Contract resulting from this IFB, the County would like to afford the same prices, terms and conditions to other political subdivisions or public entities. Another entity's participation in the Contract resulting from this IFB is subject to a properly authorized Purchasing Cooperative Inter-local Agreement with the County. Any liability created by purchase orders issued against the Contract shall be the sole responsibility of the governmental agency placing the order.

4.41 INSURANCE REQUIREMENTS

To the extent applicable Insurance information will appear in the Additional Stipulations section that is in this IFB Package.

4.42 BIDDERS BOND, WARRANTY BOND, PERFORMANCE AND PAYMENT BONDS

To the extent applicable Bond information will appear in the Additional Stipulations section that is in this IFB Package.

4.43 LEGAL LIABILITY INFORMATION

The Successful Bidder shall disclose all legal liability information by listing any pending litigation anticipated litigation that your firm is involved in including, but not limited to, potential or actual legal matters with private parties and any local, state, federal or international governmental entities. The County reserves the right to consider legal liability information in the recommendation of any proposed contract to the Commissioners Court.

4.44 INCLEMENT WEATHER

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a Bid submission deadline, the Bid closing will automatically be postponed until the next business day the County is open. If inclement weather conditions or any other unforeseen event causes delays in carrier service operations, the County may issue an Addendum to all known Bidders interested in the project to extend the deadline. It will be the responsibility of the Bidder to notify the County of their interest in the project if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

4.45 PREVAILING WAGE RATES

To the extent this procurement is for the construction of a public work, including a building, highway, road, excavation, and repair work or other project development or improvement, paid for in whole or in part from public funds, without regard to whether the work is done under public supervision or direction, Texas Government Code, Chapter 2258, shall apply and the contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the County. Pursuant to Texas Government Code, Section 2258.022(a)(2), the County has determined the general prevailing rate of the "Prevailing Wage Schedule" in the locality in which the public work is to be performed for each craft or type of worker needed to execute the contract and the prevailing rate for legal holiday and overtime work by using the prevailing wage rate as determined by the United States Department of Labor in accordance with the United States Code, Section 276a (Davis-Bacon Act).

The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the work is available locally at the prevailing wage rates. The County is not bound to pay—and will not consider—any claims for additional compensation made by any contractor because the contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the work may be found locally at the specified wage rates.

For classifications not shown, workers shall not be paid less than the wage indicated for laborers. The contractor shall notify each worker commencing work on the project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the County, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by contractor. A copy of each worker wage rate notification shall be submitted to the County with the Application for Payment for the period during which the worker began on-site activities.

Should the contractor at any time become aware that a particular skill or trade not reflected on the County's "Prevailing Wage Schedule" will be or is being employed in the work, whether by the contractor or by a subcontractor, the contractor shall promptly inform the County and shall specify a wage rate for that skill or trade, which shall bind the contractor.

The contractor and any subcontractor shall pay to the County a penalty of sixty dollars ($60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the "Prevailing Wage Schedule" or any supplement thereto. The contractor and each subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the County.

Within thirty-one (31) days of receipt of information concerning a violation of the Texas Government Code Chapter 2258, the County shall make an initial determination as to whether good cause exists to believe a violation occurred. The County's decision on the initial determination shall be reduced to writing and sent to the contractor or subcontractor against whom the violation was alleged, and to the affected

worker. When a good cause finding is made, the County shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the "Prevailing Wage Schedule" and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

After the County makes its initial determination, the affected contractor or subcontractor and worker have fourteen (14) calendar days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by the County or paid to the affected worker. If the contractor or subcontractor and affected worker reach an agreement concerning the worker's claim, the contractor shall promptly notify the County in a written document signed by the worker. It the contractor or Subcontractor and affected worker do not agree before the fifteenth (15th) calendar day after the County determination, the contractor or subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, (Texas Civil Practice and Remedies Code). The parties to the arbitration have ten (10) calendar days after the expiration of the fifteen (15) calendar days referred to above, to agree on an arbitrator; if by the eleventh (11th) calendar day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the contractor or subcontractor the amount of penalty as provided above and the amount owed the worker. The County may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the County has not retained enough from the contractor or subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the contractor and subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The contractor shall promptly furnish a copy of the arbitration award to the County.

Money retained pursuant to the provisions above shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the project at the rate paid by the contractor or subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the contractor or subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars ($60.00) per calendar day of violation per worker shall be retained by Williamson County to offset its administrative costs, pursuant to Texas Government Code, Section, 2258.023. Any retained funds in excess of these amounts shall be paid to the contractor on the earlier of the next progress payment or final payment. Provided, however, that the County shall have no duty to release any funds to either the claimant or the contractor until it has received the notices of agreement or the arbitration award as provided under the provision herein-above.

4.46 CONFIDENTIALITY

The Bidder expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

Project Manual Seals

for

Brushy Creek Trail at Champion Park

Williamson County – Cedar Park, TX

DESIGN TEAM CONTACTS

Principal in Charge / Landscape Architect

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Round Rock, TX 78665

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PROJECT OWNER CONTACTS

For Information Regarding Proposals:

Randy Bell
Parks Director
Williamson County Parks and Recreation Department
219 Perry Mayfield Blvd
Leander, TX, 78641
512.943.1922
randybell@wilco.org

Plans, Details, and Notes

for

Brushy Creek Trail at Champion Park

Williamson County – Cedar Park, TX

The Project Plans (22"x34"), Details, and Notes are as follows:

		COVER
1.	G0.01	GENERAL CONSTRUCTION NOTES
2.	G0.02	GENERAL CONSTRUCTION NOTES
3.	G0.03	GENERAL CONSTRUCTION NOTES
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5.	Ev0.11	OVERALL EROSION CONTROL & SEDIMENTATION DETAILS
6.	C0.11	GENERAL CIVIL DETAILS
7.	C0.12	GENERAL CIVIL DETAILS
8.	ST0.01	GENERAL STRUCTURAL NOTES
9.	D1.01	TRAIL EXISTING CONDITIONS & DEMOLITION PLAN
10.	EV1.01	TRAIL EROSION CONTROL, SEDIMENTATION & TREE PROTECTION PLAN
11.	EV1.02	TRAIL EROSION CONTROL, SEDIMENTATION & TREE PROTECTION PLAN
12.	EV1.03	TRAIL EROSION CONTROL, SEDIMENTATION & TREE PROTECTION PLAN
13.	SP1.01	TRAIL SITE PLAN
14.	SP1.02	TRAIL SITE PLAN
15.	SP1.03	TRAIL SITE PLAN
16.	GR1.01	TRAIL GRADING & DRAINAGE PLAN
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35. PA2.12 PLAZA PAVILION DETAILS
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40. RR2.21 PLAZA RESTROOM DETAILS
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42. D3.01 PARKING LOT EXISTING CONDITIONS & DEMOLITION PLAN
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SUPPLEMENTAL
TECHNICAL SPECIFICATIONS
FOR
SCOPE PROVIDED BY

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NOTE:

PLEASE REFER TO THE CITY OF ROUND ROCK WEBSITE FOR ALL STANDARD SPECIFICATIONS AND IF NOT ADDRESSED, REFER TO THESE SUPPLEMENTAL SPECIFICATIONS.

http://www.roundrocktexas.gov/departments/transportation/dacs/

WHEN OVERLAPS OCCUR, ALL SPECIFICATIONS PROVIDED BY STUDIO 16:19 SHALL BE SUPERCEDED BY OFFICIAL CITY OF ROUND ROCK SPECIFICATIONS

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32 13 16 DECORATIVE CONCRETE PAVING

32 13 73 CONCRETE PAVING JOINT SEALANTS

32 17 13 PARKING BUMPERS

32 17 23 PAVEMENT MARKINGS

32 17 26 TACTILE WARNING SURFACING

32 84 00 PLANTING IRRIGATION

32 91 13 SOIL PREPARATION

32 92 00 TURF AND GRASSES

32 93 00 PLANTS

32 96 00 TRANSPLANTING

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.2 DEFINITIONS

A. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.

C. Samples: For each type of the following:

1. Organic Mulch: Sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.

2. Protection-Zone Fencing: Assembled Samples.

3. Protection-Zone Signage: Full-size Samples.

D. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1.5 INFORMATIONAL SUBMITTALS

A. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

B. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1.6 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA.

1.7 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.

2. Moving or parking vehicles or equipment.

3. Foot traffic.

4. Erection of sheds or structures.

5. Impoundment of water.

6. Excavation or other digging unless otherwise indicated.

7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Stockpiled soil mixed with planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

1. Mixture: Well-blended mix of two parts stockpiled soil to one part planting soil**.**

2. Planting Soil: Planting soil as specified in Section 329113 "Soil Preparation”.

B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:

1. Type: Dark Shredded hardwood Mulch.

C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements: Previously used materials may be used when approved by Landscape Architect.

1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 1-5/8-inch- OD top rails and 0.177-inch- diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

a. Height: 60 inches.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

3.2 PREPARATION

A. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

B. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.

1. Apply 4-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

3.3 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected areas except by entrance gates.

1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.

2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Landscape Architect.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Landscape Architect.

C. Maintain protection zones free of weeds and trash.

D. Maintain protection-zone fencing and signage in good condition as acceptable to Landscape Architect and remove when construction operations are complete and equipment has been removed from the site.

3.4 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.

B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.

C. Do not allow exposed roots to dry out before placing permanent backfill.

3.5 ROOT PRUNING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.

2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.

3. Cover exposed roots with burlap and water regularly.

4. Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."

B. Root Pruning at Edge of Protection Zone: Prune tree roots by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by

hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.6 CROWN PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.

1. Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.

2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.

3. Pruning Standards: Prune trees according to ANSI A300 (Part 1) and as indicated on Drawings.

B. Cut branches with sharp pruning instruments; do not break or chop.

C. Do not paint or apply sealants to wounds.

D. Chip removed branches and stockpile in areas approved by Landscape Architect.

3.7 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

C. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.8 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.9 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.

1. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.

2. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Landscape Architect.

B. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 4-inch uniform thickness to remain.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

2. Demolition and removal of selected site elements.

3. Salvage of existing items to be reused or recycled.

1.2 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 PREINSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.4 INFORMATIONAL SUBMITTALS

A. Engineering Survey: Submit engineering survey of condition of building.

B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for environmental protection, dust control, and noise control. Indicate proposed locations and construction of barriers.

C. Schedule of selective demolition activities with starting and ending dates for each activity.

D. Pre-demolition photographs or video.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

1.5 CLOSEOUT SUBMITTALS

A. Inventory of items that have been removed and salvaged.

1.6 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Landscape Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. 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 Landscape Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Inventory and record the condition of items to be removed and salvaged.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.

2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

4. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until delivery to Owner.

4. Transport items to Owner's storage area on-site.

5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.

2. Pack or crate items after cleaning and repairing. Identify contents of containers.

3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.5 CLEANING

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

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SECTION 044313.13 - ANCHORED STONE MASONRY VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stone masonry anchored to concrete backup.

2. Stone masonry anchored to unit masonry backup.

3. Stone masonry anchored to wood framing and sheathing.

4. Stone masonry anchored to cold-formed metal framing and sheathing.

B. Products Installed but Not Furnished under This Section Include:

1. Steel lintels in unit masonry.

2. Steel shelf angles for supporting unit masonry.

C. Related Requirements:

1. Section 042000 "Unit Masonry" for concealed flashing, horizontal joint reinforcement, and, veneer anchors.

1.2 ACTION SUBMITTALS

A. Product Data: For each variety of stone, stone accessory, and manufactured product.

B. Samples:

1. For each stone type indicated.

2. For each color of mortar required.

1.3 FIELD CONDITIONS

A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work.

B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.

C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 LIMESTONE

A. Material Standard: Comply with ASTM C 568/C 568M.

1. Classification: II Medium Density, except as follows: absorption, 5 percent by weight maximum; density, 150 lb/cu. ft. minimum; compressive strength, 8000 psi minimum; and modulus of rupture 800 psi minimum.

B. Varieties and Sources: Subject to compliance with requirements, available stone varieties that may be incorporated into the Work include, but are not limited to, the following:

1. Texas Crushed Stone

2. Texas Quarries

2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C 150/C 150M, Type I or Type II, except Type III may be used for cold-weather construction; natural color or white cement may be used as required to produce mortar color indicated.

1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 114.

B. Hydrated Lime: ASTM C 207, Type S.

C. Masonry Cement: ASTM C 91/C 91M.

1. Cemex S.A.B. de C.V.

2. National Cement Company, Inc

D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in stone masonry mortar.

E. Colored Portland Cement-Lime Mix: Packaged blend of portland cement, hydrated lime, and mortar pigments. Mix shall produce color indicated or, if not indicated, as selected from manufacturer's standard colors. Pigments shall not exceed 10 percent of portland cement by weight.

F. Colored Masonry Cement Mix: Packaged blend of masonry cement and mortar pigments. Mix shall produce color indicated or, if not indicated, as selected from manufacturer's standard colors. Pigments shall not exceed 5 percent of masonry cement by weight.

G. Aggregate: ASTM C 144 and as follows:

1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 sieve.

2. White Aggregates: Natural white sand or ground white stone.

3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.

H. Water: Potable.

2.3 VENEER ANCHORS

A. Materials:

1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 1064/A 1064M; with ASTM A 153/A 153M, Class B-2.

2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 316.

3. Hot-Dip Galvanized-Steel Sheet: ASTM A 1008/A 1008M, cold-rolled, carbon-steel sheet, hot-dip galvanized after fabrication to comply with ASTM A 153/A 153M, Class B-2.

4. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 316.

B. Size: Sufficient to extend at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least a 5/8-inch cover on exterior face.

C. Wire Veneer Anchors: Wire ties formed from W1.7 or 0.148-inch- diameter, hot-dip galvanized steel wire.

D. Corrugated-Metal Veneer Anchors: Not less than 0.060-inch thick by 7/8-inch- wide hot-dip galvanized steel sheet with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch.

E. Adjustable Masonry-Veneer Anchors:

1. General: Provide anchors that allow vertical adjustment but resist a 100-lbf load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch.

2. Fabricate sheet metal anchor sections and other sheet metal parts from 0.105-inch-thick steel sheet, galvanized after fabrication.

3. Fabricate wire ties from 0.187-inch diameter, hot-dip galvanized-steel wire unless otherwise indicated.

4. Fabricate wire connector sections from 0.187-inch diameter, hot-dip galvanized-steel wire.

5. Contractor's Option: Unless otherwise indicated, provide any of the adjustable masonry-veneer anchors specified.

F. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section for attachment over sheathing to wood or metal studs, and as follows:

1. Anchor Section: Rib-stiffened, sheet metal plate with screw holes in top and bottom, 2-3/4 inches wide by 3 inches high; with projecting tabs having slotted holes for inserting vertical legs of wire tie specially formed to fit veneer anchor section.

G. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section for attachment over sheathing to wood or metal studs, and as follows:

1. Anchor Section: Sheet metal plate, 1-1/4 inches wide by 9 inches long, with screw holes in top and bottom and with raised rib-stiffened strap, 5/8 inch wide by 5-1/2 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie.

H. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section for attachment over sheathing to wood or metal studs, and as follows:

1. Anchor Section: Sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes in top and bottom and with raised rib-stiffened strap, 5/8 inch wide by 3-5/8 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie.

I. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section for attachment over sheathing to wood or metal studs, and as follows:

1. Anchor Section: Gasketed sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes in top and bottom; top and bottom ends bent to form pronged legs of length to match thickness of insulation or sheathing; and raised rib-stiffened strap, 5/8 inch wide by 6 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie.

J. Adjustable, Seismic Veneer Anchors: Units consisting of a metal anchor section and a connector section designed to engage a continuous wire embedded in stone masonry mortar joint, complying with the following requirements:

1. Anchor Section: Rib-stiffened, sheet metal plate with screw holes in top and bottom, 2-3/4 inches wide by 3 inches high; with projecting tabs having slotted holes for inserting vertical legs of wire tie specially formed to fit anchor section. Size wire tie to extend at least 1-1/2 inches into stone masonry but with at least a 5/8-inch cover on exterior face.

2. Connector Section: Sheet metal clip welded to wire tie with integral tabs designed to engage continuous wire.

3. Continuous Wire: 0.188-inch- diameter, hot-dip galvanized steel wire.

K. Adjustable, Seismic Veneer Anchors: Units consisting of a metal anchor section and a connector section designed to engage a continuous wire embedded in stone masonry mortar joint, complying with the following requirements:

1. Anchor Section: Gasketed sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes in top and bottom; top and bottom ends bent to form pronged legs to bridge insulation or sheathing and contact studs; and raised rib-stiffened strap, 5/8 inch wide by 6 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie.

2. Connector Section: Triangular wire tie and rigid PVC extrusion with snap-in grooves for inserting continuous wire.

3. Continuous Wire: 0.188-inch- diameter, hot-dip galvanized steel wire.

2.4 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing, where flashing is exposed or partly exposed and where indicated, complying with SMACNA's "Architectural Sheet Metal Manual and as follows:

1. Stainless Steel: ASTM A 240/A 240M, Type 304, 0.016 inch thick.

2. Copper: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet, 10-oz./sq. ft. weight or 0.0135 inch thick for fully concealed flashing; 16-oz./sq. ft. weight or 0.0216 inch thick elsewhere.

B. Flexible Flashing: For flashing unexposed to the exterior, use following unless otherwise indicated:

1. Copper-Laminated Flashing: 5-oz./sq. ft. copper sheet bonded with asphalt between two layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.

2. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive, rubberized-asphalt compound, bonded to a high-density, cross-laminated, polyethylene film to produce an overall thickness of not less than 0.030 inch.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane, or PVC.

B. Cementitious Dampproofing for Limestone: Cementitious formulation recommended by ILI and nonstaining to stone, compatible with joint sealants, and noncorrosive to veneer anchors and attachments.

C. Asphalt Dampproofing: Cut-back asphalt complying with ASTM D 4479/D 4479M, Type I or asphalt emulsion complying with ASTM D 1227, Type III or Type IV.

D. Weep/Vent Products: Use one of the following unless otherwise indicated:

1. Wicking Material: Absorbent rope, made from UV-resistant synthetic fiber, 1/4 to 3/8 inch in diameter, in length required to produce 2-inch exposure on exterior and 18 inches in cavity behind stone masonry. Use only for weeps.

2. Round Plastic Tubing: Medium-density polyethylene, 3/8-inch OD by thickness of stone masonry.

3. Mesh Weep Holes/Vents: Free-draining mesh; made from polyethylene strands, full width of head joint and 2 inches high by thickness of stone masonry; in color selected from manufacturer's standard.

E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

1. Provide one of the following configurations:

a. Strips, full depth of cavity and 10 inches wide, with dovetail-shaped notches 7 inches deep that prevent mesh from being clogged with mortar droppings.

b. Strips, not less than 3/4 inch thick and 10 inches wide, with dimpled surface designed to catch mortar droppings and prevent weep holes from being clogged with mortar.

c. Sheets or strips full depth of cavity and installed to full height of cavity.

d. Sheets or strips not less than 3/4 inch thick and installed to full height of cavity with additional strips 4 inches high at weep holes and thick enough to fill entire depth of cavity and prevent weep holes from being clogged with mortar.

2.6 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

2.7 FABRICATION

A. Cut stone to produce pieces of thickness, size, and shape indicated, including details on Drawings and pattern specified in "Setting Stone Masonry" Article.

1. Shape stone specified to be laid in three-course, random range ashlar pattern with sawed beds.

B. Thickness of Stone: Provide thickness indicated, but not less than the following:

1. Thickness: 4 inches plus or minus 1/4 inch. Thickness does not include projection of pitched faces.

C. Finish exposed stone faces and edges to comply with requirements indicated for finish and to match approved samples.

1. Finish: Mixed split face, seam face, and rock face (pitched face) or as indicated on Drawings.

2. Finish for Sills: Smooth.

3. Finish for Lintels: Smooth.

4. Finish for Copings: Sand rubbed.

a. Finish exposed ends of copings same as front and back faces.

2.8 MORTAR MIXES

A. General: Do not use admixtures unless otherwise indicated.

1. Do not use calcium chloride.

2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.

3. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches required consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.

B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.

1. Mortar for Setting Stone: Type N.

2. Mortar for Pointing Stone: Type N.

C. Pigmented Mortar: Use colored cement product to match stone and stone veneer. Color to be approved by Landscape Architect.

1. Pigments shall not exceed 10 percent of portland cement by weight.

2. Pigments shall not exceed 5 percent of masonry cement by weight.

PART 3 - EXECUTION

3.1 PREPARATION

A. Accurately mark stud centerlines on face of weather-resistant sheathing paper before beginning stone installation.

B. Coat concrete and unit masonry backup with asphalt dampproofing.

3.2 SETTING STONE MASONRY

A. Perform necessary field cutting and trimming as stone is set.

1. Use power saws to cut stone that is fabricated with saw-cut surfaces. Cut lines straight and true, with edges eased slightly to prevent snipping.

2. Use hammer and chisel to split stone that is fabricated with split surfaces. Make edges straight and true, matching similar surfaces that were shop or quarry fabricated.

3. Pitch face at field-split edges as needed to match stones that are not field split.

B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.

C. Arrange stones in range ashlar pattern with course heights as indicated, uniform lengths, and uniform joint widths, with offset between vertical joints as indicated.

D. Arrange stones in broken-range ashlar pattern with uniform course heights, random lengths, and uniform joint widths.

E. Arrange stones in three-course, random-range ashlar pattern with random course heights, random lengths (interrupted coursed), and uniform joint widths.

F. Arrange stones in uncoursed rubble pattern with joint widths within tolerances indicated. Insert small stones into spaces between larger stones as needed to produce joints as uniform in width as practical.

G. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.

H. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 1/4 inch at narrowest points or more than 1/2 inch at widest points.

I. Provide sealant joints of widths and at locations indicated.

1. Keep sealant joints free of mortar and other rigid materials.

2. Sealant joints are specified in Section 079200 "Joint Sealants."

J. Install embedded flashing and weep holes at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

1. At stud-framed walls, extend flashing through stone masonry, up sheathing face at least 12 inches, and behind weather barrier.

2. At multiwythe masonry walls, including cavity walls, extend flashing through stone masonry, turned up a minimum of 12 inches, and extend into or through inner wythe to comply with requirements in Section 042000 "Unit Masonry."

3. At concrete backing, extend flashing through stone masonry, turned up a minimum of 12 inches, and insert in reglet.

4. At lintels and shelf angles, extend flashing full length of angles but not less than 6 inches into masonry at each end.

5. At sills, extend flashing not less than 4 inches at ends.

6. At ends of head and sill flashing, turn up not less than 2 inches to form end dams.

7. Extend sheet metal flashing 1/2 inch beyond masonry face at exterior, and turn flashing down to form a drip.

8. Install metal drip edges beneath flexible flashing at exterior wall face. Stop flexible flashing 1/2 inch back from exterior wall face and adhere flexible flashing to top of metal drip edge.

9. Install metal flashing termination beneath flexible flashing at exterior wall face. Stop flexible flashing 1/2 inch back from exterior wall face and adhere flexible flashing to top of metal flashing termination.

10. Cut flexible flashing flush with wall face after completing masonry wall construction.

K. Place weep holes and vents in joints where moisture may accumulate, including at base of cavity walls, above shelf angles, and at flashing.

1. Use round plastic tubing to form weep holes.

2. Use wicking material to form weep holes above flashing in stone sills. Turn wicking down at lip of sill to be as inconspicuous as possible.

3. Space weep holes 24 inches o.c., unless otherwise indicated in Drawings.

4. Trim wicking material used in weep holes flush with exterior wall face after mortar has set.

5. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

L. Install vents in head joints at top of each continuous cavity at spacing indicated. Use round plastic tubing, mesh weep holes/vents or open head joints to form vents.

M. Coat limestone with cementitious dampproofing as follows:

1. Stone at Grade: Beds, joints, and back surfaces to at least 12 inches above finish-grade elevations.

2. Stone Extending below Grade: Beds, joints, back surfaces, and face surfaces below grade.

3.3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.

B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.

C. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet or 3/4 inch in 40 feet or more.

3.4 INSTALLATION OF ANCHORED STONE MASONRY

A. Anchor stone masonry to concrete with corrugated-metal veneer anchors unless otherwise indicated. Secure anchors by inserting dovetailed ends into dovetail slots in concrete.

B. Anchor stone masonry to unit masonry with corrugated-metal veneer anchors unless otherwise indicated. Embed anchors in unit masonry mortar joints or grouted cells at a distance of at least one-half of unit masonry thickness.

C. Anchor stone masonry to unit masonry with wire anchors unless otherwise indicated. Connect anchors to masonry joint reinforcement by inserting pintles into eyes of masonry joint reinforcement projecting from unit masonry.

D. Anchor stone masonry to unit masonry with wire anchors unless otherwise indicated. Connect anchors to masonry joint reinforcement with vertical rods inserted through anchors and through eyes of masonry joint reinforcement projecting from unit masonry.

E. Anchor stone masonry to stud framing with adjustable, screw-attached veneer anchors unless otherwise indicated. Fasten anchors through sheathing to framing with two screws.

F. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least a 5/8-inch cover on exterior face.

1. Install continuous wire reinforcement in horizontal joints and attach to seismic veneer anchors as stone is set.

G. Space anchors to provide not less than one anchor per 2 sq. ft. of wall area. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.

H. Space anchors not more than 16 inches o.c. vertically and 24 inches o.c. horizontally. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.

I. Space anchors not more than 18 inches o.c. vertically and 32 inches o.c. horizontally, with not less than one anchor per 2.67 sq. ft. of wall area. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.

J. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.

K. Fill space between back of stone masonry and weather-resistant sheathing paper with mortar as stone is set.

L. Provide 2-inch cavity between stone masonry and backup construction unless otherwise indicated. Keep cavity free of mortar droppings and debris.

1. Slope beds toward cavity to minimize mortar protrusions into cavity.

2. Do not attempt to trowel or remove mortar fins protruding into cavity.

M. Rake out joints for pointing with mortar to depth of not less than **3/4 inch** before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

3.5 POINTING

A. Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply pointing mortar in layers not more than 3/8 inch deep until a uniform depth is formed.

B. Point stone joints by placing and compacting pointing mortar in layers of not more than 3/8 inch deep. Compact each layer thoroughly and allow to it become thumbprint hard before applying next layer.

C. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:

1. Joint Profile: Smooth, flat face slightly below edges of stone.

3.6 ADJUSTING AND CLEANING

A. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Landscape Architect's approval of sample cleaning before cleaning stone masonry.

3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.

4. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.

5. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20, Revised II, using job-mixed detergent solution.

6. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

7. Clean limestone masonry to comply with recommendations in ILI's "Indiana Limestone Handbook."

3.7 EXCESS MATERIALS AND WASTE

A. Excess Stone: Stack excess stone where directed by Owner for Owner's use.

B. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.

1. Do not dispose of masonry waste as fill within 18 inches of finished grade.

END OF SECTION 044313.13

SECTION 047200 - CAST STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-stone trim.
2. Cast-stone steps.
3. Cast-stone bollards.
4. Cast-stone benches.
5. Cast-stone curbing.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For cast-stone units, include dimensions and finishes.

B. Shop Drawings: Show fabrication and installation details for cast-stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.

C. Samples:

1. For each color and texture of cast stone required.
2. For colored mortar.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Material Test Reports: For each mix required to produce cast stone, based on testing according to ASTM C 1364, including test for resistance to freezing and thawing.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer of cast-stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by the Cast Stone Institute, the Architectural Precast Association, or the Precast/Prestressed Concrete Institute for Group A, Category AT.

PART 2 - PRODUCTS

2.1 CAST-STONE UNITS

A. Cast-Stone Units: Comply with ASTM C 1364.

1. Units shall be manufactured using the vibrant dry tamp or wet-cast method.

2. Units shall be resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666/C 666M, Procedure A, as modified by ASTM C 1364.

B. Fabricate units with sharp arris and accurately reproduced details, with indicated texture on all exposed surfaces unless otherwise indicated.

1. Slope exposed horizontal surfaces 1:12 to drain unless otherwise indicated.

2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.

3. Provide drips on projecting elements unless otherwise indicated.

C. Cure Units as Follows:

1. Cure units in enclosed, moist curing room at 95 to 100 percent relative humidity and temperature of 100 deg F for 12 hours or 70 deg F for 16 hours.

2. Keep units damp and continue curing to comply with one of the following:

a. No fewer than five days at mean daily temperature of 70 deg F or above.

b. No fewer than six days at mean daily temperature of 60 deg F or above.

c. No fewer than seven days at mean daily temperature of 50 deg F or above.

d. No fewer than eight days at mean daily temperature of 45 deg F or above.

D. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

E. Colors and Textures: Match existing units.

2.2 ACCESSORIES

A. Anchors: Type and size indicated, fabricated from Type 304 stainless steel complying with ASTM A 240/A 240M, ASTM A 276, or ASTM A 666.

B. Dowels: 1/2-inch- diameter round bars, fabricated from steel complying with ASTM A 36/A 36M and hot-dip galvanized to comply with ASTM A 123/A 123M.

C. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for

intended use by cast-stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.

2.3 MORTAR

A. Comply with requirements in Section 042000 "Unit Masonry" for mortar mixes.

1. For setting mortar, use Type S.

2. For pointing mortar, use Type N.

B. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.

2.4 SOURCE QUALITY CONTROL

A. Engage a qualified independent testing agency to sample and test cast-stone units according to ASTM C 1364.

1. Include one test for resistance to freezing and thawing.

PART 3 - EXECUTION

3.1 SETTING CAST STONE IN MORTAR

A. Install cast-stone units to comply with requirements in Section 042000 "Unit Masonry."

B. Set units in full bed of mortar with full head joints unless otherwise indicated.

1. Fill dowel holes and anchor slots with mortar.

2. Fill collar joints solid as units are set.

3. Build concealed flashing into mortar joints as units are set.

4. Keep head joints in copings and between other units with exposed horizontal surfaces open to receive sealant.

5. Keep joints at shelf angles open to receive sealant.

C. Rake out joints for pointing with mortar to depths of not less than 3/4 inch. Rake joints to uniform depths with square bottoms and clean sides. Scrub faces of units to remove excess mortar as joints are raked.

D. Point mortar joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.

E. Tool exposed joints slightly concave when thumbprint hard. Use a smooth plastic jointer larger than joint thickness.

F. Rake out joints for pointing with sealant to depths of not less than 3/4 inch. Scrub faces of units to remove excess mortar as joints are raked.

G. Provide sealant joints at head joints of copings and other horizontal surfaces; at expansion, control, and pressure-relieving joints; and at locations indicated.

1. Keep joints free of mortar and other rigid materials.

2. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.2 SETTING ANCHORED CAST STONE WITH SEALANT-FILLED JOINTS

A. Set cast stone as indicated on Drawings. Set units accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.

1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.

2. Shim and adjust anchors, supports, and accessories to set cast stone in locations indicated with uniform joints.

B. Fill anchor holes with sealant.

1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.

C. Set cast stone supported on clip or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths. Hold shims back from face of cast stone a distance at least equal to width of joint.

D. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 INSTALLATION TOLERANCES

A. Variation from Plumb: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

B. Variation from Level: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.

D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch, except where variation is due to warpage of units within tolerances specified.

3.4 ADJUSTING AND CLEANING

A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Cast stone may be repaired if methods and results are approved by Landscape Architect.

B. Replace units in a manner that results in cast stone matching approved Samples, complying with other requirements, and showing no evidence of replacement.

C. In-Progress Cleaning: Clean cast stone as work progresses.

1. Remove mortar fins and smears before tooling joints.

2. Remove excess sealant immediately, including spills, smears, and spatter.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed cast stone as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Landscape Architect's approval of sample cleaning before proceeding with cleaning of cast stone.

3. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.

4. Wet surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.

5. Clean cast stone by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.

6. Clean cast stone with proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 047200

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SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Steel pipe and tube railings.

2. Stainless-steel pipe and tube railings.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Manufacturer's product lines of mechanically connected railings.

2. Railing brackets.

3. Grout, anchoring cement, and paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish required.

D. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Steel Pipe and Tube Railings:

1. VIVA Railings, LLC

2. Wagner, R & B, Inc.

B. Stainless-Steel Pipe and Tube Railings:

1. VIVA Railings, LLC

2. Wagner, R & B, Inc.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.

B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. applied in any direction.

b. Concentrated load of 200 lbf applied in any direction.

c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.

b. Infill load and other loads need not be assumed to act concurrently.

2.3 METALS, GENERAL

A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.4 STEEL AND IRON

A. Tubing: ASTM A 500 (cold formed).

B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

1. Provide galvanized finish for exterior installations and where indicated.

C. Plates, Shapes, and Bars: ASTM A 36/A 36M.

D. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

E. Expanded Metal: ASTM F 1267, [Type I (expanded), Class 1 (uncoated).

1. Style Designation: 3/4 number 13.

F. Perforated Metal: Cold-rolled steel sheet, ASTM A 1008/A 1008M, or hot-rolled steel sheet, ASTM A 1011/A 1011M, commercial steel Type B, 0.060 inch thick, with 1/4-inch holes 3/8 inch o.c. in staggered rows.

1. Basis-of-Design Product: Provide product with perforations matching product indicated on Drawings.

G. Woven-Wire Mesh: Intermediate-crimp, diamond pattern, 2-inch woven-wire mesh, made from 0.134-inch- diameter wire complying with ASTM A 510.

2.5 STAINLESS STEEL

A. Tubing: ASTM A 554, Grade MT 316L.

B. Pipe: ASTM A 312/A 312M, Grade TP 316L.

C. Castings: ASTM A 743/A 743M, Grade CF 8 or CF 20.

D. Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 316L.

E. Expanded Metal: ASTM F 1267, Type I (expanded), Class 3 (corrosion-resistant steel), made from stainless-steel sheet, ASTM A 240/A 240M or ASTM A 666, Type 316.

1. Style Designation: 3/4 number 13

F. Perforated Metal: Stainless-steel sheet, ASTM A 240/A 240M or ASTM A 666, Type 316L, 0.062 inch thick, with 1/4-inch holes 3/8 inch o.c. in staggered rows.

1. Basis-of-Design Product: Provide product with perforations matching product indicated on Drawings

2.6 FASTENERS

A. General: Provide the following:

1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 for zinc coating.

2. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.

3. Stainless-Steel Railings: Type 316 stainless-steel fasteners.

B. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.

2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.7 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Shop Primers: Provide primers that comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

E. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

F. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

G. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

H. Epoxy Intermediate Coat: Complying with MPI #77 and compatible with primer and topcoat.

I. Polyurethane Topcoat: Complying with MPI #72 and compatible with undercoat.

J. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

K. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.8 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove flux immediately.

4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.

E. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

F. Form changes in direction by bending.

G. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

H. Close exposed ends of railing members with prefabricated end fittings.

I. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

J. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

K. Expanded-Metal Infill Panels: Fabricate infill panels from expanded metal made from same metal as railings in which they are installed.

1. Orient expanded metal with long dimension of diamonds as indicated on Drawings.

L. Perforated-Metal Infill Panels: Fabricate infill panels from perforated metal made from same metal as railings in which they are installed.

1. Orient perforated metal with pattern as indicated on Drawings.

M. Woven-Wire Mesh Infill Panels: Fabricate infill panels from woven-wire mesh crimped into 1-by-1/2-by-1/8-inch metal channel frames. Make wire mesh and frames from same metal as railings in which they are installed.

1. Orient wire mesh with as indicated on Drawings.

2.9 STEEL AND IRON FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize exterior steel railings, including hardware, after fabrication.

2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.

3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.

B. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

C. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

D. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.

1. Do not apply primer to galvanized surfaces.

E. High-Performance Coating: Apply epoxy intermediate and polyurethane topcoats to prime-coated surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer.

1. Color: As selected by Landscape Architect from manufacturer's full range.

2.10 ALUMINUM FINISHES

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

B. Mill Finish: AA-M12, nonspecular as fabricated.

C. Clear Anodic Finish: AAMA 611.

D. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Color and Gloss: As selected by Landscape Architect from manufacturer's full range.

2.11 STAINLESS-STEEL FINISHES

A. Stainless Steel Tubing Finishes:

1. 180-Grit Polished Finish: Uniform, directionally textured finish.

2. 320-Grit Polished Finish: Oil-ground, uniform, fine, directionally textured finish.

3. Polished and Buffed Finish: 320-grit finish followed by buffing to a high luster finish.

B. Stainless Steel Sheet and Plate Finishes:

1. Directional Satin Finish: ASTM A 489/A 480, No. 4.

2. High Luster Finish: ASTM A 480/A 480M. No. 7.

3. Mirror Finish: ASTM A 480/A 480M, No. 8.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.

2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.

3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.

3.2 ANCHORING POSTS

A. Use metal sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

B. Form or core-drill holes not less than 5 inches deep and 3/4 inch larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

C. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members.

3.3 ATTACHING RAILINGS

A. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

B. Secure wall brackets and railing end flanges to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.

2. For hollow masonry anchorage, use toggle bolts.

3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.

4. For steel-framed partitions, use hanger or lag bolts set into fire-retardant-treated wood backing between studs. Coordinate with stud installation to locate backing members.

5. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.

6. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.

3.4 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055213

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 MATERIAL OWNERSHIP

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

1.4 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic-ways if required by Owner or authorities having jurisdiction.

B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control, and plant-protection measures are in place.

E. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."

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

3.4 EXISTING UTILITIES

A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.

1. Arrange with utility companies to shut off indicated utilities.

B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Landscape Architect not less than two days in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without Landscape Architect's written permission.

C. Removal of underground utilities is included in earthwork sections; in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections; and in Section 024119 "Selective Demolition."

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Grind down stumps and remove roots larger than 3 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.

2. Use only hand methods or air spade for grubbing within protection zones.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants.
3. Excavating and backfilling for buildings and structures.
4. Drainage course for concrete slabs-on-grade.
5. Subbase course for concrete walks and pavements.
6. Subbase base course for asphalt paving.
7. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Landscape Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Landscape Architect. Unauthorized excavation, as well as remedial work directed by Landscape Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct pre-excavation conference at Champion Park, Cedar Park, Texas.

1.4 INFORMATIONAL SUBMITTALS

A. Material test reports.

1.5 FIELD CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

B. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487 or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 294/D 2940M 0; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

B. Protect and maintain erosion and sedimentation controls during earth-moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

2. Pile Foundations: Stop excavations 6 to 12 inches above bottom of pile cap before piles are placed. After piles have been driven, remove loose and displaced material. Excavate to final grade, leaving solid base to receive concrete pile caps.

3. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

B. Excavations at Edges of Tree- and Plant-Protection Zones:

1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: As indicated.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.6 SUBGRADE INSPECTION

A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Landscape Architect, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Landscape Architect.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Landscape Architect.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings.

D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course.

E. Initial Backfill: Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.

G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.10 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.

2. Under walks and pavements, use satisfactory soil material.

3. Under steps and ramps, use engineered fill.

4. Under building slabs, use engineered fill.

5. Under footings and foundations, use engineered fill.

3.11 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698.

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.

2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.

3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch.

2. Walks: Plus or minus 1 inch.

3. Pavements: Plus or minus 1/2 inch.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Shape subbase course and base course to required crown elevations and cross-slope grades.

2. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.15 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

A. Place drainage course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:

1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.16 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform inspections:

B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Landscape Architect.

E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.17 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

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SECTION 312319 - DEWATERING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes construction dewatering.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 FIELD CONDITIONS

A. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

PART 3 - EXECUTION

3.1 PREPARATION

A. Provide temporary grading to facilitate dewatering and control of surface water.

B. Protect and maintain temporary erosion and sedimentation controls, which are specified in **Section 311000 "Site Clearing,"** during dewatering operations.

3.2 INSTALLATION

A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

1. Space well points or wells at intervals required to provide sufficient dewatering.

2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.

B. Place dewatering system into operation to lower water to specified levels before excavating below ground-water level.

C. Provide standby equipment on-site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails.

3.3 OPERATION

A. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.

B. Operate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.

2. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.

3. Maintain piezometric water level a minimum of 24 inches below bottom of excavation.

C. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.

3.4 FIELD QUALITY CONTROL

A. Survey-Work Benchmarks: Resurvey benchmarks regularly during dewatering and maintain an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Landscape Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

END OF SECTION 312319

SECTION 320130 – LANDSCAPE MAINTENANCE

PART 1 - GENERAL

1.1 SCOPE

A. Maintenance required under this contract shall conform to the specifications and criteria in this section. Items included in this section include, but are not limited to, the following:

1. Mowing, edging and trimming of lawn areas
2. Application of pesticides, as required
3. Weeding, cultivating and cleaning of all plantings
4. Application of herbicides
5. Adjustment of irrigation clocks for weather and growth conditions
6. General site clean up: Removal of trash and products of maintenance
7. Hand watering of machine-transplanted trees
8. Truck watering of trees and turf, via manual system

1.2 CONTRACT PERIOD

A. These specifications shall govern all maintenance work on completed and partially-completed project areas, commencing at the Notice to Proceed and terminating ninety (60) days after the issuance of Notice of Substantial Completion or until associated common areas have ninety-nine percent (99%) coverage of prescribed grass to achieve final acceptance.

B. Owner requests a 1- year maintenance agreement in addition to the above. This should be a separate line item in the bid schedule and should be based on the criteria and requirements listed in ATTACHMENT A & ATTACHMENT B. The Contract period for this agreement will be governed by an additional agreement between the Owner and Landscape Contractor

1.3 INTENT OF THE CONTRACT

A. It is the intent of the contract to provide the Owner with a project site that is attractive in appearance, and to keep all plant materials and lawns in a healthy and vigorous condition.

1.4 CONTRACTOR'S PERFORMANCE

A. The Contractor shall perform all work as often as necessary to fulfill the spirit and intent of the contract. The workmen shall be neat in appearance, perform their work in a professional manner, keep noise to a minimum, and stage their work from a location on the site out of the way of the mainstream of the users. In general, the Contractor's presence on the site shall be inconspicuous as possible.

B. All workmen and personnel employed by the Contractor for maintenance and repairs required under this section shall be neatly attired with long pants and shirts at all times.

1.5 NEGLECT AND VANDALISM

A. Turf, shrubs, trees or plants that are damaged or killed due to Contractor's operations, negligence, or chemicals shall be replaced at no expense to the Owner.

B. Sprinklers or structures that are damaged due to the Contractor's operation must be replaced by the Contractor promptly.

C. All damage to, or thefts of landscape elements not caused or allowed by the Contractor subsequent to the issuance of the Certificate of Substantial Completion shall be corrected by the Contractor at the Owner's expense, upon receipt of written authorization to proceed.

D. Damage due to thefts or vandalism prior to the date of the Certificate of Substantial Completion shall be at the Contractor's expense.

1.6 EMERGENCIES

A. The Contractor shall answer emergency or complaint calls regarding conditions in landscaped areas regarding fallen trees or branches, or shrubs or trees that obstruct the driveways, and shall correct the problem or place warning signs and advise the Owner of the need for major work to be performed.

PART 2 - MATERIALS & PRODUCTS

2.1 OVERSEEDING (IF IN SEASON)

Kind of Seed	Minimum & Pure Live Seed Required	Lbs. Pure Live Seed per 1,000 S.F.
Fall Overseed Gulf Annual Rye (9/15 - 11/1)	85%	5 lbs.

2.2 MACHINERY

A. Machinery requirements listed under this Section are not intended to be restrictions of specific manufacturers or models unless so stated. Specific mention of manufacturers is intended as a guide to illustrate the final product of maintenance operations desired.

1. Lawn Mowers: Shall be of the rotary-type, in good working order, finely turned to protect the lawn from excessive exhaust fumes. Blades shall be sharp, to reduce shredding of the cut grass.

2. Lawn Edgers: Shall be of a rigid or flexible blade-type that will produce a fine, clean edge where lawns meet walkways, pavements, or curbs.

3. Fertilizer Spreaders: Cyclone-type spreader, or equal. No visible underlapping of applications will be permitted.

4. Pruning Tools: Shall be maintained in good working order. Cutting edges shall be sharp. Disinfect all tools when used for the removal of diseased limbs with a solution of Clorox and water, mixed at a 1:5 ratio.

5. Watering Truck & Pump: Minimum 1200 gal. tank/pump. Pressure at nozzle: 35 PSI (1 1/2" outlet).

PART 3 - EXECUTION

3.1 GENERAL

A. All maintenance operations shall be performed by the Contractor's own force, superintended by personnel familiar with the job. Subcontracting of maintenance work shall not be allowed.

B. Maintenance Period shall commence immediately upon the issuance of the contract. It will be the Contractor's sole responsibility to maintain plantings in original intended condition throughout the Maintenance Period of this contract.

C. Accidental damage to the landscape plantings beyond the control of the Contractor shall be reported immediately to the Owner.

3.2 IRRIGATION SYSTEM

A. Irrigation system maintenance shall generally be construed as any activity or activities necessary to keep the system 100% operational. Irrigation system maintenance shall include, but not be limited to:

1. Replacement of equipment damaged by Contractor operations.

2. Repair of other equipment damaged or malfunctioning on a time and material basis. (As requested by the Owner.)

3. Reporting of system status to Owner on a monthly basis or as necessary in case of emergency.

4. Adjustment and cleaning of heads so as to correct misdirectional throw, improper coverage and damage to equipment.

B. The Contractor shall monitor and program the irrigation controllers to maintain optimum moisture levels in all planted areas.

C. Irrigation cycles shall be set to take place after 11:00 pm and prior to sunrise (4:00 am - 5:00 am), unless otherwise instructed by the Owner, except during visits of grounds maintenance personnel. During such visits, the irrigation system may be operated as desired by those personnel.

D. Irrigation cycles should gradually be reduced from September to the winter, in order to generally reduce late season plant growth and vigor, and to stimulate hardening off and dormancy of plant material.

3.3 STAKING AND GUYING

A. Contractor shall maintain staking and guying of trees at all times, and shall be responsible for any damage to trees or plant materials caused by chafing or breaking of foliage or limbs coming in contact with stakes, ties, guys, eye bolts, or bracing materials. Periodically, adjust broken stakes and ties as needed. If ties are too tight, they must be replaced or adjusted. All labor and material costs shall be considered in base bid for the initial **90-day** maintenance period.

B. Trees and large shrubs that may require guys, stakes or special care during the winds and rains shall receive the required care prior to and immediately after anticipated and actual occurrences, to ensure that no damage results to the plant material.

3.4 PRUNING

A. Contractor shall prune regularly, as required. Remove dead wood and aesthetically horticulturally balance the planting, as directed by the Landscape Architect. All suckers and undesired growth shall be removed immediately.

B. Do not prune limbs from trunks more than 12" above ground per 1" caliper (minimum 8").

C. Pruning of shrubs should create a uniformly dense plant. Selectively thin and tip back annually. Prune to enhance natural branching effect of plants. Do not change shape of shrubs by pruning. Refer to schedule.

3.5 TURF MAINTENANCE

A. Mowing: During periods of cool weather, mow at one and one-half inches (1 1/2"), but during hot weather should not be lower than two inches (2") from the soil. Regular weekly mowing is strongly recommended. Never scalp the lawn, or cut more than one-third (1/3) of the existing top growth in one mowing. Remove excessive clippings, never allowing clippings to remove on lawn surface for more than four (4) hours.

B. Watering: Provide a regular, deep watering program. The established turf should not be kept wet, but should dry out under regular conditions. If it is hot or windy, water more often. In very hot weather, a fast watering with fine spray will cool the turf zone and can supplement the regular deeper watering program. In shaded areas caused by trees or shrubs, water more frequently because of the competition for soil moisture. If lawn wilts (shows grey-brown), water more frequently.

C. In areas of new planting and lawns, allow new lawn to grow over tree ball. Maintain height of grass at tree trunk with hand clippers. Do not use weed whips around tree trunks.

3.6 MANUAL WATERING (QUICK COUPLER SYSTEM)

A. Water all trees twice weekly (minimum m 30 gal. total), or as necessary to maintain materials in thriving condition. Frequency may be reduced, as directed by the Landscape Architect during periods of wet weather.

3.7 GENERAL CLEAN UP

A. The Contractor shall dispose of all waste materials or refuse from his operations off the property, except where other arrangements have been made with the Owner.

B. Keep all expansion and score joints free of any vegetation which may appear, and apply appropriate herbicide to discourage future growth in these areas.

C. Leaves, papers, grass clippings or other debris shall be removed weekly, or at each visit from all areas.

D. Remove dead animals from the site immediately, as they are encountered.

PART 4 - SCHEDULE

4.1 SCHEDULE

A. The Schedule as included herein shall be used as a guide for the work specified, which may fall within the post-construction maintenance period. Should the Contractor require an alteration of the Schedule, contact the Owner.

SCHEDULE "A"

FUNCTIONS	FREQUENCY											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mowing	3	3	4	5	5	5	4	4	5	4	4	4
Edging	1	1	4	5	5	4	4	4	5	4	1	1
Debris Removal	2	2	4	4	5	5	5	5	5	5	4	4
Pruning		1								1		
Weed Control Beds			1	1	1	1	1	1	1	1	1	1
Clean & Sweep Curbs & Gutters	2	2	4	4	5	4	5	4	4	5	4	4
Overseed Rye										1*		
Index Irrigation	1	1	1	1	1	1	1	1	1	1	1	1
Spray for Borers			1		1		1		1			

**Depending on Prevailing Weather*

END OF SECTION 320130

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SECTION 320519 – GEOTEXTILES

PART 1 – GENERAL

1.1 SCOPE

A. Geotextiles for the following applications:

1. Subsurface drains
2. Erosion Control
3. Landscaping

1.2 RELATED SECTIONS

A. Section 328400 – Planting Irrigation

B. Section 329200 – Turf and Grasses

C. Section 329300 – Plants

1.3 REFERENCES

A. ASTM D 4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.

B. ASTM D 4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.

C. ASTM D 4533 - Standard Test Method for Trapezoid Tearing Strength of Geotextiles.

D. ASTM D 4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile.

E. DOT Standards -Texas Department of Transportation Standard Specifications.

1.4 DESIGN/PERFORMANCE REQUIREMENTS

A. Design considerations: Aggregate and Thickness selected based on the recommendations of the manufacturer.

B. Sub-base and base design shall conform to the applicable requirements of the DOT Standards for Texas and the sub-base recommendations of the manufacturer.

1.5 SUBMITTALS

A. 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.

B. Samples: Submit manufacturers samples of each product specified.

C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer with a minimum for five years documented experience with the products specified and with ISO Certification certifying material compliance..

B. Installer Qualifications: Installer experienced in performing work of this section that has specialized in installation of work similar to that required for this project. Installer must also be able to provide skilled workman with satisfactory record of performance on landscaping or paving projects of comparable size and quality.

C. Pre-installation Meetings:

1. Convene a pre-installation meeting a minimum of two weeks prior to start of work.

2. Verify project requirements, subbase and base conditions, manufacturer's installation instructions and coordination with other related work.

3. Require attendance of parties directly affecting work of this section, including the Contractor, engineer, installer, and manufacturer's representative.

4. Comply with Division 1 requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Protect materials during handling and installation to prevent damage.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions recommended by manufacturer for desired results. Do not install products under conditions outside manufacturer's absolute limits.

B. In cold weather, do not use frozen materials or materials coated with ice or frost, and do not build on frozen base or wet, saturated or muddy subgrade.

C. Protect partially completed work against damage from other construction traffic when work is in progress.

1.9 SEQUENCING

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

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Fiberweb Geosynthetics , which is located at: 1611 County Rd. B West ; Roseville , MN 55113; Tel: 651-330-2920; Fax: 651-797-2319 ; Email: request info (info@boddingtons.us); Web: www.typargeotextiles.com

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered.

2.2 APPLICATION

A. Geotextile Selection for Landscaping

1. Typar 3501
2. Typar 3401
3. Typar 3341
4. Typar 3301

2.3 GEOTEXTILES

A. General: TYPAR non-woven, thermally bonded GEOTEXTILES utilize continuous filament technology. Typar Geotextiles shall conform to AASHTO requirements for certification, sampling, testing and acceptance and shipment and storage requirements.

B. TYPAR 3301

1. Mechanical (Marv)
   a. Grab tensile strength ASTM D 4632: 120 lbs
   b. Grab elongation ASTM D 4632: 60 lbs
   c. Trapezoidal tear strength ASTM D 4533: 35 lbs
   d. Puncture strength: 25 lbs
2. Hydraulic (MARV)
   a. Apparent opening size ASTM D 4751: 50 US Sieve
   b. Permittivity ASTM D 4491: 0.8 sec
   c. Water flow rate ASTM D 4491: 95 gal/min/sf
3. Physical (Typical)
   a. Unit weight: 3.0 oz/yd
   b. Roll diameter: 8 inches

c. Length: 100 yds
d. Width: 151 inches
e. Roll area: 419 sy
f. Roll weight gross: 87 lbs

C. TYPAR 3341
1. Mechanical (Marv)
a. Grab tensile strength ASTM D 4632: 120 lbs
b. Grab elongation ASTM D 4632: 60 percent
c. Trapezoidal tear strength ASTM D 4533: 40 lbs
d. Puncture strength: 34 lbs
2. Endurance (MARV)1
a. UV Resistance @ 500 hrs ASTM D 4355: 70 percent
3. Hydraulic (MARV)
a. Apparent opening size ASTM D 4751: 60 US Sieve
b. Permittivity ASTM D 4491: 0.7 sec
c. Water flow rate ASTM D 4491: 85 gal/min/sf
4. Physical (Typical)
a. Unit weight: 3.4 oz/sy
b. Roll diameter: 8 inches
c. Length: 100 yd
d. Width: 151 inches
e. Roll area: 419 sy
f. Roll weight gross: 97 lbs

D. TYPAR 3401
1. AASHTO M288: Class 3
2. Mechanical (Marv)
a. Grab tensile strength ASTM D 4632: 130 lbs
b. Grab elongation ASTM D 4632: 60 percent
c. Trapezoidal tear strength ASTM D 4533: 60 lbs
d. Puncture strength: 41 lbs
e. CBR Puncture: 225 lbs
3. Endurance (MARV)1
a. UV Resistance @ 500 hrs ASTM D 4355: 70 percent

4. Hydraulic (MARV)
    a. Apparent opening size ASTM D 4751: 70 US Sieve
    b. Permittivity ASTM D4491: 0.7 sec
    c. Water flow rate ASTM D 4491: 60 gal/min/sf
5. Physical (Typical)
    a. Unit weight: 4.0 oz/yd
    b. Roll diameter: 9 inches
    c. Length: 100 yd
    d. Width: 151 inches
    e. Roll area: 419 sy
    f. Roll weight gross: 113 lbs
    g. Width: 187 inches
    h. Roll area: 519 sy
    i. Roll weight gross: 142 lbs

E. TYPAR 3501
1. AASHTO M288: Class 2
2. Mechanical (Marv)
    a. Grab tensile strength ASTM D4632: 160 lbs
    b. Grab elongation ASTM D4632: 60 percent
    c. Trapezoidal tear strength ASTM D4533: 60 lbs
    d. Puncture strength: 56 lbs
    e. CBR Puncture: 310 lbs
3. Endurance (MARV)1
    a. UV Resistance @ 500 hrs ASTM D4355: 70 percent
4. Hydraulic (MARV)
    a. Apparent opening size ASTM D4751: 70 US Sieve
    b. Permittivity ASTM D4491: 0.5 sec
    c. Water flow rate ASTM D4491: 50 gal/min/sf
5. Physical (Typical)
    a. Unit weight: 5.0 oz/yd
    b. Roll diameter: 10 inches
    c. Length
    d. Width: 151 inches

e. Roll area: 419 sy

f. Roll weight gross: 138 lbs

g. Width: 187 inches

h. Roll area: 519 sy

i. Roll weight gross: 209 lbs

PART 3 – EXECUTION

3.1 EXAMINATION

A. Before beginning installation, verify site conditions are as indicated on the Drawings. Notify the Architect if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

3.2 PREPARATION

A. Subgrade Preparation:

1. Prepare subgrade as specified in Section 31 23 00. Verify subgrade in accordance with porous paving system manufacturer's instructions.

2. Excavate area allowing for unit thickness and the engineered base depth (where required).

3. Provide adequate drainage from excavated area if area has potential to collect water, when working with in-place soils that have poor permeability.

4. Provide a subdrainage system as specified in section 33 06 00.

5. Ensure in-place soil is relatively dry and free from standing water.

6. Uniformly grade base.

7. Level and clear base of large objects, such as rocks and pieces of wood.

B. Sub-Base Preparation:

1. Install sub-base as specified in Section 31 23 00. Verify sub-base is installed in accordance with porous paving system manufacturer's instructions.

2. Coordinate sub-base installation and preparation with subdrains specified in Section 33 06 00.

3. If required, place a geotextile separation layer between the natural ground and the ' engineered base.

4. Place engineered base to a thickness of 6 inches.

3.3 INSTALLATION

A. Install Geotextiles as indicated on the Drawings in accordance with the manufacturers recommendations.

B. Landscaping: Install as specified in 329300

END OF SECTION 320519

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SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold milling of existing asphalt pavement.
2. Hot-mix asphalt patching.
3. Hot-mix asphalt paving.
4. Hot-mix asphalt overlay.
5. Asphalt curbs.

B. Related Requirements:

1. Section 312000 "Earth Moving" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
2. Section 321373 "Concrete Paving Joint Sealants" for joint sealants and fillers at pavement terminations.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each paving material. Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.

B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Williamson County for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. Coarse Aggregate: ASTM D 692/D 692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

B. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.

C. Mineral Filler: ASTM D 242/D 242M, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: ASTM D 6373 binder designation.

B. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397/D 2397M cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

2.3 AUXILIARY MATERIALS

A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; and recycled tires, asphalt shingles, or glass from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.

B. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.

2.4 MIXES

1. Surface Course Limit: Recycled content no more than 10 percent by weight.

B. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

2. Base Course: TxDOT TEX-113-E.

3. Surface Course: HMAC Item 350, Type D per City of Austin Standard Specifications.

PART 3 - EXECUTION

3.1 PREPARATION

A. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

3.2 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 1-1/2 inches.

2. Patch surface depressions deeper than 1 inch after milling, before wearing course is laid.

3.3 PATCHING

A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseat concrete pieces firmly.

1. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.

C. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd.

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

D. Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.4 SURFACE PREPARATION

A. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.5 PLACING HOT-MIX ASPHALT

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Spread mix at a minimum temperature of 250 deg F.

2. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.

3. Offset transverse joints, in successive courses, a minimum of 24 inches.

4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

3.7 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041/D 2041M, but not less than 90 percent or greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.8 ASPHALT CURBS

A. Construct hot-mix asphalt curbs over compacted pavement surfaces. Apply a light tack coat unless pavement surface is still tacky and free from dust. Spread mix at a minimum temperature of 250 deg F.

1. Asphalt Mix: Same as pavement surface-course mix.

B. Place hot-mix asphalt to curb cross section indicated or, if not indicated, to local standard shapes, by machine or by hand in wood or metal forms. Tamp hand-placed materials and screed to smooth finish. Remove forms after hot-mix asphalt has cooled.

3.9 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:

1. Base Course: Plus or minus 1/2 inch.

2. Surface Course: Plus 1/4 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 8 inch.

2. Surface Course: 2 inch.

3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Replace and compact hot-mix asphalt where core tests were taken.

C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.11 WASTE HANDLING

A. General: Handle asphalt-paving waste according to approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes Concrete Paving Including the Following:

1. Curbs and gutters.

2. Walks.

3. Slabs.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of product, ingredient, or admixture requiring color selection.

C. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

1.4 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified independent testing agency to perform preconstruction testing on concrete paving mixtures.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless otherwise indicated.

2.2 STEEL REINFORCEMENT

A. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, fabricated from as-drawn steel wire into flat sheets.

B. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

D. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars; zinc coated (galvanized) after fabrication according to ASTM A 767/A 767M, Class I coating. Cut bars true to length with ends square and free of burrs.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded-wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified.

2.3 CONCRETE MATERIALS

A. Cementitious Materials: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150/C 150M, white portland cement Type I.

2. Fly Ash: ASTM C 618, Class F.

3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 4M, uniformly graded. Provide aggregates from a single source.

C. Air-Entraining Admixture: ASTM C 260/C 260M.

D. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

E. Color Pigment: ASTM C 979/C 979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.

1. Color: As selected by Landscape Architect from manufacturer's full range.

F. Water: Potable and complying with ASTM C 94/C 94M.

2.4 FIBER REINFORCEMENT

A. Synthetic Fiber: Monofilament polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

B. Synthetic Fiber: Fibrillated polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

2.5 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

F. White, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B, dissipating.

2.6 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

2.7 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash or Pozzolan: 25 percent.

2. Slag Cement: 50 percent.

3. Combined Fly Ash or Pozzolan, and Slag Cement: 50 percent, with fly ash or pozzolan not exceeding 25 percent.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 4-1/2 percent plus or minus 1-1/2 percent.

D. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

E. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.

F. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

G. Concrete Mixtures: Normal-weight concrete.

1. Compressive Strength (28 Days): 3500 psi.

2. Maximum W/C Ratio at Point of Placement: 0.50.

3. Slump Limit: 4 inches, plus or minus 1 inch.

2.8 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, to match jointing of existing adjacent concrete paving:

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed paving surface with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.

3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

C. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on paving surface according to manufacturer's written instructions.

1. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.

2. After curing, lightly work surface with a steel-wire brush or abrasive stone and water to expose nonslip aggregate.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these.

3.9 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 1/4 inch.

2. Thickness: Plus 3/8 inch, minus 1/4 inch.

3. Surface: Gap below 10-feet- long; unleveled straightedge not to exceed 1/2 inch.

4. Joint Spacing: 3 inches.

5. Contraction Joint Depth: Plus 1/4 inch, no minus.

6. Joint Width: Plus 1/8 inch, no minus.

3.10 REPAIR AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Landscape Architect.

B. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

C. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

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SECTION 321316 - DECORATIVE CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes colored concrete paving.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of exposed color, pattern, or texture indicated.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer of decorative concrete paving systems.

B. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockups of decorative concrete paving in the location and of the size indicated or, if not indicated, build mockups where directed by Landscape Architect and not less than 96 inches by 96 inches.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless otherwise indicated.

2.2 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

2.3 STEEL REINFORCEMENT

A. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, fabricated from as-drawn steel wire into flat sheets.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

C. Steel Bar Mats: ASTM A 184/A 184M; with ASTM A 615/A 615M, Grade 60 deformed bars; assembled with clips.

D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded-wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:

2.4 CONCRETE MATERIALS

A. Cementitious Materials:

1. Portland Cement: ASTM C 150/C 150M, white portland cement Type II.

2. Fly Ash: ASTM C 618, Class C or F.

3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 4M, uniformly graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.

2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Air-Entraining Admixture: ASTM C 260/C 260M.

D. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

E. Color Pigment: ASTM C 979/C 979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.

1. Color: Color #750 Salmon by Solomen Colors for Base Bid of Trail Section.

F. Water: Potable and complying with ASTM C 94/C 94M.

2.5 FIBER REINFORCEMENT

A. Synthetic Fiber: Monofilament polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

B. Synthetic Fiber: Fibrillated polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

2.6 CURING MATERIALS

A. Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type I, Class B, manufactured for colored concrete.

1. For integrally colored concrete, curing compound shall be pigmented type approved by coloring admixture manufacturer.

2. For concrete indicated to be sealed, curing compound shall be compatible with sealer.

B. Clear Acrylic Sealer: Manufacturer's standard, waterborne, nonyellowing and UV-resistant, membrane-forming, medium-gloss, acrylic copolymer emulsion solution, manufactured for colored concrete, containing not less than 15 percent solids by volume.

C. Slip-Resistance-Enhancing Additive: Manufacturer's standard finely graded aggregate or polymer additive, designed to be added to clear acrylic sealer to enhance slip resistance of sealed paving surface.

2.7 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Polyethylene Film: ASTM D 4397, 1 mil thick, clear.

2.8 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash or Pozzolan: 25 percent.

2. Slag Cement: 50 percent.

3. Combined Fly Ash or Pozzolan, and Slag Cement: 50 percent, with fly ash or pozzolan not exceeding 25 percent.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 4-1/2 percent plus or minus 1.5 percent.

D. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

E. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.

F. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

G. Concrete Mixtures: Normal-weight concrete.

1. Compressive Strength (28 Days): 3500 psi.

2. Maximum W/C Ratio at Point of Placement: 0.50.

3. Slump Limit: 4 inches, plus or minus 1 inch.

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Proof-roll prepared subbase surface below decorative concrete paving to identify soft pockets and areas of excess yielding.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

3.4 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness.

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed paving surface with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

3.8 INTEGRALLY COLORED CONCRETE FINISH

A. Integrally Colored Concrete Finish: After final floating, apply the following finish:

1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.

3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

3.9 PIGMENTED MINERAL DRY-SHAKE HARDENER APPLICATION

A. Pigmented Mineral Dry-Shake Hardener Finish: After initial floating, apply dry-shake materials to paving surfaces according to manufacturer's written instructions and as follows:

1. After final power floating, apply the following finish:

a. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

b. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.

c. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

B. Pigmented Powder Release Agent: Uniformly distribute onto dry-shake-hardened and still-plastic concrete at a rate of 3 to 4 lb/100 sq. ft.

C. Liquid Release Agent: Uniformly mist surface of dry-shake-hardened and still-plastic concrete at a rate of 5 gal/1000 sq. ft.

3.10 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Compound: Apply immediately after final finishing. Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

1. Cure integrally colored concrete with a curing compound.

2. Cure concrete finished with pigmented mineral dry-shake hardener with a curing compound.

3.11 SEALER APPLICATION

A. Clear Acrylic Sealer: Apply uniformly in two coats in continuous operations according to manufacturer's written instructions. Allow first coat to dry before applying second coat, at 90 degrees to the direction of the first coat, using same application methods and rates.

1. Begin sealing dry surface no sooner than 14 days after concrete placement.

2. Thoroughly mix slip-resistance-enhancing additive into sealer before applying sealer according to manufacturer's written instructions. Stir sealer occasionally during application to maintain even distribution of additive.

3.12 PAVING TOLERANCES

A. Comply with tolerances in ACI 117.

3.13 REPAIR AND PROTECTION

A. Remove and replace decorative concrete paving that is broken or damaged or does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Landscape Architect.

B. Detailing: Grind concrete "squeeze" left from tool placement. Color ground areas with slurry of color hardener mixed with water and bonding agent. Remove excess release agent with high-velocity blower.

C. Protect decorative concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain decorative concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321316

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SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.
2. Hot-applied joint sealants.
3. Joint-sealant backer materials.
4. Primers.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each kind and color of joint sealant required.

C. Paving-Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

A. Product certificates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Nonsag, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type NS.

B. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.

C. Multicomponent, Nonsag, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use T.

D. Single Component, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.

E. Multicomponent, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade P, Class 25, for Use T.

2.3 HOT-APPLIED JOINT SEALANTS

A. Hot-Applied, Single-Component Joint Sealant: ASTM D 6690, Type I.

B. Hot-Applied, Single-Component Joint Sealant: ASTM D 6690, Type I or Type II.

C. Hot-Applied, Single-Component Joint Sealant: ASTM D 6690, Type I, II, or III.

D. Hot-Applied, Single-Component Joint Sealant: ASTM D 6690, Type IV.

2.4 JOINT-SEALANT BACKER MATERIALS

A. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.5 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 INSTALLATION OF JOINT SEALANTS

A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Cleaning of Joints: Clean out joints immediately to comply with joint-sealant manufacturer's written instructions.

C. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer.

D. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.

E. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of joint-sealant backings.

2. Do not stretch, twist, puncture, or tear joint-sealant backings.

3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

F. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:

1. Place joint sealants so they fully contact joint substrates.

2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

G. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:

1. Remove excess joint sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

H. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

I. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

END OF SECTION 321373

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SECTION 321713 - PARKING BUMPERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes concrete wheel stops.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 PARKING BUMPERS

A. Concrete Wheel Stops: Precast, steel-reinforced, air-entrained concrete, 4000-psi minimum compressive strength, 4 inches high by 10 inches wide by 72 inches long. Provide chamfered corners, and a minimum of two factory-formed or -drilled vertical holes through wheel stop for anchoring to substrate.

1. Mounting Hardware: Galvanized-steel spike or dowel, 1/2-inch diameter, 10-inch minimum length

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wheel stops according to manufacturer's written instructions unless otherwise indicated.

B. Install wheel stops in bed of adhesive before anchoring.

C. Securely anchor wheel stops to pavement with hardware in each preformed vertical hole in wheel stop as recommended in writing by manufacturer. Recess head of hardware beneath top of wheel stop.

END OF SECTION 321713

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SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes painted markings applied to asphalt pavement.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Dow Chemical Company, Ennis-Flint, PPG Paints, Sherwin-Williams Company or approved other

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in [the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

2.3 PAVEMENT-MARKING PAINT

A. Pavement-Marking Paint: MPI #32, solvent-borne traffic-marking paint.

1. Color: White

B. Pavement-Marking Paint: MPI #97, latex traffic-marking paint.

1. Color: White

C. Glass Beads: AASHTO M 247, Type 1.

PART 3 - EXECUTION

3.1 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Landscape Architect.

B. Allow paving to age for a minimum of 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils. Apply paint so that it cannot run beneath stencil.

2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal.

END OF SECTION 321723

SECTION 321726 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place detectable warning tiles.

2. Detectable warning mats applied to existing concrete paving.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for each type of exposed finish requiring color selection.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

A. Accessibility Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for tactile warning surfaces.

1. For tactile warning surfaces composed of multiple units, provide units that when installed provide consistent side-to-side and end-to-end dome spacing that complies with requirements.

2.2 DETECTABLE WARNING TILES

A. Cast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.

1. Material: Cast-fiber-reinforced polymer concrete tile

2. Color: As selected by Landscape Architect from manufacturer's full line.

3. Shapes and Sizes:

a. Rectangular panel, 12 by 12 inches

b. Radius panel, nominal 24 inches deep by 6-foot outside radius.

4. Dome Spacing and Configuration: Manufacturer's standard compliant spacing pattern.

5. Mounting:

a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.

b. Detectable warning tile set into formed recess in concrete and adhered with mortar.

c. Replaceable detectable warning tile wet-set into freshly poured concrete and surface-fastened to permanently embedded anchors.

B. Surface-Applied Detectable Warning Tiles: Accessible truncated-dome detectable warning concrete tiles configured for surface application on existing concrete walkway surfaces, with slip-resistant surface treatment on domes, field of tile, and beveled outside edges.

1. Material: Cast-fiber-reinforced polymer concrete tile.

2. Color: As selected by Landscape Architect from manufacturer's full line.

3. Shapes and Sizes:

a. Rectangular panel, 12 by 12 inches.

b. Radius panel, nominal 24 inches deep by 6-foot outside radius.

4. Dome Spacing and Configuration: Manufacturer's standard compliant spacing pattern.

5. Mounting: Adhered and fastened to existing concrete walkway.

2.3 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of tactile warning surfaces, noncorrosive and compatible with each material joined, and complying with the following:

1. Furnish Type 316 stainless-steel fasteners for exterior use.

2. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant heads, colored to match tile.

B. Adhesive: As recommended by manufacturer for adhering tactile warning surfacing unit to pavement.

C. Sealant: As recommended by manufacturer for sealing perimeter of tactile warning surfacing unit.

PART 3 - EXECUTION

3.1 INSTALLATION OF TACTILE WARNING SURFACING

A. General: Prepare substrate and install tactile warning surfacing according to manufacturer's written instructions unless otherwise indicated.

B. Place tactile warning surfacing units in dimensions and orientation indicated. Comply with location requirements of AASHTO MP 12.

C. Cast-in-Place Detectable Warning Tiles: Set each detectable warning tile accurately and firmly in place and completely seat tile back and embedments in wet concrete by tamping or vibrating. Set surface of tile flush with surrounding concrete and adjacent tiles. Remove concrete from tile surfaces and clean using methods recommended in writing by manufacturer.

D. Removable Cast-in-Place Detectable Warning Tiles: Set each detectable warning tile accurately and firmly in place with embedding anchors and fasteners attached, and firmly seat tile back in wet concrete by tamping or vibrating. Set surface of tile flush with surrounding concrete and adjacent tiles. Remove concrete from tile surfaces and clean tiles using methods recommended in writing by manufacturer.

E. Surface-Applied Detectable Warning Tiles: Prepare existing paving surface by grinding and cleaning as recommended by manufacturer. Apply adhesive to back of tiles in amounts and pattern recommended by manufacturer, and set tiles in place. Install anchor devices through face of tiles and into pavement using anchors located as recommended by manufacturer. Apply sealant in continuous bead around perimeter of installation.

F. Surface-Applied Detectable Warning Mats: Prepare existing paving surface by grinding and cleaning as recommended by manufacturer. Apply adhesive to back of mat and set mat in place. Firmly seat mat in adhesive bed. Install anchor devices through face of mat and into pavement using anchors located as recommended by manufacturer. Set heads of anchors flush with mat surface. Apply sealant in continuous bead around perimeter of mat.

G. Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Landscape Architect. Replace using tactile warning surfacing installation methods acceptable to Landscape Architect.

H. Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

END OF SECTION 321726

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SECTION 328400 - PLANTING IRRIGATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Piping.
2. Manual valves.
3. Automatic control valves.
4. Sprinklers.
5. Controllers.
6. Boxes for automatic control valves.

1.2 PERFORMANCE REQUIREMENTS

A. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent irrigation coverage of areas indicated.

1.3 ACTION SUBMITTALS

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

1.4 INFORMATIONAL SUBMITTALS

A. Zoning Chart: Show each irrigation zone and its control valve.

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

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

B. PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 40.

1. PVC Socket Fittings: ASTM D 2466, Schedules 40 and 80.

2. PVC Threaded Fittings: ASTM D 2464, Schedule 80.

C. PVC Pipe, Pressure Rated: ASTM D 2241, PVC 1120 compound, SDR 21.

1. PVC Socket Fittings: ASTM D 2467, Schedule 80.

2.2 PIPING JOINING MATERIALS

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

B. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.

2.3 MANUAL VALVES

A. Plastic Ball Valves:

1. Description:

a. Standard: MSS SP-122.

b. Pressure Rating: 150 psi.

c. Body Material: PVC.

d. Type: Union.

e. End Connections: Socket or threaded.

f. Port: Full.

2.4 AUTOMATIC CONTROL VALVES

A. Plastic, Automatic Control Valves:

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

2.5 SPRINKLERS

A. General Requirements: Designed for uniform coverage over entire spray area indicated at available water pressure.

B. Plastic, Exposed, Impact-Drive Rotary Sprinklers:

1. Description:

a. Construction: ABS and corrosion-resistant metals.

b. Mounting: Aboveground, exposed on riser.

C. Plastic, Pop-up, Gear-Drive Rotary Sprinklers:

1. Description:

a. Body Material: ABS.

b. Nozzle: ABS.

c. Retraction Spring: Stainless steel.

d. Internal Parts: Corrosion resistant.

D. Plastic, Surface Spray Sprinklers:

1. Description:

a. Body Material and Flange: ABS.

b. Pattern: Fixed, with flow adjustment.

E. Plastic, Surface, Pop-up Spray Sprinklers:

1. Description:

a. Body Material and Flange: ABS.

b. Pattern: Fixed, with flow adjustment.

F. Plastic, Pop-up Spray Sprinklers:

1. Description:

a. Body Material: ABS.

b. Nozzle: ABS.

c. Retraction Spring: Stainless steel.

d. Internal Parts: Corrosion resistant.

e. Pattern: Fixed, with flow adjustment.

2.6 CONTROLLERS

A. Use existing controller. Add additional expansion modules as needed.

2.7 BOXES FOR AUTOMATIC CONTROL VALVES

A. Plastic Boxes:

1. Description: Box and cover, with open bottom and openings for piping; designed for installing flush with grade.

a. Size: As required for valves and service.

B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 2 inches maximum.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

B. Provide minimum cover over top of underground piping according to the following:

1. Irrigation Main Piping: Minimum depth of 12 inches below finished grade.

2. Circuit Piping: 8 inches.

3. Sleeves: 12 inches.

3.2 PIPING INSTALLATION

A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.

B. Install piping free of sags and bends.

C. Install groups of pipes parallel to each other, spaced to permit valve servicing.

D. Install fittings for changes in direction and branch connections.

E. Install underground thermoplastic piping according to ASTM D 2774 and ASTM F 690.

F. Lay piping on solid subbase, uniformly sloped without humps or depressions.

G. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours at temperatures above 40 deg F before testing.

3.3 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.

2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.

2. PVC Pressure Piping: Join schedule number, ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.

3.4 SPRINKLER INSTALLATION

A. Install sprinklers at manufacturer's recommended heights.

B. Locate part-circle sprinklers to maintain a minimum distance of 4 inches from walls and 2 inches from other boundaries unless otherwise indicated.

3.5 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

B. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplates and signs on each automatic controller.

1. Text: In addition to identifying unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.

3.6 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.

2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.

3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Any irrigation product will be considered defective if it does not pass tests and inspections.

3.7 ADJUSTING

A. Adjust settings of controllers.

B. Adjust automatic control valves to provide flow rate at rated operating pressure required for each sprinkler circuit.

C. Adjust sprinklers and devices, except those intended to be mounted aboveground, so they will be flush with, or not more than 1/2 inch above, finish grade.

3.8 PIPING SCHEDULE

A. Install components having pressure rating equal to or greater than system operating pressure.

B. Piping in control-valve boxes and aboveground may be joined with flanges or unions instead of joints indicated.

C. Underground irrigation main piping, shall be the following:

1. Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.

D. Circuit piping, shall be the following:

1. SDR 21, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

END OF SECTION 328400

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

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

B. Related Requirements:

1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each bulk-supplied material in sealed containers labeled with content, source, and date obtained; providing an accurate representation of composition, color, and texture.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

PART 2 - PRODUCTS

2.1 PLANTING SOILS SPECIFIED BY COMPOSITION

A. Topsoil – Viable planting soil on-site, if any, retained, and stockpiled or imported.

1. Additional Properties of topsoil. Soil reaction of pH 6 to 7 and minimum of 2 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.

Unacceptable Properties: Clean soil of the following:

a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.

b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 8 percent by dry weight of the imported soil.

c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches in any dimension.

B. Prepared Soil - soil with the following soil amendments in the following quantities to produce planting soil:

a. Ratio of Loose Compost to Soil: 1:3 by volume.

2.2 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter

1. Reaction: pH of 5.5 to 8.

2. Soluble-Salt Concentration: Less than 4 dS/m.

3. Moisture Content: 35 to 55 percent by weight.

4. Organic-Matter Content: 50 to 60 percent of dry weight.

5. Particle Size: Minimum of 98 percent passing through a 1-inch sieve.

PART 3 - EXECUTION

3.1 GENERAL

A. Place planting soil according to requirements in other Specification Sections.

B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

3.2 PREPARATION OF ON-SITE TOPSOIL

A. Excavation: Excavate soil from designated areas and stockpile.

B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.

C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.

D. Screening: Pass soil through a 2-inch sieve to remove large materials.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owners Representative may engage a qualified testing agency to perform soil tests and inspections.

3.4 PROTECTION AND CLEANING

A. Protection Zone: Identify protection zones according to Section 015639 "Temporary Tree and Plant Protection."

B. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:

1. Storage of construction materials, debris, or excavated material.

2. Parking vehicles or equipment.

3. Vehicle traffic.

4. Foot traffic.

5. Erection of sheds or structures.

6. Impoundment of water.

7. Excavation or other digging unless otherwise indicated.

C. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owners Representative.

END OF SECTION 329113

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SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding.

2. Sodding.

1.2 DEFINITIONS

A. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

B. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.4 INFORMATIONAL SUBMITTALS

A. Certification of grass seed.

1. Certification of each seed mixture for turfgrass sod.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.

B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation"

sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

PART 2 - PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species:

1. Quality: State-certified seed of grass species as listed below for solar exposure.

2. Quality: Seed of grass species as listed below for solar exposure, with not less than **85** percent germination, not less than **95** percent pure seed, and not more than **0.5** percent weed seed:

2.2 TURFGRASS SOD

A. Turfgrass Sod: Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

2.3 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.4 PESTICIDES

A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 TURF AREA PREPARATION

A. Reduce elevation of planting soil to allow for soil thickness of sod.

B. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

C. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.

1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

2. Do not use wet seed or seed that is moldy or otherwise damaged.

3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

C. Protect seeded areas with slopes not exceeding 1:5 by using an erosion control blanket.

D. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch, and roll surface smooth.

3.3 SODDING

A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Lay sod across slopes exceeding 1:3.

2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.

C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.4 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

B. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings.

3.5 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Landscape Architect:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plants.

2. Tree-watering devices.

3. Landscape edgings.

B. Related Requirements:

1. Section 329600 "Transplanting" for transplanting non-nursery-grown trees.

1.2 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.

C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See **Section 329113 "Soil Preparation"** for drawing designations for planting soils.

D. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples of each type of mulch.

1.5 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year.

1.7 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1. Pesticide Applicator: State licensed, commercial.

B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver bare-root stock plants within 24 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.

B. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

C. Handle planting stock by root ball.

D. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F until planting.

E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1.9 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.

b. Structural failures including plantings falling or blowing over.

2. Warranty Periods: From date of Substantial Completion.

   a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.

   b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.

   c. Annuals: Three months.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

C. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery.

2.2 FERTILIZERS

A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.

   1. Size: 10-gram tablets.

   2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

2.3 MULCHES

A. Organic Mulch: Shredded hardwood

B. Mineral Mulch: Crushed stone or gravel.

   1. Size Range: 1/4 inch minus fines.

   2. Color: Readily available natural gravel color range.

2.4 WEED-CONTROL BARRIERS

A. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. minimum, composed of fibers formed into a stable network so that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.

B. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd.

2.5 PESTICIDES

A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

2.6 LANDSCAPE EDGINGS

A. Steel Edging: Standard commercial-steel edging, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.

1. Edging Size: 3/16 inch thick by 4 inches deep.

2. Finish: Manufacturer's standard paint.

PART 3 - EXECUTION

3.1 PLANTING AREA ESTABLISHMENT

A. General: Prepare planting area for soil placement and mix planting soil according to **Section 329113 "Soil Preparation”.**

B. Placing Planting Soil: Place and mix planting soil in-place over exposed subgrade.

C. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 EXCAVATION FOR TREES AND SHRUBS

A. Planting Pits and Trenches: Excavate circular planting pits.

1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.

2. Excavate approximately three times as wide as ball diameter.

3. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.

4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.

B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.

3.3 TREE, SHRUB, AND VINE PLANTING

A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.

C. Set each plant plumb and in center of planting pit or trench with root flare 2 inch above adjacent finish grades.

1. Backfill: Planting soil, for trees, use excavated soil for backfill.

2. Balled and Burlapped Stock: After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.

3. Balled and Potted and Container-Grown Stock: Carefully remove root ball from container without damaging root ball or plant.

4. Fabric Bag-Grown Stock: Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.

5. Bare-Root Stock: Support stem of each plant and spread roots without tangling or turning toward surface. Plumb before backfilling, and maintain plumb while working. Carefully work backfill around roots by hand. Bring roots into close contact with the soil.

6. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.

7. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.

a. Bare-Root Stock: Place tablets beside soil-covered roots; do not place tablets touching the roots.

b. Quantity: Two per plant.

8. Continue backfilling process. Water again after placing and tamping final layer of soil.

D. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.4 TREE, SHRUB, AND VINE PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Prune, thin, and shape trees, shrubs, and vines as directed by Landscape Architect.

C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

D. Do not apply pruning paint to wounds.

3.5 GROUND COVER AND PLANT PLANTING

A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings in even rows with triangular spacing.

B. Use planting soil for backfill.

C. Dig holes large enough to allow spreading of roots.

D. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

E. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

F. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.6 PLANTING AREA MULCHING

A. Install weed-control barriers before mulching according to manufacturer's written instructions. Completely cover area to be mulched, overlapping edges a minimum of 6 inches and secure seams with galvanized pins.

B. Mulch backfilled surfaces of planting areas and other areas indicated.

1. Trees in Turf Areas: Apply mulch ring of 2-inch average thickness, with 36-inch radius around trunks or stems. Do not place mulch within 3 inches] of trunks or stems.

2. Organic Mulch and Mineral Mulch in Planting Areas: Apply 4-inchaverage thickness of organic mulch extending 12 inches beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades.

3.7 EDGING INSTALLATION

A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 30 inches apart, driven below top elevation of edging.

3.8 INSTALLING SLOW-RELEASE WATERING DEVICE

A. Provide one device for each tree.

3.9 PLANT MAINTENANCE

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.

B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

D. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

E. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

F. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

3.10 MAINTENANCE SERVICE

A. Maintenance Service: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:

1. Maintenance Period for Trees and Shrubs: 12 months from date of planting completion Substantial Completion.

2. Maintenance Period for Ground Cover and Other Plants: Six months from date of Substantial Completion.

END OF SECTION 329300

SECTION 329600 - TRANSPLANTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes transplanting non-nursery-grown trees by tree spade.

1.2 DEFINITIONS

A. General: See definitions in ANSI A300 (Part 6) and in ANSI Z60.1 pertaining to field-grown trees, except as otherwise defined in this Section.

B. Caliper: Diameter of a trunk as measured by a diameter tape at a height 6 inches above the root flair for trees up to, and including, 4-inch size at this height; and as measured at a height of 12 inches above the root flair for trees larger than 4-inch size.

C. Root-Ball Depth: Measured from bottom of trunk flare to the bottom of root ball.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Champion Park, Cedar Park, Texas.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Pruning Schedule: Written schedule prepared by arborist detailing scope and extent of pruning each tree in preparation for and subsequent to transplanting.

1.5 INFORMATIONAL SUBMITTALS

A. Certification: From arborist, certifying that transplanted trees have been protected during construction and that trees were promptly and properly treated and repaired when damaged.

B. Maintenance Recommendations: From arborist, recommended procedures to be established by Owner for care and protection of trees after completing the Work.

C. Existing Conditions: Documentation of existing trees indicated to be transplanted, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

D. Tree-maintenance reports.

1.6 QUALITY ASSURANCE

A. Tree-Service Firm Qualifications: An experienced landscaping contractor or tree-moving firm that has successfully completed transplanting work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

1. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees in such a manner as to destroy their natural shape.

B. Completely cover foliage when transporting trees while they are in foliage.

C. Handle trees by root ball. Do not drop trees.

D. Move trees after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after moving, set trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify final grade elevations and final locations of trees and construction contiguous with trees by field measurements before proceeding with transplanting work. Perform transplanting only after finish grades are established.

B. Seasonal Restrictions: Transplant trees during the following in-season periods:

1. Spring: March-April.

2. Summer: May.

3. Fall: October-November.

4. Winter: December-February.

1.9 MAINTENANCE SERVICE

A. Initial Maintenance Service: Provide tree maintenance by skilled employees of tree-service firm and as required in Part 3. Begin maintenance immediately after preparatory pruning and continue until plantings are healthy and well established but for not less than maintenance period below.

1. Maintenance Period: 12 months from date of transplanting completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Transplanted trees shall be healthy and resume vigorous growth within one year of transplanting without dieback due to defective extracting, handling, planting, maintenance, or other defects in the Work.

2.2 PLANTING MATERIALS

A. Backfill Soil: Excavated soil mixed with planting soil of suitable moisture content and granular texture for placing and compacting in planting pit around tree, and free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

1. Mixture: Well-blended mix of two parts excavated soil to one part planting soil.

2. Planting Soil: Planting soil as specified in Section 329113 "Soil Preparation."

2.3 WATERING DEVICES

A. Watering Pipe: PVC pipe 4 inches in diameter, site-cut to length as required, and with snug-fitting removable cap.

B. Slow-Release Watering Device: Standard product manufactured for drip-irrigation of plants and emptying its water contents over a period of 2 to 9 hours; manufactured from UV-light stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.

2.4 MISCELLANEOUS PRODUCTS

A. Organic Mulch: Shredded hardwood as specified in Section 329300 "Plants."

B. Mineral Mulch: Rounded riverbed gravel or smooth-faced stone, and Crushed stone or gravel as specified in Section 329300 "Plants."

C. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

D. Burlap: Non-synthetic, biodegradable.

E. Pesticides: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended in writing by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

F. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.

1. Size: 10-gram tablets.

2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

G. Weed-Control Barriers:

1. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. minimum.

2. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd.

PART 3 - EXECUTION

3.1 PREPARATION

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning excavation.

B. Lay out individual transplant locations and areas for multiple plantings, and obtain Landscape Architect's acceptance of layout before transplanting.

C. Apply antidesiccant to trees uniformly, using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during extracting, handling, and transportation.

1. If deciduous trees are moved in full leaf, spray with antidesiccant before extracting and again two weeks after transplanting.

D. Wrap trees with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during extracting, handling, and transporting.

3.2 PREPARATORY PRUNING

A. Root Pruning: Perform preparatory root pruning under direction of arborist as far in advance of extracting each tree as the Project Schedule allows.

B. Crown Pruning (Tip Pruning):

1. Do not perform preparatory crown pruning (tip pruning).

2. Perform preparatory crown pruning as directed by arborist. Follow procedures as specified in "Crown Pruning" Article.

3.3 EXCAVATING PLANTING PITS

A. General: Excavate under supervision of the arborist. Keep excavations covered or otherwise protected until replanting trees.

B. Subsoil and topsoil removed from excavations may be used as planting soil.

C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees are encountered in excavations.

D. Seepage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage into tree-planting pits.

3.4 EXTRACTING TREES

A. General: Extract trees under supervision of the arborist.

B. Orientation Marking: Mark the north side of each tree with non-permanent paint before extracting.

C. Root-Ball Width: Minimum 10 inches of root-ball diameter, or least dimension for non-round root balls, for each inch of tree caliper being transplanted.

1. Out-of-Season Planting: If planting before or after the in-season period for tree, provide a minimum root-ball diameter of 12 inches for each inch of tree caliper being transplanted.

D. Root-Ball Depth: As determined by the arborist for each species and size of tree and for site conditions at original and planting locations.

E. Digging:

1. Dig and clear a pit with tree spade to the depth of the root system.

2. Cut exposed roots manually with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not paint or apply sealants on cut root ends.

3. Cover roots with burlap and keep them moist until planted.

F. Extracting with Tree Spade: Use the same tree spade to extract the tree as will be used to transport and plant the tree.

3.5 PLANTING

A. Planting Standard: Perform planting according to ANSI A300 (Part 6) unless otherwise indicated.

B. Before planting, verify that root flare is visible at top of root ball. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

C. Ensure that root flare is visible after planting.

D. Remove injured roots by cutting cleanly; do not break. Do not paint or apply sealants on cut root ends.

E. Orientation: Position the tree so that its north side, marked before extracting, is facing north in its new location.

F. Set tree plumb and in center of planting pit with bottom of root flare 1 inch above adjacent finish grades.

1. Use specified backfill soil for backfill.

2. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.

3. Redirect exposed root ends downward in backfill areas where possible. Hand-expose roots as required to bend and redirect them without breaking.

4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended by arborist. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.

5. Continue backfilling process. Water again after placing and tamping final layer of soil.

G. Watering Pipe: During backfilling, install watering pipe 4 feet deep into the planting pit outside the root ball with top of pipe 1 inch above the mulched surface.

H. Planting with Tree Spade: Use the same tree spade for planting as was used to extract and transport the tree.

I. Slopes: When planting on slopes, set the tree so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.6 CROWN PRUNING

A. Prune branches as directed by arborist.

1. Prune to remove only injured, broken, dying, or dead branches. Do not prune for shape.

2. Do not remove or reduce living branches to compensate for root loss caused by cutting root system or to improve natural tree form.

3. Pruning Standards: Perform pruning according to ANSI A300 (Part 1).

3.7 TREE STABILIZATION

A. Stabilize tree as indicated on Drawings and directed by arborist.

3.8 MULCHING

A. Install weed-control barriers before mulching according to manufacturer's written instructions. Completely cover area to be mulched, overlapping edges a minimum of 6 inches and secure seams with galvanized pins.

B. Organic Mulch: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of individual planting pit, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

C. Mineral Mulch in Planting Areas: Apply 3-inch average thickness of mineral mulch extending 12 inches beyond edge of individual planting pit, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.9 INSTALLING SLOW-RELEASE WATERING DEVICE

A. Provide one device for each tree.

B. Place device on top of the mulch at base of tree and fill with water according to manufacturer's written instructions.

3.10 TREE MAINTENANCE

A. Perform tree maintenance as recommended by arborist. Maintain arborist observation of transplanting work.

B. Maintain trees by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Treat as required to keep trees free of insects and disease.

C. From time of preparatory root pruning measure soil moisture adjacent to edge of each root ball weekly. Record findings and weather conditions.

D. Fill areas of soil subsidence with backfill soil. Replenish mulch materials damaged or lost in areas of subsidence.

E. Apply treatments as required to keep tree materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

F. Pesticide Application: Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written instructions. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

G. Reports: Have arborist prepare monthly inspection reports.

3.11 REPAIR AND REPLACEMENT

A. General: Repair or replace transplanted trees and other plants indicated to remain or be relocated that are damaged by construction operations, in a manner recommended by the arborist and approved by Landscape Architect.

1. Submit details of proposed pruning and repairs.

2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.

3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Landscape Architect.

B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Landscape Architect determines are incapable of restoring to normal growth pattern.

1. Provide new trees of same size and species as those being replaced.

3.12 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Except for materials indicated to be recycled, remove surplus soil, excess excavated material, waste materials, displaced plants, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 329600

Bid 1710-197

BRUSHY CREEK TRAIL AT CHAMPION PARK CEDAR PARK, TX

LANDSCAPE ARCHITECTURAL CONSTRUCTION DOCUMENTS

WILLIAMSON COUNTY
PARKS AND RECREATION DEPARTMENT
CEDAR PARK, TEXAS

PROJECT TEAM

OWNER
WILLIAMSON COUNTY
PARKS AND RECREATION DEPARTMENT
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LEANDER, TEXAS 78641
P: 512-943-1920
CONTACT: RANDY BELL

LANDSCAPE ARCHITECT / PRIME
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CONTACT: BRENT BAKER (PM)

CIVIL ENGINEER
WAELTZ & PRETE
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CONTACT: ANTONIO A. PRETE, P.E.

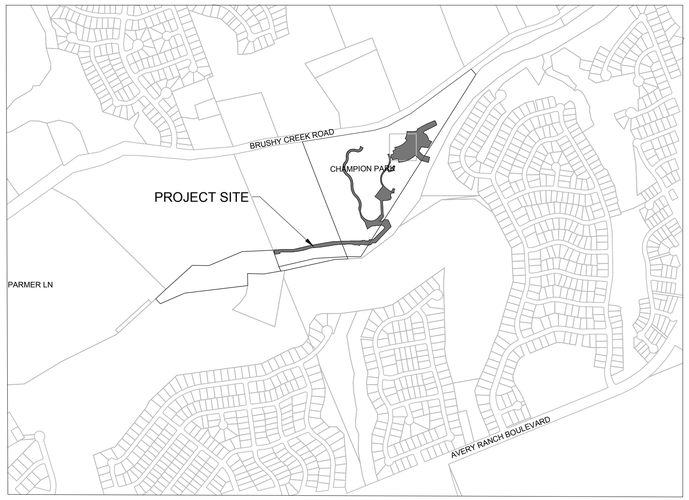
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PROJECT LOCATION:



NOTES:
1. THESE PLANS ARE NOT TO BE CONSIDERED FINAL FOR CONSTRUCTION UNTIL ACCEPTED BY THE CITY AND/OR THE COUNTY. CHANGES MAY BE REQUIRED PRIOR TO APPROVAL.

2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY, AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

PLAN REVISIONS

REVISION #	DATE	SHEET # REVISED	NOTES

SUBMITTED FOR BIDDING AND CONSTRUCTION:

REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2098 STATE OF TEXAS

10-11-2017

BRENT A. BAKER, RLA, ASLA, CLARB — DATE
1717 N.IH 35, SUITE 308, ROUND ROCK, TEXAS 78664

ACCEPTED FOR CONSTRUCTION:

PARKS & RECREATION DEPARTMENT — DATE
WILLIAMSON COUNTY,TEXAS

studio 16:19
design · collaborate · solve · impact
1717 n. ih 35, suite 308 p. 512.534.8680
round rock, texas 78664 studio1619.com

FOR BID & CONSTRUCTION SET
BRUSHY CREEK TRAIL AT CHAMPION PARK

ISSUE FOR CONSTRUCTION 10.11.2017

Williamson County, Texas

10/19/2017 8:05 AM

GENERAL PROJECT CONSTRUCTION NOTES

1. UNLESS OTHERWISE INDICATED, THE OWNER SHALL SPECIFICALLY DESIGNATE THE OWNER'S REPRESENTATIVE FOR THIS PROJECT. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE AND CORRESPOND WITH THE OWNER'S REPRESENTATIVE AND KEY CONSULTANTS FOR THE OWNER.

2. THE DRAWINGS SUPPLEMENT OTHER CONTRACTUAL INFORMATION, WHICH MAY INCLUDE BID INSTRUCTIONS AND PROJECT SPECIFICATIONS. ANYTHING MENTIONED IN THE PROJECT SPECIFICATIONS AND NOT IN THE DRAWINGS, OR VICE-VERSA, SHALL BE OF LIKE EFFECT AS IF SHOWN ON OR MENTIONED IN BOTH. IN CASE OF DISCREPANCY BETWEEN DRAWINGS OR PROJECT SPECIFICATIONS, THE MATTER SHALL BE IMMEDIATELY SUBMITTED TO THE OWNER'S REPRESENTATIVE; WITHOUT HIS DECISION SAID DISCREPANCY SHALL NOT BE ADJUSTED BY THE CONTRACTOR, SAVE ONLY AT HIS OWN RISK AND EXPENSE. THE CONTRACTOR SHALL NOT TAKE ADVANTAGE OF ANY APPARENT ERROR OR OMISSIONS ON THE DRAWINGS OR IN THE SPECIFICATIONS. IN THE EVENT THE CONTRACTOR DISCOVERS SUCH ERROR OR OMISSIONS, HE SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE. THE OWNER'S REPRESENTATIVE WILL THEN MAKE SUCH CLARIFICATIONS AND INTERPRETATIONS AS MAY BE DEEMED NECESSARY FOR THE CONTRACTOR TO FULFILL THE INTENT OF THE CONTRACT.

3. THE INTENT OF THESE DRAWINGS, DETAILS, AND ASSOCIATED SPECIFICATIONS IS FOR THE CONTRACTOR TO PROVIDE THE OWNER WITH A COMPLETE, ACCURATE, FUNCTIONALLY AND TECHNICALLY SOUND PROJECT AS GENERALLY DESCRIBED IN THE DOCUMENTS. IN MOST CASES, UNLESS EXPLICITLY NOTED OTHERWISE, DRAWING SYMBOLS ARE USED TO REPRESENT COMPLETE-IN-PLACE SYSTEMS TO BE PROVIDED AS PART OF THE BASE BID. ALL ELEMENTS SHOWN OR IMPLIED BY THE DRAWINGS, IF NOT SPECIFICALLY DETAILED OR SPECIFIED, SHALL BE INSTALLED PER BUILDING CODES, MANUFACTURER'S RECOMMENDATIONS, STATE HIGHWAY DEPARTMENT STANDARDS, CITY & COUNTY STANDARDS, AND STANDARD INDUSTRY PRACTICES.

4. ALL WORK WITHIN THIS PROJECT SHALL CONFORM TO CURRENT LOCAL CODES, ORDINANCES, AS WELL AS ALL OTHER APPLICABLE GOVERNING REGULATIONS IN EFFECT.

5. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL SPECIALTY PERMITS NEEDED FOR SPECIFIC ITEMS INCLUDED WITHIN THE WORK, UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL COMPLY WITH ALL NOTIFICATIONS AND INSPECTION REQUIREMENTS.

6. THE OWNER TO PROVIDE TESTING AND/OR INSPECTION SERVICE AND THE CONTRACTOR IS REQUIRED TO FULLY COORDINATE WITH THOSE CONSULTANTS/CONTRACTORS. OWNER IS TO PAY FOR ALL SOILS AND MATERIALS TESTING.

7. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE TO VERIFY EXISTING CONDITION. WITHOUT EXCEPTION, ANY DEVIATIONS OR OMISSIONS BETWEEN THE PLANS AND EXISTING CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

8. EXISTING UTILITY INFORMATION THAT IS SHOWN IN THESE DOCUMENTS IS APPROXIMATE AND FOR GENERAL INFORMATION ONLY. IT IS NOT INTENDED TO DEPICT EXACT LOCATIONS OF ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TO STAKE AND FIELD VERIFY THE LOCATIONS INCLUDING DEPTHS OF ALL UTILITIES (EXISTING, PROPOSED BY OTHERS, OR CURRENTLY UNDER CONSTRUCTION), PRIOR TO COMMENCING ANY RELATED OPERATIONS. CONTRACTOR SHALL MAINTAIN UTILITY LOCATIONS/STRUCTURES DURING ALL PHASES OF WORK. THE CONTRACTOR SHALL REPORT TO THE OWNER'S REPRESENTATIVE ANY UTILITIES THAT MAY CONFLICT WITH PROPOSED WORK. THE CONTRACTOR SHALL EXPLORE, UNDERSTAND, AND COORDINATE (WITH OTHER SUBCONTRACTORS) ALL UTILITY IMPACTS PRIOR TO SUBMITTING BID AND SHALL BE RESPONSIBLE FOR ANY MODIFICATION OR DAMAGE TO UTILITY LINES, STRUCTURES, OR INJURIES THEREFROM. FOR EXISTING UTILITY INFORMATION, CONTACT THE ONE-CALL BOARD OF TEXAS @ 811 OR 800-545-6005. A MINIMUM NOTICE OF 3 BUSINESS DAYS IN ADVANCE OF LOCATIONAL NEEDS IS REQUIRED.

9. THESE DRAWINGS DO NOT SPECIFY SAFETY MATERIALS, STAFFING, EQUIPMENT, METHODS, OR SEQUENCING TO PROTECT PERSONS AND PROPERTY. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECT AND IMPLEMENT SAFETY OPERATIONS, STAFFING, AND PROCEDURES TO PROTECT THE OWNER AND THEIR REPRESENTATIVES, NEW IMPROVEMENTS, PROPERTY, OTHER CONTRACTORS, THE PUBLIC AND OTHERS.

10. THE CONTRACTOR IS TO MEET PERIODICALLY WITH THE OWNER'S REPRESENTATIVE TO DETERMINE MARSHALLING AREAS, ON-SITE STORAGE, AND CONTRACTOR STAFF PARKING AND TO COORDINATE SECURITY ISSUES, CONSTRUCTION SEQUENCING/PHASING, SCHEDULING, AND MAINTAINING PUBLIC, EMERGENCY, HANDICAPPED OR OPERATIONS ACCESS BEFORE STARTING RELATED WORK. THE CONTRACTOR SHALL MEET ANY "CONSTRUCTION CRITERIA"OR REQUIREMENTS SHOWN ON ANY CONTRACT DOCUMENTS, PHASING PLANS OR ANY IMPOSED PLAN BY THE OWNER AS A PART OF THE BID PHASE.

11. SOME WORK IN THIS CONTRACT MAY OCCUR CONCURRENT WITH WORK BY OTHERS. PHASING, SEQUENCING, AND COORDINATION, WITH WORK BY OTHERS, AND ON-GOING FACILITY OPERATIONS IN AND AROUND THE SITE AREA, IS A PART OF THE SCOPE FOR THIS WORK. NOTICE TO PROCEED WITH WORK IN ANY GENERAL AREA SHALL BE OBTAINED BY THE OWNER.

12. THE CONTRACTOR WILL BE REQUIRED TO COMPLETE ALL OF THE WORK OF THIS PROJECT ACCORDING TO THESE PROPOSED DRAWINGS AND SUBSEQUENT CLARIFICATION. A STRICT PERIOD OF PERFORMANCE, INCLUDING DATES OF SUBSTANTIAL COMPLETION (FOR ALL AND/OR PORTIONS) AND LIQUIDATION DAMAGES MAY BE AN INTEGRAL ELEMENT OF THE CONTRACT.

13. ANY SITE IMPROVEMENTS REQUIRING REMOVAL UNDER THIS CONTRACT SHALL BE PROPERLY AND LEGALLY DISPOSED OF OFF-SITE OR, OR AT THE OWNER'S OPTION, SURRENDERED/STOCKPILED IN AN APPROVED ON-SITE LOCATION PER THE DIRECTION OF THE OWNER'S REPRESENTATIVE.

14. THE CONTRACTOR IS REQUIRED TO MAINTAIN A COMPLETE "UP TO DATE" SET OF ALL CONTRACT DOCUMENTS, INCLUDING CLARIFICATIONS, CHANGE ORDERS, ETC. IN GOOD CONDITION, AT THE CONSTRUCTION SITE AT ALL TIMES. THIS SET OF DOCUMENTS WILL BE MADE IMMEDIATELY AVAILABLE FOR REVIEW BY THE OWNER'S REPRESENTATIVE AND/OR AUTHORIZED CONSULTANTS UPON REQUEST. COMPLETE "AS-BUILT" DRAWINGS AND DOCUMENT SUBMITTALS ARE ALSO A REQUIREMENT OF THIS CONTRACT.

15. MAINTENANCE WARRANTIES AND PERFORMANCE GUARANTEES MAY BE A REQUIREMENT OF THE CONTRACT - SEE SPECIFICATIONS, IF APPLICABLE.

16. NOTES AND DETAILS ON SPECIFIC DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. THE CONTRACTOR SHALL REFER TO ALL OTHER DIVISION NOTES, SHEET NOTES, DRAWING AND PROJECT CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

17. CONTRACTOR SHALL REFER TO OTHER RELATED DRAWINGS FOR ALL OTHER RELATED IMPROVEMENTS THAT WILL IMPACT THIS PROJECT AND REQUIRE COORDINATION.

GENERAL PROJECT NOTES

1. THESE PLANS PROVIDE LAYOUT AND DETAILS FOR CIVIL INFRASTRUCTURE, STRUCTURAL, HARDSCAPE, LANDSCAPE, AND IRRIGATION COMPONENTS ONLY. STRUCTURAL, AND ELECTRICAL DISCIPLINES ARE NOT INCLUDED. CONTRACTOR IS TO COORDINATE WITH OWNER FOR ANY REQUIREMENTS CONCERNING OTHER DISCIPLINES. THIS INCLUDES, BUT IS NOT LIMITED TO WATER CONNECTIONS IRRIGATION SYSTEMS AND ELECTRICAL REQUIREMENTS FOR IRRIGATION SYSTEMS, AND LIGHTING SYSTEMS. INSTALLATIONS OF THOSE ITEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS BEARING THE SAME TITLE AS THESE PLANS.

3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE WILLIAMSON COUNTY STANDARD CONSTRUCTION SPECIFICATIONS. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE STATE STATUES AND U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS (O.S.H.A.). COPIES OF O.S.H.A. STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE OBTAINED FROM O.S.H.A. @ 611 EAST 6TH STREET, ROOM 303, AUSTIN. TEXAS.

4. THE ATTENTION OF ALL PROSPECTIVE BIDDERS IS DIRECTED TO SECTION 00100 OF THE GENERAL CONDITIONS OF THE AGREEMENT. WILLIAMSON COUNTY STANDARD SPECIFICATIONS, AND TO THE STATE LAW, VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 (C) AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES WHEN OPERATION IN THE VICINITY OF ELECTRICAL LINES. IF THE CONTRACTOR CHOOSES TO USE EQUIPMENT WITH THE POTENTIAL OF COMING WITHIN THE DISTANCES PRESCRIBED BY STATUTE, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE WORK WITH THE APPROPRIATE ELECTRIC/UTILITY COMPANY.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN HIMSELF AND OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THIS PROJECT. THIS INCLUDES GAS, WATER, WASTEWATER, ELECTRICAL, TELEPHONE, CABLE TELEVISION, PETROLEUM PIPELINES AND STREET & DRAINAGE WORK. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT INSPECTOR AND PROJECT MANAGER WITHIN TWENTY-FOUR (24) HOURS.

6. SPOIL MATERIAL FROM THE CONSTRUCTION SITE SHALL BECOME PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED IN THE PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF SPOIL IN ACCORDANCE WITH REGULATIONS APPLICABLE TO THE SPOIL DISPOSAL SITE. DISPOSAL OF SPOIL WITHIN THE CITY LIMITS OF CEDAR PARK SHALL NOT OCCUR UNTIL THE CITY HAS APPROVED THE DISPOSAL AND HAS ISSUED A PERMIT, AS APPLICABLE.

7. ALL STRUCTURAL CONCRETE SHALL BE CLASS 'A' (5 SACK, 3,000 PSI 0 28 DAYS) AND ALL REINFORCING STEEL SHALL BE GRADE SIXTY UNLESS OTHERWISE NOTED.

8. THE PROPOSED QUANTITIES HERE WITHIN THESE CONSTRUCTION DOCUMENTS ARE FURNISHED AS AN AID IN THE BID PROCESS. CONTRACTOR SHALL VERIFY QUANTITIES AND REPORT ANY DISCREPANCIES PRIOR TO BID. NO SEPARATE MEASUREMENT WILL BE MADE POST AWARD OF CONTRACT.

9. CONTRACTOR WILL BE RESPONSIBLE FOR COSTS INCURRED AS A RESULT OF UTILITY RELOCATIONS PERFORMED FOR CONTRACTOR'S CONVENIENCE.

10. ANY EXISTING SIDEWALKS, CURBS, DRIVEWAYS, UTILITIES OR TREES, OUTSIDE OF THE LIMITS OF CONSTRUCTION OR THAT ARE TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION, THAT ARE DAMAGED OR REMOVED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.

11. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RE-VEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. RE-VEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF HYDRO SEED. THE TYPE OF RE-VEGETATION MUST BE EQUAL TO OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION UNLESS OTHERWISE REQUESTED BY THE PROPERTY OWNER.

12. THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE CONTRACTOR SHALL FURNISH THE OWNERS REPRESENTATIVE ACCURATE "AS-BUILTS" FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILTS" SHALL MEET WITH THE SATISFACTION OF THE PARKS DEPARTMENT PRIOR TO FINAL ACCEPTANCE.

13. PRIOR TO ANY CONSTRUCTION, WILLIAMSON COUNTY SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE COUNTY, THE CONTRACTOR(S) AND ANY OTHER AFFECTED PARTIES.

14. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE OWNER.

15. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISH GRADE PRIOR TO FINAL PAVING CONSTRUCTION.

16. THE CONTRACTOR SHALL GIVE WILLIAMSON COUNTY 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE (512.743.1920)

17. WILLIAMSON COUNTY COMMISSIONERS COURT SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.

18. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE COUNTY.

19. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.

GRADING NOTES

1. PROPOSED GRADING TO SHOW GENERAL DESIGN INTENT. FIELD ADJUSTMENTS MAY BE REQUIRED. ALL GRADING TO BE LUMP SUM. NO SEPARATE MEASUREMENT WILL BE MADE.

2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE PROPER POSITIVE DRAINAGE THROUGHOUT THE CONTRACT AREA. FIELD CONDITIONS SHALL BE VERIFIED IN CONJUNCTION WITH THE PROPOSED ELEVATIONS TO ENSURE THAT ADEQUATE DRAINAGE IS PROVIDED. REPORT DEVIATIONS OR CONFLICTS TO THE OWNER'S REPRESENTATIVE.

3. ALL DESIGN ELEVATIONS SHOWN ARE "FINISHED GRADES" UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL REFER TO DRAWINGS, DETAILS, SPECIFICATIONS REGARDING DEPTH OF SUB-GRADE MATERIALS REQUIRED TO CONSTRUCT PROJECT IMPROVEMENTS.

4. ALL TOPSOIL AND/OR DRAINAGE WAY EXCAVATION SHALL BE SAVED AND STOCKPILED IN APPROVED LOCATIONS FOR FUTURE USE.

GENERAL LEGEND

NOTE: LEGEND IS GENERIC ONLY. ALL ITEMS MAY/ MAY NOT PERTAIN TO THIS PROJECT.

CONCRETE SIDEWALK		UP LIGHT	
TRANSFORMER	T	DOWN LIGHT	
WROUGHT IRON PERIMETER FENCE		SIGN LIGHT	
WROUGHT IRON FENCE / GATE		COLUMN LIGHT	
WOOD FENCE		PERIMETER LIGHT	
HANDRAIL		PROPOSED AREA DRAIN ELEVATION	A.D. 00.00
SAFETY RAIL		PROPOSED CATCH BASIN ELEVATION	C.B. 00.00
PROPOSED CONTOUR	00	PROPOSED TOP OF WALL ELEVATION	T.W. 00.00
EXISTING TREE (TO REMAIN)		PROPOSED TOP OF COLUMN ELEVATION	T.C. 00.00
EXISTING TREE (TO BE REMOVED)		PROPOSED SPOT ELEVATION	00.00
CATCH BASIN		CURB CUT FOR DRAINAGE	
ATRIUM DRAIN		CURB CUT	
DECK DRAIN		NO CURB	
DIRECTION OF DRAINAGE		WHEEL STOP	
DECOMPOSED GRANITE TRAIL		TOP OF CURB ELEVATION	T.C. XX.XX
ENTRY CALL BOX / 911 CALL BOX		TOP OF PAVEMENT ELEVATION	T.P. XX.XX
ELEVATION DETAIL		RETAINING WALL	
SECTION DETAIL			

LAYOUT NOTES

1. ALL WORK SHOWN SHALL BE FIELD STAKED OR OTHERWISE DENOTED AND SUBJECT TO FIELD VERIFICATION, REVIEW, AND APPROVAL BY THE OWNER'S REPRESENTATIVE OR OWNER PRIOR TO ANY CONSTRUCTION OR DEMOLITION. FIELD STAKING OF ALL PROPOSED WORK AND ADJACENT CONSTRUCTION (EVEN IF FUTURE WORK BY OTHERS) MAY BE REQUIRED BY THE OWNER'S REPRESENTATIVE PRIOR TO APPROVAL OF ALL IMPROVEMENTS AND ADEQUATE STAKES SHALL BE PROVIDED BY CONTRACTOR'S SURVEYOR.

2. TO EXPEDITE THE LAYOUT OF THE SITE, LAYOUT COORDINATES AND/OR GRIDS MAY HAVE BEEN ESTABLISHED IN THE DRAWINGS. THESE POINTS SHALL BE FIELD STAKED BY THE CONTRACTOR'S SURVEYOR AS A PART OF THIS CONTRACT. THE ESTABLISHMENT OF THESE POINTS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION IN THE AREAS AND WILL ASSIST THE CONTRACTOR IN THE LAYOUT OF ALL SITE IMPROVEMENTS AS SHOWN ON DRAWINGS OR OTHERWISE.

3. THE CONSTRUCTION TOLERANCES FOR THIS PROJECT ARE MINIMAL AND THE DIMENSIONS SHOWN ARE TO BE STRICTLY ADHERED TO.

4. COMPUTED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.

5. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE COMPLETE-IN-PLACE SYSTEMS AND A COMPLETE PROJECT, AND ANY INTERMITTENT OR PERIODIC APPROVALS RECEIVED FOR PORTIONS OF WORK, STAKES, GRADES, OR FORMS (BY THE OWNER'S REPRESENTATIVE, ARCHITECTS, ENGINEERS, OR OTHERS) SHALL NOT WAIVE THE CONTRACTOR'S REQUIREMENTS TO COMPLY WITH THE INTENT OF ANY AND ALL PORTIONS OF THIS CONTRACT.

6. FIELD STAKED LOCATIONS FOR WALKS, ROADS, SWALES, WALLS, CURBS, STRUCTURES, ETC. MAY BE REQUESTED BY THE OWNER'S REPRESENTATIVE. SPECIFIC LAYOUT INFORMATION WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER'S REPRESENTATIVE IN AUTOCAD (.DWG) FORMAT WHEN REQUESTED.

7. IT IS THE INTENT AND REQUIREMENT OF THIS CONTRACT TO PROVIDE CURVILINEAR WALKS, WALLS, CURBS, AND BED EDGES WITH SMOOTH TRANSITIONS AND ARCS. STRAIGHT SEGMENTS AND ABRUPT TRANSITIONS WILL NOT BE ACCEPTED UNLESS SHOWN AS SUCH IN THE PLANS.

8. WHEN INDICATED ON THE DRAWINGS, IMPROVEMENTS THAT ARE TO BE COORDINATED ON-SITE WITH THE OWNER'S REPRESENTATIVE WILL BE FIELD STAKED OR PAINTED FOR APPROVAL OF LAYOUT BY THE OWNER'S REPRESENTATIVE OR OWNER PRIOR TO INSTALLATION. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF 24 HOURS IN ADVANCE FOR REVIEW. REJECTED WORK MUST BE REMOVED AND REPLACED.

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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REGISTERED LANDSCAPE ARCHITECTED BRENT A. BAKER 2091 STATE OF TEXAS 10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

G0.01
GENERAL CONSTRUCTION NOTES

STAGING AREA FOR CONSTRUCTION

1. ALL CONSTRUCTION ACTIVITIES, INCLUDING MATERIAL STORAGE AND STAGING AREA, SHALL BE WITHIN THE CONSTRUCTION AREA INDICATED ON THE DRAWINGS. ANY ADDITIONAL AREAS REQUIRED FOR CONSTRUCTION AT THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE APPROVED BY THE PROJECT MANAGER. PERMITS AND ASSOCIATED COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT ALL LOCATIONS USED FOR STORING CONSTRUCTION EQUIPMENT, MATERIALS, AND STOCKPILES OF ANY TYPE WITHIN THE CONSTRUCTION LIMITS SHALL BE APPROVED BY THE PROJECT MANAGER. USE OF THESE AREAS FOR THESE PURPOSES WILL BE RESTRICTED TO THOSE LOCATIONS WHERE DRIVER SIGHT DISTANCE TO BUSINESS AND SIDE STREET INTERSECTIONS IS NOT OBSTRUCTED AND OTHER LOCATIONS WHERE AN UNSIGHTLY APPEARANCE, AS DETERMINED BY THE ENGINEER, WILL NOT EXIST.
3. ALL LOOSE MATERIAL SHALL BE COMPLETELY REMOVED FROM THE ROADWAY PRIOR TO OPENING TO TRAFFIC.

TRENCH SAFETY NOTES

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHARED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED.
2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN EMPLOYEES ARE REQUIRED TO BE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25FEET LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREAS SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE SUBMITTED TO AND ACCEPTED BY THE GOVERNING JURISDICTION, AND, A BID ITEM FOR IMPLEMENTATION OF TRENCH SAFETY SYSTEMS IS ADDED TO THE CONTRACT BY CHANGE ORDER.

CONSTRUCTION NOTES

1. WHENEVER EXISTING UTILITIES, NOT INDICATED ON PLANS, PRESENT OBSTRUCTIONS TO GRADE AND ALIGNMENT OF PIPE, IMMEDIATELY NOTIFY THE OWNERS REPRESENTATIVE, WHO WITHOUT DELAY, WILL DETERMINE WHENEVER EXISTING IMPROVEMENTS ARE TO BE RELOCATED, OR GRADE AND ALIGNMENT OF PIPE IMPROVEMENTS ARE TO BE RELOCATED, OR GRADE AND PIPE CHANGES. WHERE NECESSARY TO MOVE SERVICES, POLES, GUY WIRE, PIPELINES, OR OTHER OBSTRUCTIONS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNERS OF THE UTILITIES AND RELOCATE THESE AT THE CONTRACTOR'S SOLE EXPENSE. OWNER WILL NOT BE LIABLE FOR RELOCATION COSTS OR DAMAGES ON ACCOUNT OF DELAYS DUE TO CHANGES MADE BY OWNERS OF PRIVATELY OWNED UTILITIES WHICH HINDER THE PROGRESS OF WORK. CONTRACTOR SHALL FIELD VERIFY AND FLAG ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK IN AN AREA.
2. ALL CONSTRUCTION ACTIVITIES, INCLUDING ACCESS, EGRESS, TRAVEL, STOCK PILING, ETC. ARE TO BE CONFINED TO AREAS IDENTIFIED BY THE OWNERS REPRESENTATIVES.
3. TREE DAMAGE AND CLEARING OUTSIDE THE CONSTRUCTION LIMITS AS SHOWN ON PLANS IS PROHIBITED.
4. ALL CONSTRUCTION SHALL BE CONTAINED IN THE CONSTRUCTION LIMITS SHOWN ON PLANS.
5. CONTRACTOR SHALL REPLACE OR REPAIR AT HIS OWN EXPENSE ANY DAMAGED FENCE, DRIVES, MAILBOXES, CURBS, SIDEWALKS, TRAILS, UTILITIES, ETC. TO THEIR ORIGINAL CONDITION IMMEDIATELY FOLLOWING TIME OF DAMAGE.

TRAFFIC CONTROL NOTES

1. TRAFFIC CONTROL MEASURES AND BARRICADES SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND IN OTHER LOCATIONS DEEMED NECESSARY BY THE ENGINEER, FOR THE PROTECTION LIFE AND PROPERTY. UNDER NO CIRCUMSTANCES WILL ANY EXISTING ROAD BE PERMITTED TO REMAIN CLOSED OVER A WEEKEND. NO SEPARATE PAY WILL BE MADE FOR THIS ITEM. COSTS FOR THIS ITEM SHALL BE SUBSIDIARY TO OTHER ITEMS OF WORK.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A TRAFFIC CONTROL PLAN SEALED BY AN ENGINEER. NO SEPARATE PAY WILL BE MADE FOR THIS ITEM.

TREE PROTECTION NOTES

1. THE LANDSCAPE ARCHITECT SHALL BE CONTACTED AT (512) 534-8680 FOR THE INSPECTION OF ALL TREE PROTECTION PRIOR TO ANY EXCAVATION RELATED TO THE PROJECT.
2. THE LANDSCAPE ARCHITECT SHALL BE CONTACTED REGARDING ALL POSSIBLE PRUNING NEEDS DUE TO CONSTRUCTION. THE CONTRACTOR SHALL NOT PRUNE A TREE WITHOUT THE APPROVAL OF THE URBAN FORESTER.
3. ALL TREES SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
4. ANY TREE SHOWN TO BE PRESERVED ON THE PLAN THAT IS DAMAGED OR LOST DURING THE CONSTRUCTION PROCESS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR. THE VALUE OF THE TREE DAMAGED OR LOST WILL BE BASED ON THE APPRAISAL OF THE GOVERNING JURISDICTION.
5. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
6. PROTECTIVE FENCES SHALL SURROUND THE TREE OR GROUPS OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMITS OF BRANCHES (DRIP LINE), OR, FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   a. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
   b. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6" CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE GOVERNING JURISDICTION.
   c. WOUNDS TO EXPOSED ROOTS, TRUNK, OR LIMBS BY MECHANICAL EQUIPMENT.
   d. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE CONCRETE TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING AREAS:
   a. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT FENCE APPROXIMATELY 2 TO 4 FEET BEHIND THE AREA IN QUESTION.
   b. WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP- LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   c. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING.
   d. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS.
8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
10. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
11. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
12. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF THE TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
13. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL PRUNING SHALL BE APPROVED OR COMPLETED BY A CERTIFIED ARBORIST.
14. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY, (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).
15. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NONCOMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.
16. WHERE ANY OF THE ABOVE EXCEPTIONS TO FENCING AT A TREE'S DRIP LINE RESULT IN AREAS OF UNPROTECTED ROOT ZONES (UNDER DRIP LINES) WHERE HEAVY TRAFFIC IS EXPECTED, COVER THOSE AREAS WITH 4 INCHES OF ORGANIC MULCH OR GRAVEL TO MINIMIZE SOIL COMPACTION.
17. ALL GRADING WITHIN PROTECTED ROOT ZONES SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
18. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE ROOT ZONE.

STAGING AND PROJECT SITE ACCESS NOTES

1. CONSTRUCTION ENTRANCE OFF OF BRUSHY CREEK SHALL ONLY BE USED FOR MATERIAL DELIVERY AND EQUIPMENT ACCESS. EXISTING SIDEWALK, CONCRETE CURB, AND RAMP SHALL BE PROTECTED FROM DAMAGE. ANY DAMAGE TO EXISTING SIDEWALK, CONCRETE CURB AND RAMP SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL USE EXTREME CAUTION IN ENTERING AND EXITING THE SITE AS BRUSHY CREEK IS A HEAVILY TRAVELED PEDESTRIAN AND VEHICULAR CORRIDOR. CONTRACTOR SHALL PROVIDE AND/OR INSTALL ALL NECESSARY TRAFFIC CONTROL MEASURES AT CONTRACTORS EXPENSE.
2. CONTRACTOR SHALL NOT BLOCK VEHICULAR OR PEDESTRIAN TRAFFIC ALONG ANY STREET UNLESS OTHERWISE IDENTIFIED ON THE DRAWINGS OR AUTHORIZED BY THE OWNER/OWNERS REPRESENTATIVE. ANY ROAD OR SIDEWALK CLOSURE CONTRACTOR PROPOSES MUST BE ACCOMPANIED BY A TRAFFIC CONTROL PLAN AND IF AUTHORIZED, IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN. TRAFFIC CONTROL PLAN AND MEASURES SHALL BE AT THE CONTRACTORS EXPENSE AND SHALL BE CONSIDERED SUBSIDIARY TO OTHER PROJECT BID ITEMS.
3. ANY LOOSE MATERIAL, DIRT, OR DEBRIS ON THE ROADWAY OR EXISTING SIDEWALK SHALL BE COMPLETELY REMOVED IMMEDIATELY.
4. THE STAGING AREA FOR THIS PROJECT SHALL BE LOCATED PER PLANS AND APPROVED BY WILLIAMSON COUNTY.
5. CONTRACTOR SHALL STORE ALL EQUIPMENT IN THE STAGING AREA AT THE END OF EACH DAY. NO EQUIPMENT SHALL BE ALLOWED TO BE STORED OVERNIGHT ON THE PROJECT SITE, UNLESS AUTHORIZED BY THE PROJECT MANAGER.
6. CONTRACTOR SHALL MINIMIZE THE AMOUNT OF MATERIALS THAT ARE STORED ON THE PROJECT SITE OVERNIGHT. ANY MATERIALS LEFT ON·SITE AT THE END OF THE DAY SHALL BE SECURED TO PREVENT HARM, VANDALISM OR ANY RELATED ACTIVITY THAT COULD BE UNSAFE TO THE PEDESTRIANS, VEHICLES, OR BUILDINGS ALONG BRUSHY CREEK.

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2094 STATE OF TEXAS 10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

G0.02
GENERAL CONSTRUCTION NOTES

ACCESSIBLE WALKWAY/TRAIL NOTES

1. ALL WALKWAYS/TRAILS SHALL COMPLY WITH CABO/ANSI117.1-1994 AND THE TEXAS ACCESSIBILITY STANDARDS (TAS) OF THE ARCHITECTURAL BARRIERS ACT, ARTICLE 9102, TEXAS CIVIL STATUTES. THE TERM TRAIL INCLUDES ALL PEDESTRIAN WALKING SURFACES.

2. THE CROSS SLOPE OF AN ACCESSIBLE WALKWAY SHALL NOT EXCEED 1 VERTICAL: 48 HORIZONTAL (<2%).

3. CHANGES IN LEVEL UP TO 1/4 1NCH (6MM) MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4 1NCH AND 1/2 1NCH (6MM AND 13MM) SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1VERTICAL: 2 HORIZONTAL.

4. IF AN ACCESSIBLE WALKWAY HAS CHANGES IN LEVEL GREATER THAN 1/2 INCH, THEN A RAMP IS REQUIRED. AN ACCESSIBLE WALKWAY DOES NOT INCLUDE STAIRS OR STEPS.

5. GROUND AND FLOOR SURFACES ALONG AN ACCESSIBLE WALKWAY AND IN ACCESSIBLE SPACES INCLUDING FLOORS, WALKS, RAMPS, AND CURB RAMPS SHALL BE STABLE, FIRM AND SLIP-RESISTANT.

6. ANY PART OF AN ACCESSIBLE WALKWAY WITH A RUNNING SLOPE GREATER THAN 1 VERTICAL: 20 HORIZONTAL (5%) SHALL BE CONSIDERED A RAMP. THE CROSS SLOPE ON A RAMP SHALL NOT EXCEED 1 VERTICAL: 48 HORIZONTAL (2%).

7. THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION SHALL BE 1 VERTICAL : 12 HORIZONTAL (8.33%). THE MAXIMUM RISE FOR ANY RUN SHALL BE 30 INCHES.

8. THE MINIMUM CLEAR WIDTH OF A RAMP 30 FEET OR LESS IN LENGTH SHALL BE 361NCHES (915 MM). RAMPS MORE THAN 30 FEET IN LENGTH SHALL HAVE A MINIMUM CLEAR WIDTH OF 441NCHES (1118 MM).

9. SIDEWALK INTERSECTIONS AND "PLAZA AREAS" SHALL BE LESS THAN 1.5% IN ALL DIRECTIONS

10. RAMPS SHALL HAVE LEVEL LANDINGS (2 EACH RAMP RUN). LANDINGS SHALL BE AT LEAST AS WIDE AS THE WIDTH OF THE RAMP RUN LEADING TO IT. THE LENGTH OF THE LANDING SHALL BE 60 INCHES CLEAR. IF RAMPS CHANGE DIRECTIONS AT LANDINGS, THE MINIMUM LANDING SIZE SHALL BE 60 INCHES BY 60 INCHES (1525MM BY 1525MM).

11. IF A RAMP RUN HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECT GREATER THAN 72 INCHES, THEN THE RAMP SHALL HAVE HANDRAILS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. HANDRAILS SHALL COMPLY WITH CABO/ANSI117.H994 AND THE TEXAS ACCESSIBILITY STANDARDS OF THE ARCHITECTURAL BARRIERS ACT, ARTICLE 9102, TEXAS CIVIL STATUTES.

12. WHEN AN ACCESSIBLE TRAIL CROSSES AN INTERSECTING ROADWAY CURB LINE OR A CURB RAMP IS REQUIRED ALONG AN ACCESSIBLE TRAIL, A DETECTABLE WARNING SURFACE IS REQUIRED. THE DETECTABLE WARNING SURFACE SHALL BE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES. TEXTURE FOR CURB RAMPS IN THE RIGHT-OF-WAY SHALL BE TRUNCATED DOMES.

13. A DETECTABLE WARNING SURFACE IS NOT REQUIRED WHERE AN ACCESSIBLE WALKWAY CROSSES A DRIVEWAY.

14. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCH (23MM), A HEIGHT OF NOMINAL 0.2 INCH AND A CENTERT·O-CENTER SPACING OF NOMINAL 2.35 INCHES AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT·ON·DARK OR DARK·ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE INTEGRAL PART OF THE WALKING SURFACE.

15. IF A CURB RAMP IS LOCATED WHERE A PEDESTRIAN MUST WALK ACROSS THE RAMP, OR WHERE THE CURB RAMP IS NOT PROTECTED BY HANDRAILS OR GUARDRAILS, IT SHALL HAVE FLARED SIDES. THE MAXIMUM SLOPE OF THE FLARED SIDES SHALL BE 1 VERTICAL: 10 HORIZONTAL (10%). IF THE LANDING AT THE TOP OF THE CURB RAMP IS LESS THAN 4 FEET CLEAR THAN THE FLARE SHALL BE 1VERTICAL: 12.5 HORIZONTAL (8%). CURB RAMPS WITH RETURNED CURBS MAY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. BUILT-UP CURBS ARE NOT ALLOWED.

16. THE ENTIRE LENGTH OF THE WALKWAY SHALL HAVE A MINIMUM CLEAR HEIGHT OF 80 INCHES PER TAS-4.4.2.

17. IF CONTRACTOR FINDS ANYTHING ON THE PLANS THAT DIFFERS FROM THE ABOVE NOTES, THE CONTRACTOR SHALL NOTIFY THE OWNER AND PROJECT LANDSCAPE ARCHITECT IMMEDIATELY. CONTRACTOR SHALL NOT CONSTRUCT WALKWAY ELEMENTS THAT DIFFER FROM THESE ACCESSIBILITY NOTES UNLESS AUTHORIZED BY OWNER/OWNER'S REPRESENTATIVE.

QUALITY CONTROL NOTES

1. LAYOUT AND DIMENSION CONTROLS - PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT REGISTERED PROFESSIONAL LAND SURVEYOR TO SET CONTROL DIMENSIONS AND ELEVATIONS FOR THE ENTIRE PROJECT. THE SURVEYOR SHALL REVIEW THE PLANS THOROUGHLY AND POINT OUT ANY KNOWN OR DISCOVERED DISCREPANCIES TO THE OWNER AND/OR DESIGN CONSULTANT. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION,THE SURVEYOR SHALL RUN A TRANSVERSE LOOP ON THE SITE. THE SURVEYOR SHALL VERIFY AND CONFIRM IN WRITING TO THE CONTRACTOR THAT THE BENCH MARKS ARE CORRECT WITH REGARD TO THE DIFFERENCE IN THEIR ELEVATIONS AND WITH REGARD TO THE ELEVATIONS OF AT LEAST FOUR CHECKPOINTS EVENLY DISTRIBUTED ON THE SITE FOR WHICH ELEVATIONS ARE GIVEN. CHECKPOINTS MAY BE ANY MANMADE OR NATURAL FEATURE THAT CAN BE READILY IDENTIFIED AND MEASURED.

2. CONCRETE FORM WORK AND REINFORCEMENT·THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE AND/OR INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO THE PLANNED PLACEMENT OF CONCRETE. THE CONSULTANT AND/OR INSPECTOR MUST HAVE OBSERVED AND APPROVED THE FORM WORK AND REINFORCEMENT PRIOR TO ANY PLACEMENT OF CONCRETE.

3. CONCRETE FINISH AND SAW JOINTS- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON THE SITE SAMPLE PANELS 5 FEET BY 5 FEET IN SIZE FOR ALL PAVEMENT FINISHES AND COLORS. THE SURFACE FINISHES SHALL BE AS APPROVED BY THE DESIGN CONSULTANT AND/OR OWNER. ANY CONCRETE PLACED WITH AN IMPROPER FINISH SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. ALL SAW JOINTS SHALL BE SAWN WITHIN 24 HOURS OF CONCRETE PLACEMENT. ANY CONCRETE SAWN LATER THAN THIS WHICH,IN THE OPINION OF THE DESIGN CONSULTANT AND/OR OWNER'S REPRESENTATIVE,HAS EXCESSIVE SHRINKAGE CRACKS DUE TO NOT HAVING BEEN SAWN IN A TIMELY MANNER,SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

4. ALIGNMENT AND TANGENCY OF PAVEMENTS- THE EDGES OF ALL FINISHED PAVING SHALL BE STRAIGHT OR SMOOTH CURVES (AS DELINEATED ON THE PLANS) WITH NO INTERRUPTIONS SUCH AS CHORDS,WAVES,JOGS,OR MISSED TANGENTS. PAVEMENTS WITH SUCH INTERRUPTIONS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

5. NO CONCRETE COLD JOINTS ARE ACCEPTABLE UNLESS APPROVED BY THE DESIGN CONSULTANT AND/OR OWNER.

GRADING AND EARTHWORK NOTES

1. SEE PROJECT MANUAL FOR EXPERTISE AND EXPERIENCE REQUIRED OF CONTRACTOR.

2. CONTRACTOR SHALL HAUL OFF ALL WASTE, DEBRIS AND TRASH AS NECESSARY DURING EXCAVATION. IMPORT APPROVED FILL MATERIAL AS NECESSARY TO COMPLETE THE WORK. NO SEPARATE PAYMENTS WILL BE MADE FOR THESE ITEMS. ALL COSTS TO BE INCLUDED IN THE BASE BID.

3. BASE BID SHALL INCLUDE ALL EARTHWORK NECESSARY TO ESTABLISH THE FINISHED GRADES SHOWN ON THE PLANS. NO SEPARATE PAYMENT WILL BE MADE.

4. CROSS-SLOPES OF EARTHEN BERMS AND SLOPES SHALL NOT EXCEED A GRADIENT OF 4:1(25%).

5. EXISTING TOPOGRAPHIC INFORMATION TAKEN FROM ON THE GROUND SURVEY AND RECORD DRAWING INFORMATION. SOME WALKWAYS ARE DESIGNED AND INTENDED TO FOLLOW EXISTING TOPOGRAPHY, REFER GRADING PLANS. WALKWAY ALIGNMENTS MAY REQUIRE VERTICAL AND/OR HORIZONTAL ADJUSTMENTS DURING CONSTRUCTION TO ACCOMMODATE ACTUAL FIELD CONDITIONS. ALIGNMENT CHANGES SHALL BE APPROVED BY THE DESIGN CONSULTANT AND OWNER.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING UTILITY VALVE BOXES, CLEAN-OUTS AND/OR MANHOLES ENCOUNTERED IN THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH SITE TO BE AWARE OF ALL EXISTING UTILITY VALVE BOXES, CLEAN·OUTS AND MANHOLES.

TCEQ CONTRIBUTING ZONE PLAN GENERAL NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION SHOULD BE PROVIDED TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION SHOULD INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR WITH THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.

3. NO TEMPORARY ABOVE GROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL

.

4. PRIOR TO COMMENCING CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE SWPPP SECTION OF THE APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE RE-VEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

5. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).

6. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.

7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

8. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE AND STORED ON-SITE MUST HAVE PROPER E&S CONTROLS INSTALLED.

9. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND CONSTRUCTION ACTIVITIES WILL NOT RESUME WITHIN 21 DAYS. WHEN THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

11. THE HOLDER OF ANY APPROVED CONTRIBUTING ZONE PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

    A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;

    B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;

    C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER AND HYDROLOGICAL CONNECTED SURFACE WATER; OR

    D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED IN A CONTRIBUTING ZONE PLAN AS UNDEVELOPED.

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

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SUBMISSIONS | REVISIONS::

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REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2094 STATE OF TEXAS 10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

G0.03
GENERAL CONSTRUCTION NOTES

Williamson County, Texas

10/19/2017 8:05 AM



LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (3,433 LF)
- TP — TREE PROTECTION (990 LF)
- SECURITY FENCE (4,997 LF)
- STABILIZED CONSTRUCTION ENTRANCE (3,552 SF)
- TOTAL SITE REVEGETATION (37 LB)

KEY NOTES

1	TEMPORARY SPOILS & STORAGE AREA
2	STAGING AREA 1
3	STAGING AREA 2, EXISTING COUNTY SPOILS PILE TO REMAIN & CONTRACTOR WORK AROUND
4	MAINTAIN ACCESS POINT FOR COUNTY MAINTENANCE, TEMPORARY GATE TO BE INSTALLED FOR COUNTY USE
5	EROSION MAT (TRM) LANDLOK300 OR APPROVED EQUAL
6	STABILIZED CONSTRUCTION ENTRANCE, REF. DTL/EV0.11
7	CONCRETE TRUCK WASHOUT AREA, REF. DTL/EV0.11
8	CONSTRUCTION OF LOW WATER CROSSING ACCESS. CONTRACTOR TO VERIFY LOCATION IN FIELD AND PROVIDE APPROPRIATE STRUCTURE FOR TRAIL SEGMENT CONSTRUCTION.

22x34
100'
SCALE: 1"=100'-0"

11x17
200'
SCALE: 1"=200'-0"

0 50 100 200 300

SUBMISSIONS | REVISIONS::

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2091
STATE OF TEXAS
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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

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designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV0.01
KEY MAP & OVERALL EROSION CONTROL, SEDIMENTATION PLAN
4 OF 54

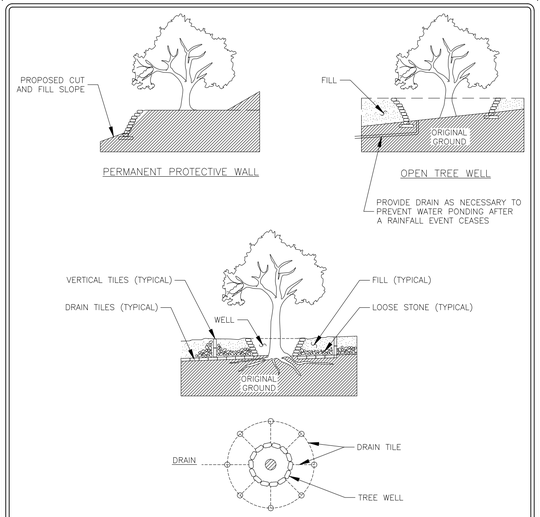
Bid 1710-197

Williamson County, Texas

1. ALL TREES NOT LOCATED WITHIN THE LIMITS OF CONSTRUCTION AND OUTSIDE OF DISTURBED AREAS SHALL BE PRESERVED. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL TREES TO BE PRESERVED FROM HIS ACTIVITIES.
2. ALL TREES SHOWN TO BE RETAINED WITHIN THE LIMITS OF CONSTRUCTION ON THE PLANS, SHALL BE PROTECTED DURING CONSTRUCTION WITH FENCING. SEE: TREE PROTECTION TREE WELLS (EC-02), TREE PROTECTION TREE LOCATION (EC-03) AND TREE PROTECTION FENCE-CHAIN LINK (EC-04).
3. TREE PROTECTION FENCES SHALL BE ERECTED ACCORDING TO CITY STANDARDS FOR TREE PROTECTION, INCLUDING TYPES OF FENCING AND SIGNAGE.
4. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING) AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
5. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
6. FENCES SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES, LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE) OR CRITICAL ROOT ZONE (CRZ), WHICHEVER IS GREATER; AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   6A. SOIL COMPACTION IN CRZ AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIAL.
   6B. CRZ DISTURBANCES DUE TO GRADE CHANGES OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE FORESTRY MANAGER.
   6C. WOUNDS TO EXPOSED ROOTS, TRUNK, OR LIMBS BY MECHANICAL EQUIPMENT
   6D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING TREE FENCES AT THE TREE DRIPLINES OR CRZ, WHICH EVER IS GREATER, MAY BE PERMITTED IN THE FOLLOWING CASES:
   7A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, OR TREE WELL;
   7B. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   7C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
   7D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE FORESTRY MANAGER TO DISCUSS ALTERNATIVES.
8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE THAT IS CLOSER THAN 5 FEET TO A TREE TRUNK, THE TRUNK SHALL BE PROTECTED BY STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES UNDER THE DRIPLINE OR CRZ, WHICHEVER IS GREATER, THOSE AREAS SHOULD BE COVERED WITH 4 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION.
10. ALL GRADING WITHIN CRZ AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA.
11. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL AND BACKFILLED WITH GOOD QUALITY TOP SOIL WITHIN TWO DAYS. IF EXPOSED ROOT AREAS CANNOT BE BACKFILLED WITHIN 2 DAYS, AN ORGANIC MATERIAL WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION SHALL BE PLACED TO COVER THE ROOTS UNTIL BACKFILL CAN OCCUR.
12. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, A CLEAN CUT SHALL BE MADE WITH A ROCK SAW OR SIMILAR EQUIPMENT, IN A LOCATION AND TO A DEPTH APPROVED BY THE FORESTRY MANAGER, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
13. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES WILL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS ARE TO BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON LEAVES.
14. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, A PLASTIC VAPOR BARRIER SHALL BE PLACED BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE CRZ.
15. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
16. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN FOUR (4) INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OR CRZ OF TREES, WHICHEVER IS GREATER. NO TOPSOIL IS PERMITTED ON ROOT FLARES OF ANY TREE.
17. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND CONSTRUCTION EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS. ALL PRUNING MUST BE DONE ACCORDING TO CITY STANDARDS AND AS OUTLINED IN LITERATURE PROVIDED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA PRUNING TECHNIQUES).
18. ALL OAK TREE CUTS, INTENTIONAL OR UNINTENTIONAL, SHALL BE SEALED WITH AN APPROVED PRUNING SEALER IMMEDIATELY (WITHIN 10 MINUTES). TREE PAINT MUST BE KEPT ON SITE AT ALL TIMES.
19. THE FORESTRY MANAGER HAS THE AUTHORITY TO REQUIRE ADDITIONAL TREE PROTECTION BEFORE OR DURING CONSTRUCTION.
20. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED. REFER TO THE CITY OF ROUND ROCK TREE TECHNICAL MANUAL FOR APPROPRIATE REMOVAL METHODS.
21. PRIOR TO CONSTRUCTION, ALL LOWER TREE LIMBS OVER ROADWAYS MUST BE PRUNED TO A HEIGHT OF 14 FEET USING THE TECHNIQUES DESCRIBED IN THE CITY OF ROUND ROCK TREE TECHNICAL MANUAL.
22. DEVIATIONS FROM THE ABOVE REQUIREMENTS AND NEGLIGENT DAMAGE TO TREES MAY BE CONSIDERED AS ORDINANCE VIOLATIONS.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER. ✳

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	TREE PROTECTION NOTES	EC-01
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.

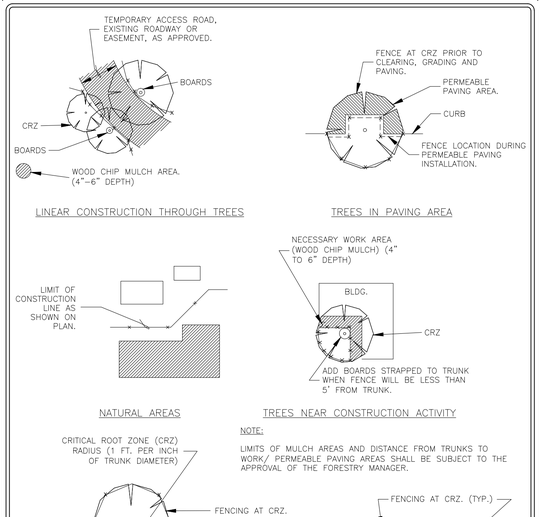


NOTE:

LOCATION, TYPE, DEPTHS AND CONSTRUCTION SPECIFICATIONS OF FILL, DRAINS AND WALLS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER. ✳

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	TREE PROTECTION TREE WELLS	EC-02
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.

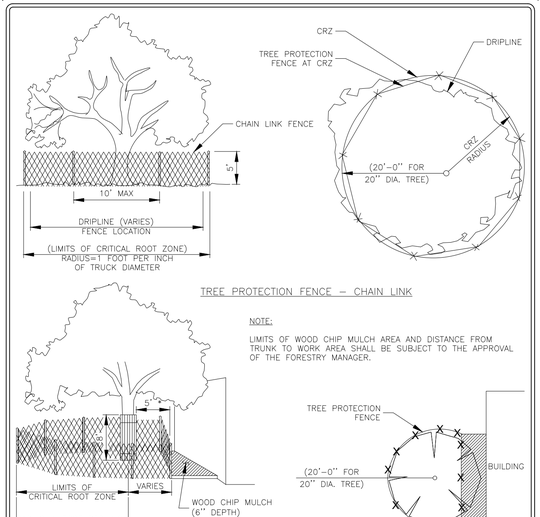


NOTE:

LIMITS OF MULCH AREAS AND DISTANCE FROM TRUNKS TO WORK/ PERMEABLE PAVING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

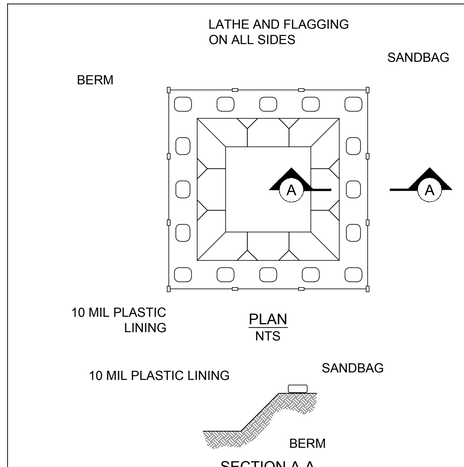
FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER. ✳

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	TREE PROTECTION FENCE LOCATIONS	EC-03
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.



FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER. ✳

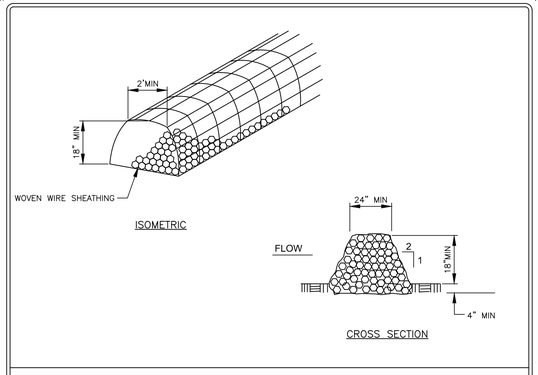
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	TREE PROTECTION FENCE CHAIN LINK	EC-04
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.



INSTALLATION NOTES:
1. 10' MIN. OR AS REQUIRED TO CONTAIN WASTE CONCRETE.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

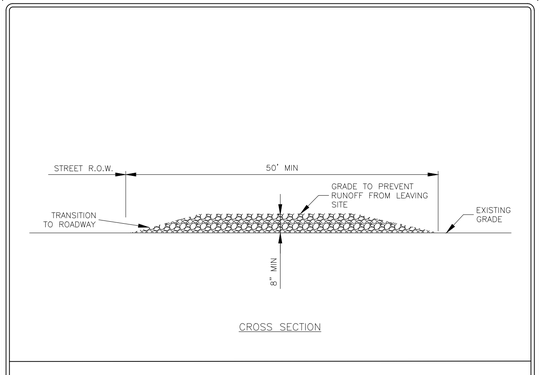
MAINTENANCE NOTES:
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE COUNTY.
4. INSPECT WEEKLY, DURING AND AFTER EVERY STORM EVENT.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	CONCRETE WASHOUT DETAIL	EC-11
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.



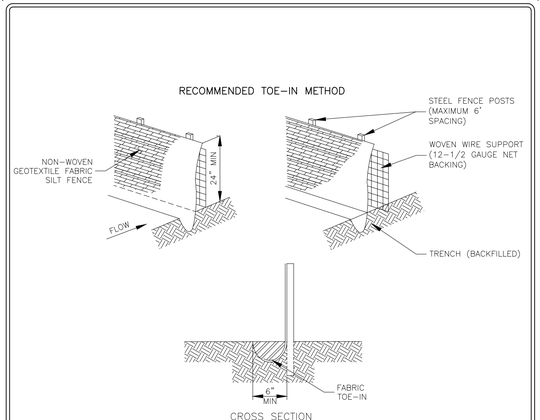
NOTES:
1. USE ONLY OPEN GRADED ROCK (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/ OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH OF 6", THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTATION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	ROCK BERM DETAIL	EC-12
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.



NOTES:
1. STONE SIZE SHALL BE 3" – 8" OPEN GRADED ROCK.
2. THICKNESS OF CRUSHED STONE PAD TO BE NOT LESS THAN 8".
3. LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY, AND WIDTH NOT LESS THAN FULL WIDTH OF INGRESS/EGRESS.
4. ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
6. AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	STABILIZED CONSTRUCTION ENTRANCE DETAIL	EC-09
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.



NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MIN. OF ONE (1') FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-25-11 DATE	SILT FENCE DETAIL	EC-10
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		ROUND ROCK, TEXAS PURSUE. PASSION. PRIORITY.

✳ FOR QUESTIONS CONCERNING DETAILS, CONTACT WILLIAMSON COUNTY PARKS & RECREATION DEPARTMENT

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

studio 16:19
design • collaborate • solve • impact
1717 n. in 35, suite 308 round rock, texas 78664
p 512.534.8680 studio1619.com

REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2091 STATE OF TEXAS 10-11-17

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structural engineer ::
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owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

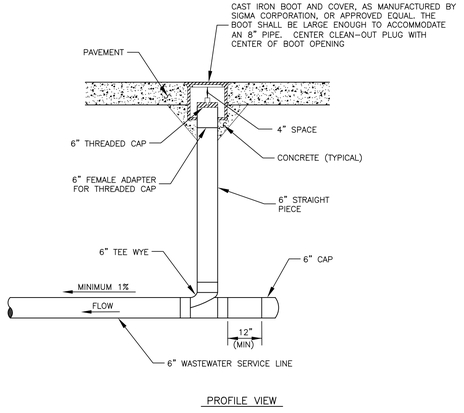
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EVo.11
OVERALL EROSION CONTROL& SEDIMENTATION DETAILS
5 OF 54

10/16/2017 8:05 AM

Bid 1710-197
Williamson County, Texas

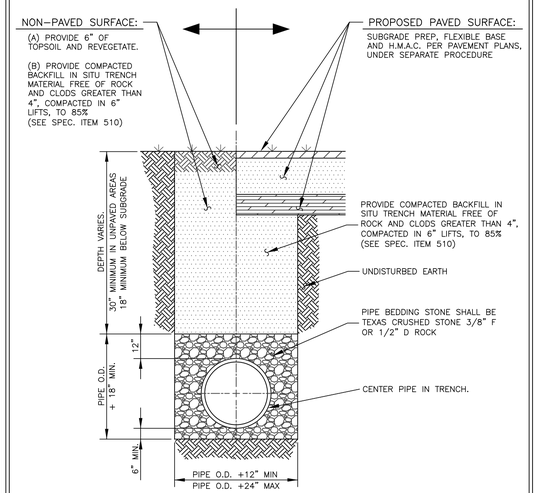


PROFILE VIEW

NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

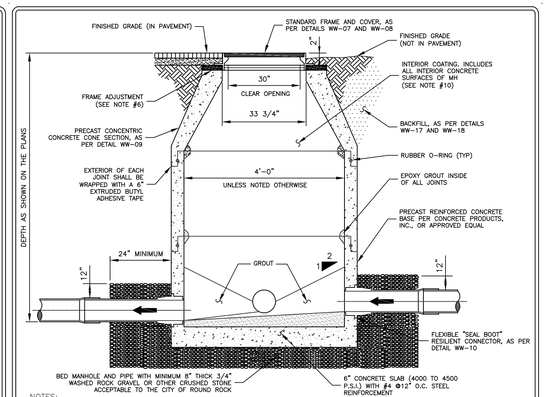
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-13
APPROVED 12-01-10 DATE	WASTEWATER SERVICE CLEAN-OUT DETAIL (PAVED SURFACES)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

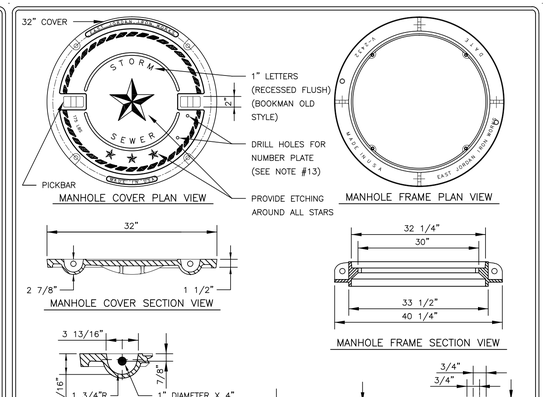
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-18
APPROVED 04-01-10 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST ASTM C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, AS MANUFACTURED BY LABTECH, INCORPORATED, OR EQUAL, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MIN. THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

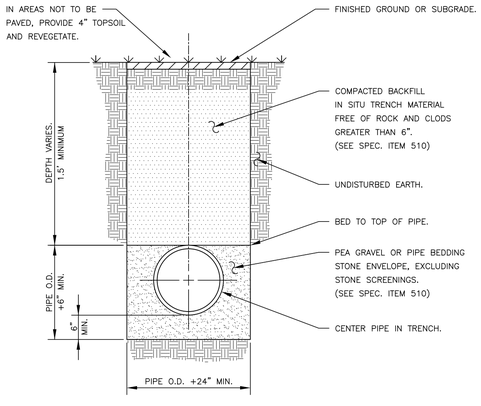
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-01
APPROVED 12-04-13 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-2432-3 (PRODUCT NUMBER: 42432032), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432072), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. BOLTS SHALL BE 5/8"-11NC X 2" LONG HEX STAINLESS STEEL WITH WASHER.
13. MANUFACTURER SHALL DRILL 2-3/16"X1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

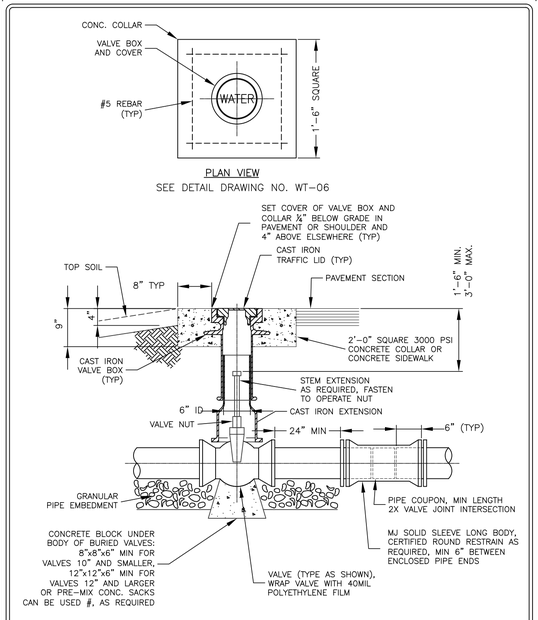
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: DR-05
APPROVED 08-09-05 DATE	BOLTED STORMSEWER MANHOLE COVER AND FRAME DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		



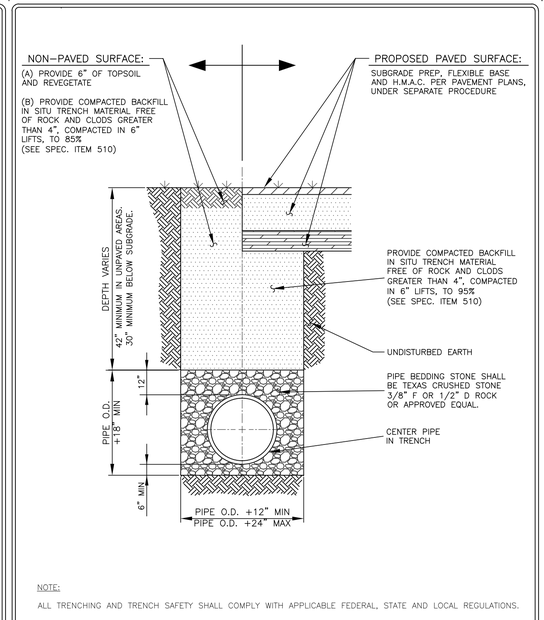
NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: DR-02
APPROVED 08-21-03 DATE	STORM SEWER LINE BEDDING DETAIL (NON-PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		



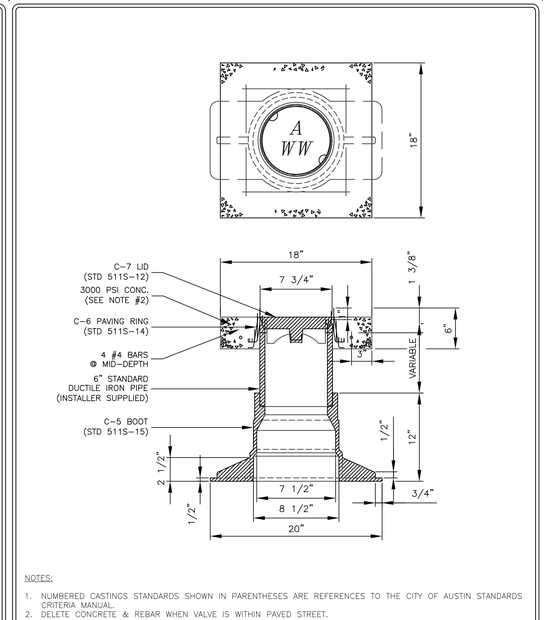
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WT-22
APPROVED 04-01-10 DATE	GATE VALVE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WT-08
APPROVED 12-04-13 DATE	WATERLINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. NUMBERED CASTINGS STANDARDS SHOWN IN PARENTHESES ARE REFERENCES TO THE CITY OF AUSTIN STANDARDS CRITERIA MANUAL.
2. DELETE CONCRETE & REBAR WHEN VALVE IS WITHIN PAVED STREET.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WT-06
APPROVED 04-01-10 DATE	VALVE BOX ASSEMBLY	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

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STATE OF TEXAS
ANTONIO A. PREJE
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LICENSED PROFESSIONAL ENGINEER
10/5/17

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2851 joe dimaggio blvd. #22
round rock, texas 78665
p:: 512.244.1966

http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw, ap
drawn ::	rk, ws, ck, jw
checked ::	jw, ap
approved ::	bab, ap

SUBMISSIONS | REVISIONS::

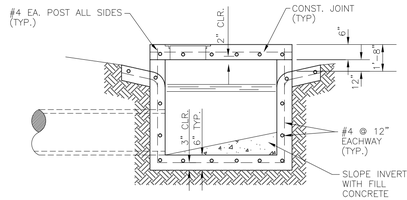
09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

Co.11
GENERAL CIVIL DETAILS

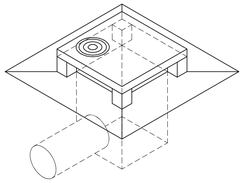
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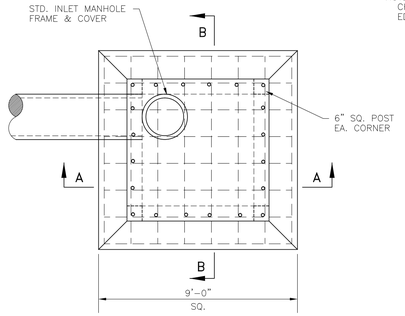
Bid 1710-197

Williamson County, Texas



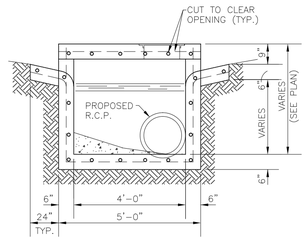
SECTION A–A





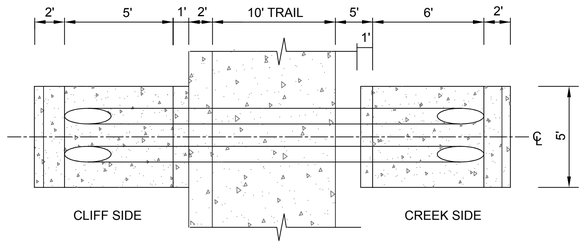
PLAN

NOTE:
CHAMFER ALL EXPOSED EDGES 3/4"

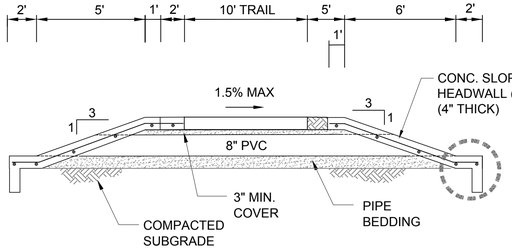


SECTION B–B

AREA INLET
NTS

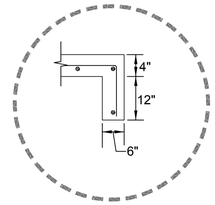


PLAN



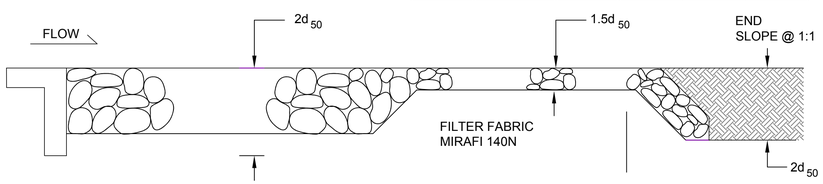
SECTION

NOTES:
1. ALL REINFORCEMENT SHALL BE GRADE 60 STEEL # 3 REBAR @ 12" O.C.E.W. - CENTER IN SECTION.
2. CONCRETE SHALL BE 3000 PSI STRENGTH @ 28 DAYS, CLASS "A"
3. FOR MULTIPLE PIPE APPLICATIONS, MAINTAIN 1' MINIMUM BETWEEN O.D.'s OF PIPES.

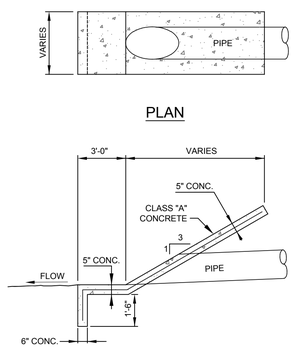


TRAIL CULVERT
NTS

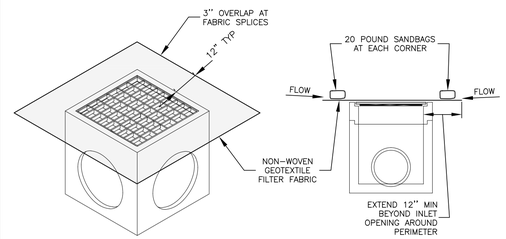
TYPE	% SMALLER BY WEIGHT	ROCK SIZE IN.	ROCK SIZE MM	MEDIAN SIZE, d_{50} IN.	MEDIAN SIZE, d_{50} MM
VL	70 - 100 50 - 70 35 - 50 2 - 10	12 9 6 2	300 230 150 50	6	150
L	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	380 300 230 80	9	230
M	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	530 460 300 100	12	300
H	100 50 - 70 35 - 50 2 - 10	30 24 18 6	760 610 460 150	18	460
VH	100 50 - 70 35 - 50 2 - 10	42 33 24 9	1070 840 610 230	24	610



ROCK RIP-RAP
NTS



SINGLE PIPE CONCRETE SLOPED HEADWALL
NTS



NOTES:
1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
3. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS APPROVED 03–25–11 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK AREA INLET PROTECTION DETAIL	DRAWING NO: EC–15

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

studio 16:19
design · collaborate · solve · impact
1717 n. ih 35, suite 308 round rock, texas 78664
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STATE OF TEXAS
ANTONIO A. PRETE
93759
LICENSED PROFESSIONAL ENGINEER
10/24/17

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owner ::
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BRUSHY CREEK TRAIL AT CHAMPION PARK

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approved ::	bab, ap

Co.12
GENERAL CIVIL DETAILS

10/16/2017 8:05 AM

Bid 1710-197

Williamson County, Texas

7/14/2017 10:09:32 AM Z:\PROJECTS-15000\15085 - Brush Crk Reg Trl Sec Repr - Champion Park\Drawings\15085 - Brush Crk Reg Trl Sec Repr - Champion Park_Str_R16.rvt

STRUCTURAL NOTES

I. DESIGN DATA

A. BUILDING CODE
INTERNATIONAL BUILDING CODE 2012 EDITION WITH CITY OF CEDAR PARK, TX AMMENDMENTS.

B. DESIGN LOADS

1. Wind Load — Exposure: B; Design Wind Speed: 115 MPH; Risk Factor: II
2. Roof Loads — Live Load (L.L.): 20 PSF**; Dead Load (Design) (D.L.): 20 PSF
3. Floor Loads — Live Load: 100 PSF*; Dead Load (Superimposed): 5 PSF; Partitions: 20PSF; Storage Mezzanines: 100 PSF
4. Stairs, public corridors & Lobbies (L.L.): 100 PSF
5. Internal Pressure Coefficient: 0.18 PSF
6. Seismic Zone — Design Cat.: A; Site Class: C

*Reduced Per I.B.C. SEC. 1607.9
** Reduced Per I.B.C. SEC. 1605.3

The contractor shall verify all dimensions and shall coordinate all structural plans and details with the architect before starting work. The engineer shall be notified of any discrepancies prior to construction.

The structural systems of the floor and roof are designed to perform as a complete unit. During demolition and repair of these structures, structural components may be unstable and it is the responsibility of the contractor to provide temporary shoring and/or bracing as required for the stability of the incomplete structure and for the safety of all on-site personnel.

C. ALTERNATE DESIGNS

Alternate structural systems & details will only be considered, provided they are submitted with calculations certified by a Professional Engineer Registered in the State of the project. The calculations must show the equivalency of the alternate & acceptance of the alternate by the engineer must be in writing.

D. FUTURE EXPANSION

This project is not designed for future expansion.

E. ROOF SLOPE

The roof has not been designed for ponding based on a roof slope of 3" per foot.

F. Contractor to verify all conditions at the jobsite and report any discrepancies to the engineer prior to start of any construction.

II. SITE WORK

A. SOIL REPORT

1. Foundations, retaining & basement walls, foundation drainage, slabs on grade & other items related to the soils are designed & shall be constructed in accordance with the recommendations of Brierley Associates REPORT NO. 514098-000 DATED Dec. 12, 2014.

2. Design net soil bearing capacity is as follows:
Grade beams- 2,000 PSF

III. DRILLED PIERS

1. Drilled piers shall be excavated, cleaned, reinforced and concrete placed on the same day.
2. Temporary steel casing may be required during the installation of drilled piers (see Geotechnical Report).
3. Foundation conditions noted during construction which differ from those described in the Geotechnical Report shall be reported to the Architect, Structural Engineer and Geotechnical Engineer before further construction is attempted.
4. General Contractor shall notify the Architect and Structural Engineer 24 hours prior to placement of concrete in the piers.
5. Grade beams shall be formed and cast to insure 8" deep void below beam prior to installations of soil retainers.

IV. FORMS

1. Materials:
A. Lumber: All lumber and plywood used in the construction of forms for concrete shall be sound, clean and free of surface imperfections, and of sufficient size and thickness to rigidly support the loads involved.
B. Plywood: Form plywood shall be sound and free of surface imperfections, and shall be manufactured with exterior g ue suitable for use in forming concrete.
C. Accessories: Form ties, clamps and other accessories shall be of such type, size, etc. as will safely support the loads to be encountered. Accessories on exposed faces shall be such as will not leave exposed metal on concrete face.
D. Form Coating: Equal to Sonneborn Formsaver.

2. Application:
A. The contractor shall employ an experienced surveyor to supply all necessary lines and levels to insure that all finished concrete work is properly located, straight, true and square.
B. All vertical concrete surfaces shall be forrred with wood, including edges of walks, slabs on grade, steps on grade and exposed portions of grade beams. If the earth will stand vertical and firm during excavating and concreting, no forms need to be constructed for concrete below grade.
C. Form construction and removal shall conform to the recommendations and requirements of the appropriate sections of ACI Standard 347 and ACI Code 318, latest versions. All form work shall be placed straight, level, plumb and true to line, sufficiently supported, braced and tied to rigidly support the loads involved without movement, and constructed to maximize resistance to shortening of the member. All joints in form work shall be tight an neat to prevent leakage or irregularities in exposed surfaces.
D. The contractor shall check with all other trades and make certain that all piping, conduit, sockets, inserts, sleeves, anchors, colts, etc., required by the various trades are properly placed and supported to prevent movement during concreting.
E. The contractor shall obtain the Architect's and the Engineer's review and okay before placing any structural concrete, giving at least 48 hours notice before pours are scheduled. Obtain the Architect's approval before pouring non-structural concrete.
F. The contractor shall construct form work to adequately support pressure from the wet concrete. Reinforcing shall be installed to the Engineer's satisfaction before placing concrete.
G. Thoroughly clean all form surfaces in contact with concrete and coat with approved form coating. Oiled forms shall not be used for exposed concrete surfaces which are later to be plastered or rubbed.
H. Leave all form work in place for a time consistent with recommendations of the American Concrete Institute. In general, the perimeter vertical beam forms may be removed within 24-28 hours after concrete is placed. Should inconsistencies and/or irregularities on the lines, levels or plumb of the concrete occur, the contractor shall make such corrections as the engineer directs, without extra cost to the owner.

V. REINFORCING MATERIAL PROPERTIES

1. REINFORCING PROPERTIES:

		FY, KSI	ASTM
A.	All bars unless noted	60	A615
B.	Ties & stirrups	60	A615
C.	Welded wire fabric (smooth)	65	A185
D.	Post-tensioning strand	270Fpu	A416
E.	Pre-stressing strand	270Fpu	A416
F.	Weldable rebar	60	A706

VI. EXPANSION AND CONTROL JOINTS

A. Control joins are to encompass an area not greater than 400 sq. ft. The minimum distance between control joints is 15'-0". Control joints shall be placed at mid span between grade beams parallel to control joint. Contractor shall submit control joint layout plan for review by architect and engineer prior to construction of slab.

VII. CAST IN PLACE CONCRETE

1. Materials
A. Cement:
Portland Cement shall conform to the standard specifications for Portland cement, ASTM Designation C-150, latest version Type I or Type III.
B. Concrete Aggregates:
Concrete aggregates shall conform to the specifications for Concrete Aggregates, ASTM C-33, latest version Type I or Type III.
C. Water:
Water shall be clean, potable and free of injurious amounts of acids, alkalis or organic materials.
D. Ready Mixed Concrete:
Ready Mixed Concrete shall conform to ASTM Specifications C-94, latest version.
E. Expansion joints (if shown):
Pre-molded joint filler shall consist of asphalt vegetable fiber and mineral filler between two sheets of asphalt saturated paper and shall meet the requirements of ASTM Specification D-994, latest version.
F. Admixtures:
Chemical compounds shall be used as an Admixture to control plastic shrinkage, improved workability and entrain 3 to 5% air. The Admixtures shall contain no chlorides, fluorides or nitrates and shall be formulated by the manufacturer for the job area and weather conditions to control setting time. Admixtures shall conform to ASTM Specifications C-260 and C-494, latest versions. The Admixtures intended for use shall be submitted to the Engineer for approval before any actual mix is made.
2. Place concrete in compliance with practices and recommendations of ACI 304.
A. Cold Weather Placing: Comply with ACI 306.
B. Hot Weather Placing: Comply with ACI 305.
C. Batching, Mixing & Delivery: Comply with ACI C94.
3. ALL CONCRETE SHALL BE CONSOLIDATED BY USE OF A MECHANICAL VIBRATOR.
4. The maximum time interval between the addition of mixing water and/or cement to the batch, and the placing of the last of the concrete batch in the forms shall not exceed ninety (90) minutes for ambient temperatures below 90 degrees and sixty (60) minutes for ambient temperatures of 90 degrees and above.
5. No concrete shall be placed where the concrete temperature exceeds 90 degrees Fahrenheit, before any water is added at the jobsite.
6. Reinforcing bars shall be designed, fabricated and placed in accordance with the latest ACI Specifications.
7. Continuous reinforcing bars shall have a minimum lap of 40 diameters or 24", whichever is greater.
8. Provide corner bars for all continuous reinforcing bars at all corners with minimum lap of 40 diameters or 24", whichever is greater.
9. Welded Wire Fabric (W.W.F.) shall conform to ASTM A185.
10. Non-shrink grout shall be ready-to use metallic aggregate product requiring only additions of water at the site, and shall have the following attributes:
A. Be capable of producing a flowable grouting material having no drying shrinkage or settlement at any age.
B. The compressive strength of the grout (50mm or 2" cubes) shall be not less than 5,000 psi at age 28 days. Store, mix and place non-shrink grout in strict accordance with manufacturer's recommendations, as approved by the Engineer.
11. Provide 1/2" pre-molded expansion joints where new concrete walks about the building, existing curbs and walks.
12. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to form seams or planes of weakness within the section.
13. Where a section cannot be placed continuously, provide construction joints as approved by the Engineer.
14. Place concrete at such a rate that concrete which is being integrated with fresh concrete is still plastic.
15. Deposit concrete as nearly as practicable in its final location to avoid segregation due to re-handling and flowing. Do not subject concrete to any procedure which might cause segregation. Do not use mechanical vibrators to move concrete.
16. Screed concrete which is to receive other construction to the proper level to avoid excessive shimming and grouting.
17. Do not use concrete that has become non-plastic and unworkable, or does not meet the required quality control limits or which has been contaminated by foreign materials.
18. Do not re-temper concrete after initially obtaining the proper slump on any load of concrete.
19. All reinforcing shall be supported on metal supports and securely tied to prevent movement during concreting.
20. All concrete shall be designed and constructed in accordance w/ IBC Chapter 19 & ACI-318, latest editions.
21. Provide extra reinforcing on each face around all openings 24" or larger in all slabs & walls equal to half the interrupted reinforcing bars on each side but not less than 2 - #5 bars with Class B lap but not less than 2 feet beyond edge openings.
22. Provide a 3/4" chamfer on all exposed corners of concrete.
23. The following minimum concrete cover shall be provided for reinforcement:

		MINIMUM COVER IN.
A.	Concrete cast against & permanently exposed to earth:	3"
B.	Concrete exposed to earth or weather: #6 THRU #18 bars	2"
	#5 & smaller bars	2"
C.	Concrete not exposed to weather or in contact with ground:	1-1/2"
	slabs & walls: #14 & #18 bars	2"
	#11 & smaller bars	1"
	Beams & Columns: Primary reinforcement, ties & stirrups	1"

24. If any ponds, tree wells or abrupt grade changes occur within 5'-0" of perimeter grade beam, the grade beam must be extended a minimum of 12" below the lowest elevation of the grade change.
25. Under-slab vapor barrier shall be StegoWrap 15 mil. Or equal. Vapor retarder shall be installed in accordance with manufacturer's specifications.
26. All anchor bolts and shearwall hold down bolts are to be "wet set". Do not drill any epoxy set hold down or anchor bolts.

VIII. CONCRETE MATERIAL PROPERTIES

1. CONCRETE PROPERTIES:

		F'c PSI 28 DAYS	SLUMP INCHES
A.	Footings, piers, grade beams & foundation walls	3000	4 ± 1
B.	Interior slab on grade	3000	5 ± 1
C.	Exterior slab on grade	3000	5 ± 1
D.	Topping & concrete over metal deck	3500	5 ± 1

2. All exterior concrete shall be air entrained to give the concrete on air content of 6 ± 1% by volume.

3. Cast-In-Place concrete shall be regular weight with a minimum compressive strength of 3000 psi at 28 days. The concrete mix design shall have a minimum of 5 sacks of cement for 3000 psi and 5-1/2 sacks for 3500 psi per cubic yard of concrete. The mix design shall be prepared by a testing agency and reviewed by the Engineer prior to placing any concrete. All concrete shall be by one supplier unless approved by the Engineer. The use of Fly Ash is not permitted.
4. Concrete shall have a maximum slump of 5" for slabs and 4" for all other concrete.

IX. PRE-ENGINEERED BUILDING

1. The framing for this structure was not designed by nor is it the responsibility of this engineer.
2. The PMB engineer is responsible for determining all appropriate site related loading coefficients for all live, wind, snow, seismic loading.
3. The metal building manufacturer shall be responsible for the design and specification of all anchor bolts and other anchors for attaching the metal building frame to the foundation, including embedment.
4. The reactions used for the metal building are approximate and may vary from the actual reactions. The contractor is responsible for obtaining accurate reactions and submitting those to the Engineer prior to constructing the foundation. After accurate reactions are obtained, the foundation will be checked for adequacy for the actual loading and modifications incorporated into the construction. These modifications will be considered as being included in the original price for the foundation.

X. USE AND/OR RELEASE OF STRUCTURAL ENGINEERING ELECTRONIC FILE

The electronic files for the structural engineering documents will not be released for use during construction or for the preparation of shop drawings or submittals. Each supplier or fabricator is responsible for reproducing the information required for their submittal. The duplicating of any part of these documents for inclusion in shop drawings or submittals is also prohibited.

XI. DETAIL NOTES

Details noted as typical shall apply in all cases unless specifically shown or noted otherwise.

XII. STRUCTURAL REQUIREMENTS FOR SUBMITTALS

The following are submittals required by Engineer. Use plans and spec. book for product list.

1. Reinforcement & concrete accessories including vapor barrier
2. Concrete mix design
3. Concrete test results

XIII. STRUCTURAL REQUIREMENTS FOR SITE VISITS

Site visits for construction observation will not be made by Engineer until all submittals and/or testing results have been reviewed and accepted by the Engineer. Contractor is responsible for scheduling submittals to allow the Engineer adequate time to review and comment before proceeding with construction.

Representative of Engineering 360 will visit the site at the following stages of construction:

A. During pier drilling and placement of reinforcing and concrete piers
B. After forms, rebar, embeds and other accessories are in place and 48 hours prior to placement of concrete
C. All anchor bolts and embeds are to be set and adequately tied & held in position prior to the start of placing concrete

Please refer to specifications or General Notes for project specific instructions.

Contractor shall issue to the engineer a complete project schedule with the above site visits noted and notify the Engineer a minimum of 48 hours prior to the scheduled visit to confirm time and date required visit. Failure of the Contractor to accomplish this notification will not require the engineer to respond on shorter notice, nor will the Contractor proceed without the Engineer performing appropriate site visit. Additionally if the Contractor requests or schedules a site visit and construction is not at the appropriate stage for the Engineer to perform the proper observations, another site visit will be required and scheduled at the Contractor expense for all time and travel expenses of the engineer or his representative. Engineer will not issue any type or form of compliance or concurrence statement for construction without performing the above noted site observations.

Statement of Special Inspections Per IBC 2012 Chapter 17

Per Section 1704.2.3: The applicant shall submit a statement of special inspection in accordance with Section 107.1 as a condition of permit issuance. The statement shall be in accordance with Section 1704.3.

PROJECT ADDRESS:
CITY, STATE: Cedar Park, TX

SECTION 1705: REQUIRED VERIFICATION AND INSPECTION

Section 1705 of the International Building Code 2012, the following is a list of the required special inspections applicable for this project:

2012 IBC SECTION	INSPECTION/ ASSURANCE	TYPE OF SPECIAL INSPECTION AND EXTENT	APPLICABLE	NON APPLICABLE
1705.2	AISC 360	Steel Construction		X
1705.2.2	IBC TABLE 1705.2.2	Steel Construction Other Than Structural Steel		X
1705.2.2.1.1	AWS D1.3	Cold-Formed Welding Inspection		X
1705.2.2.1.2	AWS D1.4 and ACI 318	Reinforced Steel Welding Inspection		X
1705.2.2.2	Indicated in Section	Cold-Formed Steel Trusses Spanning 60 Feet or Greater		X
1705.3	IBC TABLE 1705.3	Concrete Construction	X	
1705.4	Inspection: TMS 420/ACI 530/ASCE 5 Assurance: TMS 602/ACI 530.1/ASCE 6	Masonry Construction		X
1705.5	Indicated in Section	Wood Construction: High-Load Diaphragm/Metal-Plate-Connected Wood Trusses Spanning 60 Feet or Greater		X
1705.6	Indicated in Section	Soils		X
1705.7	Indicated in Section	Driven Deep Foundations		X
1705.8	Indicated in Section	Cast-in-Place Deep Foundations (Piers)	X	
1705.9	Indicated in Section	Helical Pile Foundations		X
1705.10	Indicated in Section	Special Inspection for Wind Resistance		X
1705.11	Indicated in Section	Special Inspection for Seismic Resistance		X
1705.12	Indicated in Section	Testing and Qualification for Seismic Resistance		X
1705.13	Indicated in Section	Sprayed Fire-Resistance Materials		X
1705.14	AWCI 12-B	Mastic and Intumescent Fire-Resistance Coatings		X
1705.15	Indicated in Section & ASTM E 2570	Exterior Insulation and Finish Systems/Water-Resistive Barrier Coating		X
1705.16	Indicated in Section	Fire-Resistance Penetrations and Joints		X
1705.17	Indicated in Section	Special Inspection for Smoke Control		X

Special Inspection Reports are to conform to the requirements staed in Section 1704.2.4.

Exceptions of Special Inspection as permitted per Section 1704.2

1. Special inspections are not required for construction of a minor nature or as warranted by
2. conditions in the jurisdiction as approved by the building official.
Unless otherwise required by the building official, special inspections are not required for
3. Group U.
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.

Additional Special inspections shall also be required for proposed work that is, in the opinion of the building official, unusual in nature.

Additional Special Inspection per International Building Code 2012, the following is a list of the required special inspections applicable for this project:

2012 IBC SECTION	DETAILS	TYPE OF SPECIAL INSPECTION AND EXTENT	APPLICABLE	NON APPLICABLE
1706		Design Strengths of Materials		X
1707		Alternative Test Procedures		X
1708		Test Safe Load		X
1709		In-Situ Load Tests		X
1710		Preconstruction Load Tests		X
1711		Material and Test Standards		X

Per Section 1704.5 Structural Observations:

Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifyingthe frequency and extent of structural observations.

At the conclusion of work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identified any reported noting deficiencies which, to the best of the structural observer's knowledge, have not been resolved.

DRAWING SYMBOLS

LOAD BEARING MASONRY WALL
WOOD BLOCKING
WELDED WIRE FABRIC
SPAN DIRECTION OF HOLLOW CORE SLABS
COLUMN GRIDLINE & GRID DESIGNATIONS — GRID DESIGNATION
DETAIL TARGETS — DETAIL NUMBER, SHEET NUMBER (SIM)
EARTH/COMPACT FILL
BEAM SPLICE LOCATION
BEAM MOMENT CONNECTION
PIER DIAMETER/EMBEDMENT INTO LIMESTONE STRATA (24/5)
TILTWALL PANEL NUMBER (P1)
SECTION CUTS — SECTION NUMBER, SHEET NUM3ER (SIM)
ELEVATION TARGET — SHEET NUM3ER, ELEVATION NUMBER
REVISION CLOUDS — REVISED AREA CLOUDED
12" X 12" BLOCKOUT FOR PLUMBING, REF. ARCHITECTURAL OR PLUMBING DRAWINGS FOR LOCATION
CURB STEP
TRENCH
STEP W/ SLOPE
STEP DOWN
SLOPE DOWN
EXISTING CONDITION
MECHANICAL UNIT(S)

ABBREVIATIONS

(A) A.B. ANCHOR BOLT(S); ALT. ALTERNATE; ARCH. ARCHITECT(URAL)
(B) B.S. BOTH SIDES; BBE. BOTTOM BEAM ELEVATION; BLKG. BLOCKING; BLDG. BUILDING; BM. BEAM; BOT. BOTTOM; BRG. BEARING; BSMT. BASEMENT; BLK. BLOCK
(C) C.J. CONTROL JOINT; CL. CENTERLINE; CLR. CLEAR(ANCE); C.M.U. CONCRETE MASONRY UNIT; C.B. CONCRETE BLOCK; COL. COLUMN; CONC. CONCRETE; CONN. CONNECTION; CONST. CONSTRUCTION; CONT. CONTINUOUS; C.I.P. CAST IN PLACE; COMP. COMPOSITE
(D) DET. DETAIL; DIA. DIAMETER; DIAG. DIAGONAL; DN. DOWN; DWG. DRAWING; DBL. DOUBLE; D.L. DEAD LOAD; DO. DITTO
(E) E. EAST; EA. EACH; E.S. EACH SIDE; ELEV. ELEVATION; EQUAL; EXIST. EXISTING; EXP. EXPANSION; EXT. EXTERIOR
(F) FD. FLOOR DRAIN; FDN. FOUNDATION; FTG. FOOTING; FUT. FUTURE; F.S. FAR SIDE; FAB. FABRICATE(OR); F.U.G. FLANGE; F.O.B. FACE OF BRICK
(G) GA. GAGE, GAUGE; GALV. GALVANIZED; G.C. GENERAL CONTRACT(OR); G.B. GRADE BEAM
(H) H.C.A. HEADED CONCRETE ANCHOR; HORIZ. HORIZONTAL; HT. HEIGHT; H.S. HEADED STUDS; HSS TUBE STEEL
(I) INFO. INFORMATION; I.F. INSIDE FACE
(J) JST. JOIST; JT. JOINT; J/BRG. JOIST BEARING
(K) K KIP; K.O. KNOCK-OUT; KSI KIPS PER SQUARE INCH
(L) LLH LONG LEG HORIZONTAL; LLV LONG LEG VERTICAL; L.L. LIVE LOAD
(M) MIN. MINIMUM; MAS. MASONRY; MAX. MAXIMUM; MANUF. MANUFACTURER; MEZZ. MEZZANINE; MISC. MISCELLANEOUS; M.O. MASONRY OPENING; MATL. MATERIAL; MTL. METAL
(N) N. NORTH; N.T.S. NOT TO SCALE; N.S. NEAR SIDE; N.I.C. NOT IN CONTRACT
(O) O.C. ON CENTER(S); O.C.E.W. ON CENTER EACH WAY; O.S. OUTSIDE; OPNG. OPENING; OPP. OPPOSITE; O.F. OUTSIDE FACE
P.C. PRECAST CONCRETE; PERIM. PERIMETER; P.J. PANEL JOINT; PL. PLATE; PLF POUNDS PER LINEAR FOOT
(P) P.E.M.B. PRE-ENGINEERED METAL BUILDING; PROJ. PROJECTION; PSF POUNDS PER SQUARE FOOT; PSI POUNDS PER SQUARE INCH; P.T. PRESSURE TREATED
(Q) QTY. QUANTITY
(R) R RADIUS; R.D. ROOF DRAIN; REV. REVISION, REVISE(D); REINF. REINFORCE(D),(ING); REF. REFERENCE; REQ'D. REQUIRED
(S) S. SOUTH; SCHED. SCHEDULE; SIM. SIMILAR; SQ. SQUARE; STD. STANDARD; STL. STEEL; STRUCT. STRUCTURAL; SPA. SPACE(S); S.L. SNOW LOAD
(T) TEMP. TEMPORARY; TYP. TYPICAL; T.O. TOP OF; TBE. TOP OF BEAM ELEVATION; TDE. TOP OF DECK ELEVATION; TFE. TOP OF FOOTING ELEVATION; TSE. TOP OF SLAB ELEVATION; TWE TOP OF WALL ELEVATION; T&B TOP AND BOTTOM; T&G TONGUE AND GROOVE
(U) UNEXC. UNEXCAVATED; U.N.O. UNLESS NOTED OTHERWISE
(V) VERT. VERTICAL
(W) W. WEST; W/ WITH; W.P. WORK POINT; W.W.F. WELDED WIRE FABRIC

DRAWING INDEX

ST0.01 STRUCTURAL NOTES
ST1.01 SITE PLANS
ST2.01 FOUNDATION DETAILS

STATE OF TEXAS — LAURENCE J. FISHER — 50110 — LICENSED PROFESSIONAL ENGINEER — 7/10/17

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UPPER BRUSHY CREEK TRAIL AT CHAMPION
WILLIAMSON COUNTY, TEXAS

REVISIONS

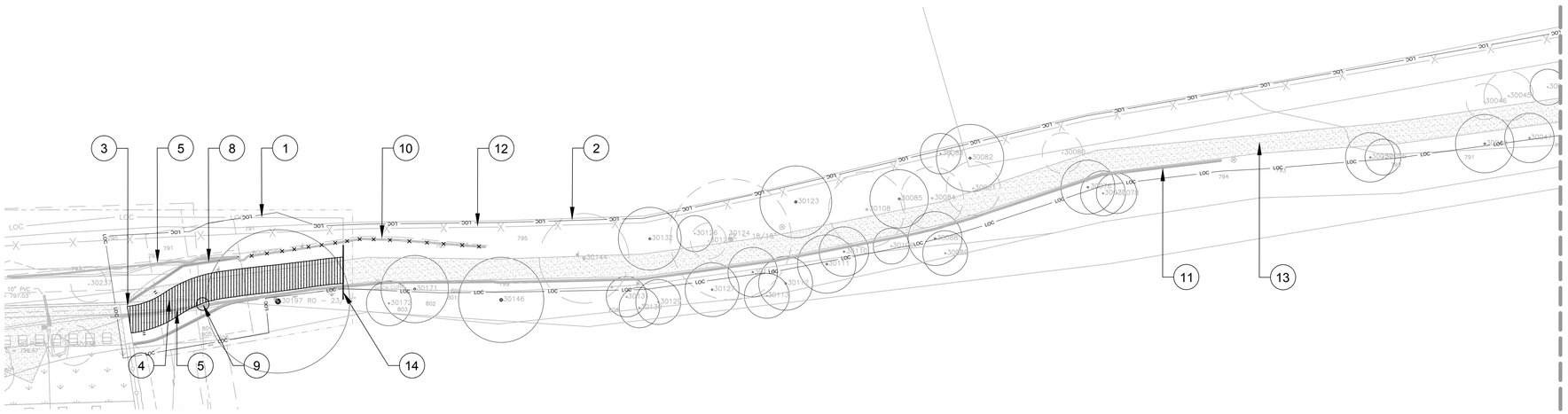
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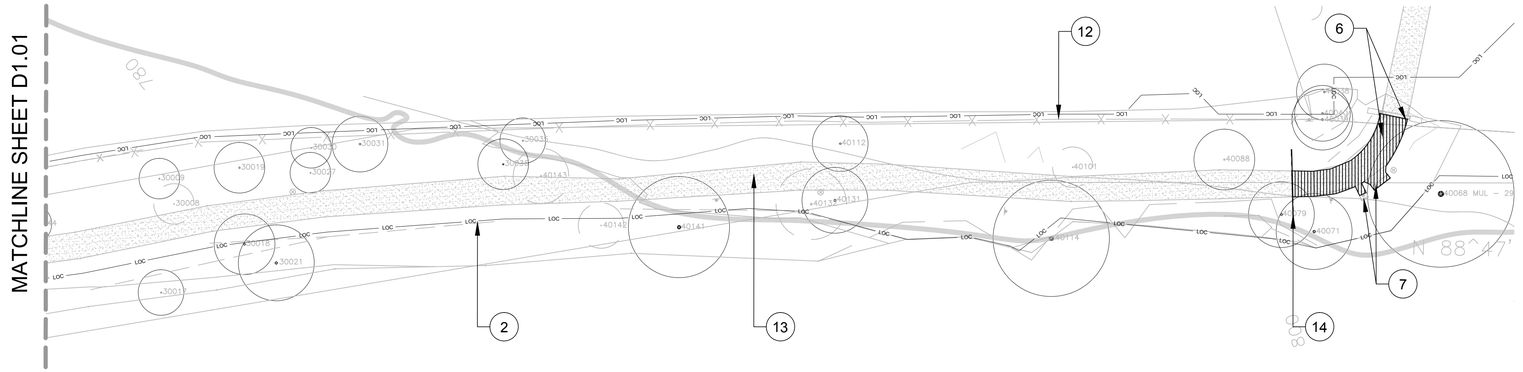
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DRAWN BY: JT
CHECKED BY: LF
APPR. BY: LF

SHEET NO.
ST0.01
8 OF 54

10/16/2017 8:05 AM



MATCHLINE SHEET D1.01



MATCHLINE SHEET D1.01

KEY NOTES

1	L.O.C. PER FREESE & NICHOLS DAM RECONSTRUCTION PROJECT #TX01365
2	LIMIT OF CONSTRUCTION
3	TRAIL RECONSTRUCTION TO TIE INTO DAM RECONSTRUCTION BY OTHERS, FREESE & NICHOLS PROJECT #TX01365
4	VERIFY DEMO OF TRAIL AND EXISTING WALL BY OTHERS, PER FREESE & NICHOLS PLANS; DEMO 4" FOR CONCRETE OR DEMO 10" FOR ALTERNATE #1 (1,181 SF)
5	VERIFY DEMO OF EXISTING WALL BY OTHERS, PER FREESE & NICHOLS PLANS #TX01365
6	DEMO EXISTING CONCRETE PAD CONNECTION AND HANDRAILS EXTENDING PAST BRIDGE (525 SF)
7	BENCH AND TRAIL INFORMATION SIGN TO BE RELOCATED, REF. SP1.03
8	EXISTING CONCRETE RETAINING WALL PER FREESE & NICHOLS PROJECT #TX01365 TO REMAIN
9	WASTE WATER MANHOLE TO REMAIN, BY OTHERS
10	DEMO EXISTING RETAINING WALL (111 LF) FROM EASTERN EDGE OF FREESE & NICHOLS CONCRETE WALL #TX01365
11	EXISTING LIMESTONE STACKED WALL TO REMAIN
12	EXISTING FENCE TO REMAIN
13	DECOMPOSED GRANITE TRAIL TO BE REMOVED. DEMO 4" FOR CONCRETE BASE BID OR 10" FOR DECOMPOSED GRANITE ALTERNATE #1. CLEAN DECOMPOSED GRANITE TO BE PLACED IN COUNTY STOCK PILE AT STAGING AREA 2. BASE (10,595 SF) / ALTERNATE #1 (10,595 SF)
14	LIMIT OF DEMO

TREE LEGEND

TREES TO BE SAVED

TREES TO BE REMOVED

NOTES

1. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING AROUND EXISTING TREES TO BE SAVED. NO ADVERSE IMPACT TO TREES DURING CONSTRUCTION WILL BE TOLERATED. CONTRACTOR TO PAY REPLACEMENT COST OF $100 / CALIPER INCH FOR ALL REMOVALS OF TREES NOT LISTED TO BE REMOVED.
2. CONTRACTOR TO COORDINATE TIMING OF TRAIL TIE IN AT DAM RECONSTRUCTION W/ PROJECT #TX01365 CONTRACTOR.

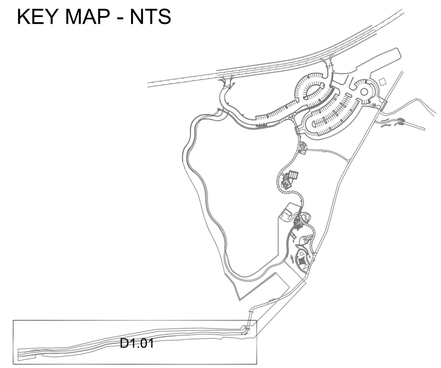
TREE LIST

STATUS	POINT#	TYPE	SIZE
R	30008	CEDAR ELM	8
P	30009	CEDAR ELM	8
P	30017	CEDAR ELM	9
P	30018	CEDAR ELM	12
P	30019	CEDAR ELM	10
P	30021	ASH	15
P	30027	CEDAR ELM	8
P	30030	CEDAR ELM	8
P	30031	CEDAR ELM	11
P	30035	CEDAR ELM	9
P	30036	CEDAR ELM	10
P	30044	CEDAR ELM	8
P	30045	CEDAR ELM	11
R	30046	CEDAR ELM	8
P	30047	CEDAR ELM	11
P	30048	CEDAR ELM	11/14
P	30056	POST OAK	8
P	30057	POST OAK	11
P	30076	WHITE OAK	12
P	30077	CEDAR ELM	10
P	30078	CEDAR ELM	9
R	30080	CHINABERRY	9
R	30081	CEDAR ELM	12
P	30082	CEDAR ELM	15
P	30083	CEDAR ELM	9

R	30084	CEDAR ELM	14
P	30085	CEDAR ELM	13
P	30088	CEDAR ELM	12
P	30089	WHITE OAK	10
R	30108	CEDAR ELM	17
P	30109	CEDAR ELM	8
P	30110	CEDAR ELM	11
P	30111	CEDAR ELM	13
P	30112	CEDAR ELM	12
P	30113	CEDAR ELM	10
P	30114	CEDAR ELM	11
P	30123	CEDAR ELM	16
R	30124	CEDAR ELM	18/18
R	30125	CEDAR ELM	8
P	30126	CEDAR ELM	8
P	30127	CEDAR ELM	12
P	30129	CEDAR ELM	10
P	30130	WALNUT	9
P	30131	CEDAR ELM	9
P	30132	CEDAR ELM	14
R	30144	CEDAR ELM	20
P	30146	HACKBERRY	19
P	30171	CEDAR ELM	15
P	30172	CEDAR ELM	10
P	30197	RED OAK	23/18
R	30236	HACKBERRY	9

R	30237	CEDAR ELM	8
R	30256	HACKBERRY	11
R	30266	HACKBERRY	10
R	30302	HACKBERRY	14
R	30303	CEDAR ELM	9
R	30311	HACKBERRY	15
R	30350	HACKBERRY	8
P	40038	CEDAR ELM	11
P	40039	CEDAR ELM	12
P	40040	CEDAR ELM	11
P	40068	MULBERRY	29
P	40071	ASH	15
P	40079	HACKBERRY	13
P	40088	ASH	12
R	40101	BOXELDER	8
P	40112	CEDAR ELM	11
P	40114	HACKBERRY	23
P	40131	BOIS D'ARC	13
R	40132	DEAD	14
P	40141	HACKBERRY	20
R	40142	CHINABERRY	9
R	40143	CEDAR ELM	11
LEGEND			
P	PROTECTED/ SAVED		
R	TO BE REMOVED		

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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REGISTERED LANDSCAPE ARCHITECT
BRENT A. BAKER
2091
STATE OF TEXAS
10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

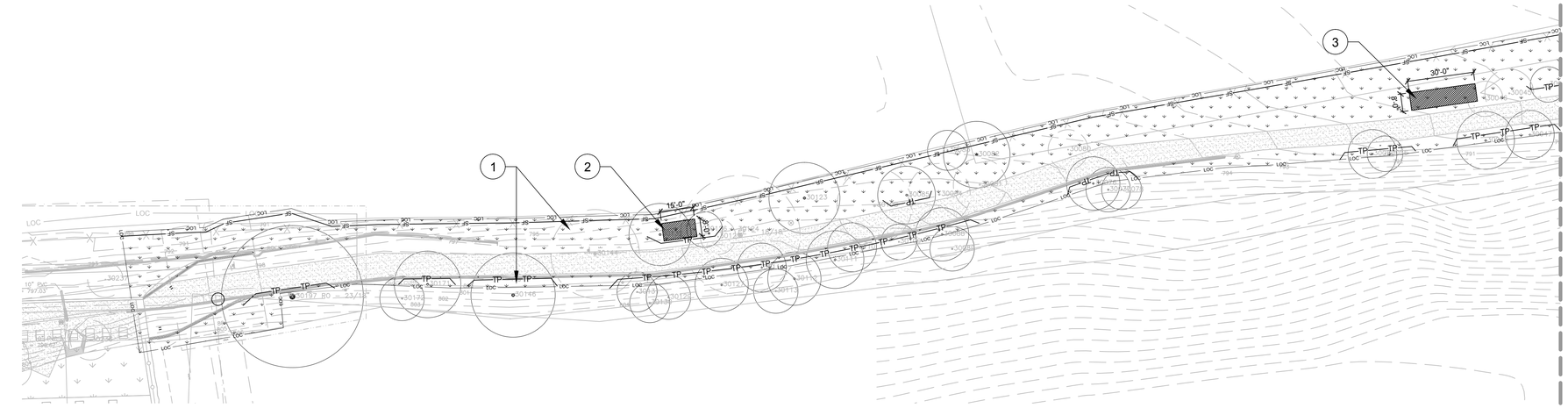
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

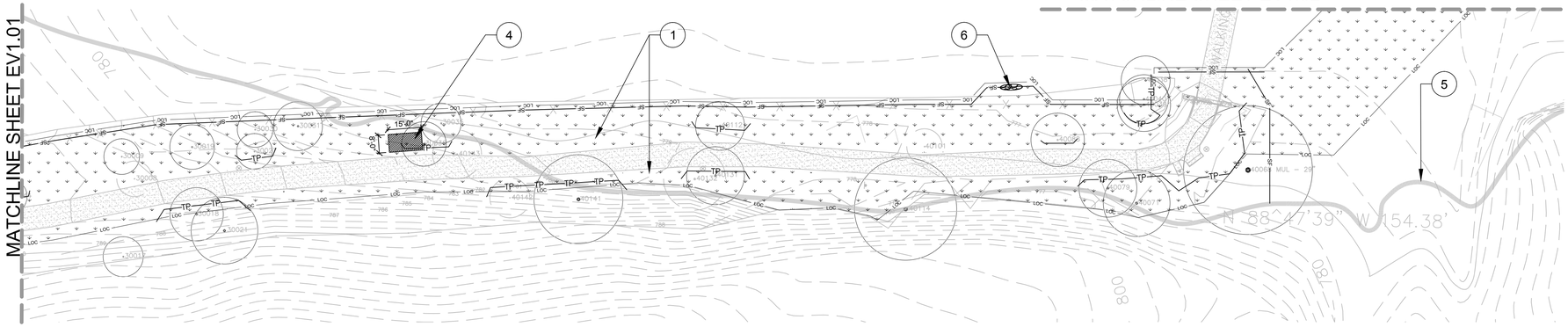
D1.01

TRAIL EXISTING CONDITIONS & DEMOLITION PLAN

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MATCHLINE SHEET EV1.02



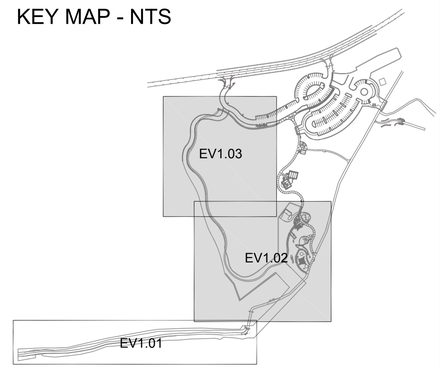
LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (1,287 LF)
- TP — TREE PROTECTION (888 LF)
- REVEGETATION (4,067 SY / 9 LB)

KEY NOTES

1	CONTRACTOR TO REVEGETATE ALL DISTURBED AREAS WITHIN LOC (9 LB), NATIVE TRAIL MIX SEED WITH TEMPORARY IRRIGATION
2	15 SY EROSION MAT (TRM) LANDLOK 300 OR APPROVED EQUAL
3	27 SY EROSION MAT (TRM) LANDLOK 300 OR APPROVED EQUAL
4	15 SY EROSION MAT (TRM) LANDLOK300 OR APPROVED EQUAL
5	100 YEAR FEMA FLOODPLAIN
6	10 LF ROCK BERM REF. DTL/EV0.11

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV1.01

TRAIL EROSION CONTROL, SEDIMENTATION, & TREE PROTECTION PLAN

10 OF 54

MATCHLINE SHEET EV1.03

CONTRACTOR ACCESS TO TRAIL AND PLAZA

CONTRACTOR ACCESS TO PLAZA

CONTRACTOR ACCESS TO TRAIL

MATCHLINE SHEET EV1.01

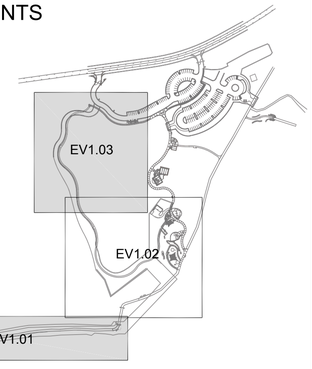
LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (1,347 LF)
- SECURITY FENCE (2,515 LF)
- REVEGETATION (7,492 SY / 16 LB)

KEY NOTES

1	CONTRACTOR TO REPAIR ANY DAMAGE TO DECOMPOSED GRANITE TRAIL WITHIN LOC CAUSED BY CONSTRUCTION
2	CONTRACTOR TO REPAIR ANY DAMAGE TO CONCRETE TRAIL WITHIN LOC CAUSED BY CONSTRUCTION
3	CONTRACTOR TO REVEGETATE ALL DISTURBED AREAS WITHIN LOC (16 LB)
4	TEMPORARY SPOILS & STORAGE AREA
5	STAGING AREA 1
6	CONCRETE TRUCK WASHOUT AREA, REF. DTL/EV0.11
7	CONSTRUCTION OF LOW WATER CROSSING ACCESS. CONTRACTOR TO VERIFY LOCATION IN FIELD AND PROVIDE APPROPRIATE STRUCTURE FOR TRAIL SEGMENT CONSTRUCTION.
8	CONTRACTOR TO REVEGETATE PLAZA AREA PER PLAZA LANDSCAPE PLANS, LA2.01

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

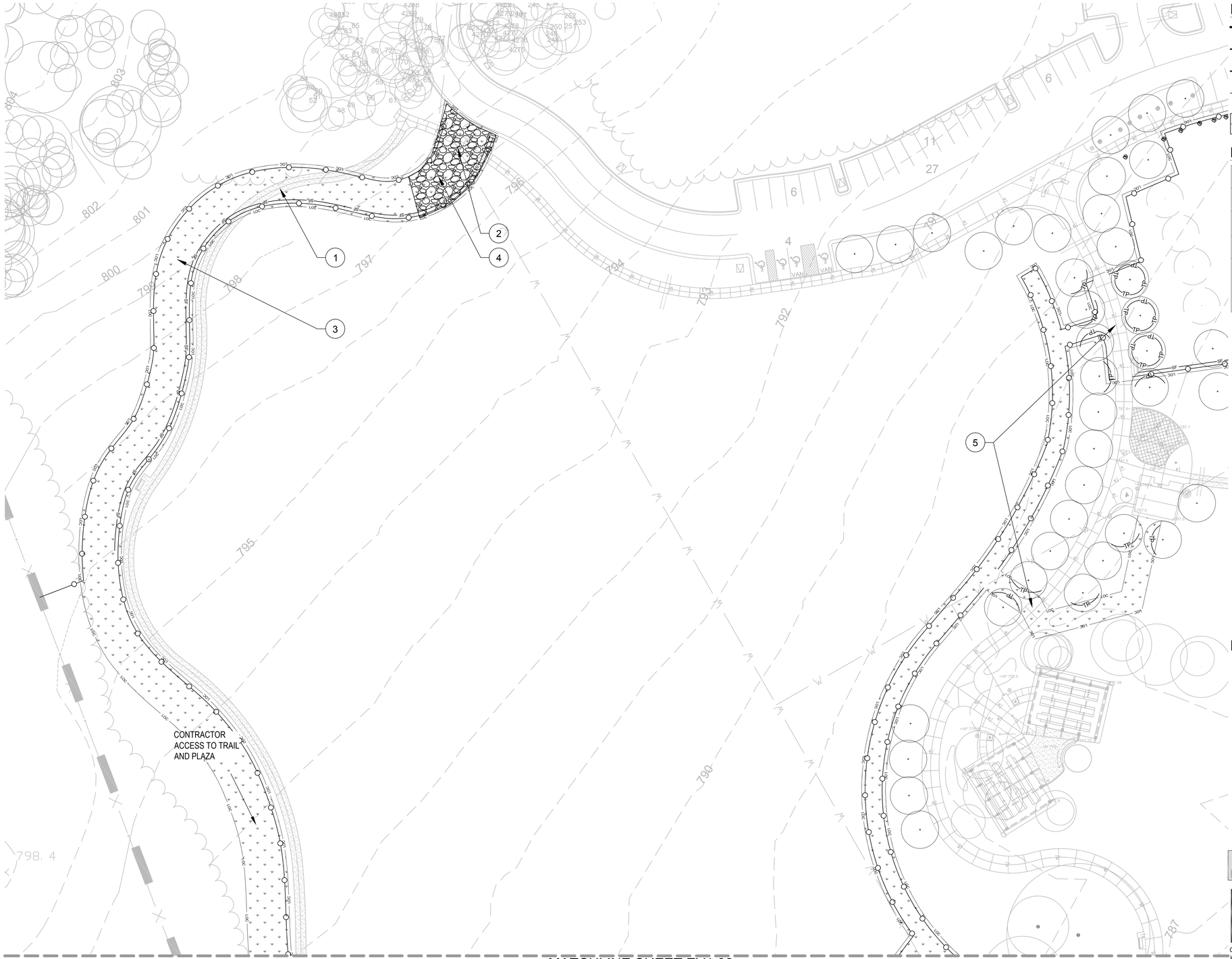
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drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV1.02

TRAIL EROSION CONTROL, SEDIMENTATION, & TREE PROTECTION PLAN

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10/16/2017 8:05 AM



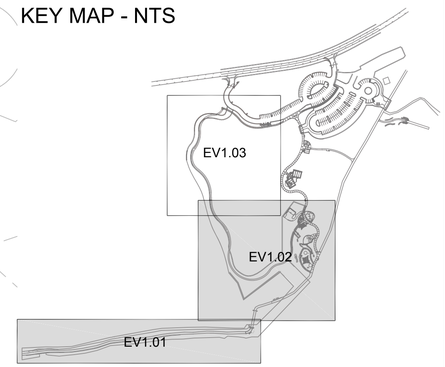
LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (799 LF)
- TP — TREE PROTECTION (102 LF)
- SECURITY FENCE (2,382 LF)
- REVEGETATION (3,938 SY / 8 LB)

KEY NOTES

1	CONTRACTOR TO REPAIR ANY DAMAGE TO DECOMPOSED GRANITE TRAIL WITHIN LOC CAUSED BY CONSTRUCTION
2	CONTRACTOR TO REPAIR ANY DAMAGE TO CONCRETE TRAIL WITHIN LOC CAUSED BY CONSTRUCTION
3	CONTRACTOR TO REVEGETATE ALL DISTURBED AREAS WITHIN LOC (8 LB)
4	STABILIZED CONSTRUCTION ENTRANCE (1,693 SF)
5	CONTRACTOR TO ENSURE SAFETY OF PARK VISITORS DURING WORK HOURS WHERE L.O.C. CROSSES SIDEWALK AND IS TO REMAIN OPEN. CONTRACTOR TO COORDINATE TIMES OF IMPROVEMENTS IN THESE AREAS TO LESSEN IMPACT TO PARK VISITORS.

KEY MAP - NTS



22x34 30' SCALE: 1"=30'-0"

11x17 60' SCALE: 1"=60'-0"

0 15 30 60 90

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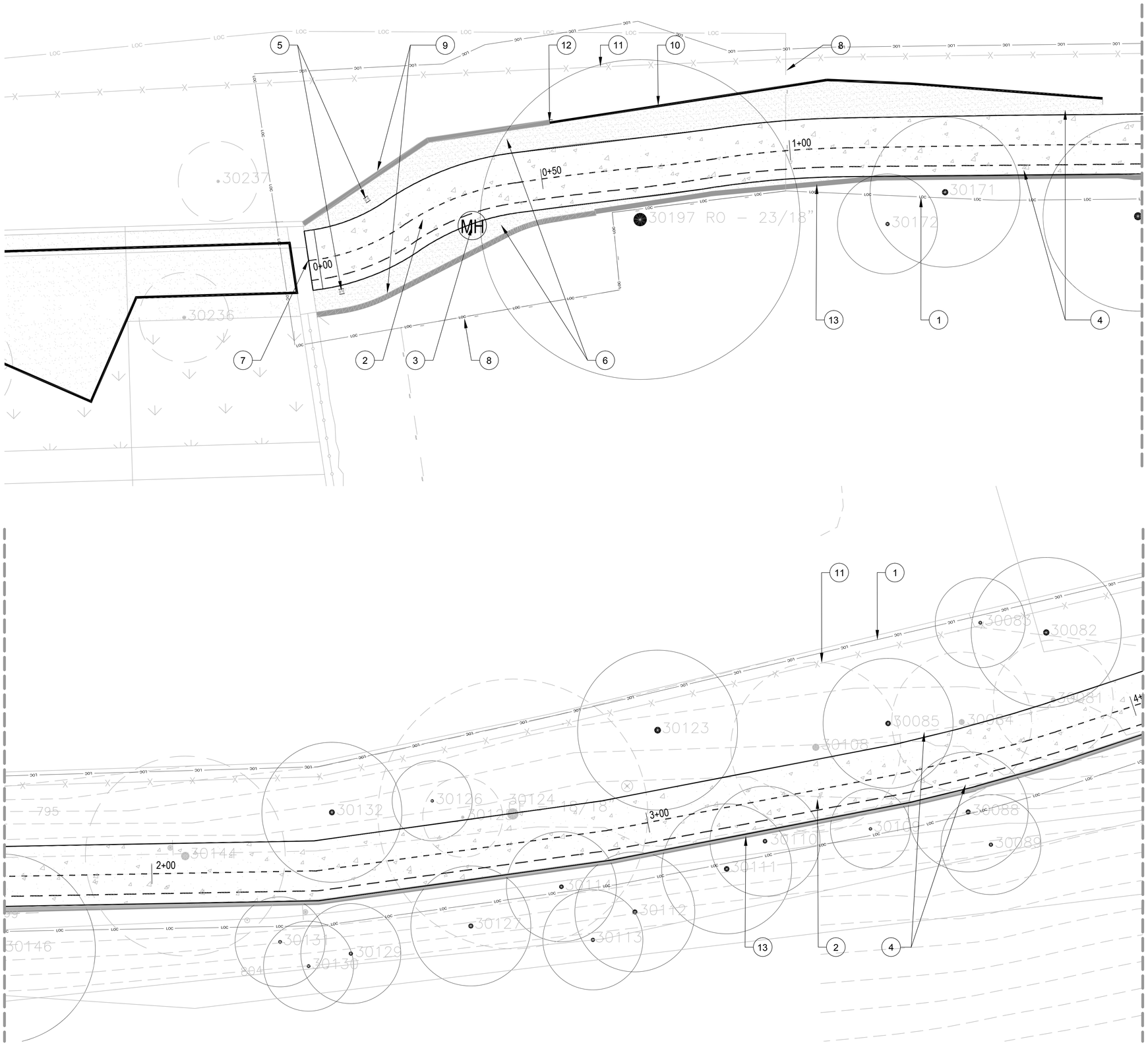
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drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV1.03

TRAIL EROSION CONTROL, SEDIMENTATION, & TREE PROTECTION PLAN

12 OF 54



MATCHLINE SHEET SP1.01

MATCHLINE SHEET SP1.02

MATCHLINE SHEET SP1.01

KEY NOTES

1	LIMIT OF CONSTRUCTION, TYP.
2	12' CONCRETE WALK WITH 2% CROSS SLOPE, MAX., INTEGRAL COLOR: 750 SALMON BY SOLOMON COLORS
3	WASTEWATER MANHOLE PER FREESE + NICHOLS DAM RECONSTRUCTION PLANS, PROJECT #TX01365.
4	MAINTAIN 10' TRAIL WIDTH 2' CLEAR ZONE, EACH SIDE
5	12" SQUARE CATCH BASIN, NDS REF. DTL 5/LA1.11 (QTY 2)
6	DECOMPOSED GRANITE W/ STABILIZER BY STABILIZER SOLUTIONS, INSTALL PER MANUFACTURER SPECIFICATIONS (1,232 SF)
7	TRAIL CONNECTION POINT AT DAM SPILLWAY, CONCRETE TRAIL TRANSITION, REF DTL 2/LA1.11
8	L.O.C. PER FREESE & NICHOLS DAM RECONSTRUCTION PROJECT
9	CONCRETE RETAINING WALL PER FREESE & NICHOLS PLAN, PROJECT #TX01365
10	PROPOSED CONCRETE RETAINING WALL W/ RAILINGS (112 LF), REF DTL 6/LA1.11
11	EXISTING FENCE TO REMAIN
12	WALL CONNECTION POINT WITH EXPANSION JOINT REF STRUCTURAL
13	EXISTING LIMESTONE WALL TO REMAIN

TREE LEGEND

TREES TO BE SAVED

TREES TO BE REMOVED

LINETYPE LEGEND

EXISTING WALL

CENTERLINE

EXISTING GRADING

2' CLEAR ZONE

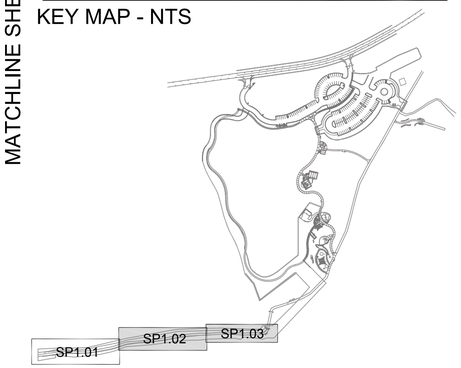
PROPOSED CONCRETE RETAINING WALL

BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

REF. LA1.11 FOR TRAIL SECTIONS

KEY MAP - NTS



22x34 10' SCALE: 1"=10'-0"

11x17 20' SCALE: 1"=20'-0"

0 5 10 20 30

SUBMISSIONS | REVISIONS::

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

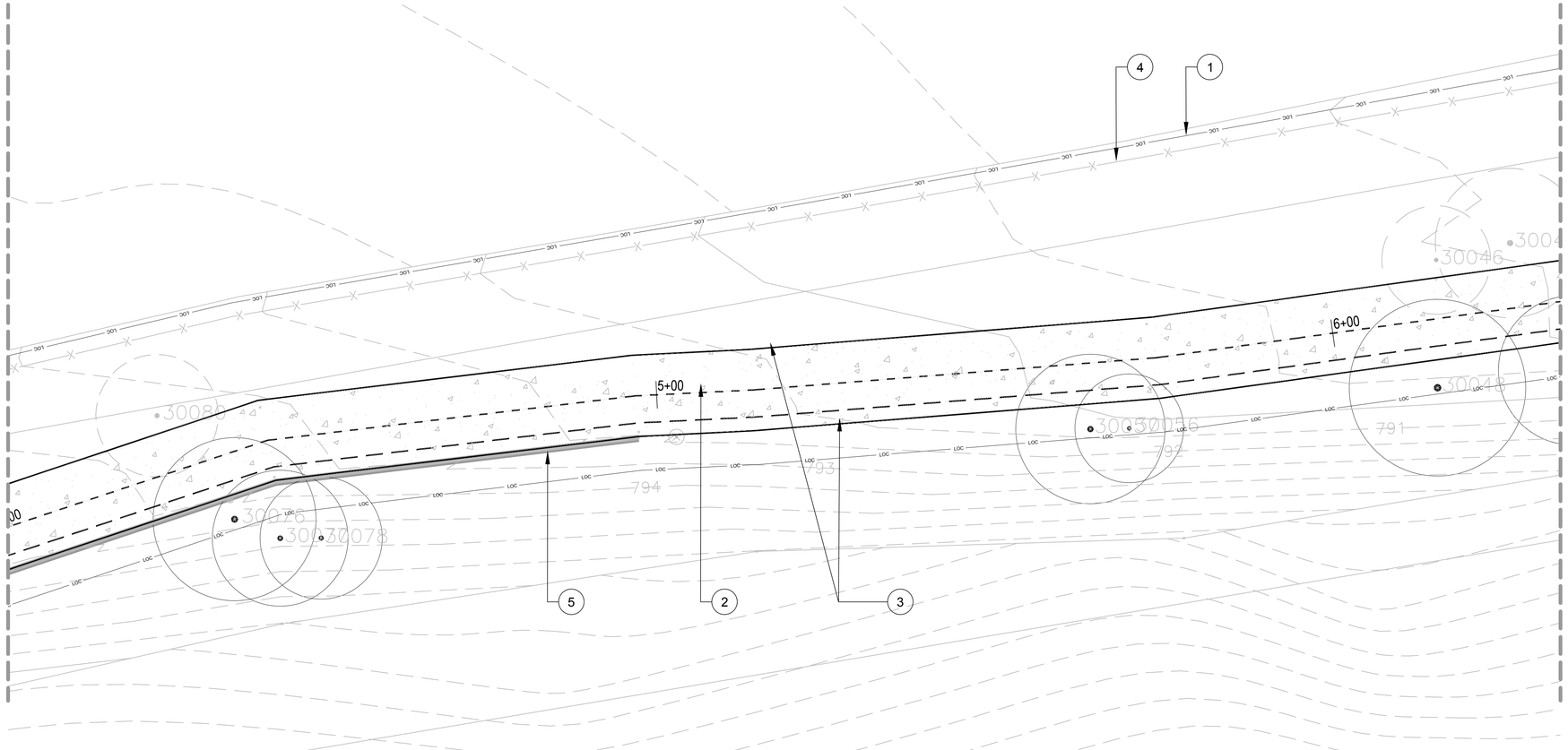
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SP1.01
TRAIL SITE PLAN

10/16/2017 8:05 AM

Williamson County, Texas

MATCHLINE SHEET SP1.01



MATCHLINE SHEET SP1.02

KEY NOTES

1	LIMIT OF CONSTRUCTION, TYP.
2	12' CONCRETE WALK WITH 2% CROSS SLOPE, MAX., INTEGRAL COLOR: 750 SALMON BY SOLOMON COLORS
3	MAINTAIN 10' TRAIL WIDTH WITH 2' CLEAR ZONE, EACH SIDE
4	EXISTING FENCE TO REMAIN
5	EXISTING LIMESTONE WALL TO REMAIN

TREE LEGEND

TREES TO BE SAVED

TREES TO BE REMOVED

LINETYPE LEGEND

EXISTING WALL

CENTERLINE

EXISTING GRADING

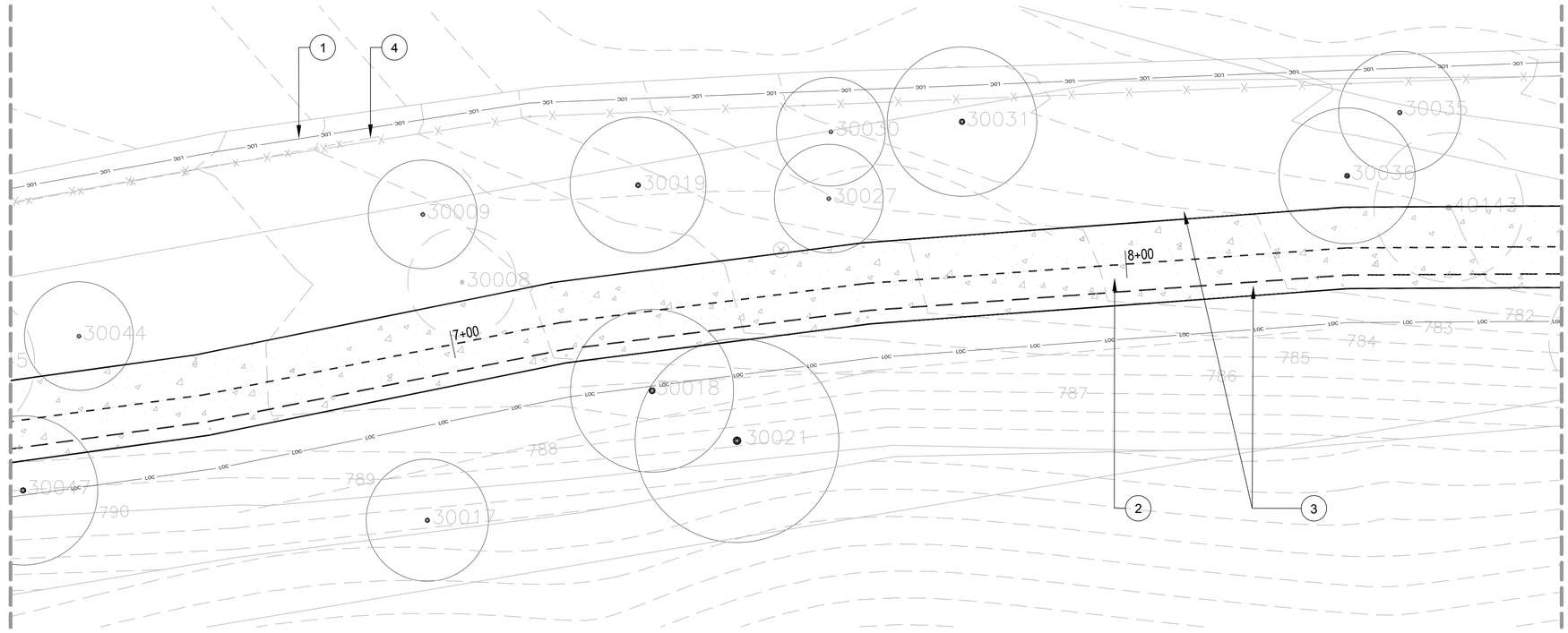
2' CLEAR ZONE

BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

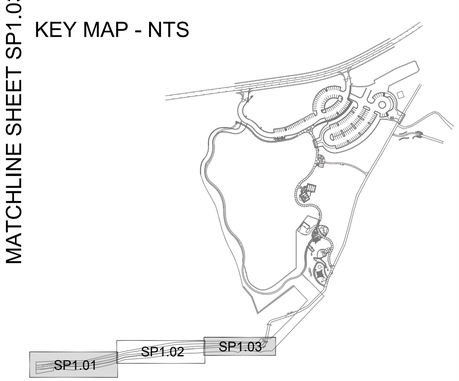
REF. LA1.11 FOR TRAIL SECTIONS

MATCHLINE SHEET SP1.02



MATCHLINE SHEET SP1.03

KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: 1"=20'-0"

0 5 10 20 30

SUBMISSIONS | REVISIONS::

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BRENT A. BAKER
2091
STATE OF TEXAS
10-11-17

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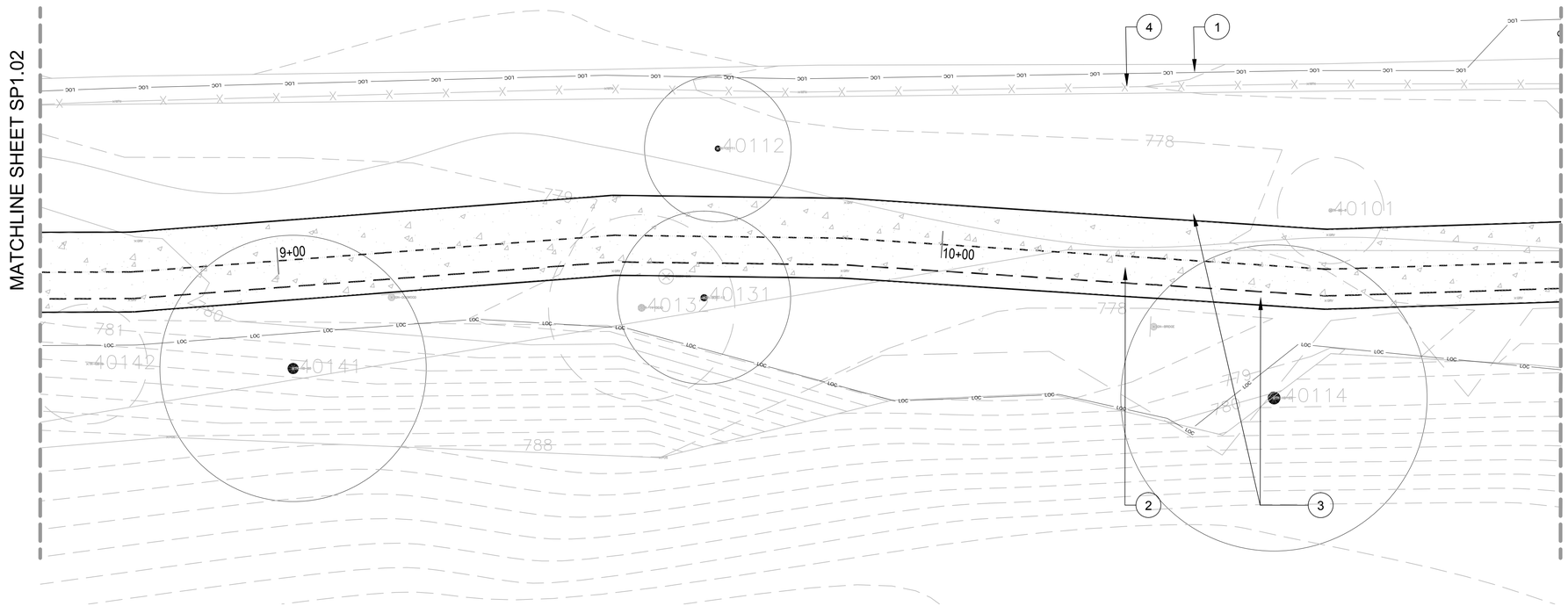
BRUSHY CREEK TRAIL AT CHAMPION PARK

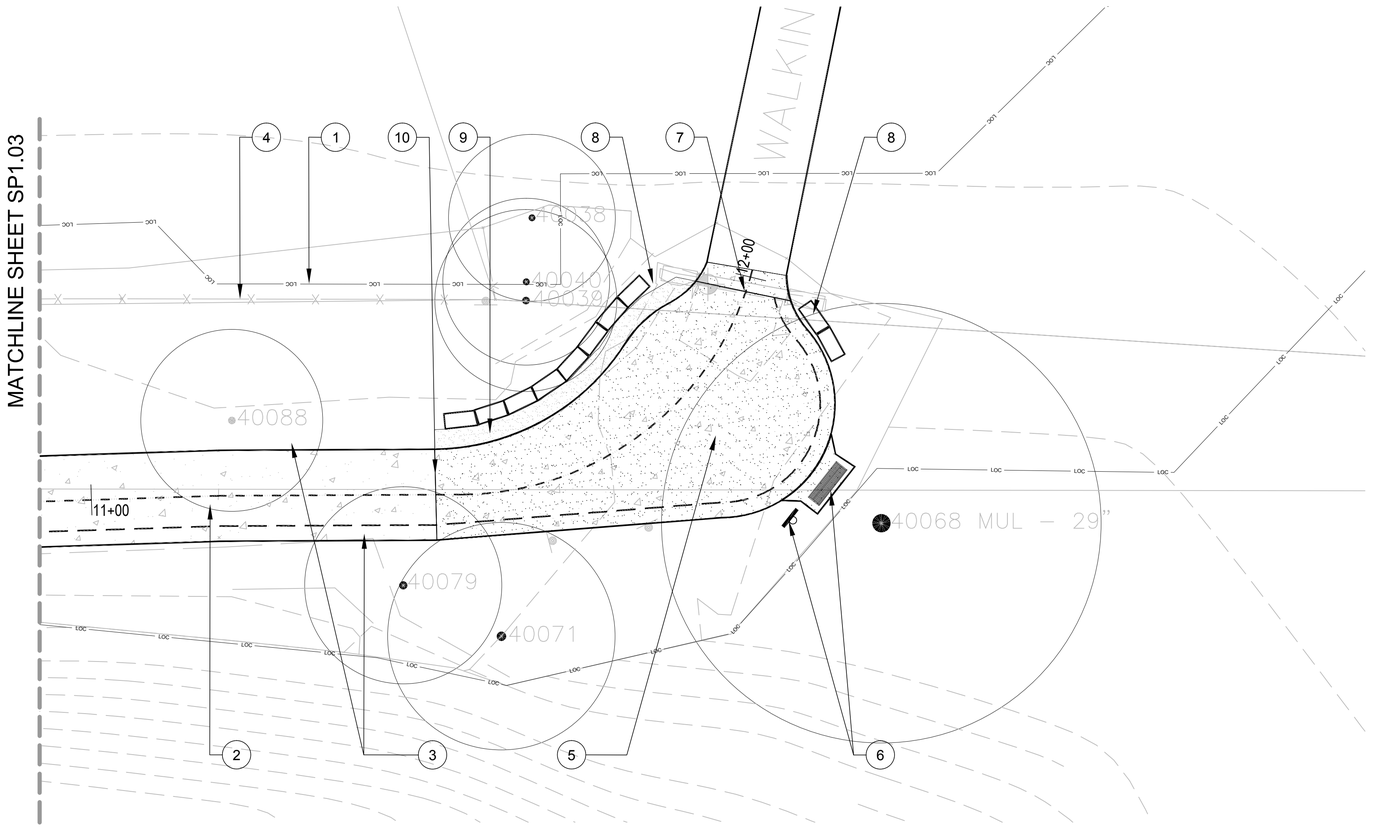
3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SP1.02
TRAIL SITE PLAN





KEY NOTES

1	LIMIT OF CONSTRUCTION, TYP.
2	12' CONCRETE WALK WITH 2% CROSS SLOPE, MAX., INTEGRAL COLOR: 750 SALMON BY SOLOMON COLORS
3	MAINTAIN 10' TRAIL WIDTH WITH 2' CLEAR ZONE, EACH SIDE
4	EXISTING FENCE TO REMAIN
5	(1,175 SF) CONCRETE SLAB W/ HEAVY SALT FINISH, INTEGRAL COLOR: 750 SALMON BY SOLOMEN COLORS TO BE INCLUDED IN BOTH BASE BID AND ALTERNATE BID 1.
6	RELOCATION OF EXISTING BENCH AND SIGNAGE
7	TRAIL CONNECTION POINT
8	(10) 2' x 2' x 4' QUARRY BLOCK WALL, REF DTL. 1/LA1.11
9	DECOMPOSED GRANITE BETWEEN TRAIL AND QUARRY BLOCKS (106 SF)
10	TRAIL CONNECTION POINT, CONCRETE TRAIL TRANSITION, REF DTL 2/LA1.11

TREE LEGEND

TREES TO BE SAVED

TREES TO BE REMOVED

LINETYPE LEGEND

EXISTING WALL

CENTERLINE

EXISTING GRADING

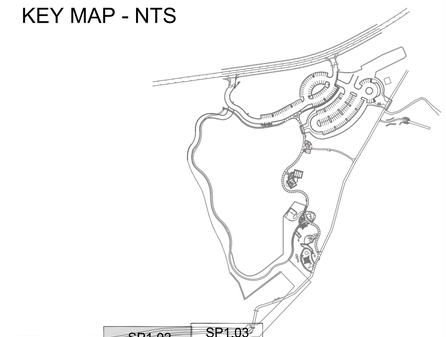
2' CLEAR ZONE

BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

REF. LA1.11 FOR TRAIL SECTIONS

KEY MAP - NTS



22x34 10' SCALE: 1"=10'-0"

11x17 20' SCALE: 1"=20'-0"

0 5 10 20 30

SUBMISSIONS | REVISIONS::

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BRUSHY CREEK TRAIL AT CHAMPION PARK

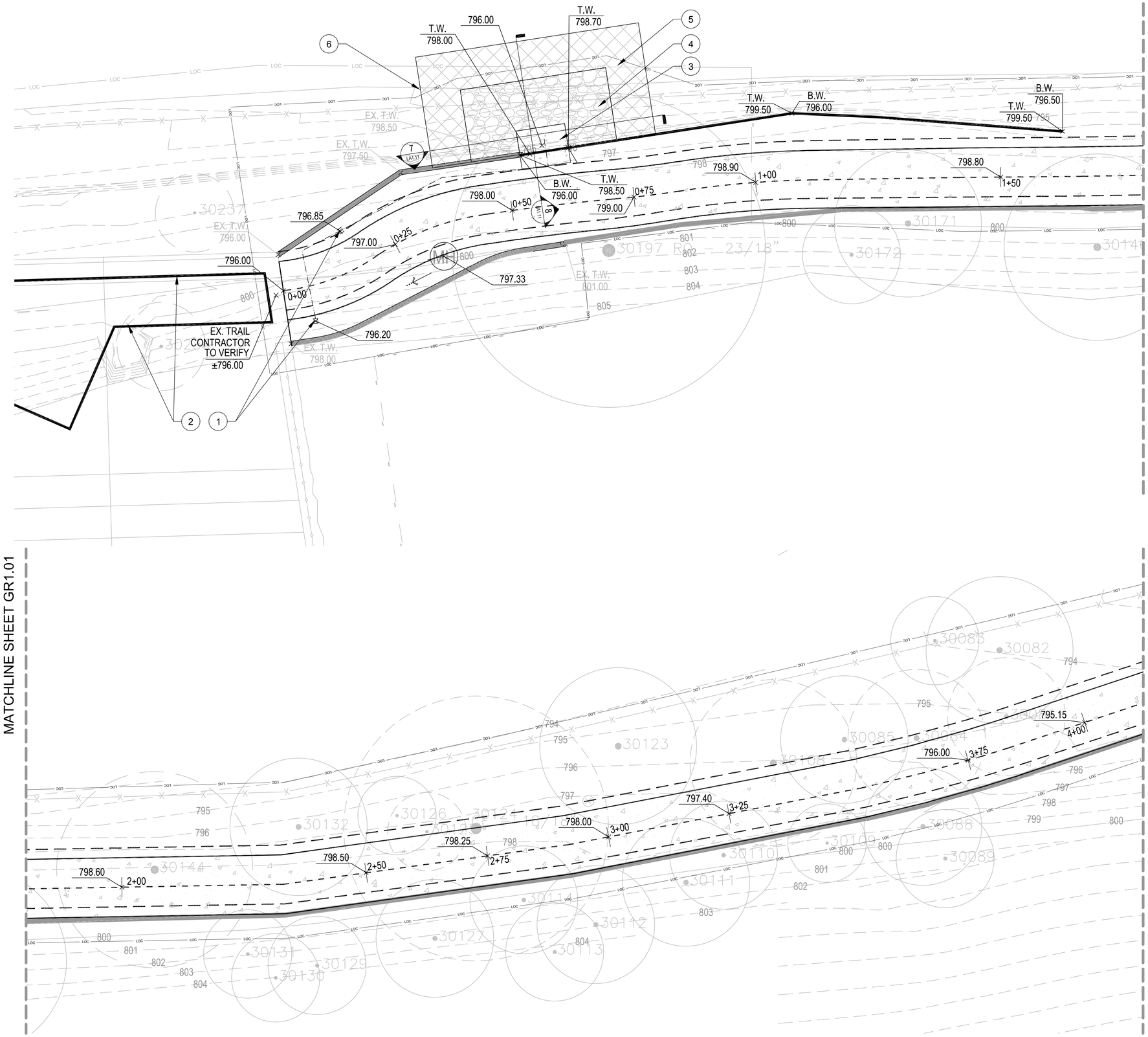
3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SP1.03
TRAIL SITE PLAN

10/10/2017 8:05 AM



KEY NOTES

1	12" SQUARE CATCH BASIN, NDS, 8" PVC DRAIN PIPE TO DAYLIGHT AT CONCRETE WALL
2	EXISTING TRAIL AT DAM SPILLWAY
3	CONCRETE SPLASH PAD, REF. DTL 8/LA1.11
4	ROCK RIP-RAP, REF. DTL 8/LA1.11
5	TRM, LANDLOK 300 OR APPROVED EQUAL
6	STRUCTURAL WALL DRAINAGE RELIEF, REF. DTL 7&8/LA1.11

NOTES

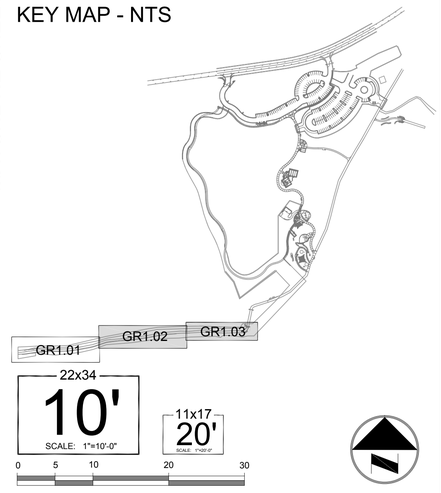
1. ALL TRAIL ROUTES ARE ADA ACCESSIBLE. CROSS SLOPES SHALL NOT EXCEED 1.5%, NOR SHALL THE SLOPE EXCEED 4.5% IN THE DIRECTION OF TRAVEL. UNLESS OTHERWISE NOTED.

BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

REF. LA1.11 FOR TRAIL SECTIONS

KEY MAP - NTS



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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

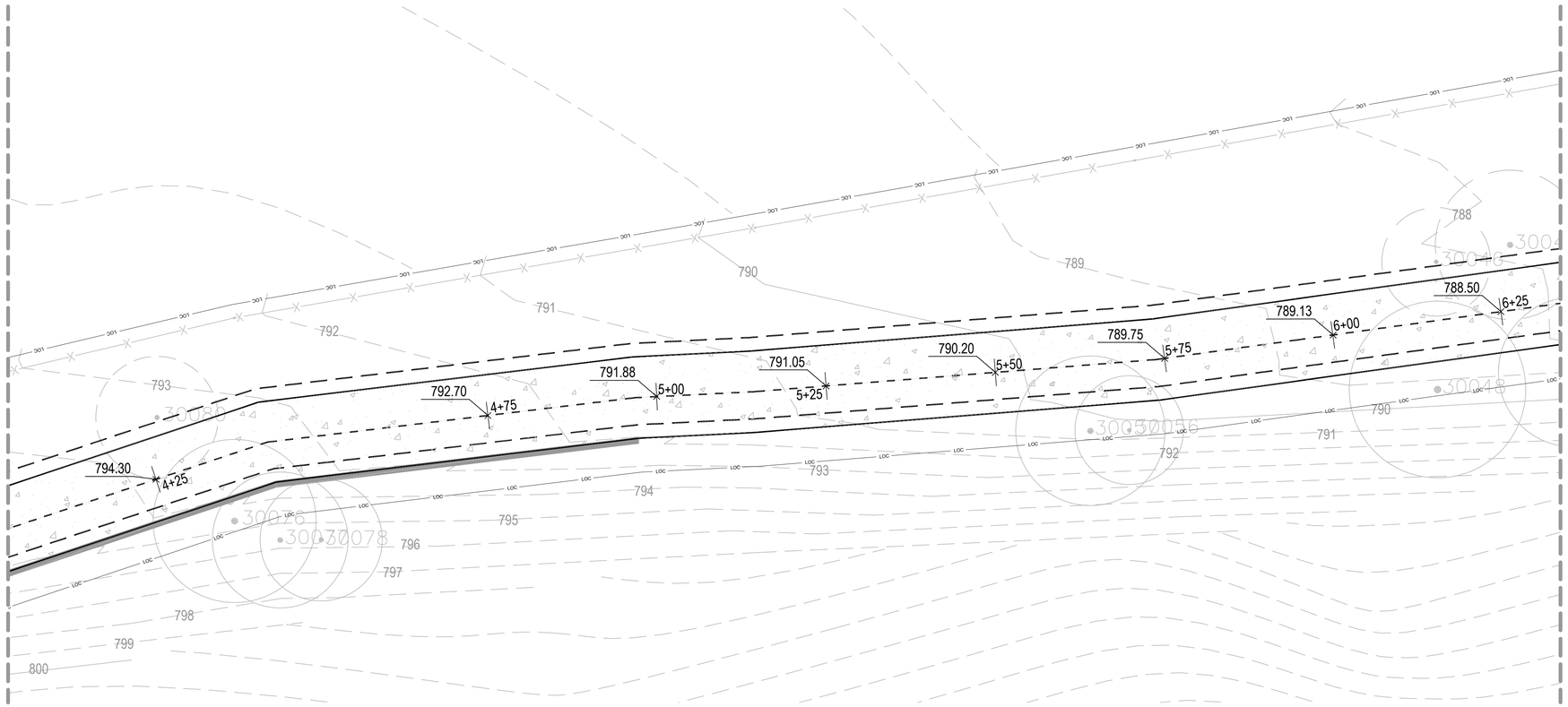
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GR1.01

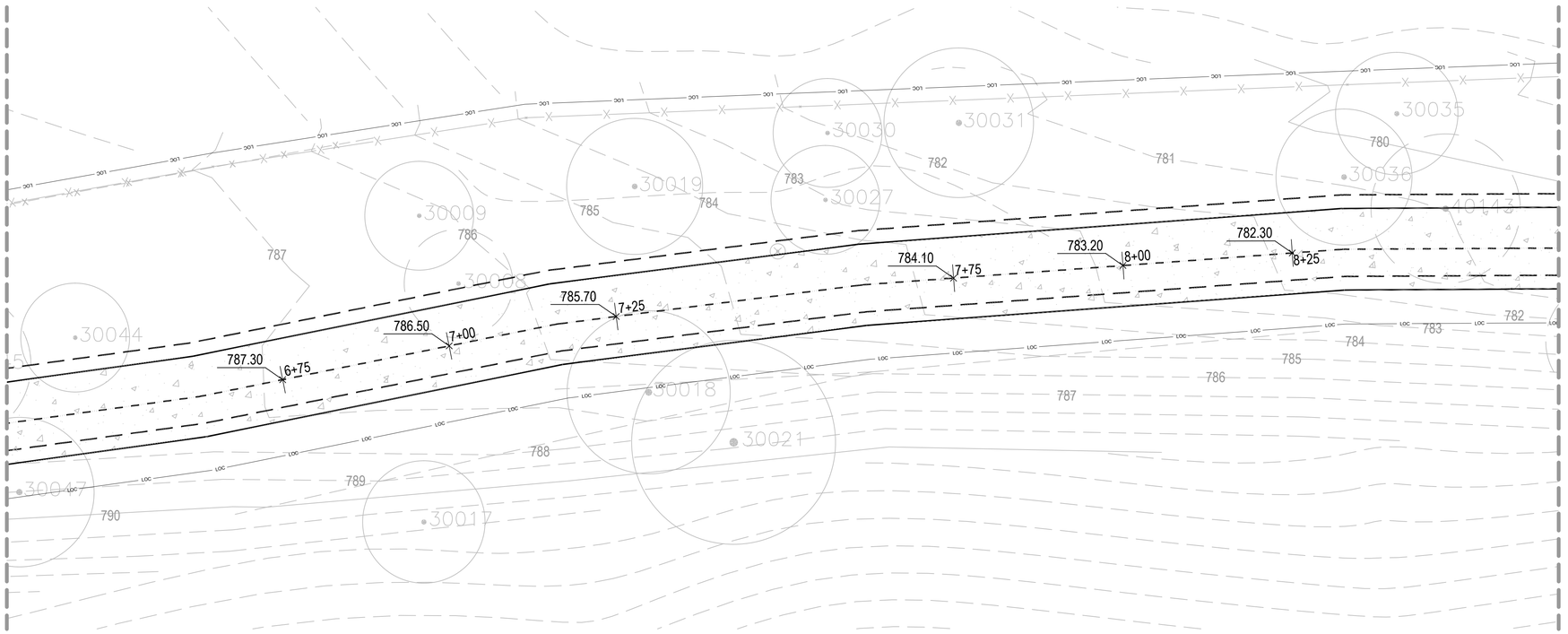
TRAIL GRADING & DRAINAGE PLAN

MATCHLINE SHEET GR1.01



MATCHLINE SHEET GR1.02

MATCHLINE SHEET GR1.02



MATCHLINE SHEET GR1.03

NOTES

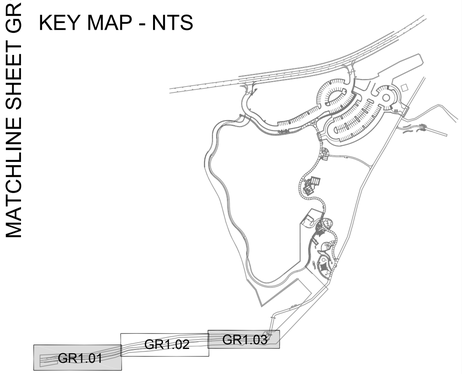
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BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

REF. LA1.11 FOR TRAIL SECTIONS

KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: 1"=20'-0"

0 5 10 20 30

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

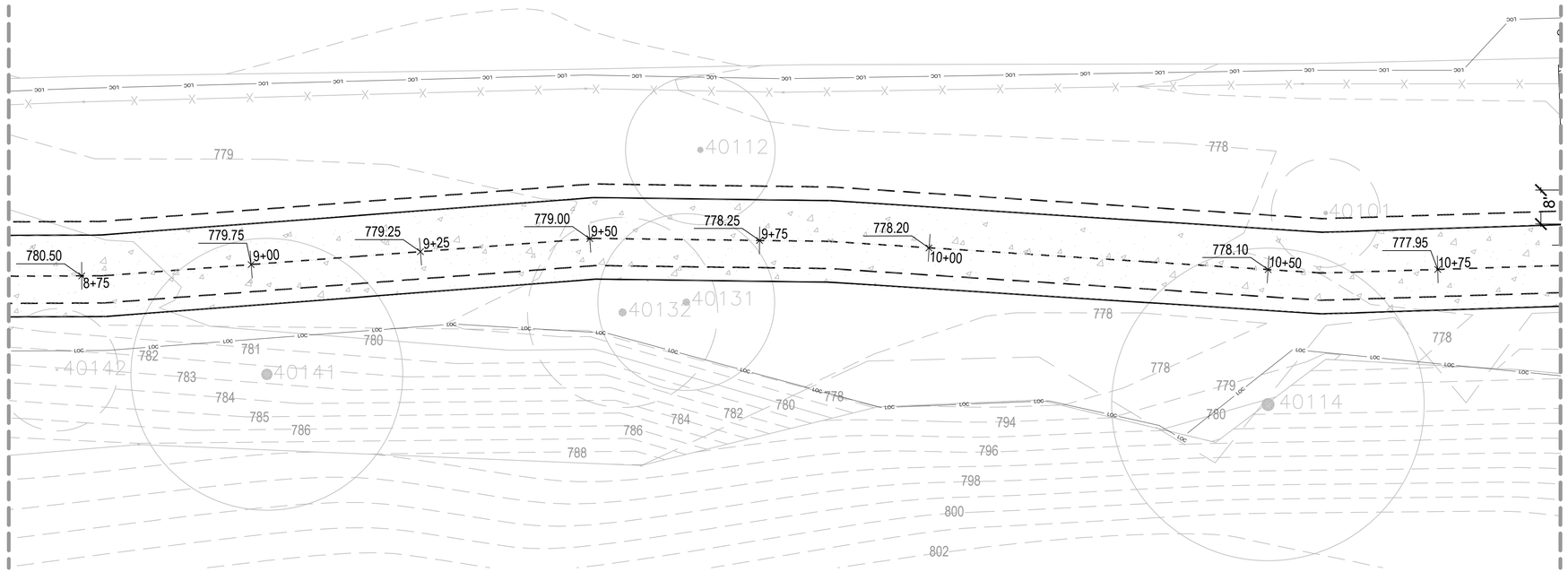
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approved ::	bab, ap

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TRAIL GRADING & DRAINAGE PLAN

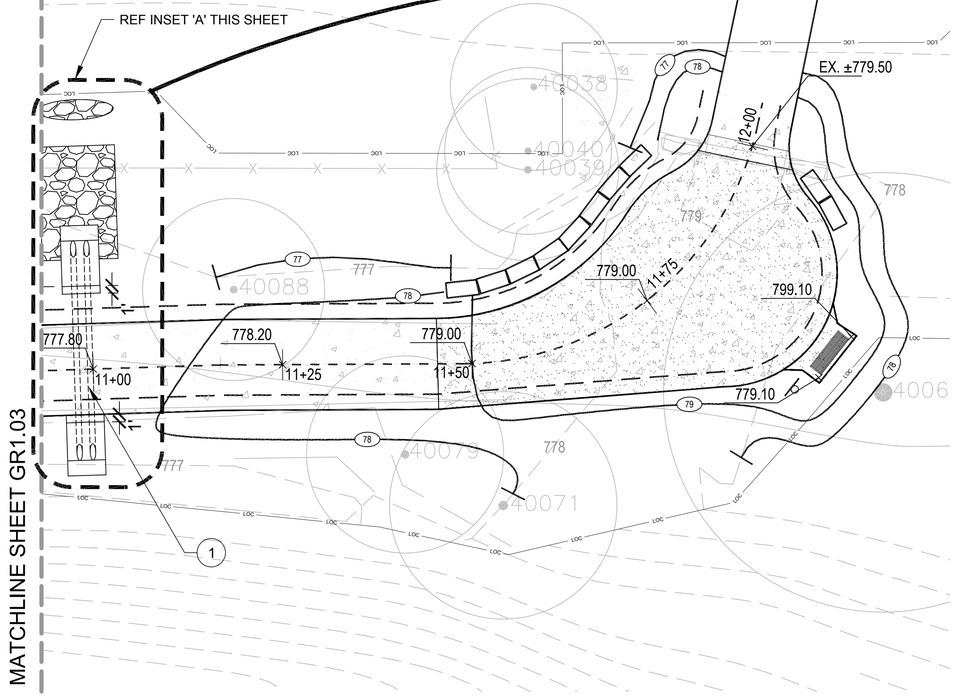
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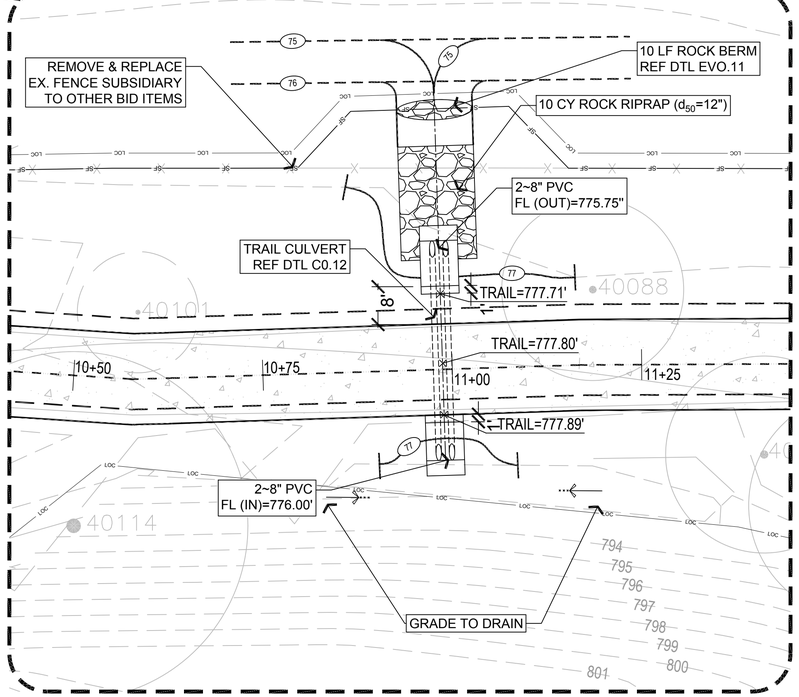
MATCHLINE SHEET GR1.02



MATCHLINE SHEET GR1.03



MATCHLINE SHEET GR1.03



INSET 'A' - NTS

KEY NOTES

1	8" PVC CULVERT FOR DRAINAGE

NOTES

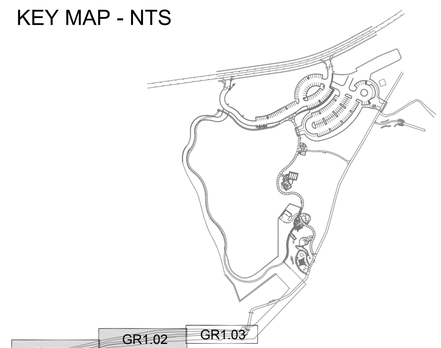
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BASE BID - CONCRETE TRAIL

ALTERNATE BID 1A - DECOMPOSED GRANITE TRAIL

REF. LA1.11 FOR TRAIL SECTIONS

KEY MAP - NTS



22x34 10' SCALE: 1"=10'-0"

11x17 20' SCALE: 1"=20'-0"

0 5 10 20 30

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BRUSHY CREEK TRAIL AT CHAMPION PARK

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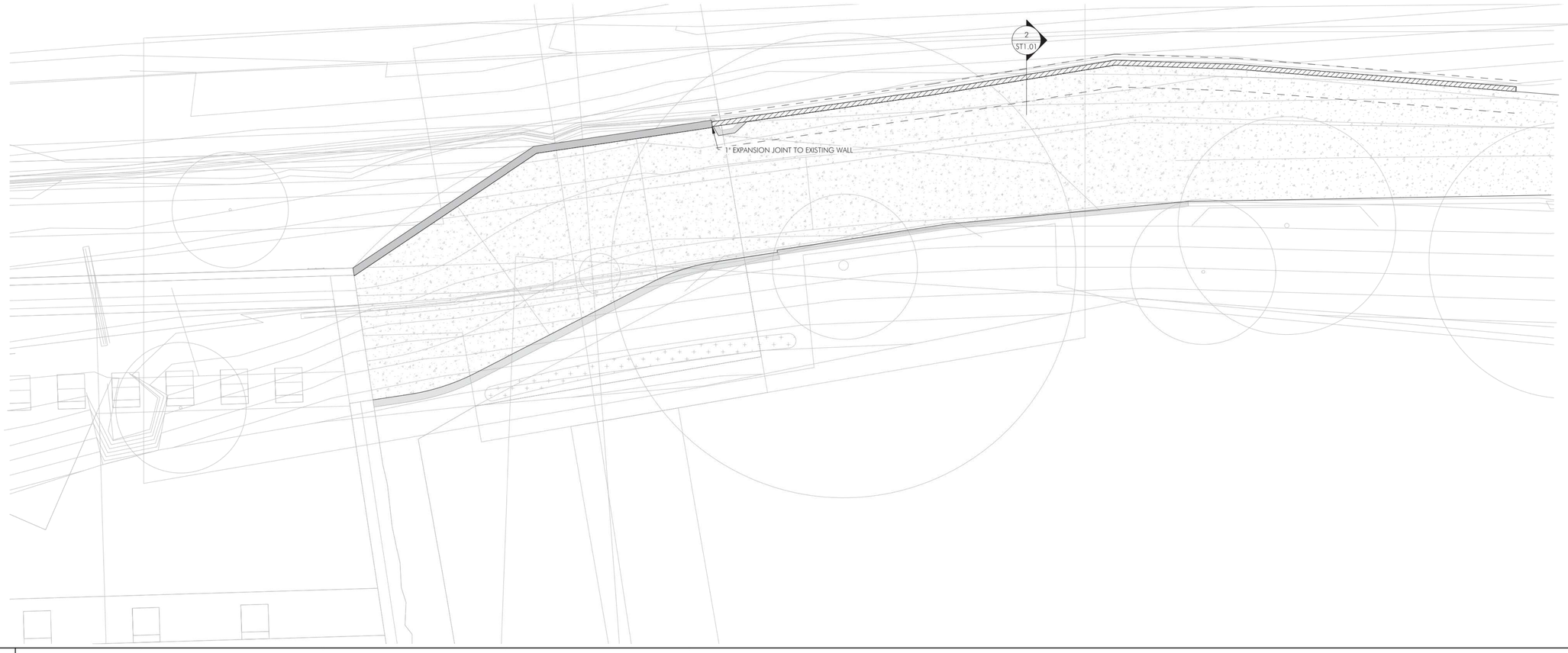
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date ::	10.11.2017
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GR1.03
TRAIL GRADING & DRAINAGE PLAN

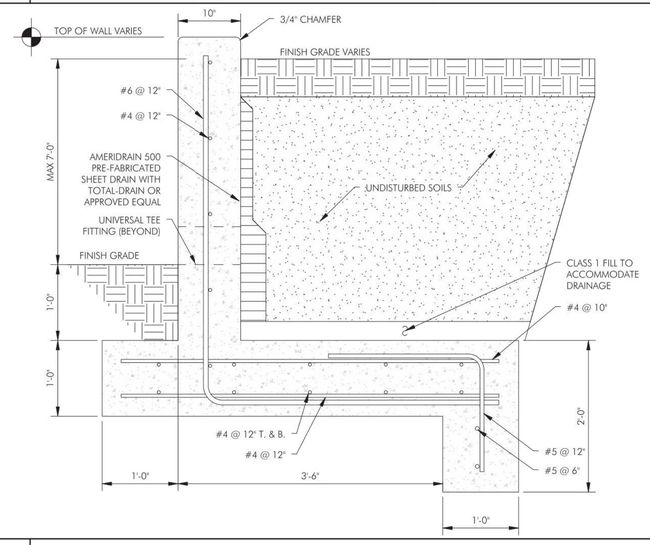
Bid 1710-197

Williamson County, Texas



1 SITE PLAN

1/8" = 1'-0"



2 SECTION

1" = 1'-0"

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Round Rock, Texas 78665
Phone (512) 244-1964
Fax (512) 388-3608
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5010
REGISTERED PROFESSIONAL ENGINEER

7/10/17

UPPER BRUSHY CREEK TRAIL AT CHAMPION
WILLIAMSON COUNTY, TEXAS

REVISIONS		
No.	DATE	DESCRIPTION

E360 PROJECT NO.
15085

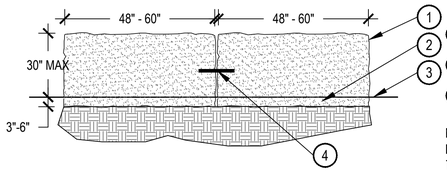
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DRAWN BY:	JT
CHECKED BY:	LF
APPR. BY:	LF

SHEET NO.

ST1.01

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10/16/2017 8:05 AM

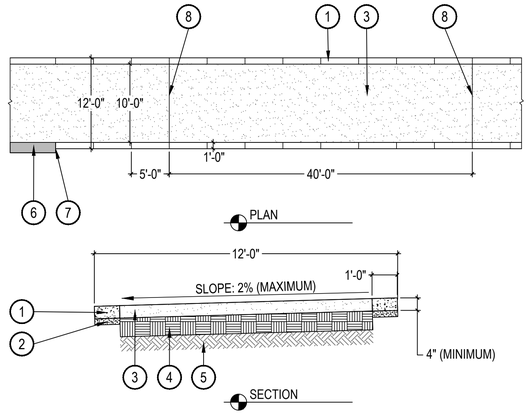


1. ROUGH CUT, SAWN LIMESTONE QUARRY BLOCK, REF. TO PLAN FOR LAYOUT, HEIGHT 30" MAX, WIDTH TO VARY
2. BURY 3-6" OF BLOCK BELOW FINISH GRADE
3. FINISH GRADE
4. 24" X 3/4" STAINLESS STEEL PIN WITH EPOXY

NOTE:
IF MORE THAN ONE BLOCK IS REQUIRED TO REACH PROPOSED HEIGHT, BLOCKS ARE TO BE PINNED TOGETHER VERTICALLY AND HORIZONTALLY.

1 LIMESTONE QUARRY BLOCK WALL

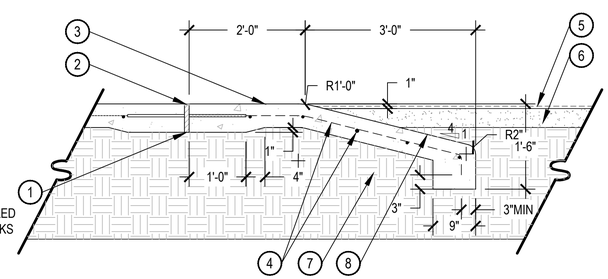
1/2" = 1'-0"



1. 1'-0" CONCRETE RIBBON CURB, 4" DEPTH, W/CONTROL JOINT EVERY 5'-0" (2300 LF)
2. 2" SAND BASE (14.2 CY)
3. 10' DECOMPOSED GRANITE PATH, 4" DEPTH W/STABILIZER PRE-MIXED BY STABILIZER SOLUTIONS (142 CY & 75 BAGS)
4. 6" FLEXIBLE BASE (213 CY)
5. COMPACTED SUBGRADE
6. EXISTING WALL TO REMAIN
7. 1' CONC. RIBBON CURB AT EXISTING WALL CONDITION. RIBBON CURB FACE TO ALIGN WITH FACE OF EXISTING WALL
8. EXPANSION JOINT EVERY 40'-0"

2 CONCRETE TRAIL TRANSITION DETAIL

SCALE: 3/4" = 1'-0"

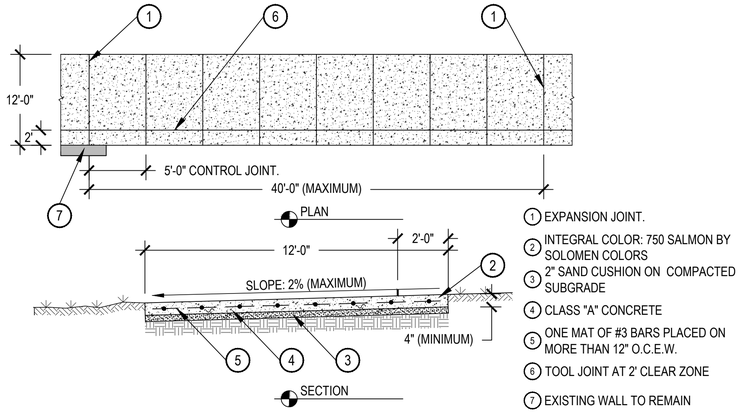


1. PAVING TO BE A MIN. 6" THICKNESS AT EXPANSION JOINT
2. EXPANSION JOINT
3. INTEGRAL COLOR CONCRETE TRAIL
4. #4 @ 12" C/C, EW
5. TOP OF COMPOSITE EDGE (BEYOND)
6. 4" DEPTH LAYER OF DECOMPOSED GRANITE
7. COMPACTED CLASS 2 BACKFILL
8. TOP OF CONCRETE

NOTE:
FOR BASE BID: ONE (1) INSTANCE OF TRANSITION TO OCCUR AT DAM SPILLWAY (WEST)
FOR ALTERNATE BID 1: ONE (1) INSTANCE OF TRANSITION TO OCCUR AT BRIDGE CONNECTION (EAST)

3 BASE BID: CONCRETE TRAIL

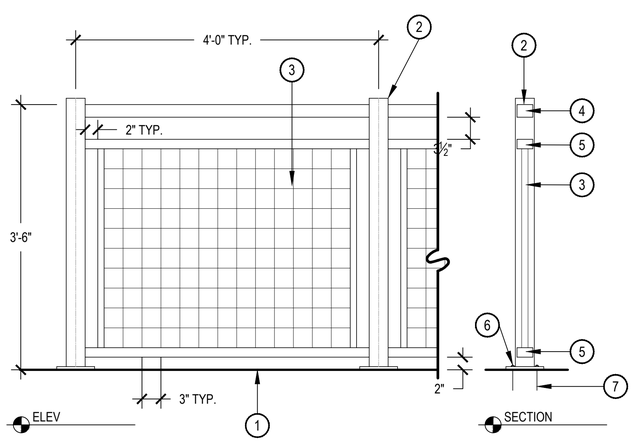
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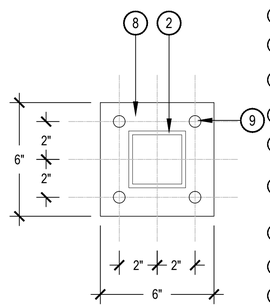


1. EXPANSION JOINT.
2. INTEGRAL COLOR: 750 SALMON BY SOLOMEN COLORS
3. 2" SAND CUSHION ON COMPACTED SUBGRADE
4. CLASS "A" CONCRETE
5. ONE MAT OF #3 BARS PLACED ON MORE THAN 12" O.C.E.W.
6. TOOL JOINT AT 2' CLEAR ZONE
7. EXISTING WALL TO REMAIN

4 ALTERNATE BID 1: DECOMPOSED GRANITE TRAIL

NTS



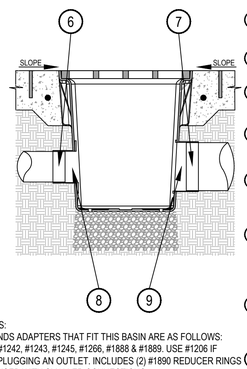


1. TOP OF CONCRETE
2. 3" x 3" TUBULAR STEEL POST
3. 4 GAUGE STEEL WIRE MESH (3" x 3" GRID)
4. 2" x 2 ½" TUBULAR STEEL RAIL
5. 1 ½" x 2 ½" TUBULAR STEEL RAIL
6. ½" DIA. HILTI HIT-2 ANCHOR BOLTS W/ HILTI HIT-HY200 SAFESET SYSTEM
7. 6" EMBEDMENT ON CONCRETE RETAINING WALL
8. ½" x 6" x 6" STEEL BASE PLATE
9. ⅝" DIA. HOLE (TYP OF 4)

NOTES:
1. ALL DECORATIVE METAL POST, PICKETS, WIRE MESH, RAILINGS AND RELATED METAL APPURTENANCES SHALL BE SHOP POWDER COATED (DARK GREEN COLOR TO MATCH REGIONAL TRAIL SYSTEM). SUBMIT COLOR AND FINISH SAMPLES FOR APPROVAL. PROVIDE MANUFACTURER / FABRICATOR WARRANTY AND RECOMMENDATIONS FOR FIELD TOUCH-UP WITH COLOR AND FINISH SAMPLES.
2. ALL METAL FENCE POSTS AND PICKETS SHALL BE PLUMB.
3. ALL METAL RAILINGS SHALL RUN PARALLEL TO TOP OF WALLS
4. SUBMIT SHOP DRAWING FOR METAL GUARDRAILS.

6 METAL GUARDRAIL

SCALE: 1" = 1'-0"



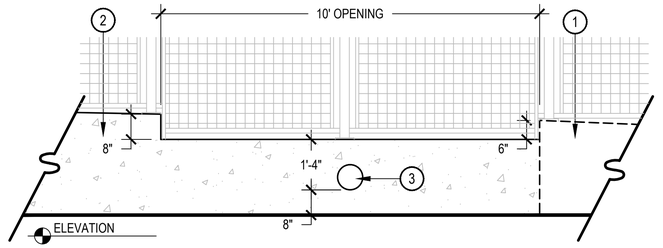
NOTES:
1. NDS ADAPTERS THAT FIT THIS BASIN ARE AS FOLLOWS: #1242, #1243, #1245, #1266, #1888 & #1889. USE #1206 IF PLUGGING AN OUTLET. INCLUDES (2) #1890 REDUCER RINGS USED WITH SMALLER CONNECTIONS.
2. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
3. INSTALL AS PER MANUFACTURERS SPECIFICATIONS

1. NDS 12" SQUARE TAPERED HDPE CATCH BASIN W/U.V. INHIBITORS
2. NDS 12" POLYOLEFIN GRATE W/U.V. INHIBITORS
3. COMPACTED SOIL
4. 1/4" GRAVEL BASE, 4" TO 6" DEEP BELOW BASIN TO PREVENT STANDING WATER
5. DRILL 1/8" WEEP HOLE TYP. OF 4 PLACES AT BOTTOM CORNERS
6. NDS #1242, #1243 & #1245 UNIVERSAL LOCKING OUTLET, TWIST LOCK INTO POSITION AT ANY KNOCKOUT
7. NDS #1266 & #1888 OR #1889 UNIVERSAL LOCKING OUTLET, TWIST LOCK INTO POSITION AT ANY KNOCKOUT
8. FITS 6" & 8" SOLID WALL & 6" OR 8" CORRUGATED PIPE
9. FITS 3" & 4" SOLID WALL OR 6" CORRUGATED PIPE

5 NDS 12" SQ. CATCH BASIN

NTS

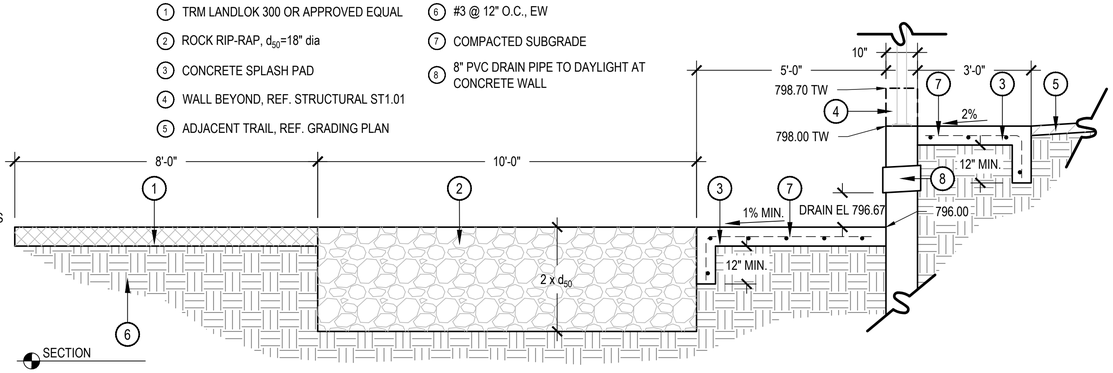
1. EXISTING WALL, REF. STRUCTURAL ST1.01
2. PROPOSED EALL REF. STRUCTURAL ST1.01
3. 8" PVC DRAIN PIPE TO DAYLIGHT AT CONCRETE WALL



7 STRUCTURAL WALL DRAINAGE RELIEF

SCALE: 1/2" = 1'-0"

1. TRM LANDLOK 300 OR APPROVED EQUAL
2. ROCK RIP-RAP, d_{50}=18" dia
3. CONCRETE SPLASH PAD
4. WALL BEYOND, REF. STRUCTURAL ST1.01
5. ADJACENT TRAIL, REF. GRADING PLAN
6. #3 @ 12" O.C., EW
7. COMPACTED SUBGRADE
8. 8" PVC DRAIN PIPE TO DAYLIGHT AT CONCRETE WALL



8 STRUCTURAL WALL DRAINAGE SECTION

SCALE: 1/2" = 1'-0"

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owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

LA1.11
TRAIL SITE PLAN DETAILS



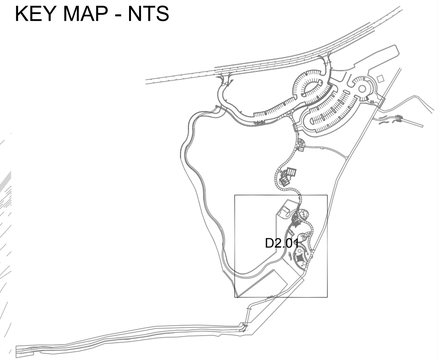
KEY NOTES

1	LIMIT OF CONSTRUCTION
2	EXISTING TRASH CAN TO BE RELOCATED
3	100 YEAR FLOODPLAIN
4	EXISTING SPLASH PAD PUMP BOX TO REMAIN
5	EXISTING SPLASH PAD TO REMAIN FUNCTIONAL, AS FEASIBLE DURING CONSTRUCTION
6	EXISTING DECOMPOSED GRANITE TRAIL TO REMAIN
7	EXISTING SIDEWALK TO REMAIN
8	EXISTING SIDEWALK TO BE REMOVED AT SCORE OR EXPANSION JOINTS (542 SF)
9	HALF CRZ OF EXISTING TREE. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN EXCAVATING AROUND TREES.
10	EXISTING WATER LINE TO BE REMOVED (96 LF)

Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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owner ::
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randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

D2.01
PLAZA EXISTING CONDITIONS & DEMOLITION PLAN
21 OF 54



LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (931 LF)
- TP — TREE PROTECTION (102 LF)
- SECURITY FENCE (2,203 LF)
- REVEGETATION (4,256 SY)

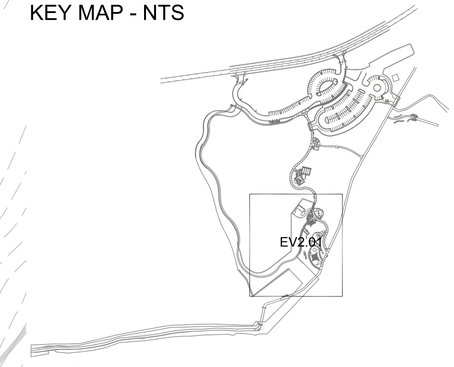
KEY NOTES

1	TEMPORARY SPOILS & STORAGE AREA
2	LIMITS OF SOD, REF. LA2.01 FOR VEGETATION AROUND PLAZA
3	CONTRACTOR TO ENSURE SAFETY OF PARK VISITORS DURING WORK HOURS WHERE L.O.C. CROSSES SIDEWALK AND IS TO REMAIN OPEN. CONTRACTOR TO COORDINATE TIMES OF IMPROVEMENTS IN THESE AREAS TO LESSEN IMPACT TO PARK VISITORS.

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NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

KEY MAP - NTS



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11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV2.01

PLAZA EROSION CONTROL, SEDIMENTATION & TREE PROTECTION PLAN
22 OF 54

10/16/2017 8:05 AM



KEY NOTES

1	LIMIT OF CONSTRUCTION
2	ACCESSIBLE CONCRETE WALKWAY TO MATCH EXISTING
3	CURVED LIMESTONE BLOCK SEAT WALL, REF. DTL 2/LA2.12 (137 LF)
4	20' x 40' PAVILION, REF. PA2.11-2.15, BY ICON STRUCTURES, COLOR SURREY BEIGE
5	9'-2" x 18'-6" RESTROOM FACILITY, REF. RR2.11-2.12, BY PUBLIC RESTROOM FACILITY GROUP
6	EXISTING SPLASH PAD TO REMAIN, CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES SERVING SPLASH PAD PRIOR TO DEMO
7	SINGLE GRILL AND GRILL TABLE WITH KIRBY BUILT GRILL, REF. DTL 3/LA2.12 & DTL 3/LA2.13
8	STACKED IRREGULAR LIMESTONE OUTCROPPING STEPS, SIZE OF BOULDERS TO VARY 6"-1' H, 2-4' W, REF. DTL 4/LA2.12
9	STONE BENCH SEAT WALL / LIMESTONE COLUMN WRAP, REF. DTL 1/LA2.12
10	MOST DEPENDABLE FOUNTAIN JUG FILLER, REF. DTL 4/LA2.13
11	KIRBY BUILT 32-GAL. ROUND SLATTED TRASH RECEPTACLE, REF. DTL 1/LA2.13
12	EXISTING TRASH CAN TO BE RELOCATED
13	KIRBY BUILT SMALL VERTICAL MESSAGE CENTER ON COLUMN, REF. DTL 2/LA2.13
14	CONCRETE STEPS, TYP. (4 RISERS W/ HANDRAIL), REF. DTL 5/LA2.13
15	CONCRETE STEPS, TYP. (5 RISERS W/ HANDRAIL), REF. DTL 5/LA2.13
16	MEET & MATCH EXISTING CONCRETE (TYP.) PAVEMENT CONNECTION TO BE FLUSH. USE EXPANSION JOINT AT ALL CONNECTIONS
17	N: 3,107,364.6957 E: 10,158,588.0958
18	N: 3,107,284.4543 E: 10,158,627.3296
19	N: 3,107,273.3747 E: 10,158,621.6444
20	N: 3,107,263.8088 E: 10,158,635.2562
21	RELOCATED WATER LINE

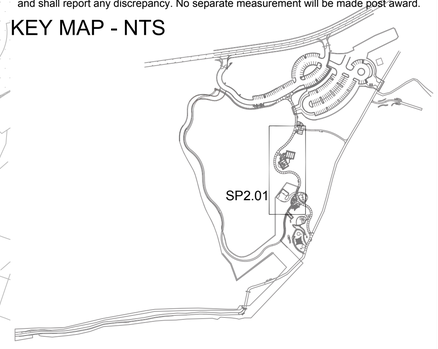
TREE LEGEND

TREES TO BE SAVED

TREES TO BE REMOVED

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KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: 1"=20'-0"

0 5 10 20 30

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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REGISTERED LANDSCAPE ARCHITECT
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2094
STATE OF TEXAS
10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

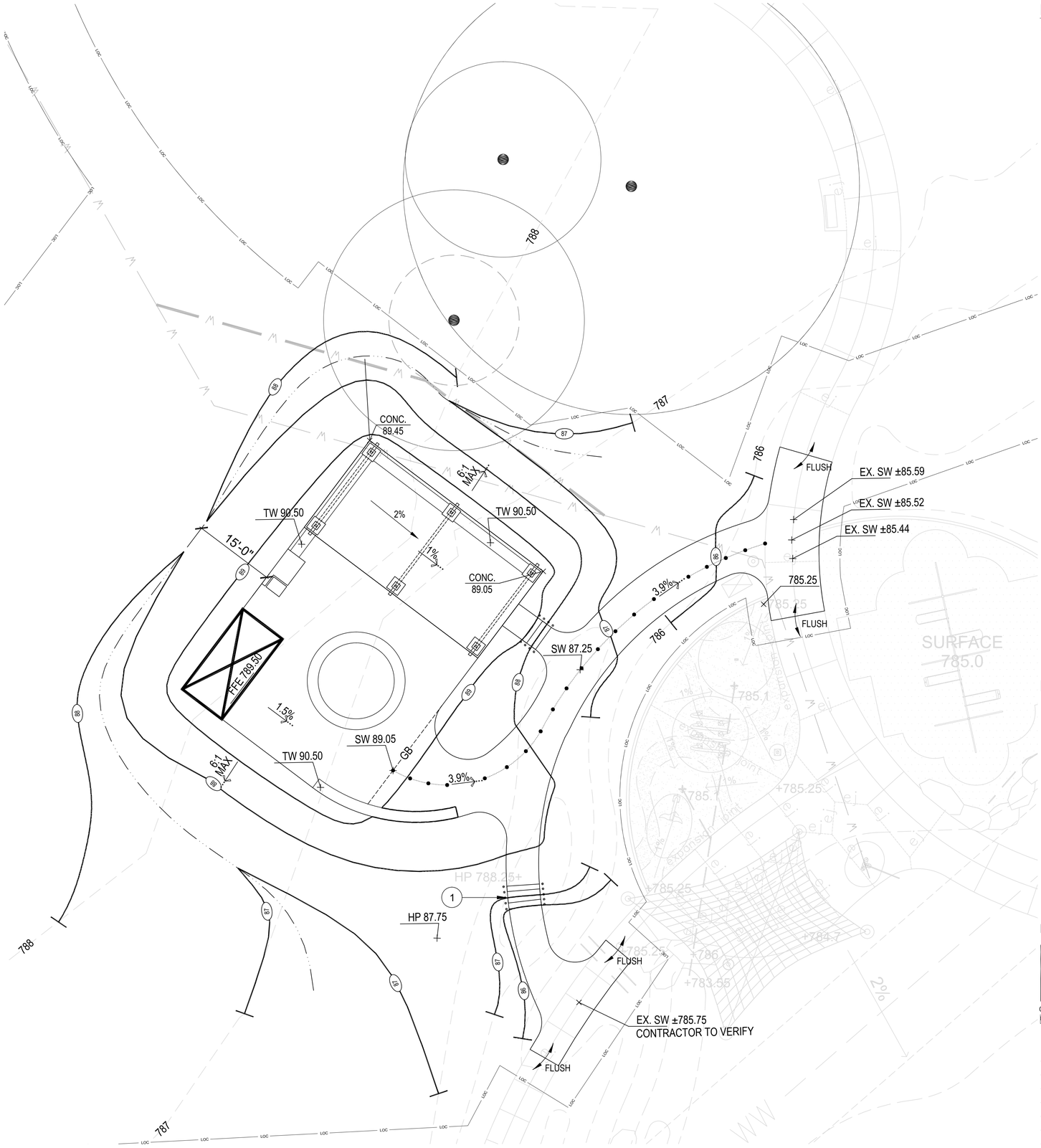
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designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SP2.01

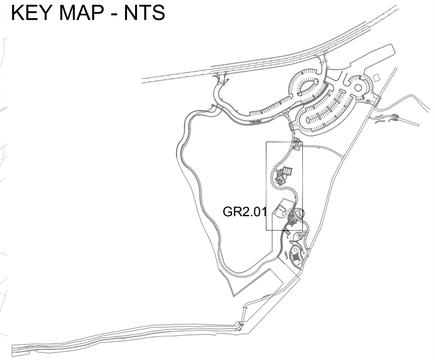
PLAZA SITE PLAN

LEGEND:

ACCESSIBLE ROUTE



KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: HALF

0 5 10 20 30

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

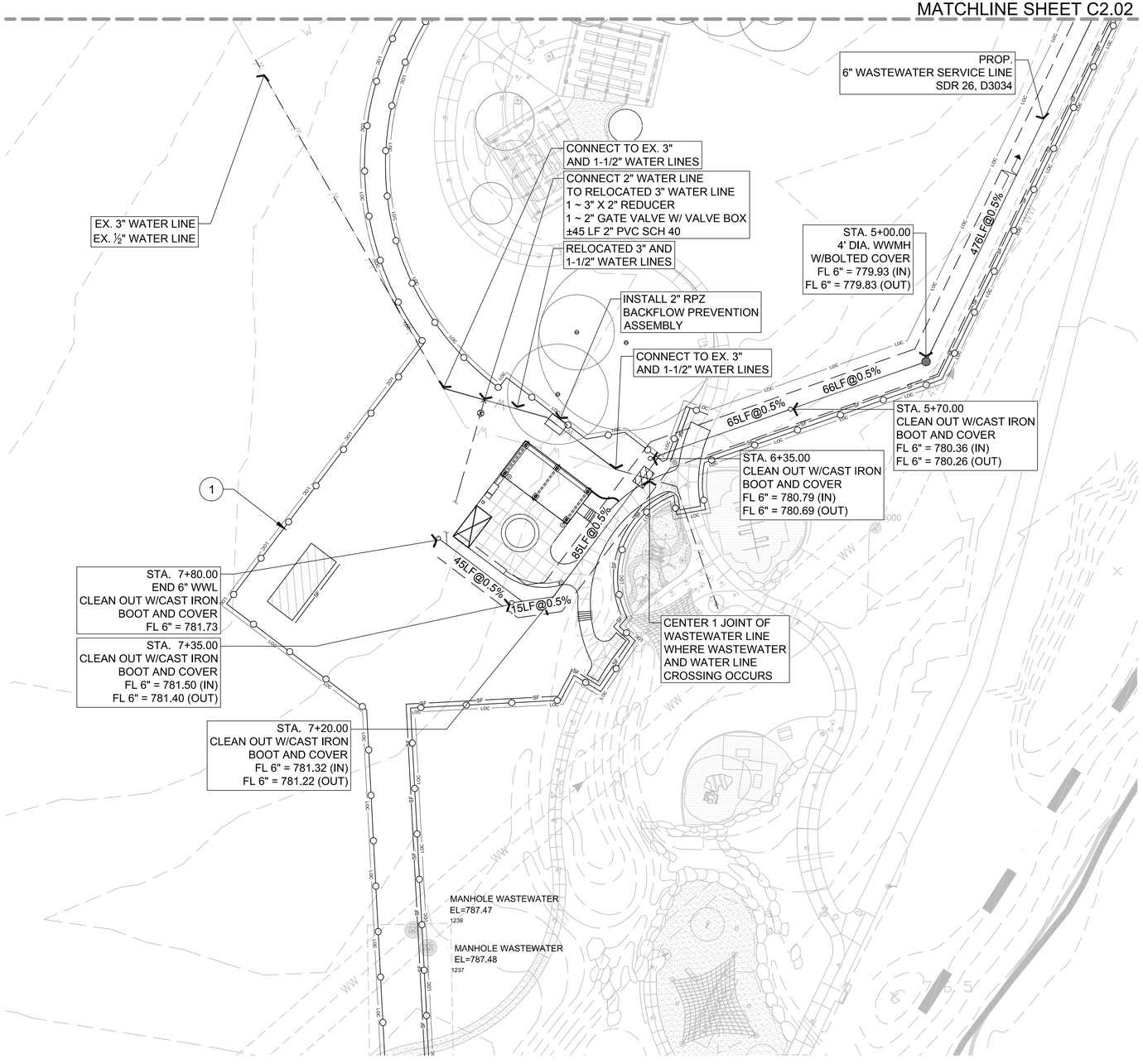
project #::	14.154
date ::	10.11.2017
designed ::	bab, jw, ap
drawn ::	rk, ws, ck, jw
checked ::	jw, ap
approved ::	bab, ap

GR2.01

PLAZA GRADING & DRAINAGE PLAN

24 OF 54

MATCHLINE SHEET C2.02



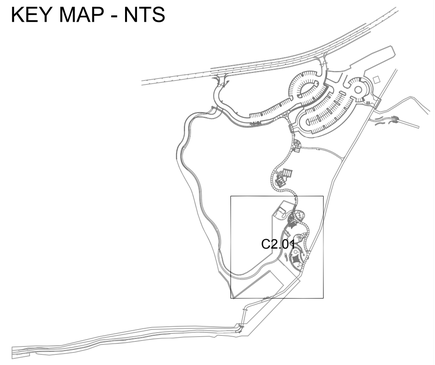
KEY NOTES

1	LIMITS OF CONSTRUCTION

NOTES

1. STUB BLDG WASTEWATER AND WATER SERVICE LINES 5' FROM BUILDING. REFER TO RESTROOM SPECIFICATIONS FOR CONTINUATION

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

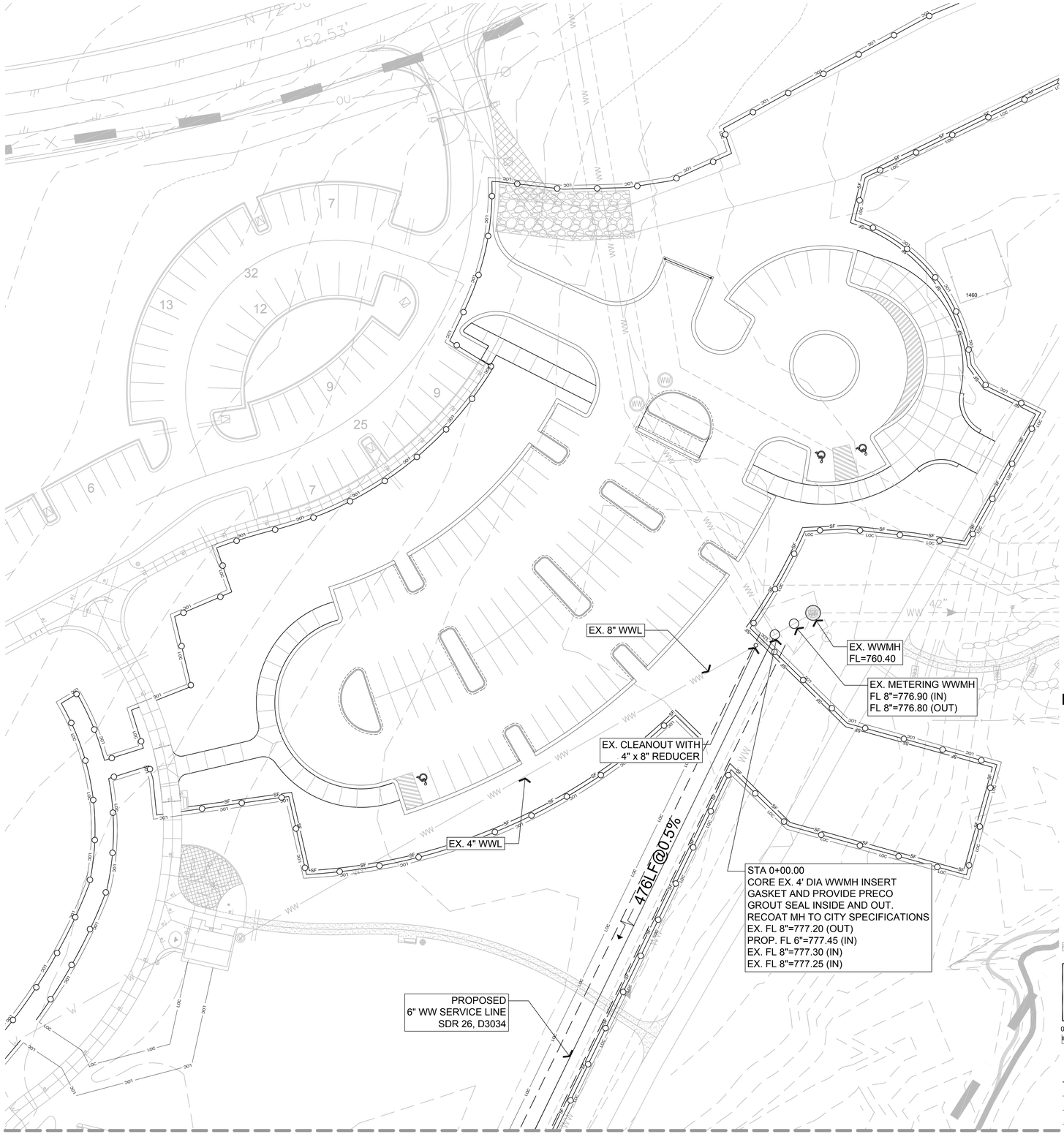
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw, ap
drawn ::	rk, ws, ck, jw
checked ::	jw, ap
approved ::	bab, ap

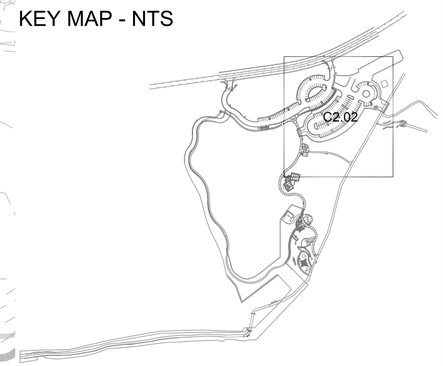
C2.01
UTILITY PLAN

10/16/2017 8:05 AM

Williamson County, Texas



KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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STATE OF TEXAS
ANTONIO A. PRETE
93759
LICENSED
PROFESSIONAL ENGINEER
10.20.17

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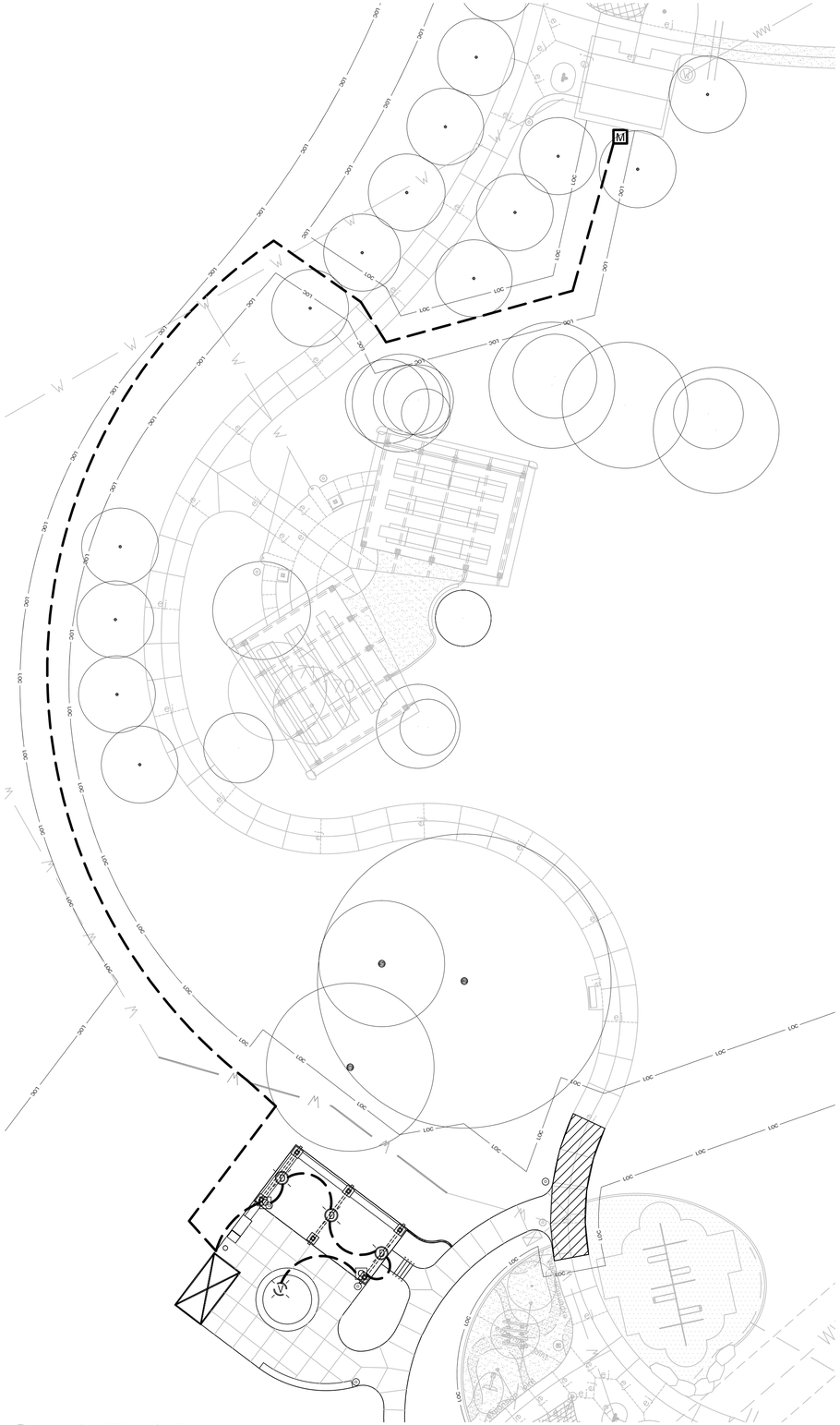
BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

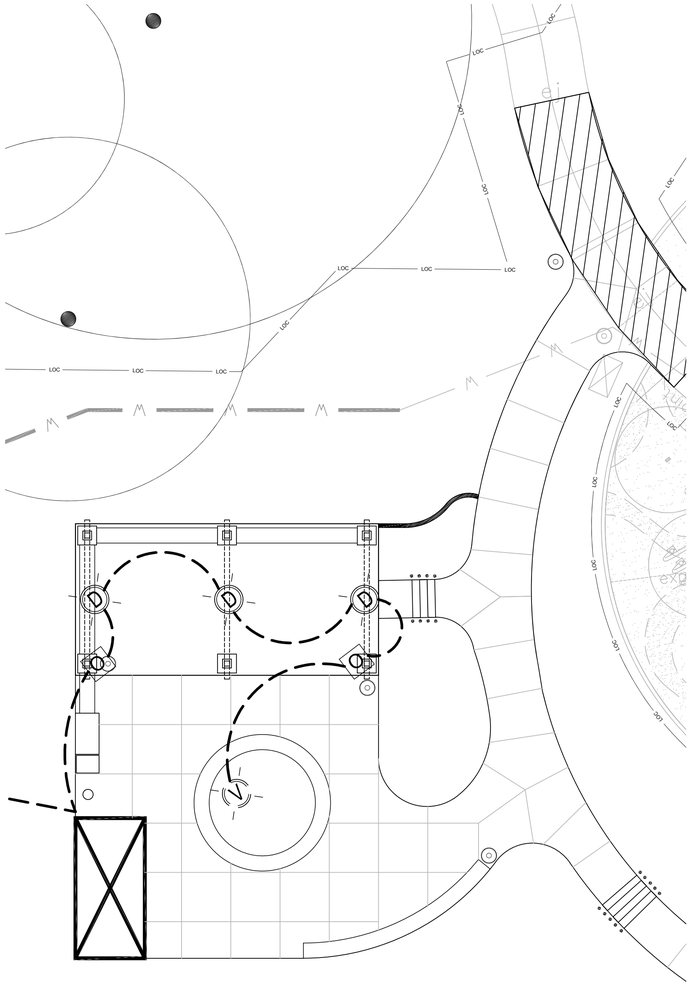
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checked ::	jw, ap
approved ::	bab, ap

C2.02
UTILITY PLAN



1 LIGHTING PLAN

SCALE: 1:20



2 ENLARGED LIGHTING PLAN

SCALE: 1:10

LIGHTING FIXTURE SCHEDULE

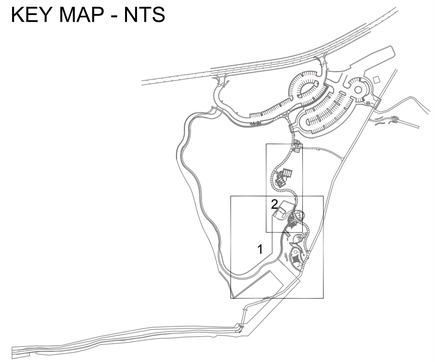
SYMBOL	QTY.	MANUFACTURER	DESCRIPTION	APPLICATION
M	EXISTING		EXISTING METER AND BREAKER BOX	EXISTING
D	3	LSI	XDLSB-5-LED-HO–WW-UE-MSV–PM	DOWN LIGHT PENDANT FROM STRUCTURE
O	2	N/A	STANDARD GFI PROTECTED OUTLET WITH COVER	ON INSIDE OF COLUMNS
— —	562 LF	N/A	ELECTRIC CONDUIT AND WIRING	ELECTRIC CONNECTION
V	1	MOON VISIONS	BR 20, LED, GREEN	TREE UPLIGHT

GENERAL LIGHTING NOTES

1. LIGHTING AND ELECTRICAL SYSTEM TO BE DESIGNED AND INSTALLED BY A LICENSED ELECTRICIAN WITH DOCUMENTED EXPERIENCE OF INSTALLING SYSTEMS OF SIMILAR SCOPE. CONTRACTOR TO PROVIDE ALL ASSOCIATED EQUIPMENT SUCH AS PVC CONDUIT, WEATHER PROOF AND /OR WATER PROOF JUNCTION BOXES, BALLASTS, CONNECTORS, HARNESSES, TIME CLOCKS ETC., NECESSARY TO INSTALL A COMPLETE ELECTRICAL SYSTEM.
2. CONTRACTOR SHALL REVIEW PROPOSED LAYOUT OF LIGHTING SYSTEM AND EQUIPMENT LOCATIONS WITH OWNERS REPRESENTATIVE PRIOR TO INSTALLATION. PROVIDE TWO-YEAR WARRANTY ON ALL EQUIPMENT, INCLUDING LAMPS, BALLASTS, AND INSTALLATION.
3. CONTRACTOR TO PAY FOR ALL PERMITTING.
4. CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL FROM METER LOCATION AND BEYOND. ALL CONDUIT TO BE INSTALLED UNDERGROUND. NO OVERHEAD WIRES ARE PERMITTED. ROUTE CONDUIT TO AVOID TREE ROOTS.
5. CONTRACTOR TO VERIFY SPACE FOR 60 AMP SERVICE AT EXISTING BREAKER BOX LOCATION. ALL ELECTRIC WORK TO CONFORM TO N.E.C., P.E.C. AND ALL OTHER GOVERNING CODES.
6. CONTRACTOR TO REVIEW CONDUIT LAYOUT WITH OWNERS REPRESENTATIVE PRIOR TO INSTALLATION. INSTALL ALL CONDUIT TO CONFORM TO N.E.C., P.E.C. AND ALL GOVERNING CODES.
7. CONNECT TO BATHROOM ELECTRIC STUB PER MANUFACTURERS SPECIFICATIONS.
8. PAVILION AND RESTROOM TO BE ON SEPARATE CIRCUITS..
9. PAVILION LIGHTING TO BE CONTROLLED BY PHOTOCELL WITH TIME CLOCK OVERRIDE LOCATED IN RESTROOM CHASE. REVIEW TIME CLOCK REQUIREMENTS AND LOCATIONS WITH OWNERS REPRESENTATIVE.
10. PROVIDED LF IS SCHEMATIC & CONTRACTOR SHALL VERIFY QUANTITY.

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

KEY MAP - NTS



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REGISTERED LANDSCAPE ARCHITECT
BRENT A. BAKER
2094
STATE OF TEXAS
10-11-17

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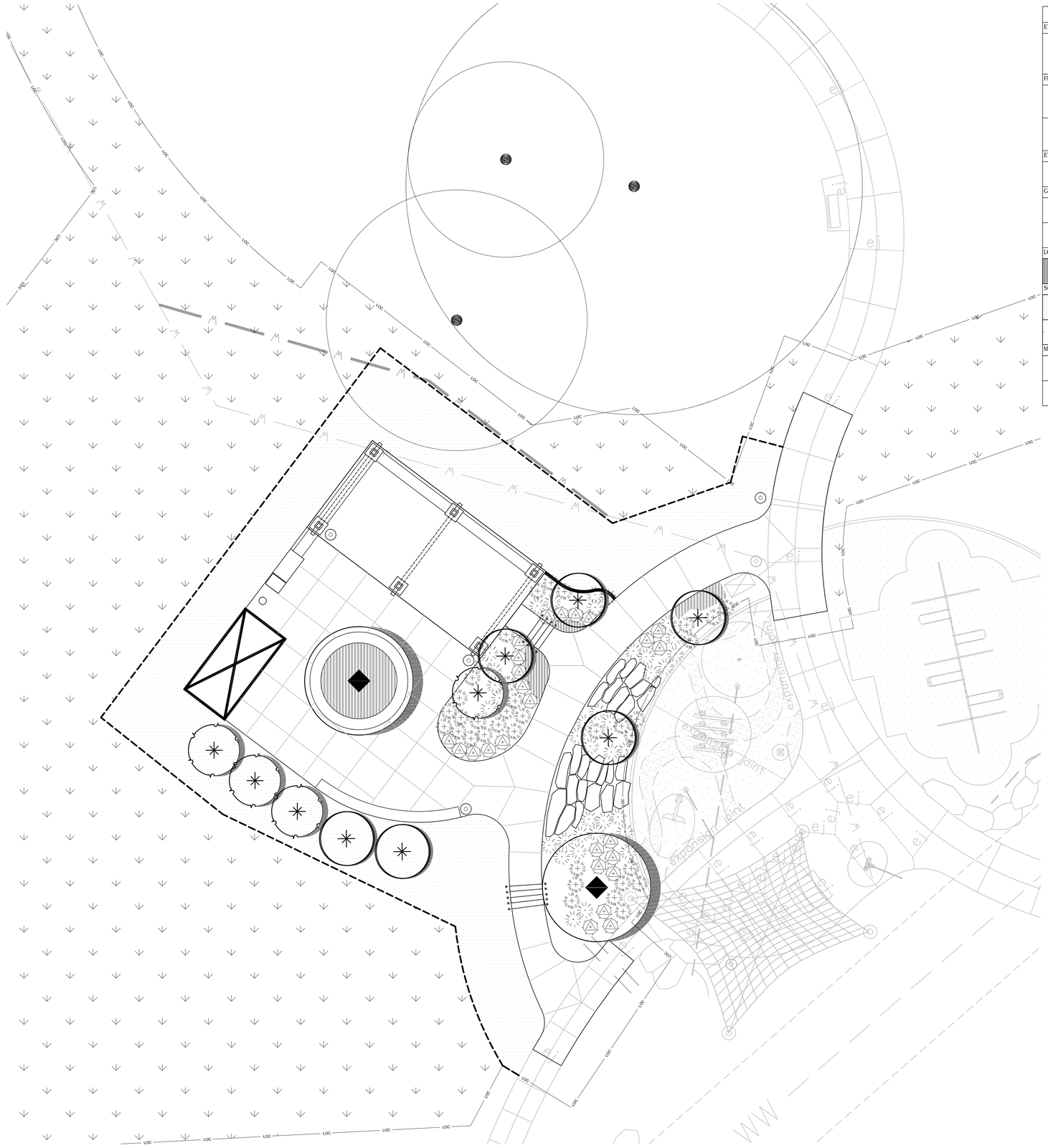
BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

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LE2.01
PLAZA LIGHTING PLAN

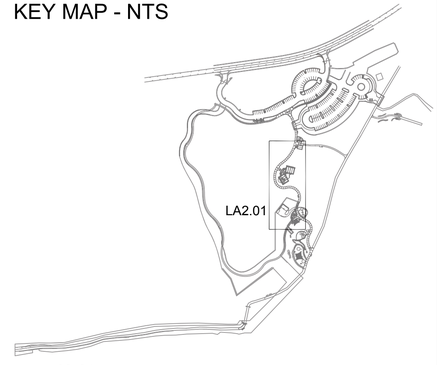


EVERGREEN TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL	DESCRIPTION
	2	SOUTHERN LIVE OAK / QUERCUS VIRGINIANA	B&B	6" CAL	10'-12' H X 5'-6' W
FLOWERING TREES	**QTY**	**COMMON NAME / BOTANICAL NAME**	**CONT**	**CAL**	**DESCRIPTION**
	4	DESERT WILLOW / CHILOPSIS LINEARIS	30 GAL	2" CAL	5'-6' H
	6	TEXAS REDBUD / CERCIS CANADENSIS TEXENSIS	30 GAL	2" CAL	8' H X 10' W
EVERGREEN SHRUBS	**QTY**	**COMMON NAME / BOTANICAL NAME**	**SIZE**	**DESCRIPTION**	**SPACING**
	25	CHERRY SAGE / SALVIA GREGGII	1 GAL	PER TNLA STANDARDS & SPECS	36" O.C.
GRASSES	**QTY**	**COMMON NAME / BOTANICAL NAME**	**SIZE**	**DESCRIPTION**	**SPACING**
	35	BICOLOR IRIS / DIETES BICOLOR	3 GAL	PER TNLA STANDARDS & SPECS	36" O.C.
	38	GULF MUHLY / MUHLENBERGIA CAPILLARIS	3 GAL	PER TNLA STANDARDS & SPECS	36" O.C.
LOW GROUND COVERS	**QTY**	**COMMON NAME / BOTANICAL NAME**	**CONT**	**DESCRIPTION**	**SPACING**
	85	SILVER PONYFOOT / DICHONDRA ARGENTEA	1 GAL	PER TNLA STANDARDS & SPECS	24" O.C.
SOD/SEED	**QTY**	**COMMON NAME / BOTANICAL NAME**	**CONT**	**DESCRIPTION**	
	3,119 SF	BERMUDA GRASS (SOD) / CYNODON DACTYLON	SOD		
	8 LB	NATIVE SEED: NATIVE TRAIL MIX, BY NATIVE AMERICAN SEED	SEED	1 LB. / 4,300 SF	
MATERIALS	**QTY**	**NAME**		**DESCRIPTION**	
	15 LF	LIMESTONE BLOCK EDGING		4" W X 4" H X 12" L	
	25	LIMESTONE BLOCKS FOR OUTCROPPING. SEE DETAIL 3 / LA2.12		VARIES	

Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: 1"=20'-0"

0 5 10 20 30

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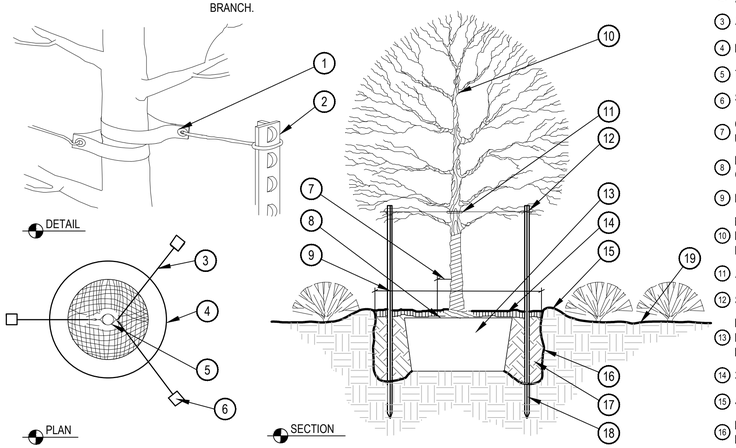
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LA2.01
PLAZA LANDSCAPE PLANTING PLAN

28 OF 54

10/16/2017 8:05 AM

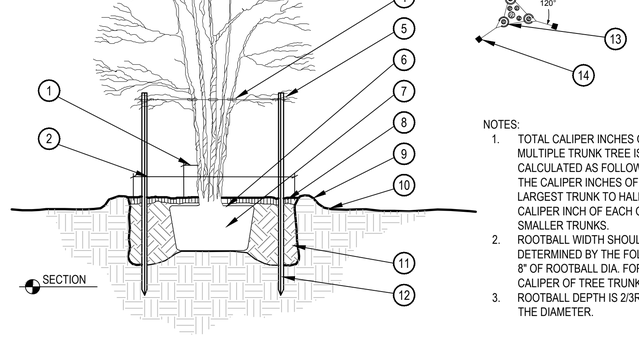
NOTES:
1. ROOTBALL SIZE SHALL CONFORM TO THE 1995 AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS UNLESS OTHERWISE NOTED.
2. USE THREE STAKES ON ALL TREES.
3. APPROVED TIE SYSTEM SHALL BE LOCATED ABOVE THE BOTTOM BRANCH.



1. APPROVED TREE TIE SYSTEM (SEE NOTES) LOOP SHALL BE 3X THE DIAMETER OF TRUNK IN ORDER TO PREVENT SCARING, CUTTING, GIRDLING, OR OTHER DAMAGE TO TREE
2. STEEL STUDDED FENCE POST-STUDS MUST FACE AWAY FROM TREE
3. APPROVED TREE TIE SYSTEM (SEE NOTES)
4. EDGE OF TREE PIT
5. TREE TRUNK
6. STUDDED STEEL FENCE POST
7. CONTRACTOR TO LEAVE 6" MIN. ROOT FLAIR UNCOVERED BY MULCH, SOIL, AND PLANTING MIX
8. PLACE TOP OF ROOT CROWN 2" ABOVE FINISH GRADE
9. EXCAVATE HOLE 2X ROOT BALL DIAMETER
10. NEVER CUT LEADER-THIN UP TO 1/3 OF BRANCHES RETAINING NATURAL SHAPE OF TREE - DO NOT LEAVE STUBS
11. APPROVED TIE SYSTEM ABOVE THE FIRST BRANCH
12. STAKE ALL TREES USING METAL STAKES-3 PER TREE
13. DO NOT BREAK ROOT BALL. IF ROOT BALL IS BROKEN PLANT WILL BE REJECTED. REMOVE BURLAP FROM TOP OF ROOT BALL
14. 3" MULCH LAYER AS SPECIFIED
15. 4" HT. SAUCER AROUND PLANTING PIT
16. ROUGHEN SURFACE TO IMPROVE ROOT PENETRATION
17. PLANTING SOIL MIX AS SPECIFIED
18. MIN. 3 STAKES PER TREE PAINTED BLACK STEEL STAKE 3 LARGEST STEMS ON TREE
19. FINISH GRADE

1 SINGLE TRUNK TREE PLANTING AND STAKING

SCALE: NTS

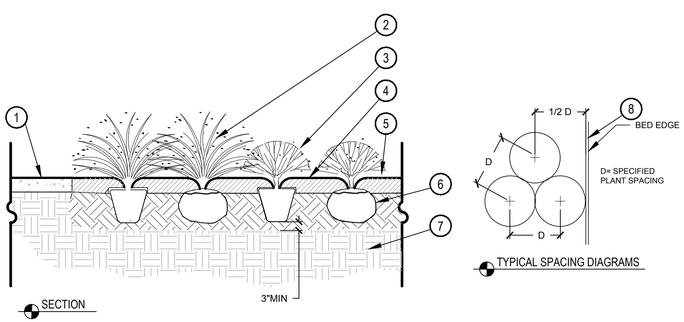


NOTES:
1. TOTAL CALIPER INCHES OF A MULTIPLE TRUNK TREE IS CALCULATED AS FOLLOWS: ADD THE CALIPER INCHES OF THE LARGEST TRUNK TO HALF OF THE CALIPER INCH OF EACH OF THE SMALLER TRUNKS.
2. ROOTBALL WIDTH SHOULD BE DETERMINED BY THE FOLLOWING: 8" OF ROOTBALL DIA. FOR EACH 1" CALIPER OF TREE TRUNK.
3. ROOTBALL DEPTH IS 2/3RDS OF THE DIAMETER.

1. CONTRACTOR TO LEAVE 6" MIN. ROOT FLAIR UNCOVERED BY MULCH, SOIL, AND PLANTING MIX
2. EXCAVATE HOLE 2X ROOT BALL DIAMETER
3. NEVER CUT LEADER - THIN UP TO 1/3 OF BRANCHES RETAINING NATURAL SHAPE OF TREE - DO NOT LEAVE STUBS
4. ATTACH GUY WIRE & HOSE ABOVE FIRST BRANCH.
5. STAKE ALL TREES USING METAL STAKES-3 PER TREE
6. PLACE TOP OF ROOT CROWN 2" ABOVE FINISH GRADE
7. DO NOT BREAK ROOT BALL. IF ROOT BALL IS BROKEN PLANT WILL BE REJECTED. REMOVE BURLAP FROM TOP OF ROOT BALL
8. 3" MULCH LAYER AS SPECIFIED
9. 4" HT. SAUCER AROUND PLANTING PIT
10. FINISH GRADE
11. PLANTING SOIL MIX AS SPECIFIED
12. HEAVY DUTY, METAL STAKE TO BE MINIMUM 8'-0" LONG STAKE TO BE 18" BELOW PIT IN UNDISTURBED SUBGRADE
13. LACE HOSE GUARDS TOGETHER WITH SINGLE WIRE STAY
14. MIN. 3 STAKES PER TREE PAINTED BLACK STEEL STAKE 3 LARGEST STEMS ON TREE

2 MULTI-STEM TREE PLANTING AND STAKING STANDARD

SCALE: NTS



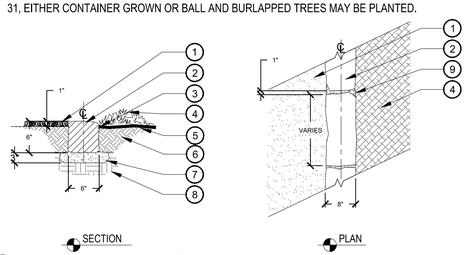
1. CONCRETE PAVING
2. GRASSES (AS SPECIFIED)
3. SHRUB (AS SPECIFIED)
4. 4" MULCH OR GRANITE GRAVEL LAYER
5. LEAVE NO ROOTS EXPOSED
6. PLANTING SOIL MIX AS SPECIFIED
7. UNDISTURBED SUBGRADE
8. BED EDGE

3 SHRUB/ GRASS PLANTING

SCALE: NTS

LANDSCAPE NOTES:

1. COMPLETE ALL LANDSCAPE PLANTING AND RELATED EARTHWORK INCLUDING ALL PRODUCTS, EQUIPMENT AND LABOR, FOR THE LANDSCAPE AREAS SHOWN ON THE DRAWING AND DESCRIBED IN THE SPECIFICATIONS.
2. ALL QUESTIONS SHOULD BE REFERRED TO THE PROJECT LANDSCAPE ARCHITECT.
3. INFORMATION PROVIDED ON THIS PLAN IS GENERAL IN NATURE. DIMENSIONS, LOCATIONS, AND AREAS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO BIDDING & INSTALLATION.
4. QUANTITIES SHOWN FOR PLANT MATERIALS ARE APPROXIMATE. ACTUAL INSTALLED QUANTITIES OF PLANT MATERIALS MAY VARY FROM THE PLAN AND SHOULD BE FIELD DETERMINED ACCORDING TO THE GIVEN SPACING AND FIELD CONDITIONS. DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE PLAN WHICH LIMIT THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
5. BY BIDDING, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS SATISFIED HIMSELF/HERSELF AS TO THE NATURE AND LOCATION OF THE WORK AND TO THE QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES INSOFAR AS THIS DATA IS REASONABLY ASCERTAINABLE FROM AN INSPECTION OF THE SITE. ANY FAILURE BY THE CONTRACTOR TO ACQUAINT HIMSELF/ HERSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM/HER FROM RESPONSIBILITY FOR ESTIMATING PROPERLY THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK AS DESCRIBED.
6. INSTALLATION OF ALL LANDSCAPING MUST BE COORDINATED WITH THE INSTALLATION OF RELATED IRRIGATION, SITE WORK, AND GRADING.
7. UNLESS SPECIFICALLY NOTED, INSTALL ALL MASSED PLANTING UTILIZING EQUILATERAL TRIANGULAR SPACING.
8. EVENLY APPLY 3" OF MULCH TO ALL CONTINUOUS PLANTING BEDS. MULCH TO BE TRANSPORTED AND INSTALLED BY THE CONTRACTOR.
9. SUBSTITUTIONS OF PLANT SPECIES, SIZES, OR OTHER SPECIFIED MATERIALS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE PROJECT LANDSCAPE ARCHITECT.
10. PLANT MATERIAL AND LAYOUT MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
11. ALL IDENTIFICATION TAGS PROVIDED BY GROWERS AND PLACED ON TREES AND SHRUBS ARE TO REMAIN ON THE PLANTS THROUGH THE PUNCH-LIST INSPECTION. TAGS ARE TO BE REMOVED PRIOR TO FINAL ACCEPTANCE, OR UPON REQUEST OF THE PROJECT LANDSCAPE ARCHITECT.
12. SEED MIX/SOLID SOD WILL BE APPLIED TO ALL CONSTRUCTION-DAMAGED GROUND SURFACES NOT OTHERWISE PLANTED. CONTRACTOR SHALL REVIEW RELATED CONSTRUCTION DRAWINGS FOR LIMITS OF CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR COORDINATING WITH OTHER SITE CONTRACTORS TO DETERMINE ACTUAL AREAS OF SEEDING REQUIRED, INCLUDING AREAS DISTURBED BY UTILITY EXTENSIONS.
13. THE LANDSCAPE CONTRACTOR SHALL EXCAVATE FULLY PREPARED PLANT BEDS AS REQUIRED TO ACCOMMODATE A FULL 6" OF PREPARED SOIL AND 3" MULCH LAYER. CLEAN, NATIVE TOPSOIL REMOVED FROM THESE BEDS MAY BE SPREAD ON NEARBY AREAS TO BE SODDED OR SEEDED. STONES LARGER THAN 1" DIAMETER SHALL BE REMOVED AND DISPOSED OF OFF SITE. FOLLOWING EXCAVATION, PLACE PREPARED SOIL IN THESE PLANT BEDS. PREPARED SOIL SHALL CONSIST OF 4" IMPORTED "CHOCOLATE" LOAM TOPSOIL AND 2" ORGANIC COMPOST SOIL CONDITIONER (SUCH AS "LIVING EARTH TECHNOLOGIES", "BACK-TO-EARTH" OR OTHER APPROVED MANUFACTURER), THOROUGHLY BLENDED TOGETHER. THIS MIX SHALL ALSO BE USED TO BACKFILL PLANTING PITS OF ALL TREES AND LARGE SHRUBS. CONTRACTOR SHALL SUBMIT PLANTING SOIL MATERIAL TO THE LANDSCAPE ARCHITECT FOR APPROVAL.
14. ALL PLANTING BEDS INDICATED WILL BE IRRIGATED WITH UNDERGROUND AUTOMATIC IRRIGATION. IRRIGATION CONTRACTOR IS TO BE A STATE OF TEXAS LICENSED IRRIGATOR, AND SHALL FOLLOW ALL TCEQ CODES AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM INCLUDING PIPE SIZES AND LOCATIONS.
15. ALL SEEDING AREAS DISTURBED BY CONSTRUCTION SHALL BE TEMPORARILY IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
16. REGULAR MAINTENANCE IS REQUIRED OF ALL LANDSCAPE AREAS AND PLANT MATERIALS IN A VIGOROUS AND HEALTHY CONDITION, FREE FROM DISEASES, PEST WEEDS, AND LITTER. THIS MAINTENANCE SHALL INCLUDE WEEDING, WATERING, FERTILIZATION, PRUNING, MOWING, EDGING, MULCHING OR OTHER NEEDED MAINTENANCE, IN ACCORDANCE WITH GENERALLY ACCEPTED HORTICULTURAL PRACTICES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE PROJECT LANDSCAPE ARCHITECT.
17. THE OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS. SAID AREAS SHALL BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPERARANCE AT ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. ALL PLANTING BEDS SHALL BE PROVIDED WITH A READILY AVAILABLE WATER SUPPLY AND WATERED AS NECESSARY TO ENSURE CONTINUOUS HEALTHY GROWTH AND DEVELOPMENT. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE ORDINANCE.
18. NO TOPSOIL SHALL BE PLACED UNTIL SUBGRADE IS APPROVED BY LANDSCAPE ARCHITECT. CONTRACTOR TO FURNISH AND SPREAD TOPSOIL ON LAWN AREAS TO A DEPTH OF FOUR INCHES. WORK TOPSOIL TO A SMOOTH UNIFORM SURFACE AND COMPACT FIRMLY. FEATHER TOPSOIL INTO UNDISTURBED AREAS CREATING A SMOOTH, EVEN TRANSITION. SPREAD ADDITIONAL TOPSOIL IN UNDISTURBED AREAS TO ELIMINATE WATER PONDING
19. NO CUTTING, FILLING, TRENCHING, ROOT DISTURBANCE, SOIL DISTURBANCE, OR CONSTRUCTION IMPACTS SHALL OCCUR TO THE TRUNK WITHIN THE CRITICAL ROOT ZONE UNLESS DONE BY HAND.
20. FROM APRIL 1 TO SEPTEMBER 30, ONLY CONTAINER GROWN TREES MAY BE PLANTED. FROM OCTOBER 1 TO MARCH 31, EITHER CONTAINER GROWN OR BALL AND BURLAPPED TREES MAY BE PLANTED.



1. ADJACENT TURF AREA
2. LIMESTONE EDGE MOW CURB; 6" WIDTH & 6" DEPTH; LENGTH VARIES; SET 2" ABOVE FINISH GRADE
3. FINISH GRADE
4. ADJACENT PLANTING BED
5. GEOTEXTILE WEED BARRIER FABRIC
6. PLANTING MIX
7. EMBED STONE IN 3" CONCRETE
8. COMPACTED SUBGRADE
9. MORTAR JOINTS; APPROXIMATELY 1" WIDTH; USE MORTAR TO SMOOTH EDGE OF MOW CURB

6 LIMESTONE EDGE

SCALE: NTS

LANDSCAPE MAINTENANCE NOTES:

PROPERTY LANDSCAPING SHALL BE MAINTAINED AT ALL TIMES. THE QUALITY OF THE LANDSCAPE MAINTENANCE SHALL MEET STANDARDS OF PERFORMANCE PROVIDED BY LANDSCAPE COMPANIES IN THE REGION. LANDSCAPE AREAS WILL AT ALL TIMES HAVE A NEAT, CLEAN, HEALTHY, MANICURED APPEARANCE.

1. TURF AREAS
   - A. MOWING & EDGING OF ALL TURF AREAS SHALL BE PERFORMED AT LEAST ONCE PER WEEK.
   - B. PERENNIAL GRASS OVERSEEDING SHALL BE SEPARATE & MUST BE APPROVED BY THE OWNER PRIOR TO START. OVERSEEDING SHALL BE SPREAD AT A RATE TO INSURE A LUSH, THICK CONSISTENT WINTER TURF. TRIMMING & EDGING OF TURF AREAS TO BE PERFORMED EACH VISIT.
   - C. ALL TURF AREAS ARE TO BE FERTILIZED A MINIMUM OF FOUR TIMES PER YEAR W/ A HIGH QUALITY, SLOW RELEASE FERTILIZER FROM A REPUTABLE MANUFACTURER.
   - D. CONTRACTOR SHALL APPLY APPROPRIATE FUNGICIDES AS NECESSARY & PRE-EMERGENT HERBICIDE TWO TIMES PER YEAR & POST-EMERGENT HERBICIDE AT THE TIME DEEMED MOST EFFICIENT & FAVORABLE BY CONTRACTOR.
   - E. TURF TO BE TREATED AS NECESSARY W/ APPROPRIATE INSECTICIDE TO CONTROL SOIL PESTS.
   - F. RAKING TO BE PERFORMED AS NEEDED TO MAINTAIN APPEARANCE. DE-THATCH & AERATE TURF ONCE DURING THE YEAR IN CONJUNCTION W/ RYE OVERSEEDING. IF OWNER OPTS TO NOT PERFORM OVERSEED, DE-THATCHING & AERATING TO BE PERFORMED IN EARLY SPRING.
   - G. BAG ALL AREAS WITHIN 45 FEET OF BUILDINGS, DRIVEWAYS, & SIDEWALKS.

2. SHRUBS, GROUND COVER, BEDS & ANNUALS
   - A. TO BE MAINTAINED WEED FREE, AS NEEDED USING APPROPRIATE HERBICIDES & MANUAL WEEDING. USE A MINIMUM OF TWO PRE-EMERGENT APPLICATIONS & MANUALLY WEED EACH VISIT.
   - B. TO BE FERTILIZED FOUR TIMES PER YEAR W/ A BALANCED HIGH QUALITY, SLOW RELEASE FERTILIZER, APPROPRIATE TO THE SHRUBS ON THE PROJECT.
   - C. SHRUBBERY TO BE HAND TRIMMED AS SPECIFIED TO MAINTAIN A MANICURED APPEARANCE OR AS OTHERWISE REQUESTED BY OWNER. USE ONLY SKILLED PERSONNEL W/ SIGNIFICANT EXPERIENCE IN CLASS A PROPERTIES. NO SHEARING, ALL TO BE DONE W/ SELECTIVE HAND PRUNING TO KEEP PLANT WITHIN BOUNDS BUT TO MAINTAIN A NATURAL SHAPE & APPEARANCE.
   - D. TO BE INSPECTED WEEKLY BY QUALIFIED SUPERVISOR, FOLLOWED BY A WRITTEN REPORT OF PROBLEMS DISCOVERED & ACTIONS TO BE TAKEN.
   - E. AREAS TO BE SPRAYED W/ APPROPRIATE INSECTICIDES & FUNGICIDES, AS NECESSARY.
   - F. ANNUALS TO BE CHANGED OUT FOUR (4) TIMES PER YEAR USING FOUR (4) INCH POTS & FERTILIZED AT EACH CHANGE. MONITOR & APPLY FUNGICIDES & INSECTICIDES TO INSURE MAXIMUM VIGOR.
   - G. APPLY SHREDDED HARDWOOD MULCH TO A DEPTH OF TWO INCHES, A MINIMUM OF THREE TIMES ANNUALLY. IF MULCH DEPTH ACCUMULATION BECOMES SO EXCESSIVE AS TO BE DETRIMENTAL TO PLANT HEALTH, RAKE OUT & DISPOSE OF EXCESS QUANTITIES OF THE OLDEST MATERIAL, OFF-SITE.
   - H. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE & CLEAR FROM ALL BUSHES/SHRUBS, ETC.
   - I. A THREE-FOOT PERIMETER AROUND ALL FIRE HYDRANTS SHALL BE MAINTAINED

3. LANDSCAPE TREES (4" CALIPER OR LESS)
   - A. TO BE LIGHTLY PRUNED AS NECESSARY (AT LEAST ONCE A MONTH DURING GROWING SEASON).
   - B. TO BE PRUNED & SHAPED ONCE DURING WINTER MONTHS. PRUNE TO CLASS I STANDARDS. NOTIFY MANAGEMENT PRIOR TO & IMMEDIATELY FOLLOWING PRUNING ACTIVITY. PRUNING TO BE DONE BY QUALIFIED TREE CARE FIRM, SUBJECT TO MANAGEMENT APPROVAL.
   - C. DEEP ROOT FERTILIZE ALL LANDSCAPE TREES ONE TIME PER YEAR. SUBMIT INFORMATION ON MATERIALS, APPLICATION METHODS & APPLICATOR QUALIFICATION ONE WEEK PRIOR TO PERFORMING WORK TO OWNER'S REPRESENTATIVE.
   - D. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE OF TREE LIMBS & BRANCHES

4. LARGE TREES (GREATER THAN 4" CALIPER)
   - A. CONTRACTOR SHALL INSPECT FOR INSECT, DISEASE INFESTATIONS & TREE DAMAGE SUCH AS LIGHTNING OR VEHICULAR DAMAGE. CONTRACTOR SHALL NOTIFY MANAGEMENT IMMEDIATELY OF SUCH DANGER OR DISEASE SO THAT CORRECTIVE ACTION CAN BE TAKEN.
   - B. WHEN PRUNING IS REQUIRED TO REMOVE DEAD OR DAMAGED LIMBS, WORK IS TO BE DONE BY QUALIFIED TREE CARE FIRM. MANAGEMENT APPROVAL IS REQUIRED PRIOR TO PRUNING.
   - C. ANY FERTILIZING RECOMMENDED BY QUALIFIED TREE CARE FIRM IS SUBJECT TO APPROVAL.
   - D. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE OF TREE LIMBS & BRANCHES

5. DEBRIS & LITTER
   - A. NORMAL TRASH & LITTER WILL BE REMOVED FROM ALL LAWN & LANDSCAPED AREAS WEEKLY.
   - B. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE CLEANED UP IMMEDIATELY.

6. PAVED AREAS
   - A. AT PARKING LOT PERIMETERS & PAVING JOINTS, WEEDS & GRASSES ARE TO BE CONTROLLED W/ CONTACT HERBICIDE SPRAYS & MANUAL WEEDING AS REQUIRED.
   - B. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE CLEANED UP IMMEDIATELY.

7. IRRIGATION
   - A. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING & OPERATING ALL IRRIGATION SYSTEMS AT THE PROPERTY EXCEPT AS MAY BE OTHERWISE NOTED.
   - B. IRRIGATION SYSTEMS MUST BE INSPECTED MONTHLY & A REPORT MUST BE SUBMITTED TO MANAGEMENT. MANAGEMENT MUST APPROVE REPAIRS GREATER THAN $250.00.
   - C. CONTRACTOR WILL ENSURE THAT WATERING CYCLES ARE IN COMPLIANCE W/ ANY CITY GUIDELINES AS A RESULT OF WATER RATIONING OR WATER CONSERVATION. ANY FEES OR PENALTIES INCURRED BY VIOLATION OF ORDINANCES WILL BE BILLED TO CONTRACTOR.
   - D. ALL HEADS & NOZZLES BROKEN BY LANDSCAPE MAINTENANCE OPERATIONS WILL BE REPAIRED OR REPLACED AT CONTRACTOR EXPENSE, ALL NOZZLES WILL BE CLEANED MONTHLY IF NECESSARY, & ALL HEADS WILL BE ADJUSTED AS NEEDED.

8. GENERAL
   - A. CONTRACTOR SHALL PROVIDE ADEQUATE SUPERVISION TO ASSURE THAT ALL WORK WILL BE DONE IN ACCORDANCE W/ THIS AGREEMENT & GENERALLY ACCEPTED GOOD PRACTICE. A WEEKLY VISIT BY A QUALIFIED SUPERVISOR IS A MINIMUM REQUIREMENT. ADEQUATE TIME SHALL BE ALLOWED FOR A THOROUGH & COMPLETE EXAMINATION OF THE ENTIRE PROPERTY.
   - B. CONTRACTOR SHALL REPLACE AT CONTRACTOR'S EXPENSE ANY PLANT MATERIAL THAT DIES DUE TO DAMAGE BY LAWN MAINTENANCE, EQUIPMENT OR CONTRACTOR'S NEGLIGENCE.
   - C. ALL WORK SHALL BE PERFORMED BY CONTRACTOR'S EMPLOYEES; NO WORK SHALL BE PERFORMED BY SUBCONTRACTORS WITHOUT WRITTEN CONSENT OF MANAGEMENT.
   - D. EMPLOYEES TO WEAR UNIFORMS & PROVIDE NEAT APPEARANCE & PROFESSIONAL BEHAVIOR.
   - E. CREW MEMBERS WILL OBSERVE ALL OSHA REGULATIONS. ALL EQUIPMENT WILL BE PROPERLY MAINTAINED & KEPT IN A SAFE OPERATING CONDITION.
   - F. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE IMMEDIATELY CLEANED UP & REMOVED FROM SITE. USE OF AN ON-SITE DUMPSTER IS PROHIBITED.
   - G. ADDITIONAL PROJECTS, LANDSCAPE UPGRADES, ETC. WILL BE NEGOTIATED AS NEEDED.
   - H. POTS OR SIDEWALK PLANTERS AT PROPERTY SHALL BE MAINTAINED IN ACCORDANCE W/ ALL SPECS NOTED ABOVE. IRRIGATION SHALL BE MAINTAINED OR HAND WATER AS NEEDED.

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owner ::
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randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

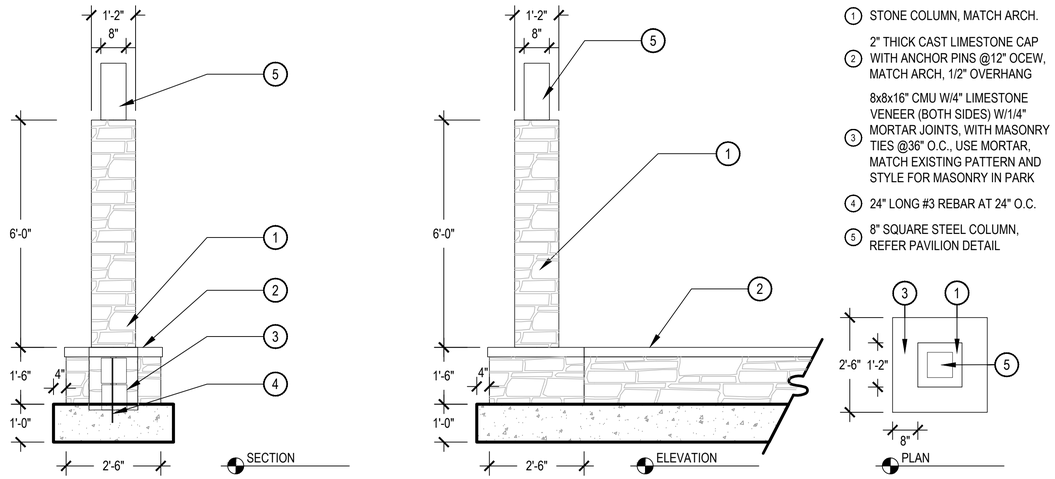
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

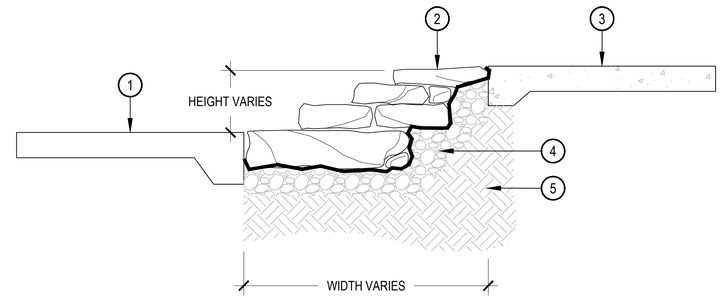
LA2.11
PLAZA LANDSCAPE NOTES & DETAILS



1. STONE COLUMN, MATCH ARCH.
2. 2" THICK CAST LIMESTONE CAP WITH ANCHOR PINS @12" OCEW, MATCH ARCH, 1/2" OVERHANG
3. 8x8x16" CMU W/4" LIMESTONE VENEER (BOTH SIDES) W/1/4" MORTAR JOINTS, WITH MASONRY TIES @36" O.C., USE MORTAR, MATCH EXISTING PATTERN AND STYLE FOR MASONRY IN PARK
4. 24" LONG #3 REBAR AT 24" O.C.
5. 8" SQUARE STEEL COLUMN, REFER PAVILION DETAIL

1 STONE BENCH SEAT WALL / LIMESTONE COLUMN WRAP

1/2" = 1'-0"



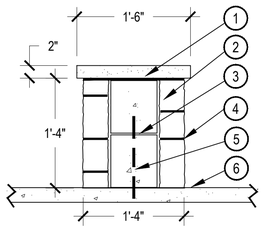
1. ADJACENT SPLASH PAD SURFACE
2. STONE, +/- 9"x24"
3. ADJACENT SIDEWALK, REF. PLAN
4. 4" AGGREGATE BACKFILL WITH WEED BARRIER FABRIC
5. COMPACTED SUBGRADE

NOTES:

1. CONSTRUCT OUTCROPPING OF WHITE LIMESTONE TO MATCH ARCHITECTURE. THE MINIMUM SIZE OF STONE SHALL BE FOUR INCHES IN RISE X NINE INCHES IN DEPTH X TWELVE INCHES LONG. ALL STONE SHALL BE SOUND, DURABLE, FREE FROM REEDS, RIFTS, SEAMS, LAMINATIONS, AND MINERALS WHICH WOULD CAUSE DISCOLORATION OR DETERIORATION FROM WEATHERING.
2. THE STONE FOR THE WALL SHALL BE LAID TO FORM SUBSTANTIAL MASONRY PRESENTING A NEAT, FINISHED APPEARANCE. FRONT FACE SHALL BE A FLAT PLAIN, WITH IRREGULAR JOINTS. JOINTS SHALL BE OFFSET A MIN OF 6", WITH GAPS NO LARGER THAN 1".

4 STONE OUTCROPPING

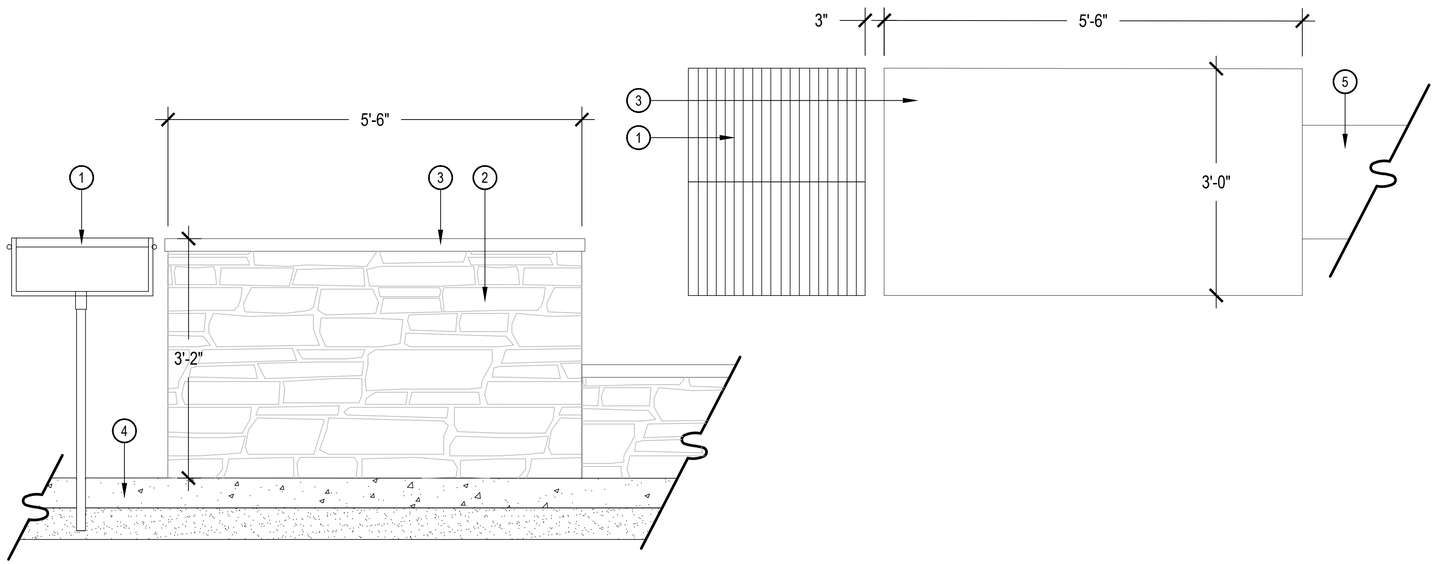
NTS



1. 2" CAST STONE CAP TO MATCH EXISTING SEAT WALL, 1/2" OVERHANG
2. 4" ASSORTED CHOP BLOCK LIMESTONE TO MATCH EXISTING SEAT WALL
3. 8X8X16 CMU. FILL WITH CONCRETE
4. 1/4" GROUTED JOINTS
5. # 4 REBAR DOWELS @ 24" OC. EPOXY DOWEL IN CONCRETE 3" MIN BELOW FINISH GRADE
6. FINISH GRADE

2 CURVED LIMESTONE BLOCK SEATWALL

NTS



1. 36"x28" PARK GRILL, DIRECT BURY, INSTALL PER MANUFAC. SPECS. KIRBY BUILT GROUP-SIZED BY-LEVEL GRILL, MDL# VUP5005, 888-785-4252
2. 8x8x16" CMU W/4" LIMESTONE VENEER (ALL SIDES) PATTERN W/ 1/2" MAX. MORTAR JOINTS. MASONRY TIES, @ 36" O.C. HORIZ. AND 18" O.C. VERT., USE MORTAR, MATCH EXISTING PATTERN AND STYLE FOR MASONRY IN PARK., 24" LONG #2 REBAR AT 24" O.C.
3. 2" THICK CAST LIMESTONE CAP W/ ANCHOR PINS @12" OCEW, MATCH ARCH, 1/2" OVERHANG
4. CONCRETE FOOTING
5. ADJACENT SEAT WALL, REF. DTL 1/LA2.12

3 SINGLE GRILL AND GRILL TABLE

NTS

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

SUBMISSIONS | REVISIONS::

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REGISTERED LANDSCAPE ARCHITECT
BRENT A. BAKER
2091
STATE OF TEXAS
10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

LA2.12
PLAZA SITE PLAN DETAILS

30 OF 54

Williamson County, Texas

10/10/2017 8:05 AM

KIRBYBUILT
222 STATE ST.
BATAVIA, IL 60510
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PHONE: (855) 888-7461
FAX: (630) 879-8687
www.kirbybuilt.com

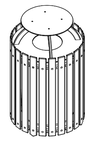
☑ SELECT DESIRED COLOR:

- ☐ CEDAR ☐ BROWN
- ☐ GREEN ☐ GRAY
- ☐ DESERT TAN ☐ BLACK

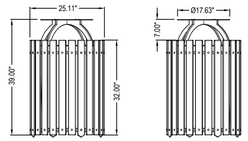
☑ SELECT DESIRED MOUNT:

- ☐ PORTABLE
- ☐ IN-GROUND MOUNT

*CUSTOM ENGRAVING AVAILABLE



ISOMETRIC VIEW



FRONT VIEW
SHOWN WITH ATR2080 (RAIN BONNET)

SIDE VIEW

NOTES:
1. ALL MATERIAL RECYCLED HDPE.
2. ALL HARDWARE STAINLESS STEEL.
3. SHIPPED FULLY ASSEMBLED.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. DO NOT SCALE DRAWING.
6. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
7. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
8. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT WWW.CADDETAILS.COM/INFO AND ENTER REFERENCE NUMBER 1177-162.

1 ROUND SLATTED TRASH RECEPTACLES

ATR2020 AND OPTIONAL ATR2080 – 32 GALLON ROUND SLATTED TRASH RECEPTACLE AND OPTIONAL BLACK RAIN BONNET LID

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☑ SELECT DESIRED COLOR:

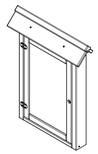
- ☐ CEDAR ☐ BLACK
- ☐ GREEN ☐ BROWN
- ☐ DESERT TAN ☐ GRAY

☑ SELECT DESIRED TACKBOARD:

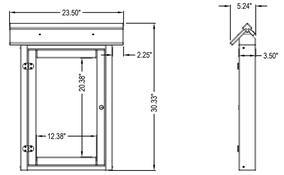
- ☐ CORK (STANDARD)
- ☐ RUBBER (UPGRADE)

☑ SELECT DESIRED MOUNT:

- ☐ WALL



ISOMETRIC VIEW



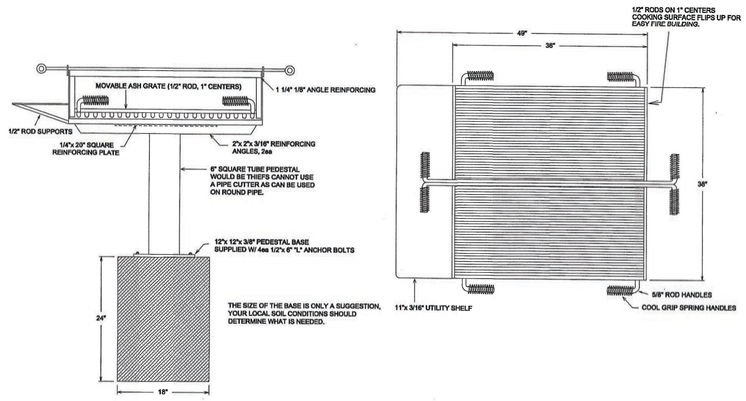
FRONT VIEW

SIDE VIEW

NOTES:
1. ALL MATERIAL RECYCLED HDPE.
2. ALL HARDWARE STAINLESS STEEL.
3. SHIPPED PARTIALLY ASSEMBLED.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
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8. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT WWW.CADDETAILS.COM/INFO AND ENTER REFERENCE NUMBER 1177-104.

2 SMALL VERTICAL MESSAGE CENTERS

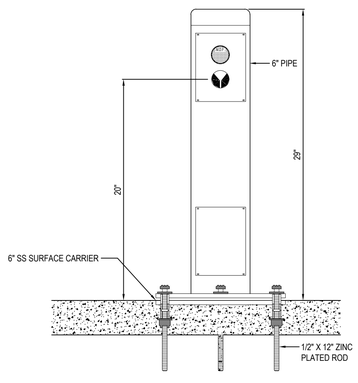
AMC1010 – SMALL SINGLE-SIDED MESSAGE CENTER WALL MOUNT



3 KIRBY BUILT BI-LEVEL GROUP GRILL

NTS

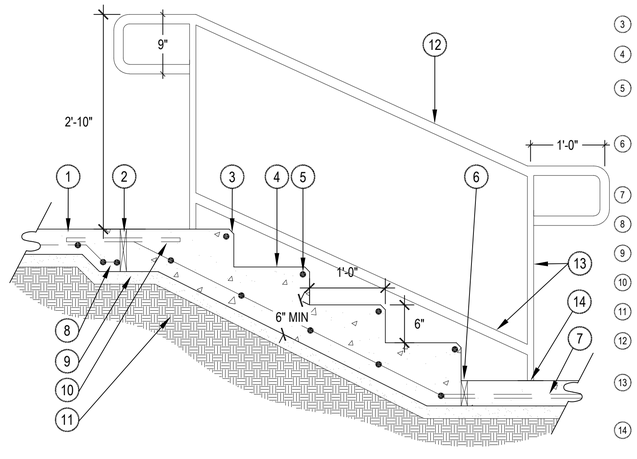
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5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-13.8.

4 MODEL 125 SM PEDESTAL JUG FILLER

SHOWN W/ OPTIONAL 6" SS SURFACE CARRIER



1. REFER TO PLANS FOR CONC. FINISH
2. 1" REDWOOD EXP.JOINT W ½" RIP STRIP AND SEAL W/ THICKOL SEALER COLOR TO MATCH PAVING
3. ¾" CHAMFERED EDGE (TYP)
4. SLOPE TREADS ⅛"
5. # 3 REBAR @ EACH TREAD 2" MIN. COVER FULL WIDTH OF STAIR
6. 1" REDWOOD EXP.JOINT W ½" RIP STRIP AND SEAL W/ THICKOL SEALER COLOR TO MATCH PAVING
7. ⅝" X 18" SLIP DOWEL 18" O.C.
8. # 3 REBAR 12" O.C. BOTH WAYS
9. 2" SAND BASE
10. ⅝" X 18" SLIP DOWEL 18" O.C.
11. COMPACTED SUBGRADE
12. 1 ¼" Ø TUBE CAP
13. 1" Ø TUBE RAILS AND POST, COLOR TO MATCH EXISTING PARK
14. SECURE W/FLANGE AND 4 ¼" BOLTS W/LEAD ANCHORS

5 CONCRETE STEPS

SCALE: 1" = 1'-0"

SITE FURNISHING SCHEDULE

QTY.	MANUFACTURER	DESCRIPTION
3	KIRBY BUILT	32-GAL. ROUND SLATTED TRASH RECEPTACLE, TOP LOAD, PORTABLE, DRIFTWOOD
1	KIRBY BUILT	SMALL VERTICAL MESSAGE CENTER WALL-MOUNT, DESERT TAN
1	KIRBY BUILT	GROUP BI-LEVEL GRILL, IN-GROUND MOUNT
1	MOST DEPENDABLE FOUNTAINS	MODEL 125 PEDESTAL JUG FILLER, GREEN

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
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REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2091 STATE OF TEXAS 10-11-17

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http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

LA2.13
PLAZA SITE PLAN DETAILS

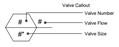
10/16/2017 8:05 AM

Williamson County, Texas

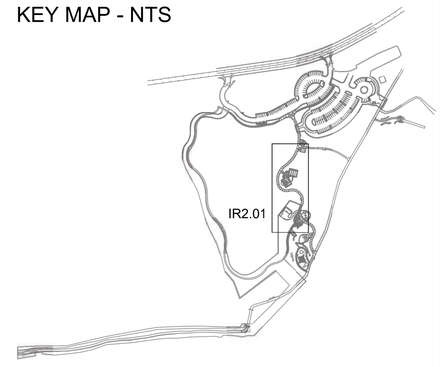


IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
R-VAN 1318	RAIN BIRD RVAN18 1804-SAM-P45-NP TURF ROTATOR, 13`-18` HAND ADJUSTABLE ROTARY STREAM, W/1800 TURF SPRAY BODY, 4.0" POP-UP. WITH SEAL-A-MATIC CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATION. WITH NON-POTABLE PURPLE CAP.	16	45
10	HUNTER PROS-00-PCN FLOOD BUBBLER, ON FIXED RISER.	12	30
SYMBOL	**MANUFACTURER/MODEL/DESCRIPTION**	**QTY**	
	RAIN BIRD XCZLF-100-PRF LOW FLOW, 0.2-10GPM, WITH 1" LOW FLOW VALVE VALVE AND 1" PRESSURE REGULATING RBY FILTER AND 40PSI PRESSURE REGULATOR.	1	
	PIPE TRANSITION POINT ABOVE GRADE PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER TO ABOVE GRADE INSTALLATION.	6	
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-06-18 (18) XFS SUB-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE W/COPPER SHIELD TECHNOLOGY. 0.6GPH EMITTERS AT 18.0" O.C. DRIPLINE LATERALS SPACED AT 18.0" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT.	1210 S.F.	
SYMBOL	**MANUFACTURER/MODEL/DESCRIPTION**	**QTY**	
	RAIN BIRD PESBR-PRS-D 1", 1-1/2", AND 2" DURABLE CHLORINE-RESISTANT VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	3	
	NIBCO T-113 CLASS 125 BRONZE GATE MANUAL CONTROL VALVE WITH WHEEL HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1" - 3"	1	
C	EXISTING HUNTER CONTROLLER IN OLD RESTROOM CHASE. ADD ADDITIONAL MODULES FOR NEW VALVES.	1	
PC2	POINT OF CONNECTION - EXISTING 2" MAIN LINE PC2	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	743 L.F.	
	IRRIGATION MAINLINE: 2" PVC SCHEDULE 40-NP	48 L.F.	
	PIPE SLEEVE: 4" PVC SCHEDULE 40	112 L.F.	



KEY MAP - NTS



22x34
10'
SCALE: 1"=10'-0"

11x17
20'
SCALE: 1"=20'-0"

0 5 10 20 30

CRITICAL ANALYSIS

P.O.C. NUMBER: 02	
Water Source Information:	PC2
FLOW AVAILABLE	
Point of Connection Size:	2"
Flow Available:	78.62 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 psi
Pressure Available:	65.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	12.00 gpm
Flow Available at POC:	78.62 gpm
Residual Flow Available:	66.62 gpm
Critical Station:	9
Design Pressure:	45.00 psi
Friction Loss:	7.12 psi
Fittings Loss:	0.71 psi
Elevation Loss:	0.00 psi
Loss through Valve:	3.50 psi
Pressure Req. at Critical Station:	56.34 psi
Loss for Fittings:	0.00 psi
Loss for Main Line:	0.02 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	0.00 psi
Critical Station Pressure at POC:	56.36 psi
Pressure Available:	65.00 psi
Residual Pressure Available:	8.64 psi

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC
8	RAIN BIRD PESBR-PRS-D	1-1/2"	BUBBLER	12.00	36.77	36.80
9	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	8.93	56.33	56.36
10	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	7.95	50.94	50.96
11	RAIN BIRD XCZLF-100-PRF	1"	AREA FOR DRIPLINE	5.69	30.05	30.07

IRRIGATION NOTES

1. CONTRACTOR TO PERFORM WALK THRU WITH OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO STARTING CONSTRUCTION TO VERIFY EXISTING SYSTEM IS IN WORKING ORDER.
2. SYSTEM WILL INCLUDE SPRAY SECTIONS, TREE BUBBLER SECTION, DRIP SECTION AND ANY TEMPORARY IRRIGATION CONTRACTOR REQUIRES FOR ESTABLISHMENT OF TURF AREAS DISTURBED.
3. CONTRACTOR TO VERIFY RESIDUAL PRESSURE PRIOR TO STARTING CONSTRUCTION.
4. VALVE WIRES TO BE CONNECTED TO EXISTING HUNTER ICC CONTROLLER AT EXISTING RESTROOM CHASE VIA EXPANSION PACK
5. EXCEPT FOR ABANDONED AREAS, ALL EXISTING SECTIONS TO BE RECONNECTED TO EXISTING SYSTEM.
6. ALL ABANDONED EQUIPMENT TO BE RETURNED TO OWNERS REPRESENTATIVE.
7. CONTRACTOR TO VERIFY EXISTING IRRIGATION SYSTEM FUNCTIONALITY AFTER COMPLETION OF PROPOSED SCOPE OF WORK.

Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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STATE OF TEXAS
JONATHAN WAGNER
20080
LICENSED IRRIGATOR
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p:: 512.244.1966

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

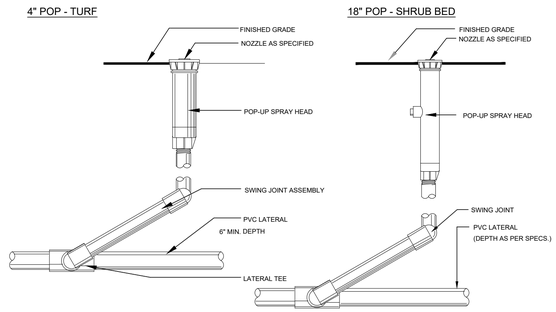
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

IR2.01
PLAZA IRRIGATION PLAN

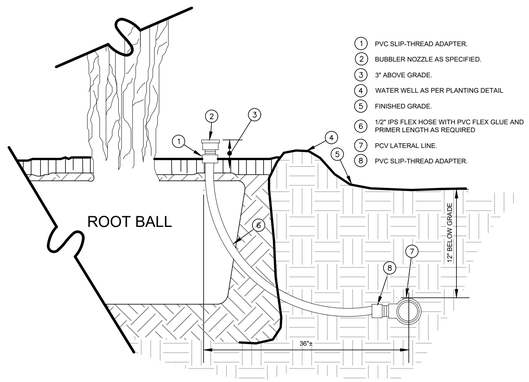
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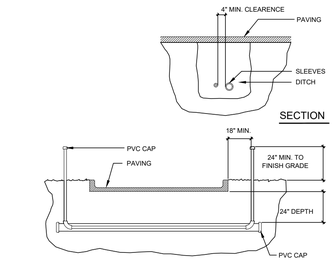
1 POP-UP SPRAY HEADS (TYP.)

SCALE: N.T.S.



2 BUBBLER ON FLEX HOSE RISER

SCALE: N.T.S.



NOTES:

1. ALL SLEEVES TO BE SCH 40 PVC PIPE
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND SMALLER SLEEVE TO 24" MIN. ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

3 IRRIGATION SLEEVING (TYP.)

SCALE: N.T.S.

IRRIGATION NOTES:

GENERAL:

1. ADJUSTABLE FLOW CONTROLS SHALL BE REQUIRED ON CIRCUIT REMOTE CONTROL VALVES. A PRESSURE REGULATION COMPONENT(S) SHALL BE REQUIRED WHERE STATIC PRESSURE EXCEEDS MANUFACTURER'S RECOMMENDED OPERATING RANGE.
2. SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN THE CONTROL VALVE CIRCUIT.
3. SERVICEABLE CHECK VALVES SHALL BE REQUIRED WHERE ELEVATION DIFFERENTIAL MAY CAUSE LOW HEAD DRAINAGE ADJACENT TO PAVING AREAS.
4. SPRINKLER HEAD SPACING IS DESIGNED FOR HEAD-TO-HEAD COVERAGE OR HEADS SHALL BE SPACED AS PER MANUFACTURER'S RECOMMENDATIONS AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL BE INSTALLED FOR MINIMUM RUN-0FF AND MINIMUM OVER SPRAY ONTO NON-IRRIGATED AREAS, (I.E. PAVING, ROADS AND STRUCTURES).
5. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN SENSOR SHUTOFF DEVICE LOCATED WHERE RAINFALL IS UNOBSTRUCTED AND ADJUSTED TO ONE-FOURTH INCH SETTING. CONTRACTOR TO COORDINATE AND PROVIDE ELECTRIC SERVICE FOR AUTOMATIC CONTROLLER(S).
6. PROVIDE A LAMINATED COPY OF THE RECOMMENDED SETTINGS AND A SCHEDULE TO INCLUDE:
   A. ESTIMATED MONTHLY WATER USE (IN GALLONS PER APPLICATION)
   B. PRECIPITATION RATE FOR THE VALVE CIRCUIT.
   C. MONTHLY IRRIGATION SCHEDULE FOR THE PLANT ESTABLISHMENT PERIOD (FIRST THREE MONTHS) AND RECOMMENDED YEARLY WATERING SCHEDULE, INCLUDING SEASONAL ADJUSTMENTS.
   D. LOCATION OF EMERGENCY IRRIGATION SYSTEM SHUTOFF VALVE.
7. LANDSCAPE CONTRACTOR TO PROVIDE CAD BASED SHOP DRAWINGS WITHIN 45 DAYS OF CONTRACT AWARD FOR LA APPROVAL PRIOR TO INSTALLATION IF FIELD CONDITIONS DIFFER FROM PLANS. LOCATE ALL LATERAL AND PRESSURE LINES IN THE LANDSCAPE AREA. DO NOT ROUTE PIPE DOWN THE CENTER OF THE TREE AND SHRUB BED PLANTINGS ALLOW FOR TREE AND SHRUB PLANTINGS. INSTALL PIPING DIRECTLY BEHIND CURBS AND WALKS WHERE POSSIBLE. COMBINE PIPE IN TRENCHES WHEREVER POSSIBLE.
8. PRIOR TO CONSTRUCTION, VERIFY WITH THE GENERAL CONTRACTOR AND THE UTILITY COMPANIES THE LOCATION OF ALL UNDERGROUND UTILITIES.
9. IRRIGATION SYSTEM IS DESIGNED FOR PSI AS NOTED. CONTRACTOR IS TO VERIFY THIS INFORMATION AND MAKE ADJUSTMENTS TO THE SYSTEM IF THESE MINIMUMS ARE NOT PRESENT AT TIME OF INSTALLATION. ADJUSTMENTS TO THE SYSTEM ARE TO BE MADE PRIOR TO INSTALLATION TO INSURE THAT THE SYSTEM IS WORKING.
10. PROVIDE SLEEVES AS SHOWN TO COMPLETE THIS PROJECT. COORDINATE AND MARK ALL SLEEVE LOCATIONS WITH THE GENERAL CONTRACTOR.
11. ALL UNMARKED LATERAL PIPING ASSUMED TO BE 3/4" 200 PSI PR CL 200 PVC PIPE.
12. OFFSET OF MAINLINE FROM BACK OF CURB is 2'-0" MIN, TYP.
13. IRRIGATION CONTRACTOR IS TO BE A STATE OF TEXAS LICENSED IRRIGATOR, AND IS TO FOLLOW ALL TCEQ CODES AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM INCLUDING PIPE SIZES AND LOCATIONS.
14. ALL LANDSCAPE AND TURF AREAS WITHIN THE LIMITS OF CONSTRUCTION TO RECEIVE 100% IRRIGATION WITH TURF, LANDSCAPE BEDS, AND TREES TO BE ON SEPARATE ZONES. A MINIMUM OF ONE BUBBLER PER TREE IS REQUIRED FOR ALL TREES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, LICENSES, TEXTS, AND/OR APPROVALS, PAYING ANY FEES AND INSTALLING OR ARRANGING FOR ALL WATER METERS AND TAPS FOR INSTALLATION AND OPERATION AS APPLICABLE. WATER METERS SHALL BE PLACED IN NAME OF ENTITY, NOT THE CONTRACTOR, AS PROVIDED BY THE LANDSCAPE ARCHITECT. THE ENTITY, NOT THE CONTRACTOR WILL PAY FOR MONTHLY WATER CHARGES. WATER METERS SHALL REMAIN OPERATIONAL AND TURNED ON THROUGH ALL PHASES OF THE CONTRACT TO ENSURE PLANTS RECEIVE REQUIRED WATERING.

CONSTRUCTION METHODS:

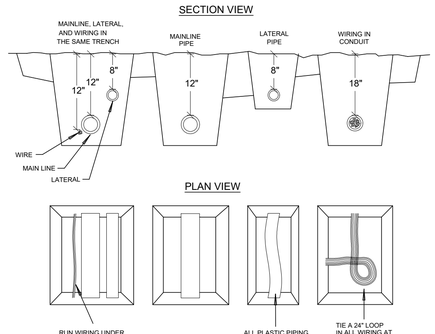
1. THE CONTRACTOR SHALL INVESTIGATE THE SITE CONDITIONS AFFECTING THE WORK AND SHALL FURNISH OFFSETS, FITTINGS, AND SLEEVES AS MAY BE REQUIRED TO MEET SITE CONDITIONS.
2. CARE SHALL BE EXERCISED WHEN EXCAVATING NEAR TREES. NO MECHANICAL TRENCHING SHALL BE PERMITTED BELOW THE CANOPY OF EXISTING TREES. CONTRACTOR SHALL ADJUST TRENCH PATH AND/OR EXCAVATE BY HAND TO AVOID DAMAGE TO EXISTING TREE ROOT SYSTEMS.
3. DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. INSTALL PIPE TO AN EVEN GRADE. TRENCH BOTTOM SHALL BE CLEAN AND SMOOTH WITH ALL ORGANIC DEBRIS AND SHARP OBJECTS REMOVED. PIPE SHALL BE SNAKED IN TRENCH, TO ALLOW FOR EXPANSION AND CONTRACTION. FOR PUBLIC SAFETY, PLASTIC CONSTRUCTION FENCING, MINIMUM 4-FEET HIGH, SHALL BE USED AROUND OPEN EXCAVATIONS.
4. PVC CASING(S) FOR BORES AND SLEEVES SHALL CONSIST OF SCH 40 SMOOTH WALL PIPE WITH WELDED JOINTS AND SEAMS, AND SHALL BE CONTINUOUS. THE SIZE OF BORE SHALL NOT EXCEED THE DIAMETER OF CASING(S) REQUIRE BY THE PLANS BY MORE THAN 1-INCH. ALL CASINGS SHALL BE INSTALLED PRIOR TO ANY ROAD PAVING OR FINAL GRADES BY TRENCHING.
5. PIPE SHALL NOT BE INSTALLED WHEN AIR TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT. PLASTIC PIPE SHALL BE CUT IN A MANNER THAT WILL INSURE A SQUARE CUT. BURRS AT CUT ENDS SHALL BE REMOVED PRIOR TO INSTALLATION SO THAT A SMOOTH UNOBSTRUCTED FLOW WILL BE OBTAINED.
6. ALL WATER LINES SHALL BE THOROUGHLY FLUSHED BEFORE INSTALLING DRIPLINE.
7. CONTROL WIRE AND WIRE CONNECTIONS SHALL BE AS DESCRIBED ON IRRIGATION MATERIALS SPECIFICATIONS SHEET. ALL WIRE CONNECTIONS AND SPLICES SHALL BE MADE IN GROUND BOXES.
8. COMPACTION OF THE PIPE TRENCHES MUST BE SUFFICIENT TO LIMIT SHORT TERM SETTLING OF THE BACKFILL TO NO MORE THAN 1-INCH. THE CONTRACTOR SHALL CORRECT SETTLING GREATER THAN THIS WITHOUT ADDITIONAL COMPENSATION.

GUARANTEE AND ACCEPTANCE:

1. MAINTENANCE PERIOD. DURING THE INSTALLATION, ESTABLISHMENT, AND MAINTENANCE, CONTRACTOR SHALL PERFORM THE FOLLOWING ACTIVITIES AS A MINIMUM AND TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT:
   A. INSTALL AND MAINTAIN THE CONTROLLER PROGRAM TO INSURE THE PROPER DISTRIBUTION OF WATER (INCLUDES REPLACEMENT OF ANY BATTERIES).
   B. INSPECT, REPAIR, AND/OR REPLACE ANY EQUIPMENT THAT IS FOUND DEFECTIVE OR MAY BE DAMAGED BY OTHER MAINTENANCE.
   C. MAKE ANY ADJUSTMENTS THAT MAY BECOME NECESSARY TO ENSURE THE PROPER DELIVERY OF WATER TO THE PLANT MATERIAL.
2. AS-BUILT DRAWINGS. UPON COMPLETION OF THE REQUIRE MAINTENANCE PERIOD, THE LANDSCAPE ARCHITECT WILL MAKE AN INSPECTION OF THE PROJECT. THE CONTRACTOR SHALL FURNISH THE LANDSCAPE ARCHITECT A SET OF AS-BUILT DRAWINGS ON REPRODUCIBLE FILM BASE SHEETS. THE LANDSCAPE ARCHITECT WILL CHECK BASE SHEETS TO BE SURE THEY ARE A TRUE RECORD OF THE PROJECT CONDITIONS AND WILL DIRECT THE CONTRACTOR TO CORRECT ANY ERRORS THAT ARE FOUND. THE DRAWINGS SHALL SHOW ALL VALVE LOCATIONS BY TRIANGULATION FROM A FIXED OBJECT AND ANY CHANGE TO SPRINKLER HEAD LOCATION FROM A FIXED OBJECT AND ANY CHANGE TO SPRINKLER HEAD LOCATION AND REROUTING OF MAIN AND LATERAL LINES (CHANGE OF THIS NATURE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION).
3. OPERATING AND MAINTENANCE DATA. THE CONTRACTOR SHALL PROVIDE INSTRUCTIONS COVERING FULL OPERATION, CARE AND MAINTENANCE OF THE EQUIPMENT, INCLUDING A SCHEDULE SHOWING LENGTH OF TIME EACH VALVE IS TO BE OPEN TO PROVIDE DETERMINED AMOUNT OF WATER, AND INSTRUCT THE STATE'S DESIGNATED PERSONNEL IN PROPER OPERATION OF THE SYSTEM.
4. TEST. THE CONTRACTOR SHALL ALSO TEST AND ASSURE THE PROPER ELECTRICAL WORKING ORDER OF THE SYSTEM TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.

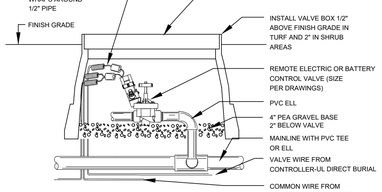
ADDITIONAL EQUIPMENT:

1. TAP/METER - SIZE AS SHOWN. CONTRACTOR RESPONSIBLE FOR ALL ASSOCIATED FEES.
2. VALVE BOXES - MANUFACTURED BY NDS. BOX SIZE SHALL ALLOW FOR EASY REMOVAL OF VALVE, ETC. QUANTITY AS REQUIRED FOR SECTION VALVES, BELOW GROUND BACKFLOW PREVENTORS, QUICK COUPLING VALVES AND REQUIRED ACCESSORIES.
3. CONTROL WIRE - WIRE SIZE SHALL BE MINIMUM 16GA AND BE SPECIFICALLY MANUFACTURED FOR DIRECT BURIAL. SPLICES SHALL BE COMPLETELY WATERPROOF AND BE COMPLETELY ENCAPSULATED WITHIN A KING SAFETY SEALED IRRIGATION CONNECTOR/SPLICE ENCLOSURE OR AN APPROVED EQUAL.
4. FITTINGS - ALL FITTINGS INCORPORATED INTO SYSTEM SHALL BE OF THE SAME TYPE, SIZE AND CLASS MATERIAL AS THE PIPE.
5. SOLVENT CEMENT - TYPE RECOMMENDED BY THE PIPE MANUFACTURER.
6. PVC SCH 40 MAINLINE AND LATERALS - PRESSURE RATED WITH TWIN GASKET COUPLINGS AND FITTINGS OR SLIP TYPE SOLVENT WELDED JOINTS.
7. PVC SCH 40 CASING FOR SLEEVES AND BORES - PRESSURE RATED WITH SLIP TYPE SOLVENT WELDED JOINTS.



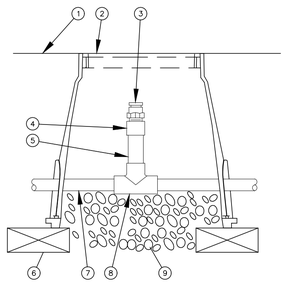
NOTE:
SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCHEDULE 40 PVC 2 TIMES THE DIAMETER OF THE PIPE WITHIN.

4 PIPE & WIRE TRENCHING (TYP.)



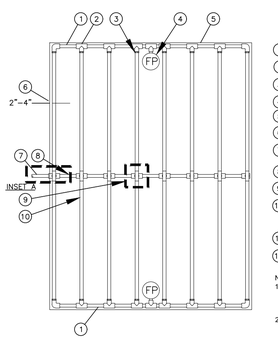
5 REMOTE CONTROL VALVE (TYP.)

SCALE: N.T.S.



6 AIR RELIEF VALVE IN PVC HEADER

DRIP IRR DETAIL SCALE: N.T.S.



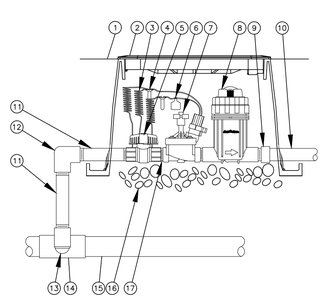
1 PVC EXHAUST HEADER
2 PVC SCH 40 TEE OR EL (TYPICAL)
3 BARB X MALE FITTING: RAIN BIRD XFD-MA FITTING (TYPICAL)
4 FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFD FLUSH POINT"
5 PERIMETER OF AREA
6 PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
8 PVC SUPPLY MANIFOLD
9 CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL)- SEE INSET A
10 ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL) POTABLE: XFD DRIPLINE NON-POTABLE: XFDP DRIPLINE
11 BARB X FEMALE FITTING: RAIN BIRD XFD-TFA-075 FITTING
12 ¾" PVC NIPPLE, LENGTH AS NECESSARY

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.

7 ON-SURFACE DRIPLINE CENTER FEED LAYOUT

DRIP IRR DETAIL SCALE: N.T.S.

SCALE: N.T.S.



1 FINISH GRADE/TOP OF MULCH
2 VALVE BOX WITH COVER: RAIN BIRD VB-STD
3 30-INCH LINEAR LENGTH OF WIRE, COILED
4 WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5 1-INCH BALL VALVE (INCLUDED IN XCZ-PRB-100-COM KIT)
6 ID TAG
7 REMOTE CONTROL VALVE: RAIN BIRD PESB (INCLUDED IN XCZ-PRB-100-COM KIT)
8 PRESSURE REGULATING QUICK CHECK BASKET FILTER: RAIN BIRD PRB-QKCHK-100 (INCLUDED IN XCZ-PRB-100-COM KIT)
9 PVC SCH 40 FEMALE ADAPTOR
10 LATERAL PIPE
11 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
12 PVC SCH 40 ELL
13 PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
14 PVC SCH 40 TEE OR ELL
15 MAINLINE PIPE
16 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17 PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-100-COM KIT)

8 DRIP CONTROL ZONE KIT VALVE BOX

DRIP IRR DETAIL SCALE: N.T.S.

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

SUBMISSIONS | REVISIONS::

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

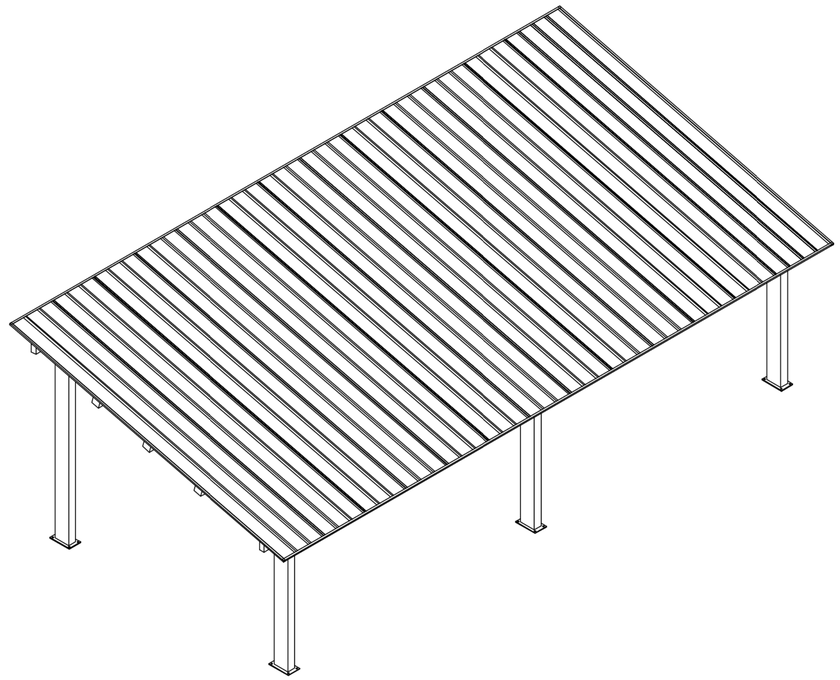
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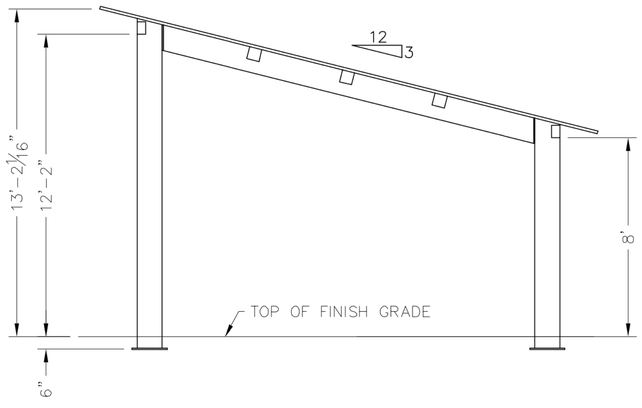
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

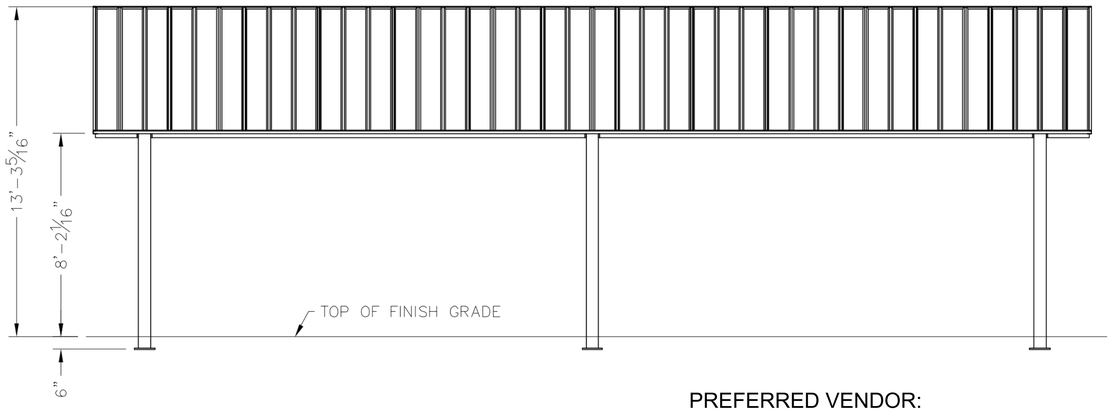
IR2.11
PLAZA IRRIGATION NOTES & DETAILS

Williamson County, Texas

PRELIMINARY: NOT FOR CONSTRUCTION







PREFERRED VENDOR:

ICON SHELTER SYSTEMS
1455 LINCOLN AVE.
HOLLAND, MI 49423

CONTACT
CARL SIMMONS, C.P.S.I.
SALES CONSULTANT-CENTRAL TEXAS
512-426-5622
CARL@PLAYWELLGROUP.COM

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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HOLLAND MI, 49423

616.396.0919
800.748.0985
616.396.0944 FX

Elevation

DRAWN BY: JSW

DATE: 6/28/11

JOB NO.: STANDARD

REVISION:

BUILDING TYPE: MP20x40M-P3

PROJECT NAME: 43-90-30

SHEET 1.0

DWG: \\Icon01\Company\Engineering\Standards\Shelters\MP\20X40\M-P3-43-90-30\Drawings\Preliminary\MP20x40M-P3-43-90-30~19532.DWG

Engineering\AcadStandard\Blocks\Titles\CONPRETE QF-73-01-42

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

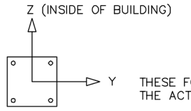
PA2.11
PLAZA PAVILION DETAILS

34 OF54

10/16/2017 8:05 AM

Bid 1710-197

Williamson County, Texas



THESE FOUNDATION LOADS ARE FOR ESTIMATING PURPOSE ONLY.
THE ACTUAL LOADS WILL BE DETERMINED IN THE FINAL ENGINEERING

CL1

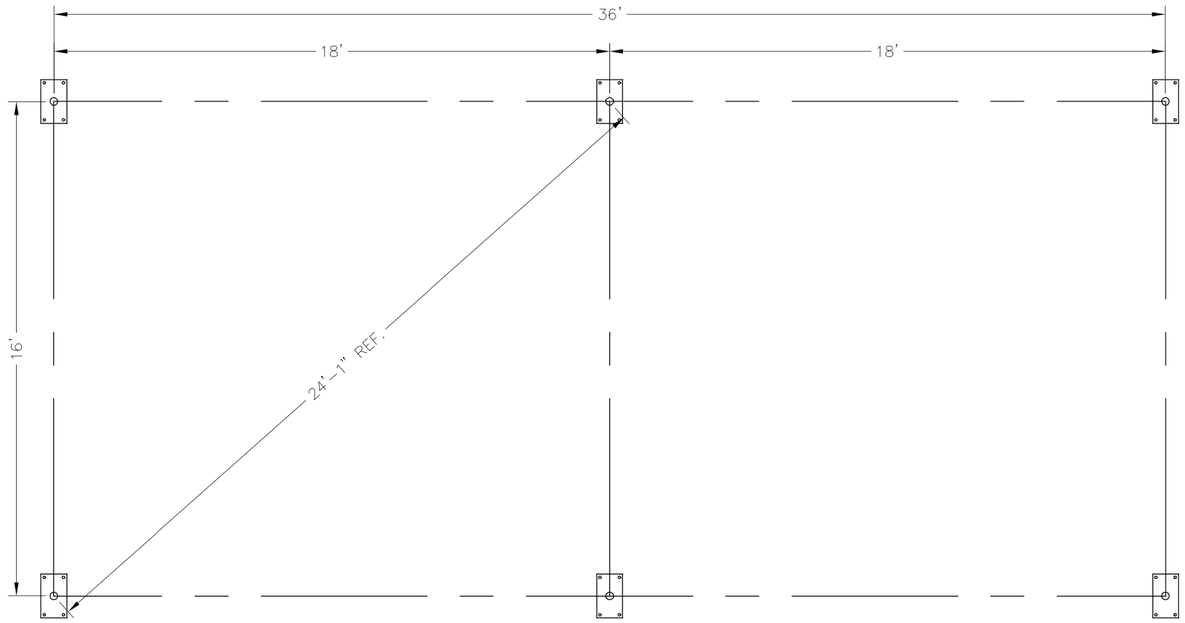
LOADS TO FOUNDATION (KIPS, IN-KIPS)	FOUNDATION LOADS				
LOAD COMBINATION	AXIAL (Fx)	SHEAR (Fy)	SHEAR (Fz)	MOMENT (My)	MOMENT (Mz)
DL	1.55	0.00	0.00	−0.02	−0.12
SL	7.08	−0.01	0.00	−0.03	−1.42
W−UPLIFT	−2.78	0.01	0.97	−104.58	0.83
W−FY	1.14	0.20	−0.45	48.41	21.00
W−FZ	3.07	−0.01	−1.30	140.70	−0.82
E−FY	0.00	0.56	0.00	0.00	59.54
E−Z	−0.06	0.00	−1.05	113.40	−0.22

CL2

LOADS TO FOUNDATION (KIPS, IN-KIPS)	FOUNDATION LOADS				
LOAD COMBINATION	AXIAL (Fx)	SHEAR (Fy)	SHEAR (Fz)	MOMENT (My)	MOMENT (Mz)
DL	1.52	0.00	0.00	−0.03	0.41
SL	5.59	0.03	0.00	−0.05	4.98
W−UPLIFT	−3.83	−0.02	−0.29	45.15	−3.07
W−FY	1.25	−0.22	0.15	−23.31	−30.87
W−FZ	3.89	0.02	0.43	−67.83	2.99
E−FY	0.00	−0.45	0.00	0.00	−69.62
E−Z	0.06	0.00	0.35	−54.60	−0.18

NOTES:
- TABLE SHOWS UNFACTORED SERVICE LOADS
- A FOUNDATION DESIGN HAS NOT BEEN PERFORMED BY ICON SHELTER SYSTEMS INC.
- A LICENSED ENGINEER FAMILIAR WITH SOIL CONDITIONS AT CONSTRUCTION SITE MUST PERFORM A FOUNDATION DESIGN.
- THE STRUCTURE HAS BEEN ENGINEERED AS AN OPEN STRUCTURE.
- CONSULT ICON SHELTER SYSTEMS INC. IF THE STRUCTURE IS TO BE ENCLOSED.
- COORDINATES ARE LOCAL TO THE COLUMN

DEFINITIONS:
DL = SERVICE LEVEL DEAD LOAD REACTION WITH THE GREATEST AXIAL LOAD
SL = SERVICE LEVEL SNOW LOAD REACTION WITH THE GREATEST AXIAL LOAD
W−UL = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST UPLIFT LOAD
W−Y = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST MAGNITUDE OF SHEAR IN THE LOCAL Y DIRECTION
W−Z = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST SHEAR VALUE ACTING IN THE SAME DIRECTION AS THE DL SHEAR LOAD
E−Y = SERVICE LEVEL SEISMIC LOAD REACTION WITH THE GREATEST MAGNITUDE OF SHEAR IN THE LOCAL Y DIRECTION
E−Z = SERVICE LEVEL SEISMIC LOAD REACTION WITH THE GREATEST MAGNITUDE OF SHEAR IN THE LOCAL Z DIRECTION



PRELIMINARY DRAWINGS SHOWN AS 6" BURIED

STANDARD BASE CONNECTION
COLUMN TYPE: A (6" BURIED)

OPTIONAL BASE CONNECTION
COLUMN TYPE: B (SURFACE MOUNT W/ COVERS)

PREFERRED VENDOR:

ICON SHELTER SYSTEMS
1455 LINCOLN AVE.
HOLLAND, MI 49423

CONTACT
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NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

PRELIMINARY: NOT FOR CONSTRUCTION

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616.396.0919
800.748.0985
616.396.0944 FX

Anchor Bolt Layout

DRAWN BY: JSW
DATE: 6/28/11
JOB NO.: STANDARD
REVISION:
BUILDING TYPE: MP20x40M−P3
PROJECT NAME: 43−90−30

SHEET 2.0

DWG: \\Icon01\Company\Engineering\Standards\Shelters\MP20x40M−P3−43−90−30\Drawings\Preliminary\MP20x40M−P3−43−90−30~19532.DWG

Engineering\AcadStandard\Blocks\Titles\ICONPRETB QF−73−01−42

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structural engineer ::
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p:: 512.244.1966

http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

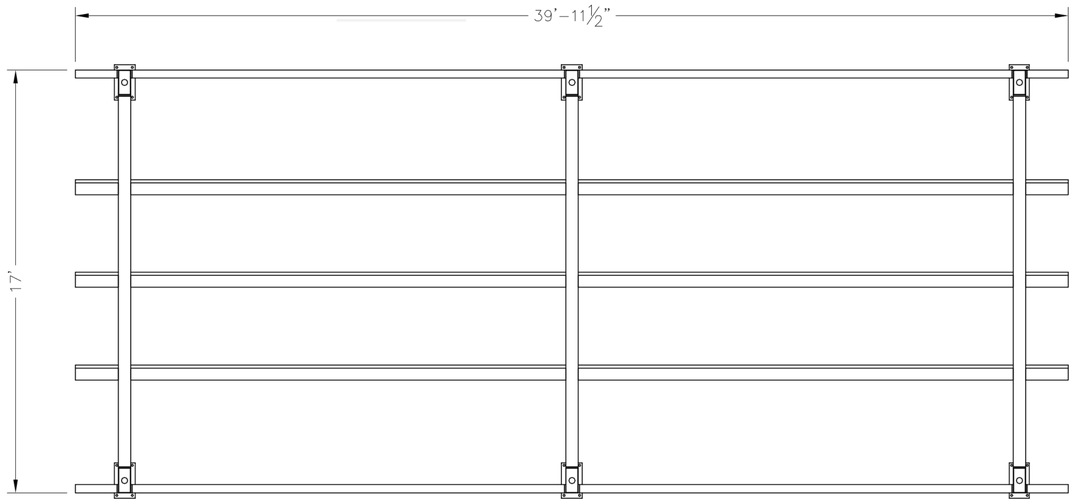
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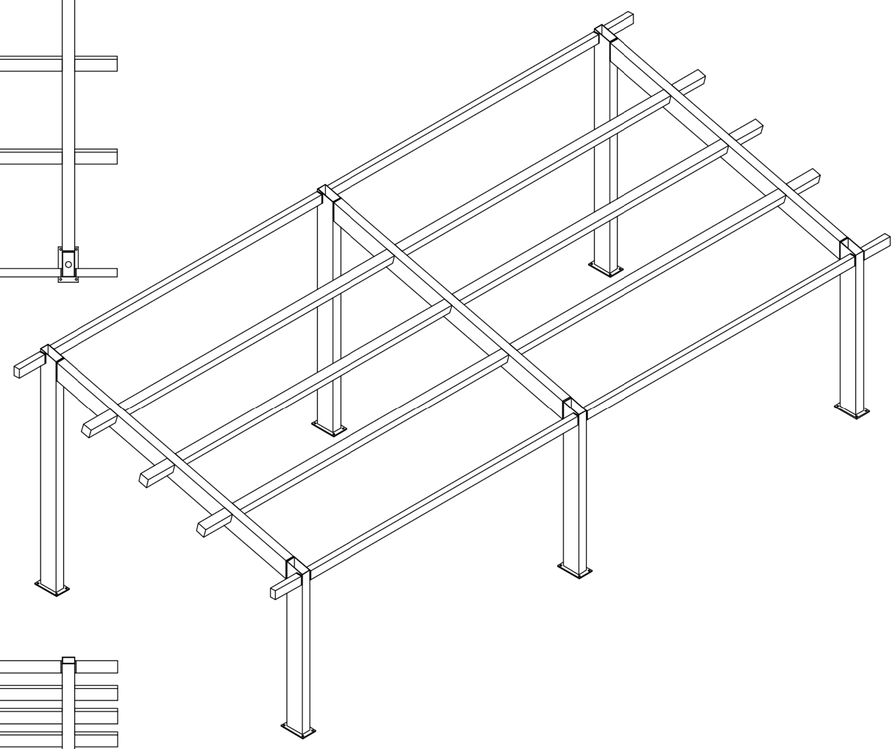
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

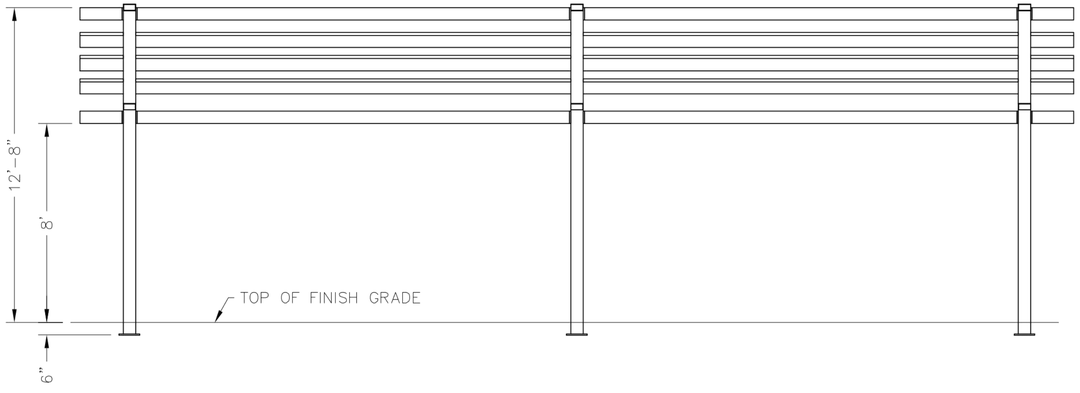
PA2.12
PLAZA PAVILION DETAILS

35 OF 54

10/16/2017 8:05 AM







PRELIMINARY: NOT FOR CONSTRUCTION

ALL STRUCTURAL COMPONETS WILL BE:
TUBE: ASTM A500 GRADE B
PLATE: ASTM A36
BOLTS: ASTM A325
NUTS: ASTM A563
WELDING: GMAW

NOTE:
COLUMN SIZE: HSS 12x6x3/16

PREFERRED VENDOR:

ICON SHELTER SYSTEMS
1455 LINCOLN AVE.
HOLLAND, MI 49423

CONTACT
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SALES CONSULTANT-CENTRAL TEXAS
512-426-5622
CARL@PLAYWELLGROUP.COM

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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616.396.0919
800.748.0985
616.396.0944 FX

Frame

DRAWN BY: JSW
DATE: 6/28/11
JOB NO.: STANDARD
REVISION:
BUILDING TYPE: MP20x40M-P3
PROJECT NAME: 43-90-30

SHEET 3.0
Engineering\AccdStandard\Blocks\Titles\ICONPRETB
QF-73-01-42

DWG: \\Icon01\Company\Engineering\Standards\Shelters\MP\20X40\M-P3-43-90-30\Drawings\Preliminary\MP20x40M-P3-43-90-30~19532.DWG

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10.11.2017	100% FOR BID & CONSTRUCTION SET

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p:: 512.244.1966

http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

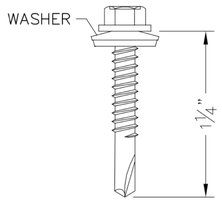
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

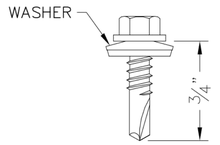
PA2.13
PLAZA PAVILION DETAILS

36 OF 54

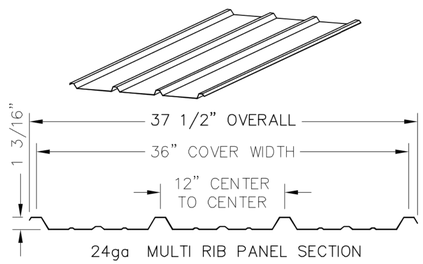
Bid 1710-197
Williamson County, Texas



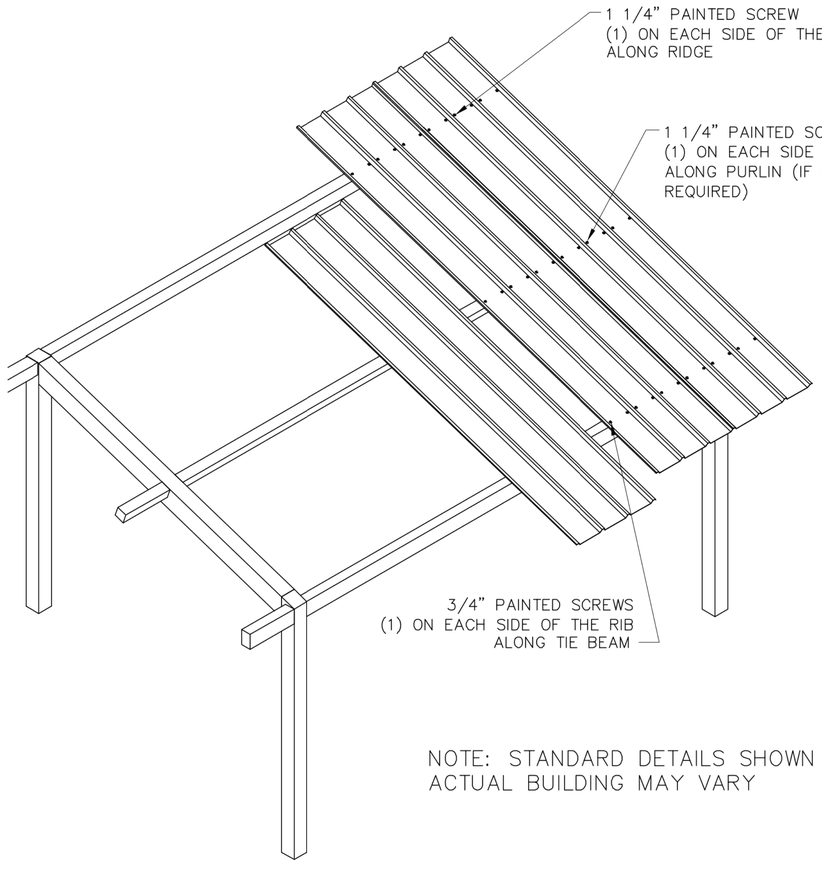
1 1/4" PAINTED SCREW



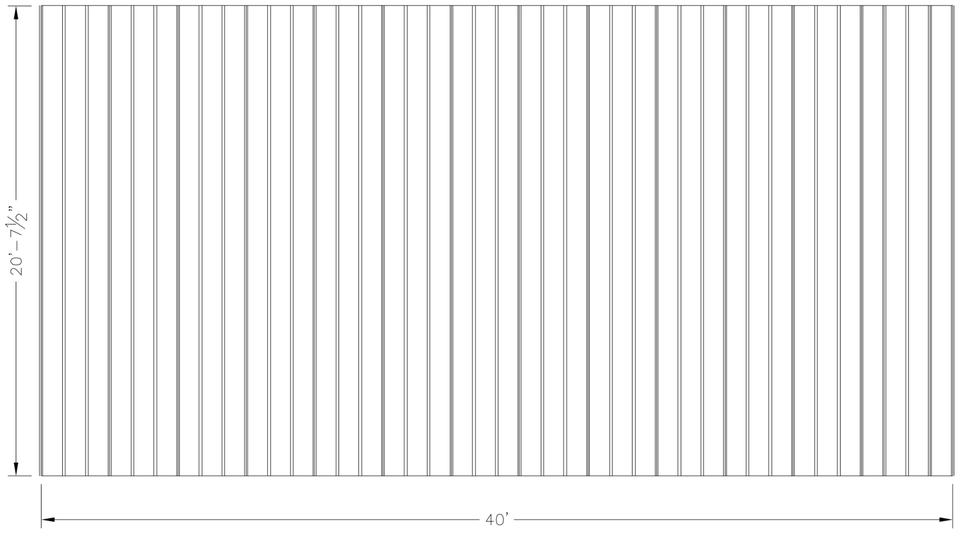
3/4" PAINTED SCREW



24ga MULTI RIB PANEL SECTION



NOTE: STANDARD DETAILS SHOWN
ACTUAL BUILDING MAY VARY



PREFERRED VENDOR:

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1455 LINCOLN AVE.
HOLLAND, MI 49423

CONTACT
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512-426-5622
CARL@PLAYWELLGROUP.COM

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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800.748.0985
616.396.0944 FX

Roof Layout

DRAWN BY: JSW
DATE: 6/28/11
JOB NO.: STANDARD
REVISION:
BUILDING TYPE: MP20x40M-P3
PROJECT NAME: 43-90-30

SHEET 4.0

DWG: \\Icon01\Company\Engineering\Standards\Shelters\MP20x40M-P3-43-90-30~19532.DWG
\\Icon01\Company\Engineering\Standards\Shelters\MP20x40\M-P3-43-90-30\Drawings\Preliminary\MP20x40M-P3-43-90-30~19532.DWG
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SUBMISSIONS | REVISIONS::

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BRUSHY CREEK TRAIL PARK AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

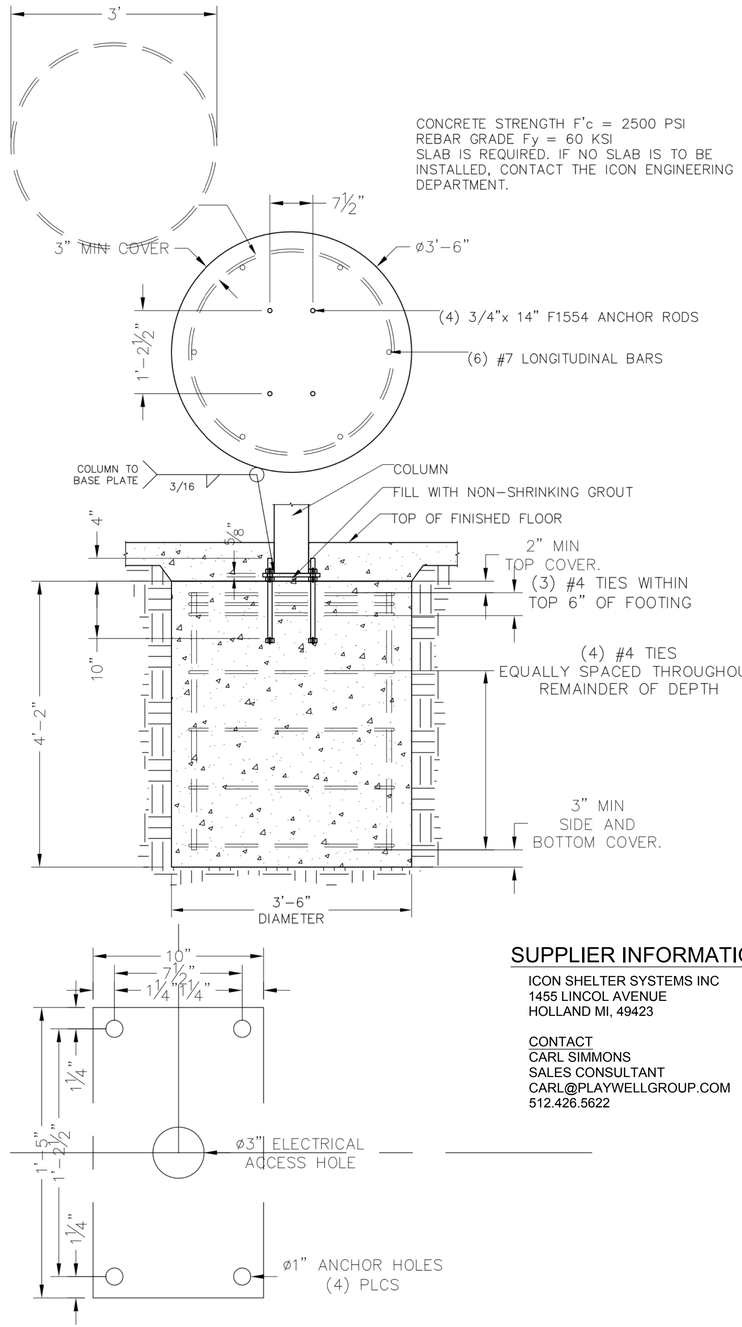
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

PA2.14
PLAZA PAVILION DETAILS

37 OF 54

10/16/2017 8:05 AM



PRELIMINARY FOOTING
FOR ESTIMATING PROPOSES ONLY

SUPPLIER INFORMATION:

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HOLLAND MI, 49423

CONTACT
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SALES CONSULTANT
CARL@PLAYWELLGROUP.COM
512.426.5622

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DRAWING NO: –

DATE: –

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CONTACT
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SALES CONSULTANT-CENTRAL TEXAS
512-426-5622
CARL@PLAYWELLGROUP.COM

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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round rock, texas 78665
p:: 512.244.1966

http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

PA2.15
PLAZA PAVILION DETAILS

38 OF 54

NOTE:

LIMESTONE STONE VENEER TO MATCH PAVILION STONE COLUMNS.
CONTRACTOR TO COORDINATE MATERIALS TO ENSURE PROPER MATCH OF MATERIALS AND FINAL APPEARANCE.

DETAILS ARE FOR REFERENCE ONLY. PUBLIC RESTROOM COMPANY TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

PROCEDURE:

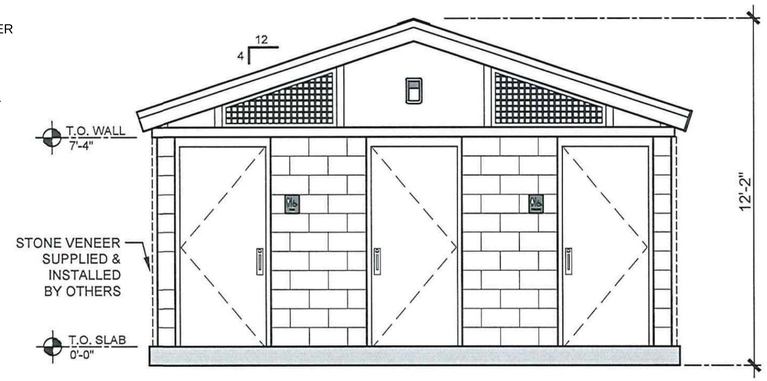
1. CONTRACTOR TO PREPARE BUILDING SLAB PER STRUCTURAL DRAWINGS
2. PUBLIC RESTROOM COMPANY TO PROVIDE RESTROOM AND INSTALL
3. WILLIAMSON COUNTY SHALL COORDINATE DELIVERY WITH PUBLIC RESTROOM COMPANY
4. CONTRACTOR TO CONNECT UTILITIES TO INSTALLED RESTROOM FACILITY

SUPPLIER INFORMATION:

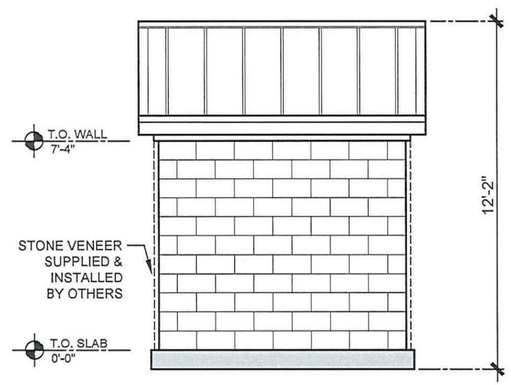
PUBLIC RESTROOM COMPANY
2587 BUSINESS PARKWAY
MINDEN NEVADA 89423

CONTACT
CARL HACKNEY
PROJECT DEVELOPMENT MANAGER
512.921.5175
CARL@PUBLICRESTROOMCOMPANY.COM

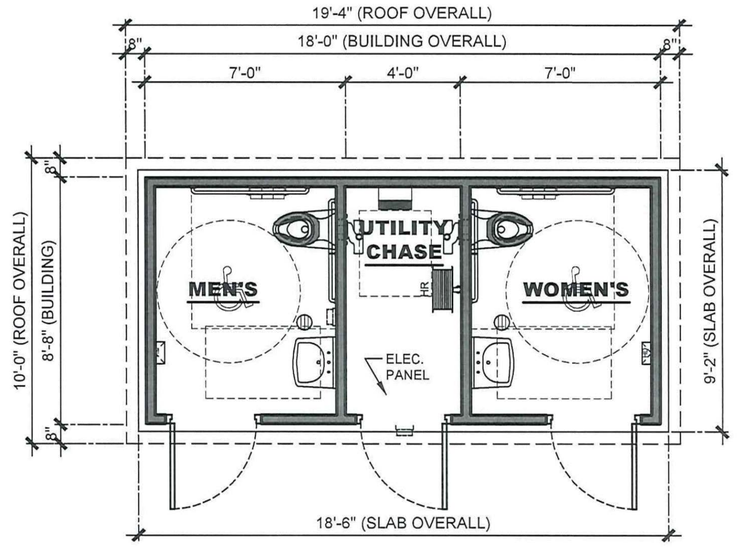
PROJECT REF#: *10208-5/18/2017-1*



ELEVATION 1
SCALE:3/16"=1'-0"



ELEVATION 2
SCALE:3/16"=1'-0"



FLOOR PLAN
SCALE: 3/16"=1'0"

PUBLIC RESTROOM COMPANY
Building Better Places To Go.SM
Ph: 888-888-2060 | Fax: 888-888-1448

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BUILDING TYPE:	**RESTROOM BUILDING**	REVISION # **1**	REVISION DATE: **5/18/2017**	SHEET#
PROJECT:	**CHAMPION PARK WILLIAMSON COUNTY, TX**	PROJECT #: **10208**	START DATE: **5/11/2017**	MAX. PERSON / HOUR: **90 S**
			DRAWN BY: EOR	

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NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

RR2.11
PLAZA RESTROOM DETAILS

39 OF 54

CONTRACTOR SCOPE OF WORK BACKGROUND:
CONTRACTOR SHALL SURVEY THE SITE, ESTABLISH SURVEY FOR THE BUILDING PAD AND PREFABRICATED BUILDING SLAB ELEVATION AND FRONT CORNERS, EXCAVATE FOR BUILDING FOOTINGS, LOCATE FOOTING SLEEVES FOR ELECTRICAL, WASTE, AND WATER, POUR THE FOOTINGS, FURNISH SAND BASE ADJACENT TO SUBGRADE PAD, AND PROVIDE LOCATION FOR UTILITY POC'S NOMINALLY 6' OUTSIDE THE FOUNDATION.

PREPARATION OF BUILDING PAD:
CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE BUILDING SUBGRADE PAD.

SUBGRADE PAD/FOUNDATION REQUIREMENTS:
1. CONTRACTOR SHALL SURVEY THE BUILDING SITE AND PROVIDE A FINISHED SLAB ELEVATION FOR THE PREFABRICATED BUILDING. THE BUILDING PAD SIZE PRC REQUIRES IS LARGER THAN THE FINAL ACTUAL BUILDING FOOTPRINT. PROVIDE BUILDING FRONT CORNER STAKES WITH 10' OFFSETS.
2. EXCAVATE THE EXISTING SITE TO THE DEPTH OF THE REQUIRED FOOTINGS TO LOCAL CODE IF REQUIRED.
3. FURNISH COARSE CONCRETE SAND ADJACENT TO SUBGRADE PAD SO PRC CAN CUT THE UTILITY TRENCHES, INSTALL UNDERGROUND UTILITIES, AND SCREED SAND.

OWNER VERIFICATION OF SITE ACCESS TO ALLOW BUILDING DELIVERY:
1. CONTRACTOR TO CERTIFY TO PRC THAT SUITABLE DELIVERY ACCESS TO THE PROPOSED BUILDING SITE IS AVAILABLE. SUITABLE ACCESS IS DEFINED AS 14' MINIMUM WIDTH, 16' MINIMUM HEIGHT, AND SUFFICIENT TURNING RADIUS FOR A CRANE AND 70' TRACTOR-TRAILER.
2. PRC'S COST IS BASED UPON THE CRANE WE PROVIDE BEING ABLE TO GET WITHIN 35' FROM THE BUILDING CENTER AND FOR THE DELIVERY TRUCK TO BE NO MORE THAN 35' FROM THE CRANE CENTER PICKING POINT.
3. IF THE PATH TO THE BUILDING SITE TRAVERSES CURBS, UNDERGROUND UTILITIES, LANDSCAPING, SIDEWALKS, OR OTHER OBSTACLES THAT COULD BE DAMAGED, IT IS THE CONTRACTORS RESPONSIBILITY FOR REPAIR AND ALL COSTS, IF DAMAGE OCCURS.
4. IF TRENCH PLATING IS REQUIRED, IT SHALL BE THE COST RESPONSIBILITY OF THE CONTRACTOR.
5. IF UNSEEN OBSTACLES ARE PRESENT WHEN SITE INSTALLATION BEGINS, IT IS THE CONTRACTORS RESPONSIBILITY TO PROPERLY MARK THEM AND VERBALLY NOTIFY PRC BEFORE INSTALLATION.

INSTALLATION NOTICE AND SITE AVAILABILITY:
PRC WILL PROVIDE SUFFICIENT NOTICE OF DELIVERY OF THE PREFABRICATED BUILDING. THE CONTRACTOR SHALL MAKE THE SITE AVAILABLE DURING THE DELIVERY PERIOD. DURING THE DELIVERY PERIOD, ON AN IMPROVED SITE, THE CONTRACTOR SHOULD STOP SITE WATERING SEVERAL DAYS BEFORE DELIVERY TO MINIMIZE THE IMPACT ON THE SOILS FOR THE HEAVY EQUIPMENT NEEDED FOR INSTALLATION.

CAUTION:
IF SITE IS NOT READY FOR OUR FIELD CREW TO PERFORM THEIR INSTALLATION AND IF NO NOTICE OF DELAY IN READINESS FROM THE CONTRACTOR IS RECEIVED, PRC WILL PROVIDE A CHANGE ORDER FOR RE-MOBILIZATION ON A DAILY BASIS UNTIL THE SITE IS READY FOR US. READY MEANS THAT THE SITE PAD IS COMPLETED, THE CORNER REQUIRED SURVEY STAKES ARE IN PLACE, THE SLAB ELEVATION STAKES ARE IN PLACE, THE LOCATION OF THE FRONT OF THE BUILDING IS CONFIRMED ON SITE, AND ACCESS TO THE SITE IS AVAILABLE FROM AN IMPROVED ROADWAY. THE CONTRACTOR SHALL SIGN THE CHANGE ORDER BEFORE WE WILL CONTINUE DELIVERY.

PUBLIC RESTROOM COMPANY WILL "TURN-KEY" SET THE BUILDINGS INCLUDING THE HOOK UP OF UTILITIES INSIDE THE BUILDING (ONLY) WHEN THEY ARE AVAILABLE. PRC WILL USE ITS OWN FACTORY TRAINED STAFF FOR THE INSTALLATION.

UTILITY CONNECTIONS:
1. THE OWNER IS RESPONSIBLE FOR FLUSHING ALL WATER SERVICE LINES BEFORE FINAL CONNECTION.
2. THE OWNER IS RESPONSIBLE FOR THE FINAL CONNECTIONS OF WATER, SEWER, AND ELECTRICAL AT THE EXTERIOR OF BUILDING POC'S.
3. PRC PROVIDES A POC FOR WATER, A POC DWV WASTE LINE WITH A CLEAN OUT YOUR SERVICE CONNECTION, AND AN ELECTRICAL SCHEDULE 80 PVC SLEEVE AT AN EXTERIOR POC.
4. PRC PROVIDES AND CONNECTS THE INTERIOR BUILDING UTILITY CONNECTIONS AND THE OWNER OR THEIR SUBCONTRACTOR MAKES THE EXTERIOR CONNECTIONS TO POC'S FOR SERVICES.

SPECIAL CONDITIONS, PERMITS, AND INSPECTION FEES:
FOLLOW ANY PUBLISHED SPECIFICATIONS GOVERNING LOCAL BUILDING PROCEDURES FOR APPLICABLE BUILDING PERMIT FEES, HEALTH DEPARTMENT FEES, ALL INSPECTION FEES, SITE CONCRETE TESTING FEES, AND COMPACTION TESTS, IF REQUIRED BY CONTRACTOR. PRC IS RESPONSIBLE FOR ALL REQUIRED STATE INSPECTIONS AND FINAL STATE INSIGNIA CERTIFICATION OF THE BUILDING, IF APPLICABLE.

JURISDICTION FOR OFF-SITE WORK:
JURISDICTION, FOR PERMITTING AND INSPECTION OF THIS BUILDING SHALL BE EITHER THE STATE AGENCY WHO MANAGES PREFABRICATED BUILDING COMPLIANCE IN THE STATE OR THE LOCAL CBO (WHEN THE STATE DOES NOT PROVIDE CERTIFICATION.) IF THE RESPONSIBILITY FOR BUILDING INSPECTION IS THE LOCAL CBO, WE WILL PROVIDE A CERTIFIED PLAN SET, CALCULATIONS, AND A THIRD PARTY ENGINEER INSPECTION REPORT FOR ANY AND ALL CLOSED WORK THE LOCAL OFFICIAL CANNOT SEE.

DELIVERY AND INSTALLATION:

SITE INSPECTION:
PRC STAFF, UPON SITE ARRIVAL, WILL VERIFY THE REQUIRED DIMENSIONS OF THE BUILDING PAD AND THE CORNER LOCATIONS/ELEVATION. WE WILL ALSO VERIFY THE DELIVERY PATH FROM AN ACCESSIBLE ROAD OR STREET AND INSTALL THE UNDERGROUND UTILITIES TO THE POINT OF CONNECTION NOMINALLY 6' FROM THE EXTERIOR OF THE BUILDING.

INSTALLATION:
PRC WILL INSTALL THE BUILDING TURN-KEY, EXCEPT FOR ANY EXCLUSION (LISTED UNDER "EXCLUSIONS," HEREIN.)

INSTALLATION OF UTILITIES UNDER THE PREFABRICATED BUILDING:

WE FABRICATE OFF-SITE AN UNDERGROUND UTILITIES (WATER, AND DWV PIPING AND FITTINGS) PREASSEMBLED PLUMBING AND ELECTRICAL TREE. OUR SITE STAFF WILL SET THE UNDERGROUND TREE IN THE EXCAVATED TRENCH (EXCAVATION BY CONTRACTOR TO THE PROPER DEPTH PER LOCAL CODE) INTO CODE DEPTH EXCAVATED TRENCHES AND OUR STAFF WILL INSTALL THE COARSE CONCRETE SAND TO BED THE PIPING PER OUR SUBMITTED DRAWING ..

CONTRACTOR UTILITY POC'S START NOMINALLY 6' FROM THE BUILDING FOOTPRINT WHERE PRC PICK UP THE TASK AND CONNECT YOUR SERVICES TO THE BUILDING STUB DOWNS. PRC PROVIDES ALL THE UNDER SLAB PIPING (INCLUDING THE DRIVEN ELECTRICAL GROUND ROD OR LIGHTNING ROD, IF APPLICABLE.} THE GENERAL CONTRACTOR SHALL BRING UTILITY SERVICES TO WITHIN 6' OF THE PAD.

CONNECTION OF UTILITIES POST BUILDING PLACEMENT:
AFTER PLACEMENT OF THE BUILDING ON THE PAD BY PRC, PRC FIELD STAFF WILL TIE IN THE WATER AND SEWER CONNECTION "INSIDE" THE BUILDING ONLY AND TERMINATE AT A POINT OF CONNECTION (POC} OUTSIDE THE BUILDING CLEARLY MARKED FOR EACH UTILITY SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR FINAL UTILITY POINT OF SERVICE CONNECTIONS AT THE NOMINAL 6' FROM BUILDING LOCATIONS.

ELECTRICAL:
PRC PROVIDES THE ELECTRICAL CONDUIT TO THE POC 6' FROM THE BUILDING. THE CONTRACTOR SHALL PULL THE WIRE AND TIES IT OFF ON THE ELECTRICAL PANEL.

PLUMBING:
PRC PROVIDES THE POC UP TO 6' FROM THE BUILDING FOOTPRINT AND THE CONTRACTOR SHALL CONNECT THE WATER TO OUR STUB OUT LOCATION.

SEWER:
SOME SITES DEPENDING ON THE LOCAL JURISDICTION WILL REQUIRE AN OUTSIDE HOUSE TRAP WHICH THE CONTRACTOR SHALL INSTALL IF NEEDED. PRC WILL PROVIDE THE CONTRACTOR WITH A SEWER POINT OF CONNECTION INCLUDING A CLEAN OUT TO WHICH THE CONTRACTOR WILL TERMINATE THE SITE SEWER SERVICE.

TESTING OF WATER, SEWER, AND ELECTRICAL IN PLANT AND FINAL SITE UTILITY CONNECTION:
BEFORE THE BUILDING LEAVES THE MANUFACTURING CENTER, PRC CERTIFIES A PRESSURE WATER PIPING TEST, DWV, AND THE ELECTRICAL CONNECTIONS FOR COMPLIANCE WITH CODE. WHILE THE BUILDING IS FULLY TESTED FOR LEAKS AT THE PLANT BEFORE SHIPMENT, ROAD VIBRATION MAY LOOSEN SOME PLUMBING SLIP FITTINGS AND REQUIRE TIGHTENING ONCE THE BUILDING SERVICES {WATER} IS COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR MINOR FITTING TIGHTENING TO HANDLE SMALL SLIP FITTING LEAKS CAUSED BY TRANSPORTATION.

EXCLUSIONS/EXCEPTIONS:
1. ACCESS ISSUES FOR DELIVERY OF THE BUILDING WHEN THE OWNER HAS NOT PROVIDED A PROPER PATH TO THE FINAL SITE. THIS EXCLUSION COVERS SITES WHOSE ACCESS IS LIMITED BY TREES, INACCESSIBLE ROADWAYS, OVERHEAD POWER LINES AT LOCATION WHERE CRANE WILL LIFT BUILDING, GRADE CHANGES, BERMS, OR UNEVEN SITE GRADES, OR WHEN THE PATH OF TRAVEL IS OVER IMPROVEMENTS SUCH AS SIDEWALKS, ALL OF WHICH ARE NOT WITHIN THE SCOPE OF WORK BY PRC. ANY TRENCH PLATES NEEDED FOR PROTECTION OF SITE SOILS, SIDEWALKS, OR SITE UTILITIES.
2. IF WEATHER ON SITE CAUSES SITE DELIVERY ISSUES THE DELIVERY MAY HAVE TO BE DIVERTED TO AN OFFSITE LOCATION AND THE ADDITIONAL COSTS WILL BE A CHANGE ORDER TO THE OWNER. PRC STAFF WORKS WITH THE OWNER/CONTRACTOR IN ADVANCE TO MAKE SURE SOUND DECISIONS FOR DELIVERY ARE MADE.
3. SURVEY, EXCAVATION, AND INSTALLATION OF THE BUILDING PAD AND FOOTINGS (IF REQUIRED) PER OUR ATTACHED PLANS.
4. SIDEWALKS OUTSIDE THE BUILDING FOOTPRINT. IMPROPER WATER PRESSURE, AN UNDERSIZED METER, OR IMPROPER WATER FLOW TO THE BUILDING.
5. ANY TRENCH PLATES NEEDED FOR PROTECTION OF SITE SOILS, SIDEWALKS, OR SITE UTILITIES. ANY SITE SOILS DAMAGE OR OTHER SITE IMPROVEMENTS, IF DAMAGED DURING INSTALLATION ARE BY OTHERS. BONDS, BUILDING PERMITS, SITE SURVEY, SPECIAL INSPECTION FEES, MINOR TRASH REMOVAL, FINAL UTILITY CONNECTIONS, MINOR PLUMBING LEAKS IF WATER IS NOT AVAILABLE WHEN BUILDING SITE WORK INSTALLATION IS COMPLETE, SITE SOILS OR IMPROVEMENTS IF DAMAGED DURING INSTALLATION, LANDSCAPING.
6. SURVEY, EXCAVATION, AND INSTALLATION OF THE BUILDING PAD AND FOOTINGS PER STRUCTURAL PLANS.
7. SOIL CONDITIONS NOT SUITABLE FOR BEARING 1500 PSF. IF NO SOILS TESTING REPORT IS AVAILABLE BEFORE BID, THE CONTRACTOR MUST VERIFY SITE SUPPORTING SOILS AT A MINIMUM OF 1000 PSF BECAUSE THAT'S THE LEAST WE CAN PLACE OUR STRUCTURES ON OR OWNER OR ENGINEER OF RECORD MUST DESIGN A FOUNDATION SYSTEM TO MEET THE IMPOSED LOADS OF SITE PLACEMENT.
8. IMPROPER WATER PRESSURE, AN UNDERSIZED METER, OR IMPROPER WATER VOLUME FLOW TO THE BUILDING MAY NECESSITATE A CHANGE ORDER FOR THE STRUCTURE TO INSTALL A 30 GALLON PRESSURE TANK TO PROVIDE THE MINIMUM FLOW RATE AND PRESSURE. BUILDING WATER SERVICE CHLORINATION, POST INSTALLATION, IS BY OWNER AND NOT PRC.
9. BONDS, BUILDING PERMITS, A SITE SURVEY, SPECIAL INSPECTION FEES, MINOR TRASH REMOVAL, FINAL UTILITY CONNECTIONS TO THE ONSITE WATER, SEWER AND ELECTRICAL ARE BY OTHERS. SINCE THE BUILDING IS FULLY INSPECTED AND TESTED IN PLANT, MINOR PLUMBING LEAKS (IF WATER IS NOT AVAILABLE WHEN BUILDING SITE WORK INSTALLATION IS COMPLETED,) IS BY OTHERS.
10. CRANE COSTS, WHICH ARE INCLUDED HEREIN, ARE BASED ON A MAXIMUM 35' RADIUS FROM THE CENTER PIN OF THE CRANE TO CENTER POINT OF THE FURTHEST BUILDING MODULE ROOF. IF ADDITIONAL DISTANCE REQUIRES A LARGER CRANE, ADDITIONAL COSTS WILL BE ASSESSED BY CHANGE ORDER TO THE CONTRACTOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR SITE DEBRIS REMOVAL OR A LOCATION FOR PLACEMENT ON SITE {NOMINALLY ONE PICKUP TRUCK OF SHIPPING MATERIALS).
12. SITE TRAFFIC CONTROL, IF APPLICABLE, SHALL BE BY CONTRACTOR, NOT PRC.

NOTE
PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

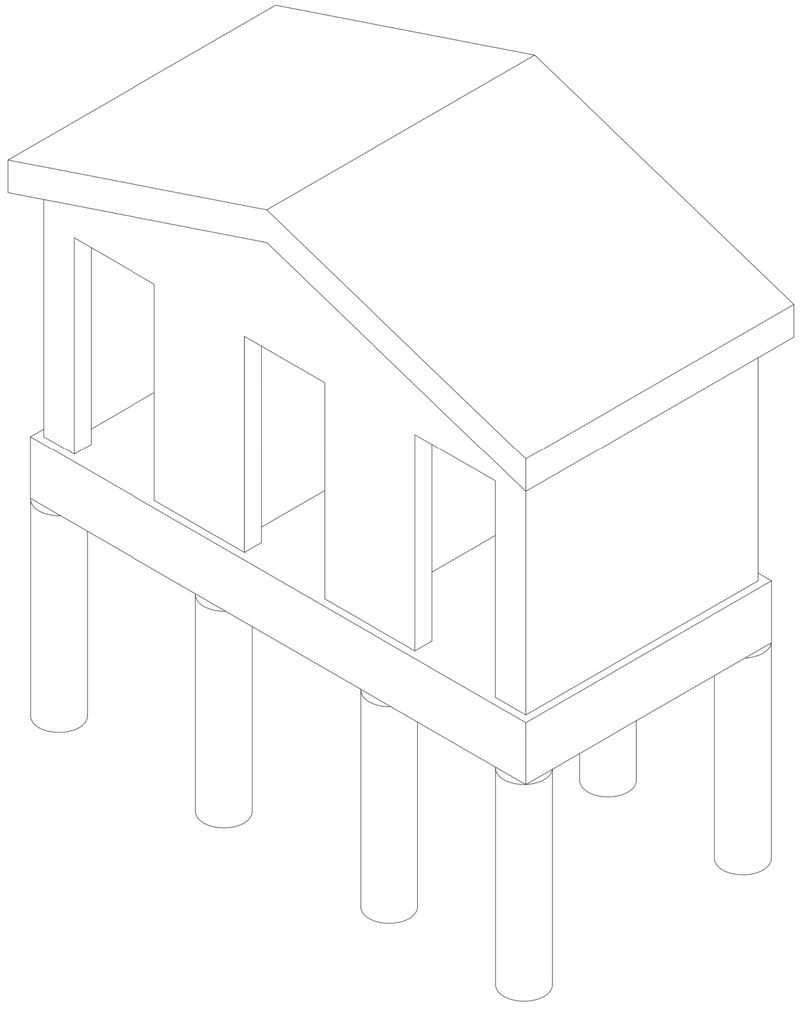
project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

RR2.12
PLAZA RESTROOM NOTES

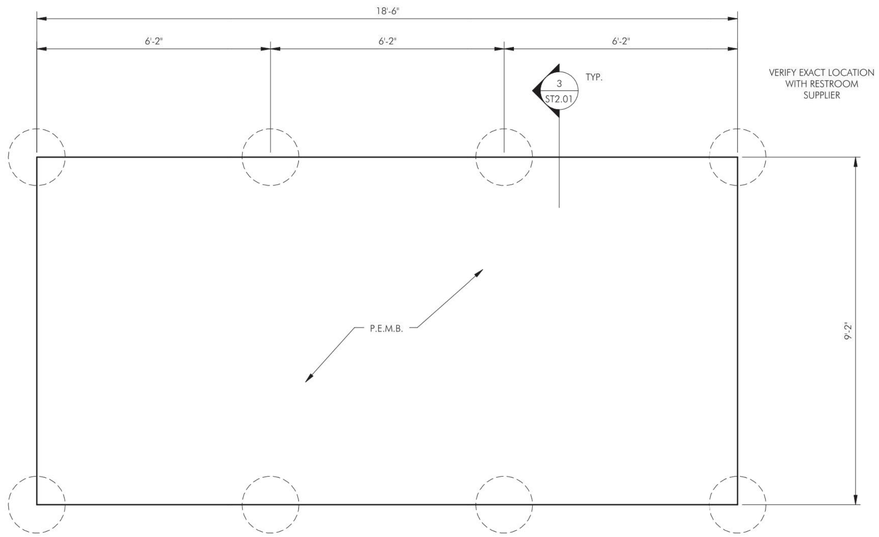
40 OF 54

Williamson County, Texas

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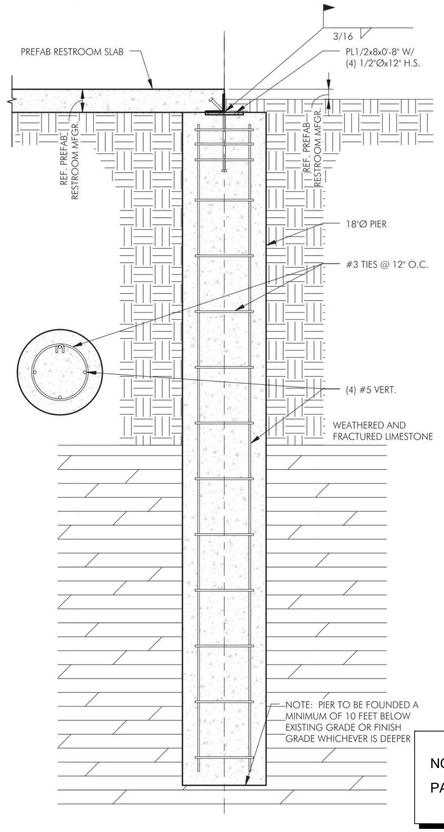
1 | 3D RENDERING



NORTH

2 | PREFAB RESTROOM PIER PLAN

1/2" = 1'-0"



3 | TYPICAL PIER DETAIL @ RESTROOMS

3/4" = 1'-0"

NOTE

PART 2 - PLAZA SCOPE TO BE PRICED AS ALTERNATE 2A

STATE OF TEXAS
LAURENCE J. FISHER
90110
LICENSED
PROFESSIONAL ENGINEER
7/10/17

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UPPER BRUSHY CREEK TRAIL AT CHAMPION
WILLIAMSON COUNTY, TEXAS

REVISIONS

No.	DATE	DESCRIPTION

E360 PROJECT NO.
15085

DATE:	07/10/2017
DRAWN BY:	JT
CHECKED BY:	LF
APPR. BY:	LF

SHEET NO.
ST2.01
41 OF 54

10/16/2017 8:05 AM



KEY NOTES

1	LIMIT OF CONSTRUCTION
2	EXISTING CURB (102 LF), PARKING SPACE (1 QTY), SIDEWALK (19 LF) TO BE REMOVED; SAWCUT AND REMOVE MINIMUM OF 1' EXISTING PAVEMENT OR MINIMUM 1' PAST THE EDGE OF UNSATISFACTORY PAVEMENT, WHICH EVER IS GREATER
3	EXISTING TREES TO BE REMOVED
4	EXISTING CEMETERY TO REMAIN
5	EXISTING SIDEWALK TO BE REPLACED PER PLANS (30 LF)
6	EXISTING BOULDERS TO BE RELOCATED PER PLANS (36 QTY)
7	EXISTING MEMORIAL OAK TREES TO BE RELOCATED PER PLANS (4 QTY), CONTRACTOR TO EXERCISE EXTREME CAUTION AND CARE WHEN TRANSPLANTING
8	EXISTING TREES TO REMAIN
9	EXISTING FLAG POLE TO REMAIN

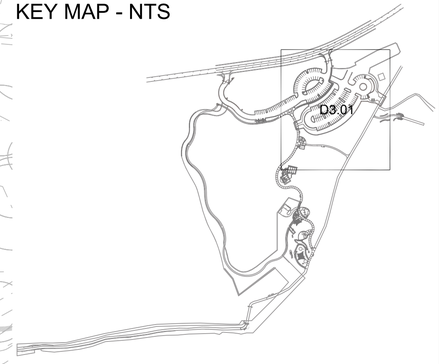
NOTE

PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A

EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

SUBMISSIONS | REVISIONS::

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REGISTERED LANDSCAPE ARCHITECT
BRENT A. BAKER
2091
STATE OF TEXAS
10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

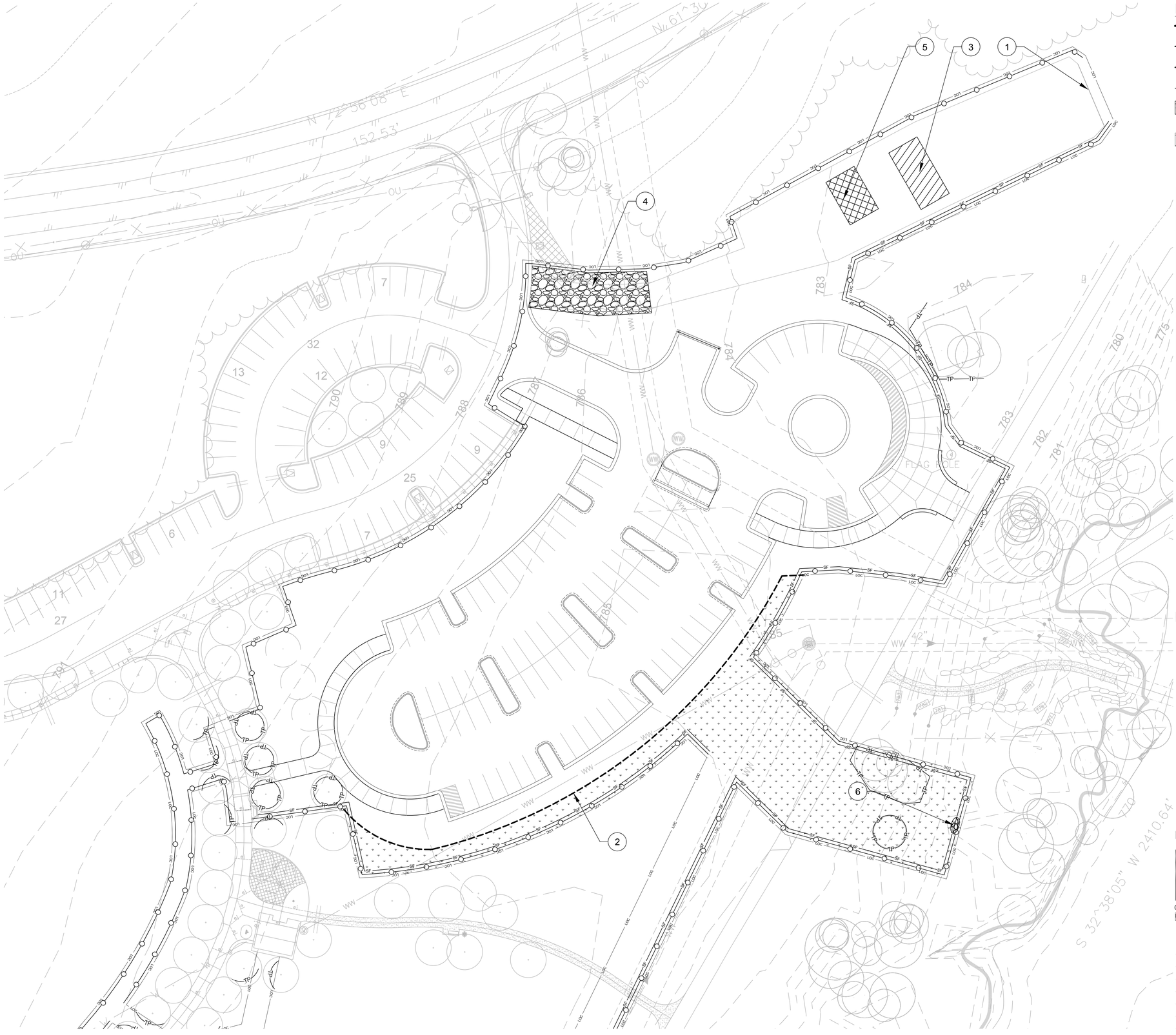
3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

D3.01

PARKING LOT EXISTING CONDITIONS & DEMOLITION PLAN
42 OF 54



LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- SF — EROSION SILT FENCE (1,288 LF)
- TP — TREE PROTECTION (320 LF)
- SECURITY FENCE (2,204 LF)
- STABILIZED CONSTRUCTION ENTRANCE (1,880 SF)
- REVEGETATION (16,324 SF)

KEY NOTES

1	TEMPORARY MAINTENANCE ACCESS GATE FOR WILCO MAINTENANCE ACCESS
2	LIMITS OF SOD, REF. LA3.01 FOR VEGETATION AROUND PARKING LOT
3	STAGING AREA 2, EXISTING COUNTY SPOILS PILE TO REMAIN & CONTRACTOR WORK AROUND
4	STABILIZED CONSTRUCTION ENTRANCE, REF. DTL/EV0.11
5	CONCRETE TRUCK WASHOUT AREA, REF. DTL/EV0.11
6	10 LF ROCK BERM REF. DTL/EV0.11

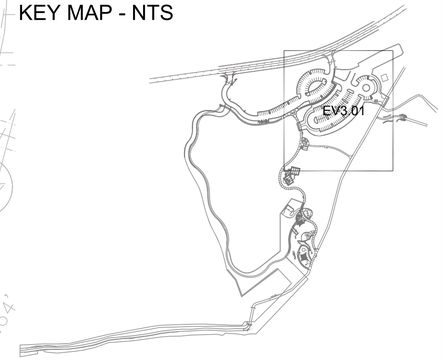
NOTE

PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A

EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

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KEY MAP - NTS



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0 15 30 60 90

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

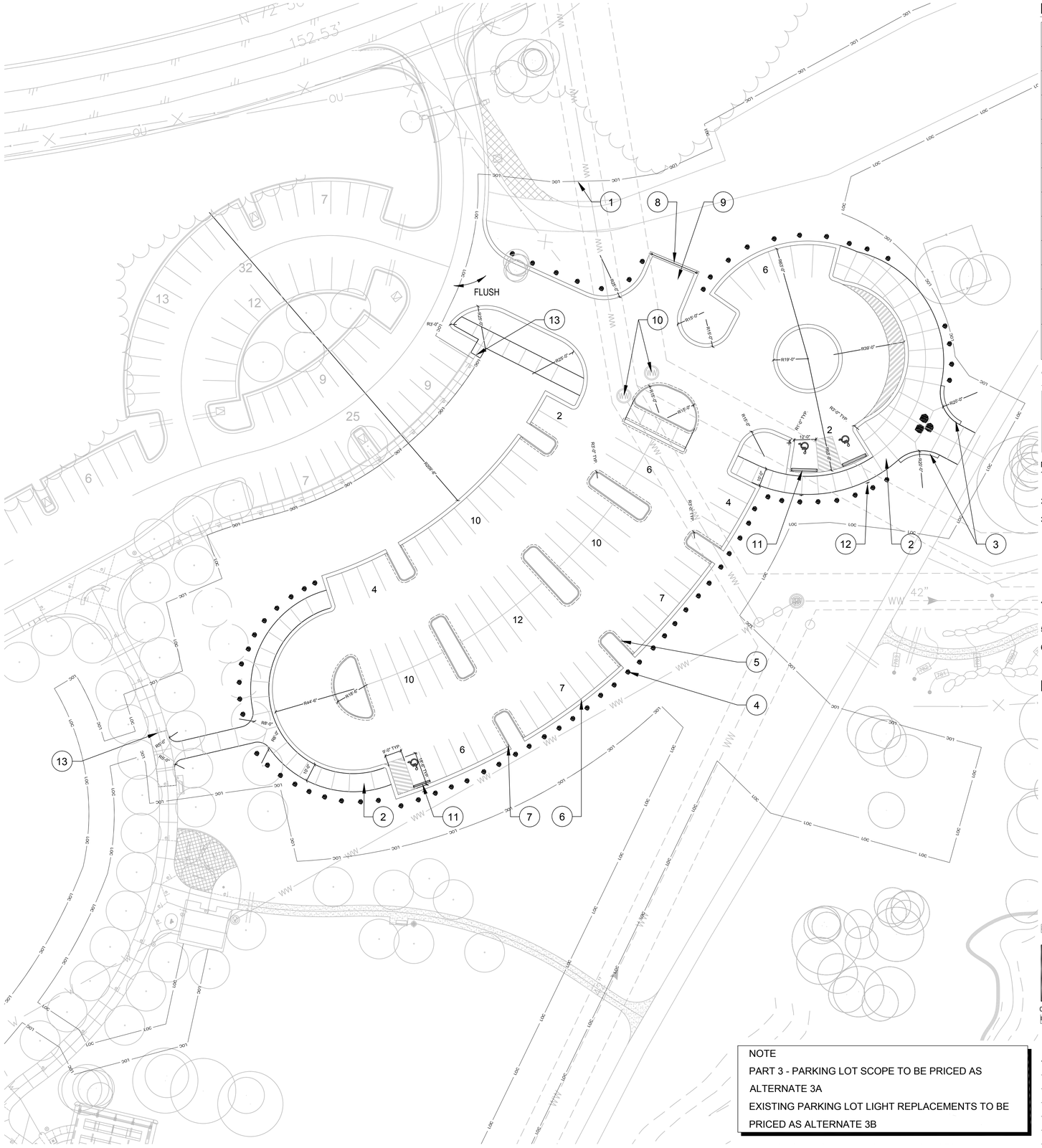
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

EV3.01

PARKING LOT EROSION CONTROL, SEDIMENTATION & TREE PROTECTION PLAN

43 OF 54



KEY NOTES

1	LIMIT OF CONSTRUCTION
2	ACCESSIBLE CONCRETE WALKWAY TO MATCH EXISTING
3	CONCRETE SEAT WALL (50 LF), REF. DTL 4/LA3.12
4	RELOCATED BOULDERS (82 QTY), REF. DTL 3/LA3.12
5	TYPICAL 6" CURB (746 LF), REF. DTL 2/LA3.12
6	2' RIBBON CURB (1,469 LF), REF. DTL 1/LA3.12
7	RIBBON CURB-TO-TYPICAL 6" CURB TRANSITION, REF. DTL 5/LA3.11
8	SWING GATE, REF. DTL 6/LA3.12
9	HMAC DRIVE & PARKING LOT, REF. DTL 5/LA3.13
10	ADJUST WWMH TO FINISH GRADE
11	WHEEL STOPS AT ALL (3) ACCESSIBLE SPACES, REF. DTL/LA3.13
12	ACCESSIBLE SIGNAGE MOUNT BEHIND CONCRETE SIDEWALK FOR EACH (3) ACCESSIBLE STALL (TYP.), REF. DTL/LA3.13
13	MEET AND MATCH EXISTING CONCRETE (TYP.)

TREE LEGEND

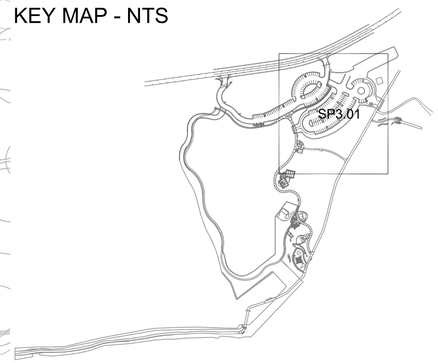
TREES

TREES TO BE TRANSPLANTED

NOTES::

1. QUANTITIES ARE FOR CONTRACTORS CONVENIENCE. CONTRACTOR SHALL VERIFY QUANTITIES AND REPORT ANY DISCREPANCIES PRIOR TO BID. NO SEPARATE MEASUREMENT WILL BE MADE POST AWARD.
2. CURB AND PAVEMENT DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT / LIP OF GUTTER UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL STRIPE PARKING LOT AS SHOWN WITH 4" WIDE WHITE PAVEMENT MARKINGS. HANDICAPPED SPACES SHALL BE MARKED AS SHOWN AND PER ADDITIONAL DETAILS. HANDICAPPED PARKING SIGN SHALL BE INSTALLED AT EACH HANDICAPPED SPACE PER DETAIL (SEE LA3.13). MINIMUM WIDTH OF EACH REGULAR PARKING SPACE AS STRIPED SHALL BE 9' MINIMUM. MINIMUM WIDTH OF EACH REGULAR HANDICAPPED SPACE SHALL BE 8', AND VAN ACCESSIBLE HANDICAPPED SPACES SHALL BE 11' MINIMUM. MINIMUM WIDTH OF LOADING ZONE BETWEEN HANDICAPPED SPOTS SHALL BE 8' FOR VAN SPOTS AND 5' FOR OTHERS.
4. BUMPER CURBS SHALL BE PROVIDED AT ALL SPACES ADJACENT TO PROPOSED SIDEWALKS. REFERENCE PLAN AND SEE DETAIL ON SHEET LA3.13.
5. ALL CURBS ON PARKING AISLES AND DRIVEWAYS SHALL BE PAINTED WITH RED "NO PARKING - FIRE ZONE" MARKINGS.
6. TOTAL PARKING SPACES: 86
   ADA PARKING SPACES: 3

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

NOTE
PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A
EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

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randy bell
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leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SP3.01
PARKING LOT SITE PLAN

44 OF 54



LEGEND:

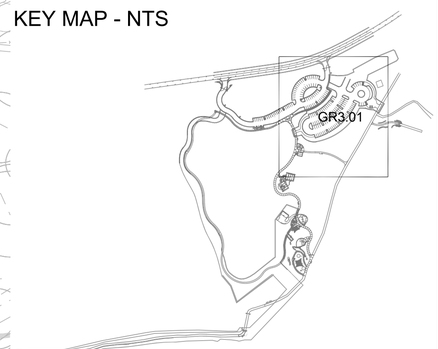
SWALE LINE

HPT LINE

KEY NOTES

1	MEET & MATCH EXISTING CONCRETE (TYP.)

KEY MAP - NTS



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60'
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0 15 30 60 90

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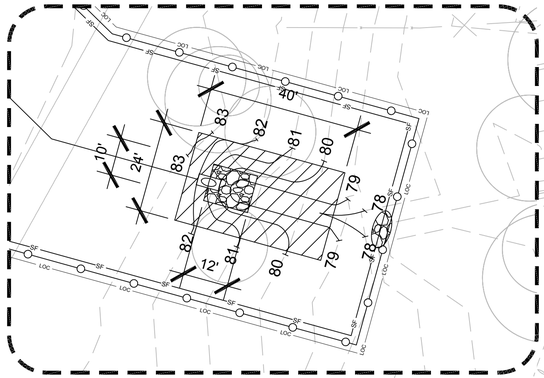
3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

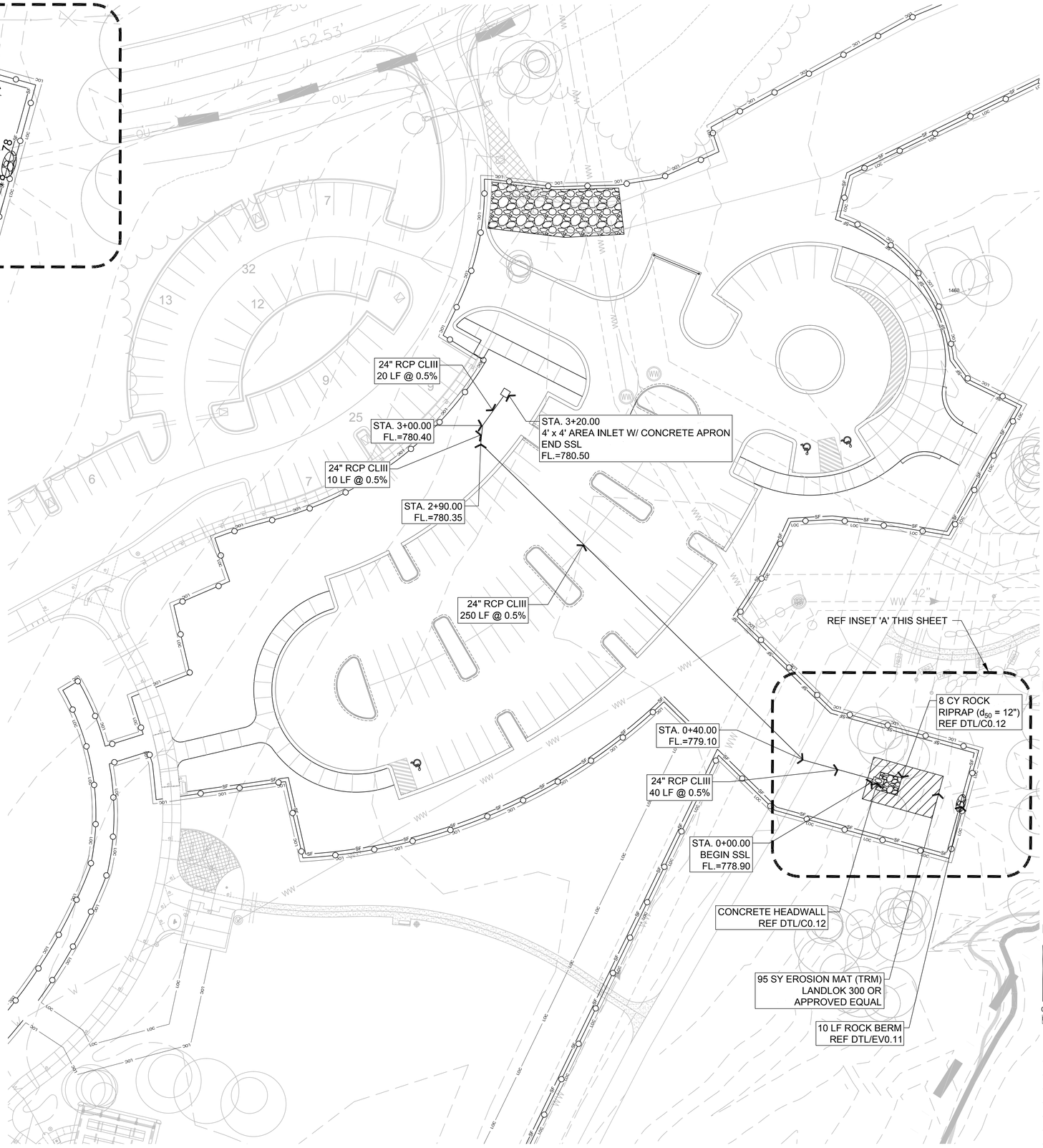
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approved ::	bab, ap

GR3.01
PARKING LOT GRADING & DRAINAGE PLAN

45 OF 54



INSET 'A' - NTS

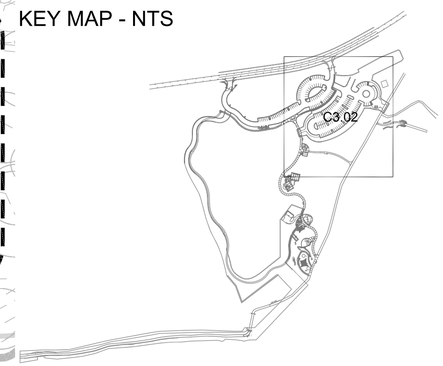


NOTE

PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A

EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

KEY MAP - NTS



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30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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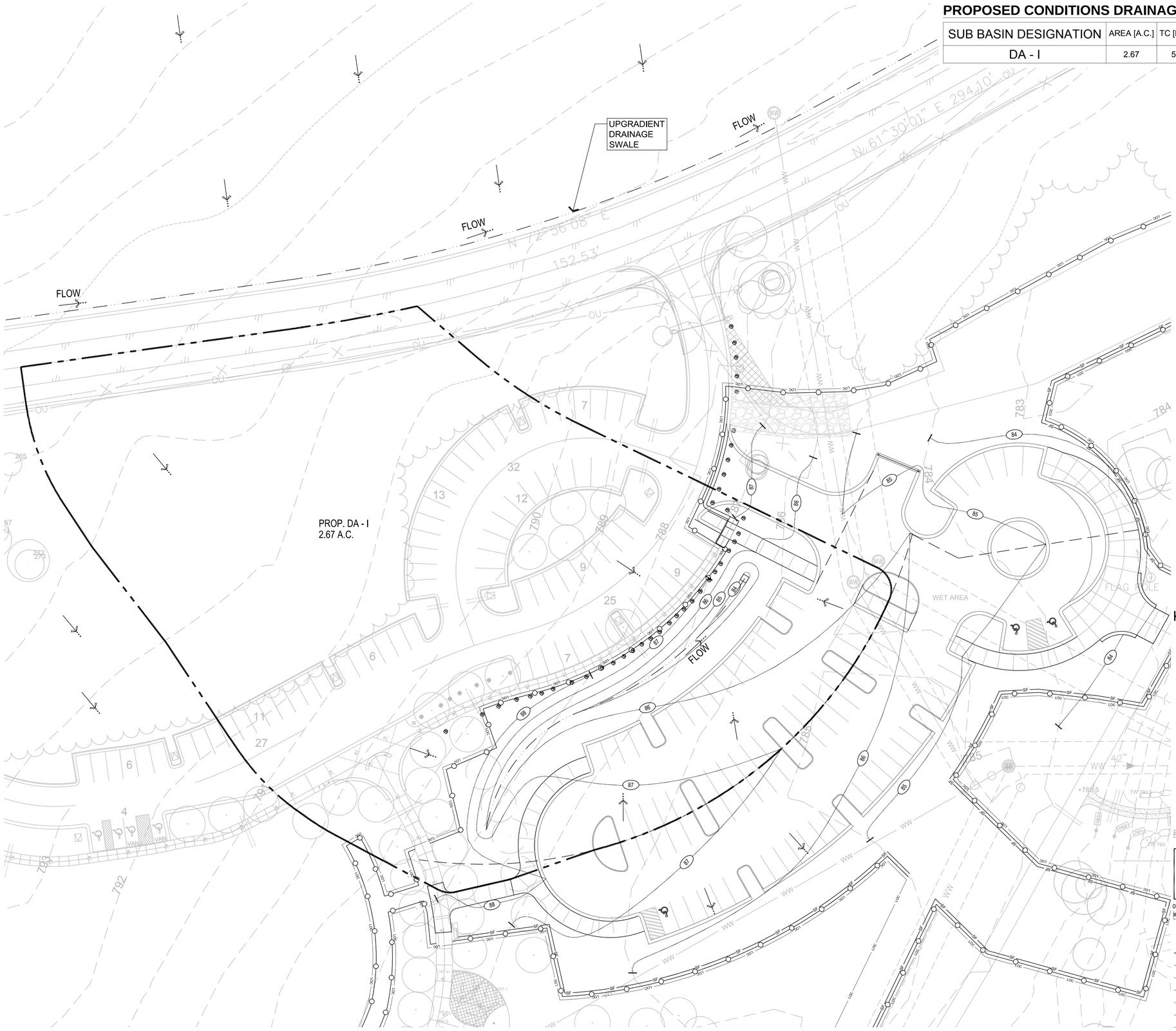
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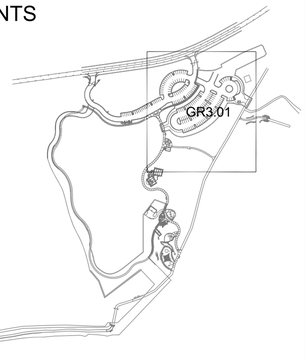
C3.01
PARKING LOT STORM SEWER PLAN

PROPOSED CONDITIONS DRAINAGE TABLE (RATIONAL METHOD)

SUB BASIN DESIGNATION	AREA [A.C.]	TC [MIN.]	ESTIMATED IMP ERV. ± [%]	C_{25}	C_{100}	I_{25}	I_{100}	Q_{25}	Q_{100}
DA - I	2.67	5.0	50	0.64	0.72	9.84	11.88	16.81	22.84



KEY MAP - NTS



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11x17
60'
SCALE: 1"=60'

0 15 30 60 90

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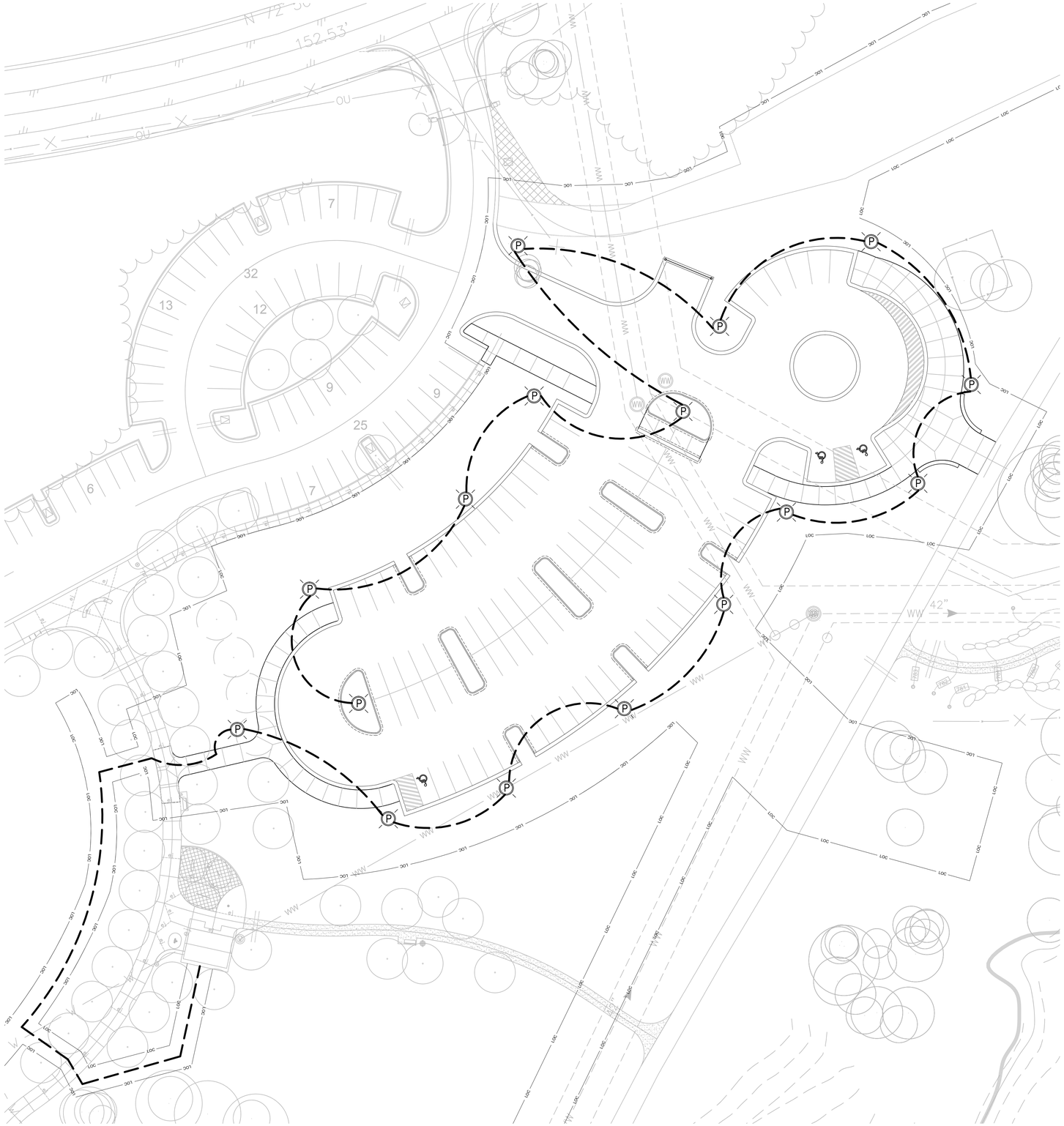
BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

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C3.02
PARKING LOT DRAINAGE AREA MAP



1 LIGHTING PLAN

SCALE: 1:30

GENERAL LIGHTING NOTES

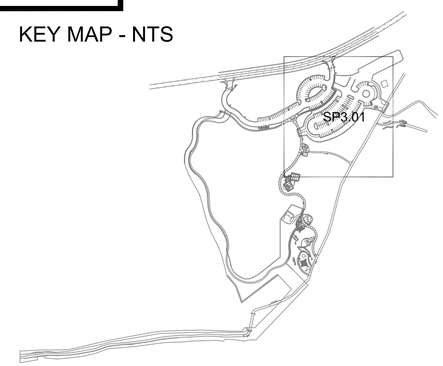
1. LIGHTING AND ELECTRICAL SYSTEM TO BE DESIGNED AND INSTALLED BY A LICENSED ELECTRICIAN WITH DOCUMENTED EXPERIENCE OF INSTALLING SYSTEMS OF SIMILAR SCOPE. CONTRACTOR TO PROVIDE ALL ASSOCIATED EQUIPMENT SUCH AS PVC CONDUIT, WEATHER PROOF AND /OR WATER PROOF JUNCTION BOXES, BALLASTS, CONNECTORS, HARNESSES, TIME CLOCKS ETC., NECESSARY TO INSTALL A COMPLETE ELECTRICAL SYSTEM.
2. CONTRACTOR SHALL REVIEW PROPOSED LAYOUT OF LIGHTING SYSTEM AND EQUIPMENT LOCATIONS WITH OWNERS REPRESENTATIVE PRIOR TO INSTALLATION. PROVIDE TWO-YEAR WARRANTY ON ALL EQUIPMENT, INCLUDING LAMPS, BALLASTS, AND INSTALLATION.
3. CONTRACTOR TO PAY FOR ALL PERMITTING.
4. CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL FROM METER LOCATION AND BEYOND. ALL CONDUIT TO BE INSTALLED UNDERGROUND. NO OVERHEAD WIRES ARE PERMITTED. ROUTE CONDUIT TO AVOID TREE ROOTS.
5. CONTRACTOR TO VERIFY SPACE FOR 60 AMP SERVICE AT EXISTING BREAKER BOX LOCATION. ALL ELECTRIC WORK TO CONFORM TO N.E.C., P.E.C. AND ALL OTHER GOVERNING CODES.
6. CONTRACTOR TO REVIEW CONDUIT LAYOUT WITH OWNERS REPRESENTATIVE PRIOR TO INSTALLATION. INSTALL ALL CONDUIT TO CONFORM TO N.E.C., P.E.C. AND ALL GOVERNING CODES.
7. CONNECT TO BATHROOM ELECTRIC STUB PER MANUFACTURERS SPECIFICATIONS.
8. PAVILION AND RESTROOM TO BE ON SEPARATE CIRCUITS.
9. PROVIDED LF IS SCHEMATIC & CONTRACTOR SHALL VERIFY QUANTITY.
10. CONTRACTOR TO STAKE POLE LOCATIONS PRIOR TO INSTALLATION.

LIGHTING FIXTURE SCHEDULE

SYMBOL	QTY.	MANUFACTURER	DESCRIPTION	APPLICATION
(P)	16	ARCHITECTURAL AREA LIGHTING	FIXTURE: XGB3-FT-LED-128-350-CW-480-BRZ POLE: PR5-5R20-188-MDG 5" ROUND, STRAIGHT STEEL POLE, 20' H, SINGLE HEAD	IN-GROUND MATCH EXISTING
ALT. 2	11	ARCHITECTURAL AREA LIGHTING	FIXTURE: XGB3-FT-LED-128-350-CW-480-BRZ, SINGLE HEAD	CONTRACTOR BID TO REPLACE EXISTING HEADS IN PARKING LOT
— —	1,671 LF	N/A	ELECTRICAL CONDUIT AND WIRING	ELECTRIC CONNECTION

NOTE
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EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

KEY MAP - NTS



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SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

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10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

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designed ::	bab, jw
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checked ::	jw
approved ::	bab

LE3.01
PARKING LOT LIGHTING PLAN

48 OF 54



PLANT SCHEDULE

DECIDUOUS TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL	DESCRIPTION
	5	CEDAR ELM / ULMUS CRASSIFOLIA	65 GAL	3" CAL	10'-12' H X 5'-6' W
	3	PECAN / CARYA ILLINOINENSIS	65 GAL	3" CAL	10'-12' H X 5'-6' W
EVERGREEN TREES	**QTY**	**COMMON NAME / BOTANICAL NAME**	**CONT**	**CAL**	**DESCRIPTION**
	8	SOUTHERN LIVE OAK / QUERCUS VIRGINIANA	65 GAL	3" CAL	10'-12' H X 5'-6' W
	4	TEXAS REDBUD / CERCIS CANADENSIS TEXENSIS	65 GAL	3"CAL	8` H X 10` W
	4	MEMORIAL OAKS RELOCATION REF. D3.01	CONTRACTOR TO USE EXTREME CAUTION AND CARE WHEN TRANSPLANTING		
GROUND COVERS	**QTY**	**COMMON NAME / BOTANICAL NAME**	**CONT**	**DESCRIPTION**	
	4 LB	NATIVE SEED: NATIVE TRAIL MIX BY NATIVE AMERICAN SEED	SEED	1 LB / 4,300 SF	
	32,227 SF	BERMUDA GRASS (SOD) / CYNODON DACTYLON	SOD		
MATERIALS	**QTY**	**NAME**			
	82	BOULDER RELOCATED FROM D3.01 & STORAGE AREA			

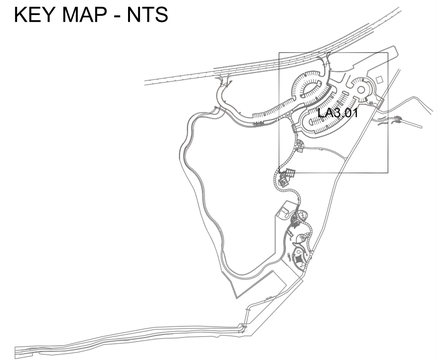
NOTE

PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A

EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

KEY MAP - NTS



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30'
SCALE: 1"=30'-0"

11x17
60'
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0 15 30 60 90

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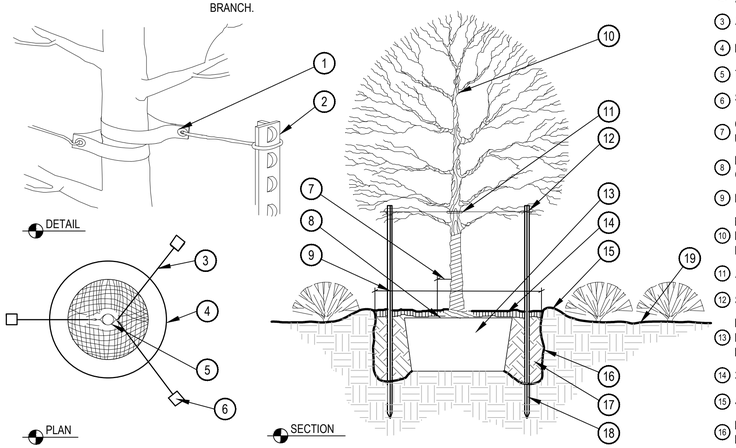
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LA3.01
PARKING LOT LANDSCAPE PLAN

10/10/2017 8:05 AM

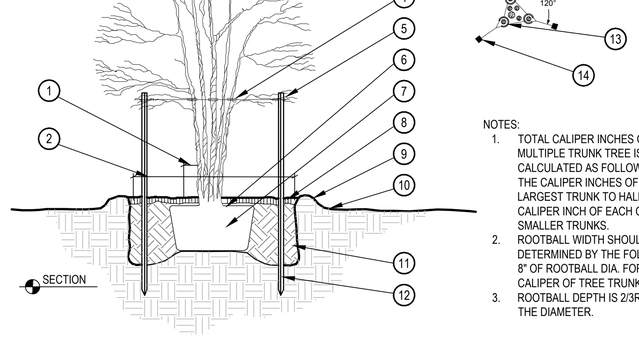
NOTES:
1. ROOTBALL SIZE SHALL CONFORM TO THE 1995 AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS UNLESS OTHERWISE NOTED.
2. USE THREE STAKES ON ALL TREES.
3. APPROVED TIE SYSTEM SHALL BE LOCATED ABOVE THE BOTTOM BRANCH.



1. APPROVED TREE TIE SYSTEM (SEE NOTES) LOOP SHALL BE 3X THE DIAMETER OF TRUNK IN ORDER TO PREVENT SCARING, CUTTING, GIRDLING, OR OTHER DAMAGE TO TREE
2. STEEL STUDDED FENCE POST-STUDS MUST FACE AWAY FROM TREE
3. APPROVED TREE TIE SYSTEM (SEE NOTES)
4. EDGE OF TREE PIT
5. TREE TRUNK
6. STUDDED STEEL FENCE POST
7. CONTRACTOR TO LEAVE 6" MIN. ROOT FLAIR UNCOVERED BY MULCH, SOIL, AND PLANTING MIX
8. PLACE TOP OF ROOT CROWN 2" ABOVE FINISH GRADE
9. EXCAVATE HOLE 2X ROOT BALL DIAMETER
10. NEVER CUT LEADER-THIN UP TO 1/3 OF BRANCHES RETAINING NATURAL SHAPE OF TREE - DO NOT LEAVE STUBS
11. APPROVED TIE SYSTEM ABOVE THE FIRST BRANCH
12. STAKE ALL TREES USING METAL STAKES-3 PER TREE
13. DO NOT BREAK ROOT BALL. IF ROOT BALL IS BROKEN PLANT WILL BE REJECTED. REMOVE BURLAP FROM TOP OF ROOT BALL
14. 3" MULCH LAYER AS SPECIFIED
15. 4" HT. SAUCER AROUND PLANTING PIT
16. ROUGHEN SURFACE TO IMPROVE ROOT PENETRATION
17. PLANTING SOIL MIX AS SPECIFIED
18. MIN. 3 STAKES PER TREE PAINTED BLACK STEEL STAKE 3 LARGEST STEMS ON TREE
19. FINISH GRADE

1 SINGLE TRUNK TREE PLANTING AND STAKING

SCALE: NTS

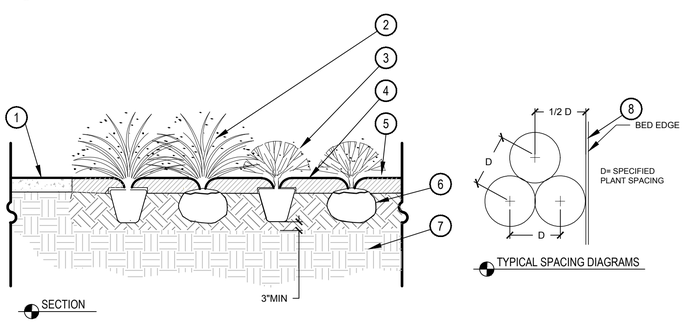


NOTES:
1. TOTAL CALIPER INCHES OF A MULTIPLE TRUNK TREE IS CALCULATED AS FOLLOWS: ADD THE CALIPER INCHES OF THE LARGEST TRUNK TO HALF OF THE CALIPER INCH OF EACH OF THE SMALLER TRUNKS.
2. ROOTBALL WIDTH SHOULD BE DETERMINED BY THE FOLLOWING: 8" OF ROOTBALL DIA. FOR EACH 1" CALIPER OF TREE TRUNK.
3. ROOTBALL DEPTH IS 2/3RDS OF THE DIAMETER.

1. CONTRACTOR TO LEAVE 6" MIN. ROOT FLAIR UNCOVERED BY MULCH, SOIL, AND PLANTING MIX
2. EXCAVATE HOLE 2X ROOT BALL DIAMETER
3. NEVER CUT LEADER - THIN UP TO 1/3 OF BRANCHES RETAINING NATURAL SHAPE OF TREE - DO NOT LEAVE STUBS
4. ATTACH GUY WIRE & HOSE ABOVE FIRST BRANCH.
5. STAKE ALL TREES USING METAL STAKES-3 PER TREE
6. PLACE TOP OF ROOT CROWN 2" ABOVE FINISH GRADE
7. DO NOT BREAK ROOT BALL. IF ROOT BALL IS BROKEN PLANT WILL BE REJECTED. REMOVE BURLAP FROM TOP OF ROOT BALL
8. 3" MULCH LAYER AS SPECIFIED
9. 4" HT. SAUCER AROUND PLANTING PIT
10. FINISH GRADE
11. PLANTING SOIL MIX AS SPECIFIED
12. HEAVY DUTY, METAL STAKE TO BE MINIMUM 8'-0" LONG STAKE TO BE 18" BELOW PIT IN UNDISTURBED SUBGRADE
13. LACE HOSE GUARDS TOGETHER WITH SINGLE WIRE STAY
14. MIN. 3 STAKES PER TREE PAINTED BLACK STEEL STAKE 3 LARGEST STEMS ON TREE

2 MULTI-STEM TREE PLANTING AND STAKING STANDARD

SCALE: NTS



1. CONCRETE PAVING
2. GRASSES (AS SPECIFIED)
3. SHRUB (AS SPECIFIED)
4. 4" MULCH OR GRANITE GRAVEL LAYER
5. LEAVE NO ROOTS EXPOSED
6. PLANTING SOIL MIX AS SPECIFIED
7. UNDISTURBED SUBGRADE
8. BED EDGE

3 SHRUB/ GRASS PLANTING

SCALE: NTS

LANDSCAPE NOTES:

1. COMPLETE ALL LANDSCAPE PLANTING AND RELATED EARTHWORK INCLUDING ALL PRODUCTS, EQUIPMENT AND LABOR, FOR THE LANDSCAPE AREAS SHOWN ON THE DRAWING AND DESCRIBED IN THE SPECIFICATIONS.
2. ALL QUESTIONS SHOULD BE REFERRED TO THE PROJECT LANDSCAPE ARCHITECT.
3. INFORMATION PROVIDED ON THIS PLAN IS GENERAL IN NATURE. DIMENSIONS, LOCATIONS, AND AREAS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO BIDDING & INSTALLATION.
4. QUANTITIES SHOWN FOR PLANT MATERIALS ARE APPROXIMATE. ACTUAL INSTALLED QUANTITIES OF PLANT MATERIALS MAY VARY FROM THE PLAN AND SHOULD BE FIELD DETERMINED ACCORDING TO THE GIVEN SPACING AND FIELD CONDITIONS. DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE PLAN WHICH LIMIT THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
5. BY BIDDING, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS SATISFIED HIMSELF/HERSELF AS TO THE NATURE AND LOCATION OF THE WORK AND TO THE QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES INSOFAR AS THIS DATA IS REASONABLY ASCERTAINABLE FROM AN INSPECTION OF THE SITE. ANY FAILURE BY THE CONTRACTOR TO ACQUAINT HIMSELF/ HERSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM/HER FROM RESPONSIBILITY FOR ESTIMATING PROPERLY THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK AS DESCRIBED.
6. INSTALLATION OF ALL LANDSCAPING MUST BE COORDINATED WITH THE INSTALLATION OF RELATED IRRIGATION, SITE WORK, AND GRADING.
7. UNLESS SPECIFICALLY NOTED, INSTALL ALL MASSED PLANTING UTILIZING EQUILATERAL TRIANGULAR SPACING.
8. EVENLY APPLY 3" OF MULCH TO ALL CONTINUOUS PLANTING BEDS. MULCH TO BE TRANSPORTED AND INSTALLED BY THE CONTRACTOR.
9. SUBSTITUTIONS OF PLANT SPECIES, SIZES, OR OTHER SPECIFIED MATERIALS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE PROJECT LANDSCAPE ARCHITECT.
10. PLANT MATERIAL AND LAYOUT MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
11. ALL IDENTIFICATION TAGS PROVIDED BY GROWERS AND PLACED ON TREES AND SHRUBS ARE TO REMAIN ON THE PLANTS THROUGH THE PUNCH-LIST INSPECTION. TAGS ARE TO BE REMOVED PRIOR TO FINAL ACCEPTANCE, OR UPON REQUEST OF THE PROJECT LANDSCAPE ARCHITECT.
12. SEED MIX/SOLID SOD WILL BE APPLIED TO ALL CONSTRUCTION-DAMAGED GROUND SURFACES NOT OTHERWISE PLANTED. CONTRACTOR SHALL REVIEW RELATED CONSTRUCTION DRAWINGS FOR LIMITS OF CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR COORDINATING WITH OTHER SITE CONTRACTORS TO DETERMINE ACTUAL AREAS OF SEEDING REQUIRED, INCLUDING AREAS DISTURBED BY UTILITY EXTENSIONS.
13. THE LANDSCAPE CONTRACTOR SHALL EXCAVATE FULLY PREPARED PLANT BEDS AS REQUIRED TO ACCOMMODATE A FULL 6" OF PREPARED SOIL AND 3" MULCH LAYER. CLEAN, NATIVE TOPSOIL REMOVED FROM THESE BEDS MAY BE SPREAD ON NEARBY AREAS TO BE SODDED OR SEEDED. STONES LARGER THAN 1" DIAMETER SHALL BE REMOVED AND DISPOSED OF OFF SITE. FOLLOWING EXCAVATION, PLACE PREPARED SOIL IN THESE PLANT BEDS. PREPARED SOIL SHALL CONSIST OF 4" IMPORTED "CHOCOLATE" LOAM TOPSOIL AND 2" ORGANIC COMPOST SOIL CONDITIONER (SUCH AS "LIVING EARTH TECHNOLOGIES", "BACK-TO-EARTH" OR OTHER APPROVED MANUFACTURER), THOROUGHLY BLENDED TOGETHER. THIS MIX SHALL ALSO BE USED TO BACKFILL PLANTING PITS OF ALL TREES AND LARGE SHRUBS. CONTRACTOR SHALL SUBMIT PLANTING SOIL MATERIAL TO THE LANDSCAPE ARCHITECT FOR APPROVAL.
14. ALL PLANTING BEDS INDICATED WILL BE IRRIGATED WITH UNDERGROUND AUTOMATIC IRRIGATION. IRRIGATION CONTRACTOR IS TO BE A STATE OF TEXAS LICENSED IRRIGATOR, AND SHALL FOLLOW ALL TCEQ CODES AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM INCLUDING PIPE SIZES AND LOCATIONS.
15. ALL SEEDING AREAS DISTURBED BY CONSTRUCTION SHALL BE TEMPORARILY IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
16. REGULAR MAINTENANCE IS REQUIRED OF ALL LANDSCAPE AREAS AND PLANT MATERIALS IN A VIGOROUS AND HEALTHY CONDITION, FREE FROM DISEASES, PEST WEEDS, AND LITTER. THIS MAINTENANCE SHALL INCLUDE WEEDING, WATERING, FERTILIZATION, PRUNING, MOWING, EDGING, MULCHING OR OTHER NEEDED MAINTENANCE, IN ACCORDANCE WITH GENERALLY ACCEPTED HORTICULTURAL PRACTICES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE PROJECT LANDSCAPE ARCHITECT.
17. THE OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS. SAID AREAS SHALL BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPERARANCE AT ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. ALL PLANTING BEDS SHALL BE PROVIDED WITH A READILY AVAILABLE WATER SUPPLY AND WATERED AS NECESSARY TO ENSURE CONTINUOUS HEALTHY GROWTH AND DEVELOPMENT. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE ORDINANCE.
18. NO TOPSOIL SHALL BE PLACED UNTIL SUBGRADE IS APPROVED BY LANDSCAPE ARCHITECT. CONTRACTOR TO FURNISH AND SPREAD TOPSOIL ON LAWN AREAS TO A DEPTH OF FOUR INCHES. WORK TOPSOIL TO A SMOOTH UNIFORM SURFACE AND COMPACT FIRMLY. FEATHER TOPSOIL INTO UNDISTURBED AREAS CREATING A SMOOTH, EVEN TRANSITION. SPREAD ADDITIONAL TOPSOIL IN UNDISTURBED AREAS TO ELIMINATE WATER PONDING
19. NO CUTTING, FILLING, TRENCHING, ROOT DISTURBANCE, SOIL DISTURBANCE, OR CONSTRUCTION IMPACTS SHALL OCCUR TO THE TRUNK WITHIN THE CRITICAL ROOT ZONE UNLESS DONE BY HAND.
20. FROM APRIL 1 TO SEPTEMBER 30, ONLY CONTAINER GROWN TREES MAY BE PLANTED. FROM OCTOBER 1 TO MARCH 31, EITHER CONTAINER GROWN OR BALL AND BURLAPPED TREES MAY BE PLANTED.

LANDSCAPE MAINTENANCE NOTES:

PROPERTY LANDSCAPING SHALL BE MAINTAINED AT ALL TIMES. THE QUALITY OF THE LANDSCAPE MAINTENANCE SHALL MEET STANDARDS OF PERFORMANCE PROVIDED BY LANDSCAPE COMPANIES IN THE REGION. LANDSCAPE AREAS WILL AT ALL TIMES HAVE A NEAT, CLEAN, HEALTHY, MANICURED APPEARANCE.

1. TURF AREAS
   - A. MOWING & EDGING OF ALL TURF AREAS SHALL BE PERFORMED AT LEAST ONCE PER WEEK.
   - B. PERENNIAL GRASS OVERSEEDING SHALL BE SEPARATE & MUST BE APPROVED BY THE OWNER PRIOR TO START. OVERSEEDING SHALL BE SPREAD AT A RATE TO INSURE A LUSH, THICK CONSISTENT WINTER TURF. TRIMMING & EDGING OF TURF AREAS TO BE PERFORMED EACH VISIT.
   - C. ALL TURF AREAS ARE TO BE FERTILIZED A MINIMUM OF FOUR TIMES PER YEAR W/ A HIGH QUALITY, SLOW RELEASE FERTILIZER FROM A REPUTABLE MANUFACTURER.
   - D. CONTRACTOR SHALL APPLY APPROPRIATE FUNGICIDES AS NECESSARY & PRE-EMERGENT HERBICIDE TWO TIMES PER YEAR & POST-EMERGENT HERBICIDE AT THE TIME DEEMED MOST EFFICIENT & FAVORABLE BY CONTRACTOR.
   - E. TURF TO BE TREATED AS NECESSARY W/ APPROPRIATE INSECTICIDE TO CONTROL SOIL PESTS.
   - F. RAKING TO BE PERFORMED AS NEEDED TO MAINTAIN APPEARANCE. DE-THATCH & AERATE TURF ONCE DURING THE YEAR IN CONJUNCTION W/ RYE OVERSEEDING. IF OWNER OPTS TO NOT PERFORM OVERSEED, DE-THATCHING & AERATING TO BE PERFORMED IN EARLY SPRING.
   - G. BAG ALL AREAS WITHIN 45 FEET OF BUILDINGS, DRIVEWAYS, & SIDEWALKS.

2. SHRUBS, GROUND COVER, BEDS & ANNUALS
   - A. TO BE MAINTAINED WEED FREE, AS NEEDED USING APPROPRIATE HERBICIDES & MANUAL WEEDING. USE A MINIMUM OF TWO PRE-EMERGENT APPLICATIONS & MANUALLY WEED EACH VISIT.
   - B. TO BE FERTILIZED FOUR TIMES PER YEAR W/ A BALANCED HIGH QUALITY, SLOW RELEASE FERTILIZER, APPROPRIATE TO THE SHRUBS ON THE PROJECT.
   - C. SHRUBBERY TO BE HAND TRIMMED AS SPECIFIED TO MAINTAIN A MANICURED APPEARANCE OR AS OTHERWISE REQUESTED BY OWNER. USE ONLY SKILLED PERSONNEL W/ SIGNIFICANT EXPERIENCE IN CLASS A PROPERTIES. NO SHEARING, ALL TO BE DONE W/ SELECTIVE HAND PRUNING TO KEEP PLANT WITHIN BOUNDS BUT TO MAINTAIN A NATURAL SHAPE & APPEARANCE.
   - D. TO BE INSPECTED WEEKLY BY QUALIFIED SUPERVISOR, FOLLOWED BY A WRITTEN REPORT OF PROBLEMS DISCOVERED & ACTIONS TO BE TAKEN.
   - E. AREAS TO BE SPRAYED W/ APPROPRIATE INSECTICIDES & FUNGICIDES, AS NECESSARY.
   - F. ANNUALS TO BE CHANGED OUT FOUR (4) TIMES PER YEAR USING FOUR (4) INCH POTS & FERTILIZED AT EACH CHANGE. MONITOR & APPLY FUNGICIDES & INSECTICIDES TO INSURE MAXIMUM VIGOR.
   - G. APPLY SHREDDED HARDWOOD MULCH TO A DEPTH OF TWO INCHES, A MINIMUM OF THREE TIMES ANNUALLY. IF MULCH DEPTH ACCUMULATION BECOMES SO EXCESSIVE AS TO BE DETRIMENTAL TO PLANT HEALTH, RAKE OUT & DISPOSE OF EXCESS QUANTITIES OF THE OLDEST MATERIAL, OFF-SITE.
   - H. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE & CLEAR FROM ALL BUSHES/SHRUBS, ETC.
   - I. A THREE-FOOT PERIMETER AROUND ALL FIRE HYDRANTS SHALL BE MAINTAINED

3. LANDSCAPE TREES (4" CALIPER OR LESS)
   - A. TO BE LIGHTLY PRUNED AS NECESSARY (AT LEAST ONCE A MONTH DURING GROWING SEASON).
   - B. TO BE PRUNED & SHAPED ONCE DURING WINTER MONTHS. PRUNE TO CLASS I STANDARDS. NOTIFY MANAGEMENT PRIOR TO & IMMEDIATELY FOLLOWING PRUNING ACTIVITY. PRUNING TO BE DONE BY QUALIFIED TREE CARE FIRM, SUBJECT TO MANAGEMENT APPROVAL.
   - C. DEEP ROOT FERTILIZE ALL LANDSCAPE TREES ONE TIME PER YEAR. SUBMIT INFORMATION ON MATERIALS, APPLICATION METHODS & APPLICATOR QUALIFICATION ONE WEEK PRIOR TO PERFORMING WORK TO OWNER'S REPRESENTATIVE.
   - D. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE OF TREE LIMBS & BRANCHES

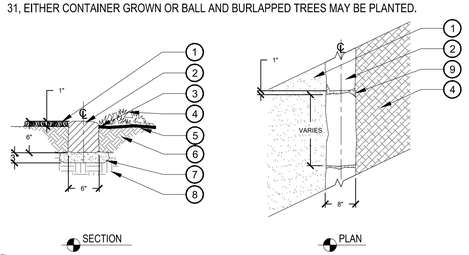
4. LARGE TREES (GREATER THAN 4" CALIPER)
   - A. CONTRACTOR SHALL INSPECT FOR INSECT, DISEASE INFESTATIONS & TREE DAMAGE SUCH AS LIGHTNING OR VEHICULAR DAMAGE. CONTRACTOR SHALL NOTIFY MANAGEMENT IMMEDIATELY OF SUCH DANGER OR DISEASE SO THAT CORRECTIVE ACTION CAN BE TAKEN.
   - B. WHEN PRUNING IS REQUIRED TO REMOVE DEAD OR DAMAGED LIMBS, WORK IS TO BE DONE BY QUALIFIED TREE CARE FIRM. MANAGEMENT APPROVAL IS REQUIRED PRIOR TO PRUNING.
   - C. ANY FERTILIZING RECOMMENDED BY QUALIFIED TREE CARE FIRM IS SUBJECT TO APPROVAL.
   - D. ALL TRAFFIC & DIRECTIONAL SIGNAGE TO BE KEPT FREE OF TREE LIMBS & BRANCHES

5. DEBRIS & LITTER
   - A. NORMAL TRASH & LITTER WILL BE REMOVED FROM ALL LAWN & LANDSCAPED AREAS WEEKLY.
   - B. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE CLEANED UP IMMEDIATELY.

6. PAVED AREAS
   - A. AT PARKING LOT PERIMETERS & PAVING JOINTS, WEEDS & GRASSES ARE TO BE CONTROLLED W/ CONTACT HERBICIDE SPRAYS & MANUAL WEEDING AS REQUIRED.
   - B. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE CLEANED UP IMMEDIATELY.

7. IRRIGATION
   - A. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING & OPERATING ALL IRRIGATION SYSTEMS AT THE PROPERTY EXCEPT AS MAY BE OTHERWISE NOTED.
   - B. IRRIGATION SYSTEMS MUST BE INSPECTED MONTHLY & A REPORT MUST BE SUBMITTED TO MANAGEMENT. MANAGEMENT MUST APPROVE REPAIRS GREATER THAN $250.00.
   - C. CONTRACTOR WILL ENSURE THAT WATERING CYCLES ARE IN COMPLIANCE W/ ANY CITY GUIDELINES AS A RESULT OF WATER RATIONING OR WATER CONSERVATION. ANY FEES OR PENALTIES INCURRED BY VIOLATION OF ORDINANCES WILL BE BILLED TO CONTRACTOR.
   - D. ALL HEADS & NOZZLES BROKEN BY LANDSCAPE MAINTENANCE OPERATIONS WILL BE REPAIRED OR REPLACED AT CONTRACTOR EXPENSE, ALL NOZZLES WILL BE CLEANED MONTHLY IF NECESSARY, & ALL HEADS WILL BE ADJUSTED AS NEEDED.

8. GENERAL
   - A. CONTRACTOR SHALL PROVIDE ADEQUATE SUPERVISION TO ASSURE THAT ALL WORK WILL BE DONE IN ACCORDANCE W/ THIS AGREEMENT & GENERALLY ACCEPTED GOOD PRACTICE. A WEEKLY VISIT BY A QUALIFIED SUPERVISOR IS A MINIMUM REQUIREMENT. ADEQUATE TIME SHALL BE ALLOWED FOR A THOROUGH & COMPLETE EXAMINATION OF THE ENTIRE PROPERTY.
   - B. CONTRACTOR SHALL REPLACE AT CONTRACTOR'S EXPENSE ANY PLANT MATERIAL THAT DIES DUE TO DAMAGE BY LAWN MAINTENANCE, EQUIPMENT OR CONTRACTOR'S NEGLIGENCE.
   - C. ALL WORK SHALL BE PERFORMED BY CONTRACTOR'S EMPLOYEES; NO WORK SHALL BE PERFORMED BY SUBCONTRACTORS WITHOUT WRITTEN CONSENT OF MANAGEMENT.
   - D. EMPLOYEES TO WEAR UNIFORMS & PROVIDE NEAT APPEARANCE & PROFESSIONAL BEHAVIOR.
   - E. CREW MEMBERS WILL OBSERVE ALL OSHA REGULATIONS. ALL EQUIPMENT WILL BE PROPERLY MAINTAINED & KEPT IN A SAFE OPERATING CONDITION.
   - F. ALL DEBRIS RESULTING FROM ANY & ALL LANDSCAPE WORK SHALL BE IMMEDIATELY CLEANED UP & REMOVED FROM SITE. USE OF AN ON-SITE DUMPSTER IS PROHIBITED.
   - G. ADDITIONAL PROJECTS, LANDSCAPE UPGRADES, ETC. WILL BE NEGOTIATED AS NEEDED.
   - H. POTS OR SIDEWALK PLANTERS AT PROPERTY SHALL BE MAINTAINED IN ACCORDANCE W/ ALL SPECS NOTED ABOVE. IRRIGATION SHALL BE MAINTAINED OR HAND WATER AS NEEDED.



1. ADJACENT TURF AREA
2. LIMESTONE EDGE MOW CURB; 6" WIDTH & 6" DEPTH; LENGTH VARIES; SET 2" ABOVE FINISH GRADE
3. FINISH GRADE
4. ADJACENT PLANTING BED
5. GEOTEXTILE WEED BARRIER FABRIC
6. PLANTING MIX
7. EMBED STONE IN 3" CONCRETE
8. COMPACTED SUBGRADE
9. MORTAR JOINTS; APPROXIMATELY 1" WIDTH; USE MORTAR TO SMOOTH EDGE OF MOW CURB

6 LIMESTONE EDGE

SCALE: NTS

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

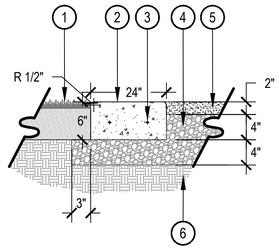
project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

LA3.11
PARKING LOT LANDSCAPE DETAILS

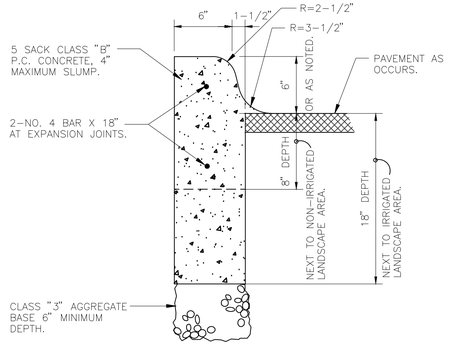
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1. LANDSCAPE AREA
2. 12" W x 6" D CONCRETE CURB, ROLL UP SIDE 8" DEEP
3. TWO (2) #3 REBAR, 8" O.C. TYP
4. 4"x4" CONCRETE FOOTING FOR THE LENGTH OF STEP
5. HMAC PARKING LOT
6. COMPACTED SUBGRADE

1 CONCRETE RIBBON CURB

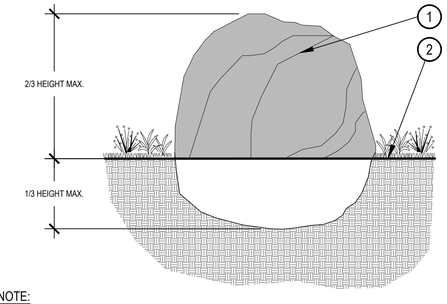
SCALE: 1" = 1'-0"



2 CONCRETE CURB AT PARKING

1 1/2" = 1'-0"

FX-SI-CUR-02

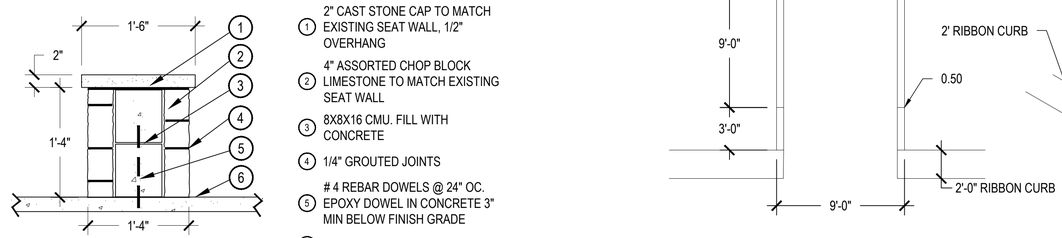


1. LIMESTONE BOULDER, LOCATION PER PLANS, BOULDER SIZE SHOULD RANGE BETWEEN 2'-6" TO 4' WIDE AND 2'-3' TALL
2. FINISH GRADE / PLANTING

NOTE:
ALL BOULDER LOCATIONS TO BE FIELD APPROVED BY LANDSCAPE ARCHITECT

3 LIMESTONE BOULDER

3/4" = 1'-0"





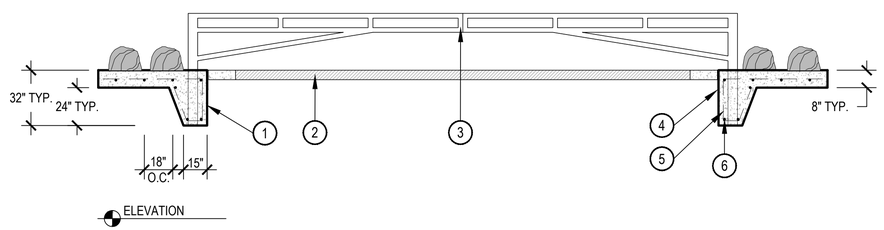
1. 2" CAST STONE CAP TO MATCH EXISTING SEAT WALL, 1/2" OVERHANG
2. 4" ASSORTED CHOP BLOCK LIMESTONE TO MATCH EXISTING SEAT WALL
3. 8X8X16 CMU. FILL WITH CONCRETE
4. 1/4" GROUTED JOINTS
5. # 4 REBAR DOWELS @ 24" OC. EPOXY DOWEL IN CONCRETE 3" MIN BELOW FINISH GRADE
6. FINISH GRADE

4 CURVED LIMESTONE BLOCK SEATWALL

NTS

5 RIBBON CURB-TO-TYPICAL CURB TRANSITION

SCALE: 3/16" = 1'-0"



ELEVATION

1. 3000 PSI CONCRETE FOOTING
2. STABILIZED CONCRETE DRIVE
3. LIFTMASTER 14020-30 30' MANUAL DOUBLE LEAF SWING BARRIER GATE ARM
4. 3/4" EXPANSION JOINT, SEAL W/JOINT SEALANT AFTER CONCRETE CURES
5. #3 REBAR, 12" O.C.
6. #4 BARS CONT. 18" O.C.

6 SWING ACCESS GATE

SCALE: 3" = 1'-0"

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
10.11.2017	100% FOR BID & CONSTRUCTION SET

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REGISTERED LANDSCAPE ARCHITECT
BRENT A. BAKER
2091
STATE OF TEXAS
10-11-17

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BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

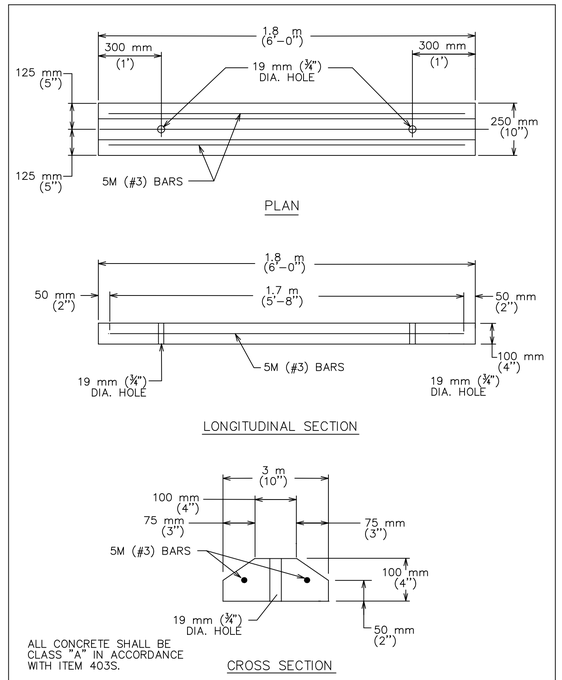
sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

LA3.12
PARKING LOT SITE PLAN DETAILS

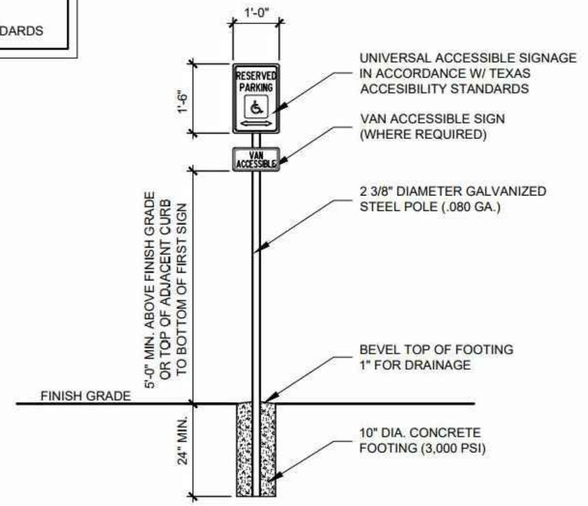
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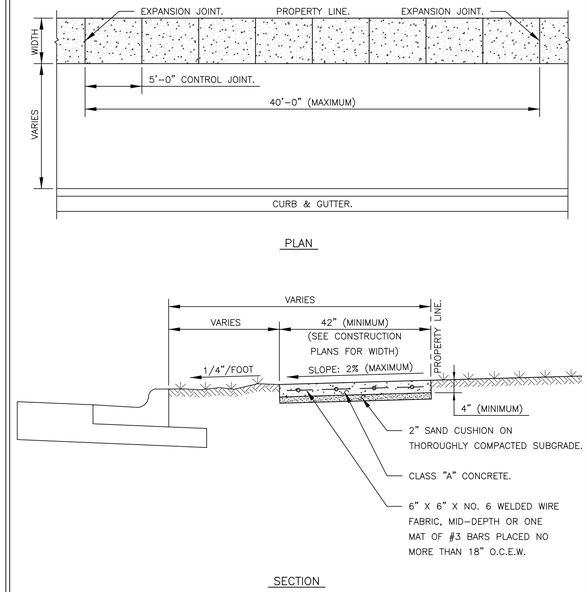


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		PARKING LOT BUMPER CURB	
RECORD COPY SIGNED BY BILL GARDNER	3/15/05	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 439S-1
APPROVED	ADOPTED		

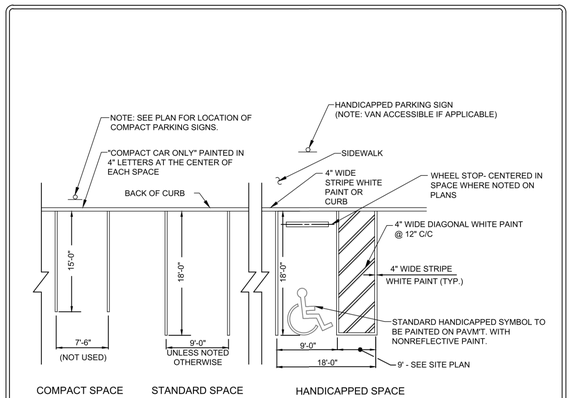
NOTE:
SIGNAGE TO BE IN ACCORDANCE WITH TEXAS ACCESSIBILITY STANDARDS



A/11 ACCESSIBLE PARKING SIGNAGE DETAIL

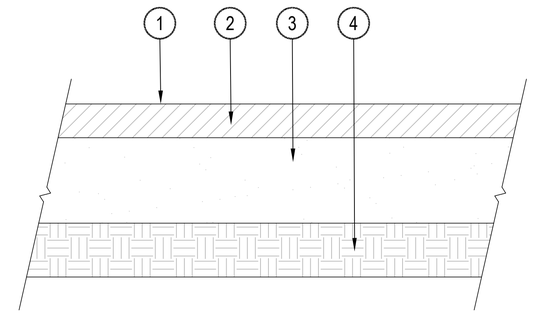


RECORD SIGNED COPY ON FILE AT PUBLIC WORKS APPROVED 07-11-06 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	CITY OF ROUND ROCK SIDEWALK DETAIL	DRAWING NO: ST-01



NOTES:
1. DRIVE AISLE IS MIN. 26' WIDE
2. RAMP ACCESS AND SURFACE SLOPES SHALL COMPLY WITH ADA/TAS REQUIREMENTS.
3. EACH HANDICAPPED PARKING SPACE SHALL BE SIGNED IN ACCORDANCE WITH ADA REQUIREMENTS.

TYPICAL PARKING SPACE LAYOUT
NTS



5 FLEXIBLE PAVEMENT SECTION

NTS

1. ELEVATION PER GRADING PLAN
2. 2" HMAC PER CITY OF ROUND ROCK SPEC. ITEM 340, TYPE D (PG 70-22) (REF. CITY OF ROUND ROCK SPECIFICATION ITEM 340)
3. 8" COMPACTED BASE (TYPE A, GRADE 1 PER CITY OF ROUND ROCK SPEC. ITEM 210). 100% MAX DRY DENSITY OF TEX-113-E. (REF. CITY OF ROUND ROCK SPECIFICATION ITEM 210)
4. 6" COMPACTED SUBGRADE PER CITY OF ROUND ROCK SPEC. ITEM 201 (REF. CITY OF ROUND ROCK SPECIFICATION ITEM 201)

NOTE:
1. REF GEOTECHNICAL ENGINEERING REPORT BY KOHUTEK ENGINEERING & TESTING, INC. DATED MAY 31, 2006 FOR COMPLETE PAVEMENT, BASE, AND SUBGRADE REQUIREMENTS.
2. THE BASE COURSE MUST EXTEND A MINIMUM OF 18 INCHES BEYOND THE BACK OF CURB.

SUBMISSIONS | REVISIONS::

09.20.2017	100% REVIEW SET
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REGISTERED LANDSCAPE ARCHITECT BRENT A. BAKER 2091 STATE OF TEXAS 10-11-17

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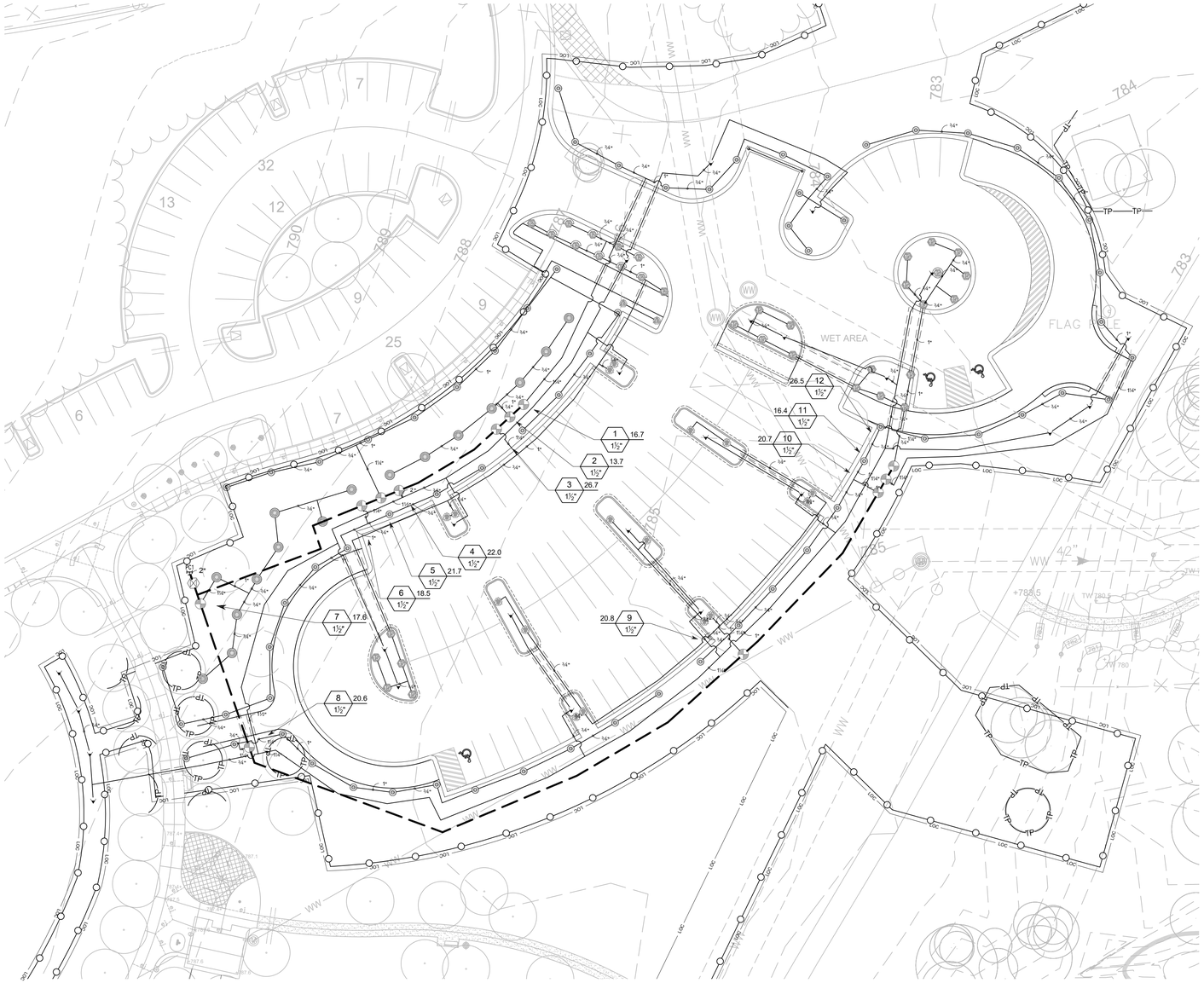
BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

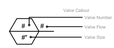
project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

LA3.13
PARKING LOT SITE PLAN DETAILS



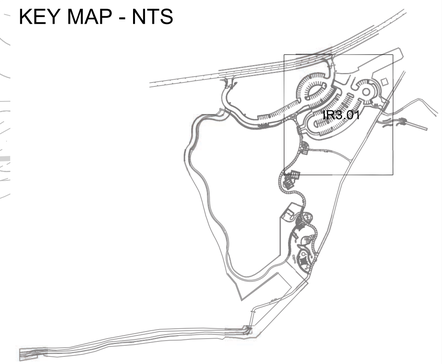
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
E01 LCS MCS CS1 SST SST Q T H TT TQ F 10HE-VAN 10HE-VAN 10HE-VAN 10HE-VAN	RAIN BIRD 1804-U-PRS-NP TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING. WITH NON POTABLE PURPLE CAP.	52	30
Q T H TT TQ F	RAIN BIRD R-1318 1804-SAM-P45-NP TURF ROTATOR, 13`-18` ROTARY STREAM, W/1800 TURF SPRAY BODY ON 4.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET. WITH NON-POTABLE PURPLE CAP.	16	45
RVAN18 RVAN1724 R-VAN 1318	RAIN BIRD RVAN18 1804-SAM-P45-NP TURF ROTATOR, 13`-18` HAND ADJUSTABLE ROTARY STREAM, W/1800 TURF SPRAY BODY, 4.0" POP-UP. WITH SEAL-A-MATIC CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATION. WITH NON-POTABLE PURPLE CAP.	69	45
20 50 10 20	HUNTER PROS-00-PCN FLOOD BUBBLER, ON FIXED RISER.	22	30
SYMBOL	**MANUFACTURER/MODEL/DESCRIPTION**	**QTY**	
	RAIN BIRD PESBR-PRS-D 1", 1-1/2", AND 2" DURABLE CHLORINE-RESISTANT VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	12	
	NIBCO T-113 CLASS 125 BRONZE GATE MANUAL CONTROL VALVE WITH WHEEL HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1" - 3"	1	
C	EXISTING HUNTER CONTROLLER IN OLD RESTROOM CHASE. ADD ADDITIONAL MODULES FOR NEW VALVES.	1	
POC 2"	POINT OF CONNECTION 2" PC1	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	4,961 L.F.	
	IRRIGATION MAINLINE: 2" PVC SCHEDULE 40-NP	654.2 L.F.	
	PIPE SLEEVE: 4" PVC SCHEDULE 40	568.8 L.F.	



Note:: Quantities are for contractors convenience, contractor to verify during bidding and shall report any discrepancy. No separate measurement will be made post award.

KEY MAP - NTS



22x34
30'
SCALE: 1"=30'-0"

11x17
60'
SCALE: 1"=60'-0"

0 15 30 60 90

CRITICAL ANALYSIS

P.O.C. NUMBER: 01	
Water Source Information:	EXISTING 2" MAIN
FLOW AVAILABLE	
Point of Connection Size:	2"
Flow Available:	78.62 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 psi
Pressure Available:	65.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	26.70 gpm
Flow Available at POC:	78.62 gpm
Residual Flow Available:	51.92 gpm
Critical Station:	11
Design Pressure:	45.00 psi
Friction Loss:	7.01 psi
Fittings Loss:	0.70 psi
Elevation Loss:	0.00 psi
Loss through Valve:	3.50 psi
Pressure Req. at Critical Station:	56.21 psi
Loss for Fittings:	0.10 psi
Loss for Main Line:	1.05 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	0.00 psi
Critical Station Pressure at POC:	57.36 psi
Pressure Available:	65.00 psi
Residual Pressure Available:	7.64 psi

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PRECIP
1	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	16.75	0.34 in/h
2	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	13.72	0.27 in/h
3	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF SPRAY	26.70	1.46 in/h
4	RAIN BIRD PESBR-PRS-D	1-1/2"	BUBBLER	22.00	3.40 in/h
5	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	21.71	0.34 in/h
6	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	18.50	0.31 in/h
7	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	17.64	0.29 in/h
8	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	20.59	0.32 in/h
9	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF SPRAY	20.76	1.33 in/h
10	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	20.69	0.32 in/h
11	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF ROTARY	16.36	0.30 in/h
12	RAIN BIRD PESBR-PRS-D	1-1/2"	TURF SPRAY	26.49	1.34 in/h

IRRIGATION NOTES

1. CONTRACTOR TO PERFORM WALK THRU WITH OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO STARTING CONSTRUCTION TO VERIFY EXISTING SYSTEM IS IN WORKING ORDER.
2. CONTRACTOR TO VERIFY EXISTING WATER PRESSURE PRIOR TO CONSTRUCTION.
3. SYSTEM WILL INCLUDE SPRAY/ROTOR SECTIONS, TREE BUBBLER SECTION AND ANY TEMPORARY IRRIGATION CONTRACTOR REQUIRES FOR ESTABLISHMENT OF TURF AREAS DISTURBED.
4. EXCEPT FOR ABANDONED AREAS WHERE NEW IRRIGATION IS PROPOSED, ALL EXISTING SECTIONS TO BE RECONNECTED TO EXISTING SYSTEM, INCLUDING WIRES.
5. ALL ABANDONED EQUIPMENT TO BE RETURNED TO OWNERS REPRESENTATIVE.
6. 7.CONTRACTOR TO VERIFY EXISTING IRRIGATION SYSTEM FUNCTIONALITY AFTER COMPLETION OF PROPOSED SCOPE OF WORK.

NOTE
PART 3 - PARKING LOT SCOPE TO BE PRICED AS ALTERNATE 3A
EXISTING PARKING LOT LIGHT REPLACEMENTS TO BE PRICED AS ALTERNATE 3B

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STATE OF TEXAS
JONATHAN WAGNER
20080
LICENSED IRRIGATOR
10-11-17

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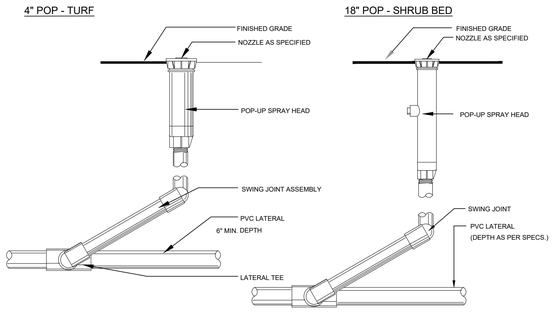
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date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

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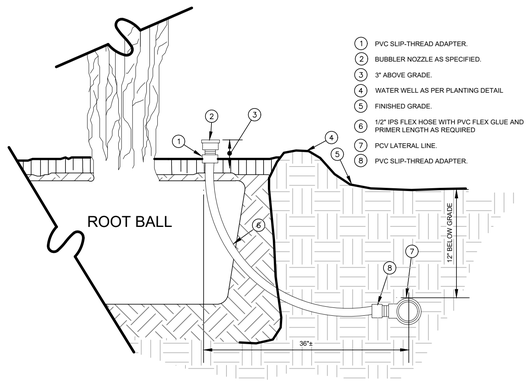
IR3.01
PARKING LOT IRRIGATION PLAN

53 OF 54



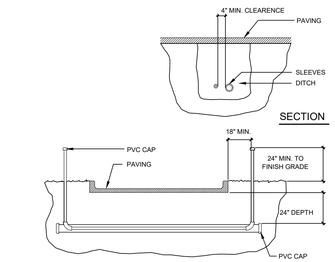
1 POP-UP SPRAY HEADS (TYP.)

SCALE: N.T.S.



2 BUBBLER ON FLEX HOSE RISER

SCALE: N.T.S.

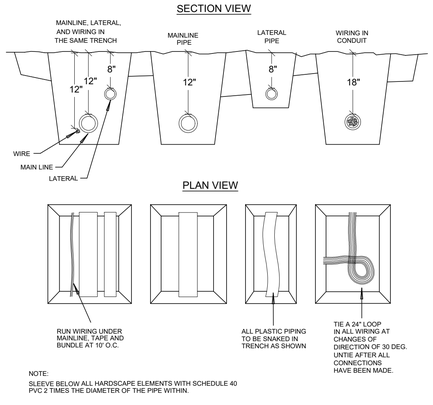


NOTES:

1. ALL SLEEVES TO BE SCH 40 PVC PIPE
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND SMALLER SLEEVE TO 24" MIN. ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

3 IRRIGATION SLEEVING (TYP.)

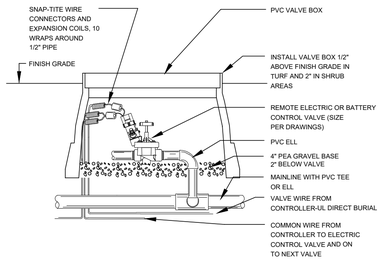
SCALE: N.T.S.



NOTE:
SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCHEDULE 40 PVC 2 TIMES THE DIAMETER OF THE PIPE WITHIN.

4 PIPE & WIRE TRENCHING (TYP.)

SCALE: N.T.S.



5 REMOTE CONTROL VALVE (TYP.)

SCALE: N.T.S.

IRRIGATION NOTES:

GENERAL:

1. ADJUSTABLE FLOW CONTROLS SHALL BE REQUIRED ON CIRCUIT REMOTE CONTROL VALVES. A PRESSURE REGULATION COMPONENT(S) SHALL BE REQUIRED WHERE STATIC PRESSURE EXCEEDS MANUFACTURER'S RECOMMENDED OPERATING RANGE.
2. SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN THE CONTROL VALVE CIRCUIT.
3. SERVICEABLE CHECK VALVES SHALL BE REQUIRED WHERE ELEVATION DIFFERENTIAL MAY CAUSE LOW HEAD DRAINAGE ADJACENT TO PAVING AREAS.
4. SPRINKLER HEAD SPACING IS DESIGNED FOR HEAD-TO-HEAD COVERAGE OR HEADS SHALL BE SPACED AS PER MANUFACTURER'S RECOMMENDATIONS AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL BE INSTALLED FOR MINIMUM RUN-0FF AND MINIMUM OVER SPRAY ONTO NON-IRRIGATED AREAS, (I.E. PAVING, ROADS AND STRUCTURES).
5. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN SENSOR SHUTOFF DEVICE LOCATED WHERE RAINFALL IS UNOBSTRUCTED AND ADJUSTED TO ONE-FOURTH INCH SETTING. CONTRACTOR TO COORDINATE AND PROVIDE ELECTRIC SERVICE FOR AUTOMATIC CONTROLLER(S).
6. PROVIDE A LAMINATED COPY OF THE RECOMMENDED SETTINGS AND A SCHEDULE TO INCLUDE:
   A. ESTIMATED MONTHLY WATER USE (IN GALLONS PER APPLICATION)
   B. PRECIPITATION RATE FOR THE VALVE CIRCUIT.
   C. MONTHLY IRRIGATION SCHEDULE FOR THE PLANT ESTABLISHMENT PERIOD (FIRST THREE MONTHS) AND RECOMMENDED YEARLY WATERING SCHEDULE, INCLUDING SEASONAL ADJUSTMENTS.
   D. LOCATION OF EMERGENCY IRRIGATION SYSTEM SHUTOFF VALVE.
7. LANDSCAPE CONTRACTOR TO PROVIDE CAD BASED SHOP DRAWINGS WITHIN 45 DAYS OF CONTRACT AWARD FOR LA APPROVAL PRIOR TO INSTALLATION IF FIELD CONDITIONS DIFFER FROM PLANS. LOCATE ALL LATERAL AND PRESSURE LINES IN THE LANDSCAPE AREA. DO NOT ROUTE PIPE DOWN THE CENTER OF THE TREE AND SHRUB BED PLANTINGS ALLOW FOR TREE AND SHRUB PLANTINGS. INSTALL PIPING DIRECTLY BEHIND CURBS AND WALKS WHERE POSSIBLE. COMBINE PIPE IN TRENCHES WHEREVER POSSIBLE.
8. PRIOR TO CONSTRUCTION, VERIFY WITH THE GENERAL CONTRACTOR AND THE UTILITY COMPANIES THE LOCATION OF ALL UNDERGROUND UTILITIES.
9. IRRIGATION SYSTEM IS DESIGNED FOR PSI AS NOTED. CONTRACTOR IS TO VERIFY THIS INFORMATION AND MAKE ADJUSTMENTS TO THE SYSTEM IF THESE MINIMUMS ARE NOT PRESENT AT TIME OF INSTALLATION. ADJUSTMENTS TO THE SYSTEM ARE TO BE MADE PRIOR TO INSTALLATION TO INSURE THAT THE SYSTEM IS WORKING.
10. PROVIDE SLEEVES AS SHOWN TO COMPLETE THIS PROJECT. COORDINATE AND MARK ALL SLEEVE LOCATIONS WITH THE GENERAL CONTRACTOR.
11. ALL UNMARKED LATERAL PIPING ASSUMED TO BE 3/4" 200 PSI PR CL 200 PVC PIPE.
12. OFFSET OF MAINLINE FROM BACK OF CURB is 2'-0" MIN, TYP.
13. IRRIGATION CONTRACTOR IS TO BE A STATE OF TEXAS LICENSED IRRIGATOR, AND IS TO FOLLOW ALL TCEQ CODES AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM INCLUDING PIPE SIZES AND LOCATIONS.
14. ALL LANDSCAPE AND TURF AREAS WITHIN THE LIMITS OF CONSTRUCTION TO RECEIVE 100% IRRIGATION WITH TURF, LANDSCAPE BEDS, AND TREES TO BE ON SEPARATE ZONES. A MINIMUM OF ONE BUBBLER PER TREE IS REQUIRED FOR ALL TREES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, LICENSES, TEXTS, AND/OR APPROVALS, PAYING ANY FEES AND INSTALLING OR ARRANGING FOR ALL WATER METERS AND TAPS FOR INSTALLATION AND OPERATION AS APPLICABLE. WATER METERS SHALL BE PLACED IN NAME OF ENTITY, NOT THE CONTRACTOR, AS PROVIDED BY THE LANDSCAPE ARCHITECT. THE ENTITY, NOT THE CONTRACTOR WILL PAY FOR MONTHLY WATER CHARGES. WATER METERS SHALL REMAIN OPERATIONAL AND TURNED ON THROUGH ALL PHASES OF THE CONTRACT TO ENSURE PLANTS RECEIVE REQUIRED WATERING.

CONSTRUCTION METHODS:

1. THE CONTRACTOR SHALL INVESTIGATE THE SITE CONDITIONS AFFECTING THE WORK AND SHALL FURNISH OFFSETS, FITTINGS, AND SLEEVES AS MAY BE REQUIRED TO MEET SITE CONDITIONS.
2. CARE SHALL BE EXERCISED WHEN EXCAVATING NEAR TREES. NO MECHANICAL TRENCHING SHALL BE PERMITTED BELOW THE CANOPY OF EXISTING TREES. CONTRACTOR SHALL ADJUST TRENCH PATH AND/OR EXCAVATE BY HAND TO AVOID DAMAGE TO EXISTING TREE ROOT SYSTEMS.
3. DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. INSTALL PIPE TO AN EVEN GRADE. TRENCH BOTTOM SHALL BE CLEAN AND SMOOTH WITH ALL ORGANIC DEBRIS AND SHARP OBJECTS REMOVED. PIPE SHALL BE SNAKED IN TRENCH, TO ALLOW FOR EXPANSION AND CONTRACTION. FOR PUBLIC SAFETY, PLASTIC CONSTRUCTION FENCING, MINIMUM 4-FEET HIGH, SHALL BE USED AROUND OPEN EXCAVATIONS.
4. PVC CASING(S) FOR BORES AND SLEEVES SHALL CONSIST OF SCH 40 SMOOTH WALL PIPE WITH WELDED JOINTS AND SEAMS, AND SHALL BE CONTINUOUS. THE SIZE OF BORE SHALL NOT EXCEED THE DIAMETER OF CASING(S) REQUIRE BY THE PLANS BY MORE THAN 1-INCH. ALL CASINGS SHALL BE INSTALLED PRIOR TO ANY ROAD PAVING OR FINAL GRADES BY TRENCHING.
5. PIPE SHALL NOT BE INSTALLED WHEN AIR TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT. PLASTIC PIPE SHALL BE CUT IN A MANNER THAT WILL INSURE A SQUARE CUT. BURRS AT CUT ENDS SHALL BE REMOVED PRIOR TO INSTALLATION SO THAT A SMOOTH UNOBSTRUCTED FLOW WILL BE OBTAINED.
6. ALL WATER LINES SHALL BE THOROUGHLY FLUSHED BEFORE INSTALLING DRIPLINE.
7. CONTROL WIRE AND WIRE CONNECTIONS SHALL BE AS DESCRIBED ON IRRIGATION MATERIALS SPECIFICATIONS SHEET. ALL WIRE CONNECTIONS AND SPLICES SHALL BE MADE IN GROUND BOXES.
8. COMPACTION OF THE PIPE TRENCHES MUST BE SUFFICIENT TO LIMIT SHORT TERM SETTLING OF THE BACKFILL TO NO MORE THAN 1-INCH. THE CONTRACTOR SHALL CORRECT SETTLING GREATER THAN THIS WITHOUT ADDITIONAL COMPENSATION.

GUARANTEE AND ACCEPTANCE:

1. MAINTENANCE PERIOD. DURING THE INSTALLATION, ESTABLISHMENT, AND MAINTENANCE, CONTRACTOR SHALL PERFORM THE FOLLOWING ACTIVITIES AS A MINIMUM AND TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT:
   A. INSTALL AND MAINTAIN THE CONTROLLER PROGRAM TO INSURE THE PROPER DISTRIBUTION OF WATER (INCLUDES REPLACEMENT OF ANY BATTERIES).
   B. INSPECT, REPAIR, AND/OR REPLACE ANY EQUIPMENT THAT IS FOUND DEFECTIVE OR MAY BE DAMAGED BY OTHER MAINTENANCE.
   C. MAKE ANY ADJUSTMENTS THAT MAY BECOME NECESSARY TO ENSURE THE PROPER DELIVERY OF WATER TO THE PLANT MATERIAL.
2. AS-BUILT DRAWINGS. UPON COMPLETION OF THE REQUIRE MAINTENANCE PERIOD, THE LANDSCAPE ARCHITECT WILL MAKE AN INSPECTION OF THE PROJECT. THE CONTRACTOR SHALL FURNISH THE LANDSCAPE ARCHITECT A SET OF AS-BUILT DRAWINGS ON REPRODUCIBLE FILM BASE SHEETS. THE LANDSCAPE ARCHITECT WILL CHECK BASE SHEETS TO BE SURE THEY ARE A TRUE RECORD OF THE PROJECT CONDITIONS AND WILL DIRECT THE CONTRACTOR TO CORRECT ANY ERRORS THAT ARE FOUND. THE DRAWINGS SHALL SHOW ALL VALVE LOCATIONS BY TRIANGULATION FROM A FIXED OBJECT AND ANY CHANGE TO SPRINKLER HEAD LOCATION AND REROUTING OF MAIN AND LATERAL LINES (CHANGE OF THIS NATURE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION).
3. OPERATING AND MAINTENANCE DATA. THE CONTRACTOR SHALL PROVIDE INSTRUCTIONS COVERING FULL OPERATION, CARE AND MAINTENANCE OF THE EQUIPMENT, INCLUDING A SCHEDULE SHOWING LENGTH OF TIME EACH VALVE IS TO BE OPEN TO PROVIDE DETERMINED AMOUNT OF WATER, AND INSTRUCT THE STATE'S DESIGNATED PERSONNEL IN PROPER OPERATION OF THE SYSTEM.
4. TEST. THE CONTRACTOR SHALL ALSO TEST AND ASSURE THE PROPER ELECTRICAL WORKING ORDER OF THE SYSTEM TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.

ADDITIONAL EQUIPMENT:

1. TAP/METER - SIZE AS SHOWN. CONTRACTOR RESPONSIBLE FOR ALL ASSOCIATED FEES.
2. VALVE BOXES - MANUFACTURED BY NDS. BOX SIZE SHALL ALLOW FOR EASY REMOVAL OF VALVE, ETC. QUANTITY AS REQUIRED FOR SECTION VALVES, BELOW GROUND BACKFLOW PREVENTORS, QUICK COUPLING VALVES AND REQUIRED ACCESSORIES.
3. CONTROL WIRE - WIRE SIZE SHALL BE MINIMUM 16GA AND BE SPECIFICALLY MANUFACTURED FOR DIRECT BURIAL. SPLICES SHALL BE COMPLETELY WATERPROOF AND BE COMPLETELY ENCAPSULATED WITHIN A KING SAFETY SEALED IRRIGATION CONNECTOR/SPLICE ENCLOSURE OR AN APPROVED EQUAL.
4. FITTINGS - ALL FITTINGS INCORPORATED INTO SYSTEM SHALL BE OF THE SAME TYPE, SIZE AND CLASS MATERIAL AS THE PIPE.
5. SOLVENT CEMENT - TYPE RECOMMENDED BY THE PIPE MANUFACTURER.
6. PVC SCH 40 MAINLINE AND LATERALS - PRESSURE RATED WITH TWIN GASKET COUPLINGS AND FITTINGS OR SLIP TYPE SOLVENT WELDED JOINTS.
7. PVC SCH 40 CASING FOR SLEEVES AND BORES - PRESSURE RATED WITH SLIP TYPE SOLVENT WELDED JOINTS.

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waeltz & prete, inc.
3000 joe dimaggio blvd. #72
round rock, texas 78665
p:: 512.505.8953

http://www.w-pinc.com/

structural engineer ::
360 engineering, inc.
2851 joe dimaggio blvd. #22
round rock, texas 78665
p:: 512.244.1966

http://www.360eng.com/

owner ::
williamson county parks and recreation
randy bell
219 perry mayfield
leander, texas 78641

BRUSHY CREEK TRAIL AT CHAMPION PARK

3830 BRUSHY CREEK ROAD, CEDAR PARK, TEXAS

sheet information ::

project #::	14.154
date ::	10.11.2017
designed ::	bab, jw
drawn ::	rk, ws, ck
checked ::	jw
approved ::	bab

IR3.11
PARKING LOT IRRIGATION NOTES & DETAILS
54 OF 54

BID FORM

PROJECT NAME: Brushy Creek Trail at Champion Park
PROJECT LOCATION: Cedar Park, Texas
OWNER: Williamson County
DATE: 10.11.2017
Bidders:

Pursuant to the foregoing Notice to Bidders and Instructions to Bidders, the undersigned bidder hereby proposes to do all of the work, to furnish all necessary superintendence, labor, machinery, equipment, tools, materials, insurance and miscellaneous items, to complete all the Work on which he bids as provided by the attached Bid Documents, and as shown on the plans for the construction of
Brushy Creek Trail at Champion Park
and binds himself on acceptance of this bid to execute the Agreement and bond for completing said Work within the time stated, for the following prices, to wit:

Any addenda issued will be posted with the Project Manual and/or Contract Documents on the County's website: _____ by the close of business on _____. Prior to submitting a bid, the bidder is responsible for determining if any addenda have been issued and for following any instructions in any addenda issued.

Bidder acknowledges receipt of the following Addenda by listing Addendum "number" and "date".

_____ _____
_____ _____
_____ _____

PART 1: CHAMPION PARK TRAIL BID - BASE BID

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
1	1	LS	Mobilization / General Conditions complete in place per plan for _____ dollars and _____ cents.		
2	1	LS	Traffic Control Plan Development / Implementation - including pedestrian & vehicular complete in place per plan for _____ dollars and _____ cents.		

PART 1: CHAMPION PARK TRAIL BID - BASE BID

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
3	1	LS	TCEQ-SWPPP Development / Implementation - including area/curb inlet protection, barricades, and temporary construction fence complete in place per plan for _____ dollars and _____ cents.		
4	1	EA	Stabilized Construction Entrance/Exit - installation & removal complete in place per plan for _____ dollars and _____ cents.		
5	2,319	LF	Silt Fence complete in place per plan for _____ dollars and _____ cents.		
6	888	LF	Tree Protection Fencing complete in place per plan for _____ dollars and _____ cents.		
7	1	LS	Unclassified Excavation including, Preparing the Limits of Construction (LOC), Clearing and Grubbing, Removal of P.C. Concrete, Embankment, Subgrade Preperation, Proof Rolling, and Grading within the LOC complete in place per plan for _____ dollars and _____ cents.		

PART 1: CHAMPION PARK TRAIL BID - BASE BID

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
8	1	LS	Demolition & Haul Off complete in place per plan for _____ dollars and _____ cents.		
9	1,150	LF	12' Concrete Trail and trail connection, per detail - with integral color, installed complete in place per plan for _____ dollars and _____ cents.		
10	35	LB	Re-Vegetation / Hydroseed: Native Trail Mix by Native American Seed complete in place per plan for _____ dollars and _____ cents.		
11	112	LF	Concrete Wall w/metal guardrail - installed complete in place per plan for _____ dollars and _____ cents.		
12	10	EA	Limestone Quarry Block for Wall - installed with connections complete in place per plan for _____ dollars and _____ cents.		
13	1,175	SF	Concrete Slab at Bridge - heavy salt finish, integral color complete in place per plan for _____ dollars and _____ cents.		

PART 1: CHAMPION PARK TRAIL BID - BASE BID

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
14	1,248	SF	Decomposed Granite w/Stabilizer - between wall and trail & limestone blocks & trail w/drainage complete in place per plan for _____ dollars and _____ cents.		
15	125	SY	Erosion Mat (Land Lok 300), or Approved Equal, complete in place per plan for _____ dollars and _____ cents.		
16	1	EA	Trail Culvert Including 2~8" (PVC SCH 40), Headwall, and All Appurtenences, complete in place per plan for _____ dollars and _____ cents.		
17	1	LS	Structural Wall Drainage Improvements, Including Drainage Relief complete in place per plan for _____ dollars and _____ cents.		
18	2	EA	Catch Basins with PVC complete in place per plan for _____ dollars and _____ cents.		
19	1	LS	Relocation of site furnishings complete in place per plan for _____ dollars and _____ cents.		

PART 1: CHAMPION PARK TRAIL BID - ALTERNATE BID 1A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
20	2300	LF	Concrete Ribbon Curb complete in place per plan & spec for _____ dollars and _____ cents.		
21	142	CY	Decomposed Granite Gravel complete in place per plan & spec for _____ dollars and _____ cents.		
22	75	EA	40-lb Bags of Stabilizer Solutions DG Stabilizer complete in place per plan & spec for _____ dollars and _____ cents.		
23	14.2	CY	Sand for Ribbon Curb Sand Base complete in place per plan & spec for _____ dollars and _____ cents.		
24	213	CY	Lime Stabilized Flexible Subgrade complete in place per plan & spec for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
25	1	LS	Mobilization / General Conditions complete in place per plan for _____ dollars and _____ cents.		
26	1	LS	Pedestrian Traffic Control Plan Development / Implementation complete in place per plan for _____ dollars and _____ cents.		
27	1	LS	TCEQ-SWPPP Development / Implementation - including area/curb inlet protection, barricades, and temporary construction fence complete in place per plan for _____ dollars and _____ cents.		
28	1	LS	Unclassified Excavation including, Preparing the Limits of Construction (LOC), Clearing and Grubbing, Removal of P.C. Concrete, Embankment, Subgrade Preperation, Proof Rolling, and Grading within the LOC complete in place per plan for _____ dollars and _____ cents.		
29	931	LF	Silt Fence complete in place per plan for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
30	102	LF	Tree Protection Fencing complete in place per plan for _____ dollars and _____ cents.	_____	_____
31	1	LS	Demolition and Haul Off complete in place per plan for _____ dollars and _____ cents.	_____	_____
32	137	LF	18" Concrete Seatwall - with limestone wrap, per detail complete in place per plan for _____ dollars and _____ cents.	_____	_____
33	2,906	SF	Concrete Sidewalk & Plaza complete in place per plan for _____ dollars and _____ cents.	_____	_____
34	800	SF	20' x 40' Concrete Slab for Pavilion complete in place per plan for _____ dollars and _____ cents.	_____	_____
35	170	SF	9'-2" x 18'-6" Concrete Slab and structural piers for Restroom complete in place per plans for _____ dollars and _____ cents.	_____	_____

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
36	10	LB	Native Seed Mix Re-vegetation, Including Fine Grading as Necessary, Soil Prep, Establishment complete in place per plan for _____ dollars and _____ cents.		
37	1	LS	20'-7.5" x 40' Pavilion complete in place per plan & spec for _____ dollars and _____ cents.		
38	2	LS	Concrete steps w/ handrails complete in place per plan for _____ dollars and _____ cents.		
39	6	EA	Limestone Pavilion Columns complete in place per plan & detail for _____ dollars and _____ cents.		
40	1	LS	9'-2" x 18'-6" Restroom Facility complete in place per plan & spec for _____ dollars and _____ cents.		
41	1	LS	Limestone veneer on restroom façade complete in place per plan for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
42	1	LS	Limestone-faced Grill Table complete in place per plan & detail for _____ dollars and _____ cents.	_____	_____
43	1	EA	Kirby Built Bi-Level Group Grill - SKU VUP5005 complete in place per plan & spec for _____ dollars and _____ cents.	_____	_____
44	3	EA	Kirby Built 32 Gal. Trash Receptacle - SKU KWR-40 complete in place per plan & spec for _____ dollars and _____ cents.	_____	_____
45	1	EA	Kirby Built Medium Menu Enclosure - SKU KMC-18 complete in place per plan & spec for _____ dollars and _____ cents.	_____	_____
46	1	LS	Stacked Irregular Limestone Outcropping Steps, per detail complete in place per plan for _____ dollars and _____ cents.	_____	_____
47	2	EA	6" CAL Canopy Tree - B&B - including planting and staking complete in place per plan for _____ dollars and _____ cents.	_____	_____

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
48	10	EA	2" CAL Ornamental Tree - 30 GAL - including planting and staking complete in place per plan for _____ dollars and _____ cents.		
49	73	EA	Landscape Shrubs - 3 GAL, Including Planting and Staking complete in place per plan for _____ dollars and _____ cents.		
50	110	EA	Landscape Shrubs - 1 GAL, Including Planting and Staking complete in place per plan for _____ dollars and _____ cents.		
51	36	CY	9" Bed Prep, including 2" Depth Compost, Tilled to 12" Depth, Per LA2.11/#13; 3" Depth Hardwood mulch, per LA2.11/#8; 4" Topsoil , per LA2.11/#13 complete in place per plan for _____ dollars and _____ cents.		
52	15	LF	Limestone Edging complete in place per plan & detail for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
53	3,119	SF	Bermuda Solid Sod complete in place per plan for _____ dollars and _____ cents.		
54	1	LS	Complete Irrigation system to include: Connection to Existing Irrigation System, Including all Trenching, Conduit, Backfill, Wiring, Fittings, Boxes, Fixtures, and Appurtenances as well as Temporary Irrigation for establishment complete in place per plan for _____ dollars and _____ cents.		
55	1	LS	Complete lighting system to include: Connection to Existing Electrical, Including all Trenching, Conduit, Backfill, Wiring, Fixtures, etc. complete in place per plan for _____ dollars and _____ cents.		
56	760	LF	6" SDR 26 PVC, D3034, (All Depths), Including Excavation, Backfill & All Appertunenences complete in place per plan for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
57	5	EA	6" Cleanout w/ Cast Iron Boot and Cover complete in place per plan for _____ dollars and _____ cents.		
58	1	EA	4' Dia. Precast Wastewater Manhole, w/ Bolted Manhole Cover complete in place per plan for _____ dollars and _____ cents.		
59	1	EA	6" Core at Ex. 4' Dia. Wastewater Manhole complete in place per plan for _____ dollars and _____ cents.		
60	90	LF	1-1/2" Water Line (PVC SCH 40), (All Depths) Including Excavation, Backfill, and All Appurtenences complete in place per plan for _____ dollars and _____ cents.		
61	45	LF	2" Water Line (PVC SCH 40), (All Depths) Including Excavation, Backfill, and All Appurtenences complete in place per plan for _____ dollars and _____ cents.		

PART 2: CHAMPION PARK PAVILION BID - ALTERNATE BID 2A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
62	90	LF	3" Water Line (PVC SCH 40), (All Depths) Including Excavation, Backfill, and All Appurtenences complete in place per plan for _____ dollars and _____ cents.		
63	1	EA	2" Gate Valve w/ Valve Box, Including all Appertunenences complete in place per plan for _____ dollars and _____ cents.		
64	1	EA	2" RPZ Backflow Prevention Assembly, Including Concrete Pad, Enclosure, and All Appurtences, complete in place per plan for _____ dollars and _____ cents.		
65	780	LF	Trench Safety, complete in place per plan for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
66	1	LS	Mobilization / General Conditions complete in place per plan for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
67	1	LS	Traffic Control Plan Development / Implementation - including pedestrian & vehicular complete in place per plan for _____ dollars and _____ cents.		
68	1	LS	TCEQ-SWPPP Development / Implementation - including area/curb inlet protection, barricades, and temporary construction fence complete in place per plan for _____ dollars and _____ cents.		
69	1	EA	Stabilized Construction Entrance/Exit - installation & removal complete in place per plan for _____ dollars and _____ cents.		
70	1,288	LF	Silt Fence complete in place per plan for _____ dollars and _____ cents.		
71	320	LF	Tree Protection Fencing complete in place per plan for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
72	1	LS	Unclassified Excavation including, Preparing the Limits of Construction (LOC), Clearing and Grubbing, Removal of P.C. Concrete, Embankment, Subgrade Preperation, Proof Rolling, and Grading within the LOC complete in place per plan for _____ dollars and _____ cents.		
73	1	LS	Demolition & Haul Off complete in place per plan for _____ dollars and _____ cents.		
74	50	LF	18" Concrete Seatwall - with limestone wrap complete in place per plan & detail for _____ dollars and _____ cents.		
75	447	LF	10' Concrete Sidewalk complete in place per plan for _____ dollars and _____ cents.		
76	3,490	SF	Concrete Slab At Trail Head complete in place per plan for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
77	720	LF	P.C. Concrete Curb & Gutter complete in place per plan & detail for _____ dollars and _____ cents.		
78	1,405	LF	P.C. Concrete Ribbon Curb (24") complete in place per plan & detail for _____ dollars and _____ cents.		
79	4	LB	Native Seed Mix Re-vegetation, Including Fine Grading as Necessary, Soil Prep, Establishment complete in place per plan for _____ dollars and _____ cents.		
80	20	EA	3" CAL Canopy Tree including planting and staking complete in place per plan for _____ dollars and _____ cents.		
81	4	EA	Relocation of Existing Memorial Trees complete in place per plan for _____ dollars and _____ cents.		
82	1	LS	Relocation of Existing Boulders complete in place per plan for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
83	46	EA	Additional Boulders - sourced from stock pile if available complete in place per plan for _____ dollars and _____ cents.		
84	3,594	SY	Bermuda Solid Sod complete in place per plan for _____ dollars and _____ cents.		
85	1	LS	Complete Irrigation system to include: Connection to Existing Irrigation System, Including all Trenching, Conduit, Backfill, Wiring, Fittings, Boxes, Fixtures, and Appurtenances as well as Temporary Irrigation for establishment complete in place per plan & spec for _____ dollars and _____ cents.		
86	1	LS	Complete lighting system to include: Connection to Existing Electrical, Including all Trenching, Conduit, Backfill, Wiring, Fixtures, etc. complete in place per plan for _____ dollars and _____ cents.		
87	1	LS	Swing Access Gate complete in place per plan & detail for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
88	4,770	SY	1.5" HMAC Surface Course (Type C) complete in place per plan for _____ dollars and _____ cents.		
89	3,655	CY	8" Flexible Base complete in place per plan & spec for _____ dollars and _____ cents.		
90	1	LS	Pavement Markings (Type II) complete in place per plan for _____ dollars and _____ cents.		
91	3	EA	Accessible Sign, Including All Appurtenences complete in place per plan for _____ dollars and _____ cents.		
92	3	EA	P.C. Concrete Wheel Stop complete in place per plan & detail for _____ dollars and _____ cents.		
93	1	EA	P.C. Concrete Headwall (3:1)(24" dia.) complete in place per plan & detail for _____ dollars and _____ cents.		

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3A

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
94	1	EA	4' x 4' Area Inlet w/ Concrete Apron complete in place per plan for _____ dollars and _____ cents.	_____	_____
95	8	CY	Rock Rip Rap (d_{50}=12") complete in place per plan & spec for _____ dollars and _____ cents.	_____	_____
96	95	SY	Erosion Mat (Land Lok 300), or Approved Equal complete in place per plan for _____ dollars and _____ cents.	_____	_____
97	320	LF	24" RCP Class III (All Depths), Including Excavation, Backfill, and All Appurtenences complete in place per plan for _____ dollars and _____ cents.	_____	_____
98	320	LF	Trench Safety complete in place per plan & detail for _____ dollars and _____ cents.	_____	_____

PART 3: CHAMPION PARK PARKING LOT BID - ALTERNATE BID 3B

Bid Item	Approx. Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
99	11	EA	Rehead Existing Parking Lot Light Fixtures with Specified Head Fixture complete in place per plan & spec for _____ dollars and _____ cents.		

SUBTOTAL TRAIL BASE BID (Items 1 thru 19)	
SUBTOTAL TRAIL ALTERNATE BID 1A (Items 20 thru 24)	
SUBTOTAL PAVILION ALTERNATE BID 2A (Items 25 thru 65)	
SUBTOTAL PARKING LOT ALTERNATE BID 3A (Items 66 thru 98)	
SUBTOTAL PARKING LOT ALTERNATE BID 3B (Item 99)	

*NOTE: Bid form is provided for Contractor's convenience in bidding. Any improvement within Bid Drawings not included in this form should be accounted for within the total bid amount. Contractor to bring any item not included to the Project Design Team's attention prior to bidding.

If this bid is accepted, the undersigned agrees to execute the Agreement and provide necessary bonds and insurance certification as per the Instructions to Bidders.

The undersigned certifies that the bid prices contained in the bid have been carefully checked and are submitted as correct and final. The Owner reserves the right to reject any or all bids and may waive any informalities or technicalities.

Respectfully Submitted,

Signature	
Print Name	Address
Title	Telephone
Name of Firm	
Date	Secretary, if Bidder is a Corporation

Agreement for Construction Services

This Agreement ("Agreement") between Williamson County, Texas, a political subdivision of the State of Texas ("Owner") and _____ ("Contractor") is entered into in accordance with the following terms and conditions:

ARTICLE 1 SCOPE OF WORK: The Owner desires to retain Contractor to provide the construction services described herein. The Contractor shall have the overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the following described construction services, or any phase of such services, in accordance with the Owner's requirements and the terms of this Agreement (hereinafter collectively referred to as the "Work"):

As described in the IFB Solicitation # _____, _____; including the specifications set forth therein, which is incorporated herein as if copied in full.

ARTICLE 2 CONTRACT PRICE: Owner agrees to pay to the Contractor, for the satisfactory performance of the Work, the not-to-exceed amount of _____ ($_____ in accordance with the terms and conditions of this Agreement.

ARTICLE 3 PLANS AND SPECIFICATIONS: The Work shall be performed pursuant to and in accordance with the following described plans and specifications, as well as any revisions made thereto:

As described in the IFB Solicitation #_____, including the specifications set forth therein, which is incorporated herein as if copied in full.

Additional Work: Should Owner choose to add additional work, such additional work shall be described in a separate written amendment to this Agreement wherein the additional work shall be described and the parties shall set forth the amount of compensation to be paid by Owner for the additional work. Contractor shall not begin any additional work and Owner shall not be obligated to pay for any additional work unless a written amendment to this Agreement has been signed by both parties.

ARTICLE 4 SUBSTANTIAL AND FINAL COMPLETION:

4.1 Commencement of Work. Contractor shall commence the Work upon instruction to do so from the Owner and Construction shall be deemed to have commenced on the date of such instruction.

4.2 Substantial Completion. "Substantial Completion" means the stage in the progress of the Work when the Work, or designated portions thereof, may still require minor modifications or adjustments but, in the Owner's opinion, the Work has progressed to the point such that all parts of the Work under consideration are fully operational and usable for intended purposes, as evidenced by a Certificate of Substantial Completion approved by the Owner. If a Certificate of Occupancy is required by public authorities having jurisdiction over the Work, said certificate shall be issued before the Work or any portion thereof is considered substantially complete. When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify Owner's Designated Representative (sometimes referred to as the "ODR") and request a determination as to whether the Work or designated portion thereof is substantially complete. If the ODR does not consider the Work substantially complete, the ODR will notify the Contractor giving reasons therefore. Failure on the Owner's part to list a reason does not alter the responsibility of the Contractor to complete all Work in accordance with the terms of this Agreement. After satisfactorily completing items identified by Owner's Designated Representative, the Contractor shall then submit another request for the ODR to determine Substantial Completion. If The ODR considers the Work substantially complete, The ODR will prepare and deliver a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall include a punch list of items to be completed or corrected before final completion and final payment, shall establish the time within which the Contractor shall finish the punch list, and shall establish responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, warranty and insurance. Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the terms and conditions of this Agreement. The certificate of Substantial Completion shall be signed by the Owner and the Contractor to evidence acceptance of the responsibilities assigned to them in such certificate.

Substantial Completion (as defined in this agreement) for all stages of the Work shall be achieved on or before the following Substantial Completion date:

DATE FOR SUBSTANTIAL COMPLETION: TBD

Under no circumstances will the time for Substantial Completion exceed this date without a written amendment to this Agreement. **THE TIMES SET FORTH IN THE CONSTRUCTION DOCUMENTS ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT. TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.**

4.3 Final Completion. The Work shall be fully and finally completed **on or before TBD**; provided, however, Owner may extend said time period in the event bad weather affects the progress of the Work. Owner shall, at its sole discretion, determine when the Work has been fully and finally completed to its satisfaction.

4.4 Liquidated Damages. For each consecutive calendar day after the date of Substantial Completion that the Work is not Substantially Complete, the Owner may deduct the amount of **Two Hundred Dollars per day ($200/day)** from any money due or that becomes due the Contractor, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion. The parties stipulate and agree that calculating Owner's actual damages for late completion of the Work would be impractical, unduly burdensome, and cause unnecessary delay and that the amount of daily liquidated damages set forth is reasonable.

ARTICLE 5 PAYMENT:

Contractor shall have a duty to submit to the ODR by the end of each month a statement showing the total value of the Work performed during such month. The statement shall also include the value of all sound materials delivered on the Work site and to be included in the Work and all partially completed Work, whether bid as a lump sum or a unit item, which in the opinion of the ODR is acceptable. The ODR shall examine and approve or modify and approve such statement. The Owner shall then pay the Contractor pursuant to Chapter 2251 of the Texas Government Code ("Texas Prompt Payment Act"), as set forth in Article 11.1 of this Agreement, the total amount of the approved statement less all previous payments and all further sums that may by retained by the Owner under the terms of this Agreement or under the law. **Statements are not considered "received" until reviewed by the ODR and an approved statement is submitted to the Williamson County Auditor's Office; therefore, Contractor must ensure timely delivery of statements for review and processing.**

At any time following the completion of all Work, including all punch list items, cleanup, and the delivery of record documents, the Contractor shall submit a certified application for final payment, including all sums held as retainage if any, to the ODR for its review and approval. Contractor shall submit, prior to or with the application for final payment, final copies of all close out documents, including maintenance and operating instructions, guarantees and warranties, certificates, and all other items required by this Agreement. Contractor shall also submit consent of surety to final payment, an affidavit that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work, except as specifically noted, have been paid or will be paid or otherwise satisfied within the period of time required by Chapter 2251, Texas Government Code. Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims arising out of the Agreement. Owner is entitled to rely upon this affidavit and the Contractor may not submit a claim on behalf of a subcontractor or vendor if that claim has not been noted as an exception in the affidavit.

Owner may deduct from the final payment all sums due from Contractor for any reason, Liquidated Damages and all other deductions authorized by this Agreement.

Final payment shall constitute a waiver of all claims by the Contractor except those specifically identified in writing and submitted to the ODR prior to the application for final payment. Provided, however, that the Work shall not be deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES AND COVENANTS:

6.1 Contractor shall perform all services specifically allocated to it hereunder, as well as those services reasonably inferable and necessary for completion of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work. Contractor agrees and acknowledges that Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide the Work described in this Agreement. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of Owner in accordance with Owner's requirements and procedures.

6.2 Contractor's duties as set forth herein shall at no time be in any way diminished by reason of any approval by the Owner nor shall the Contractor be released from any liability by reason of such approval by the Owner, it being understood that the Owner at all times is ultimately relying upon the Contractor's skill and knowledge in performing the services required hereunder.

6.3 Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

6.4 Contractor shall be an independent contractor under this Agreement and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions in this agreement which may appear to give Owner the right to direct Contractor as to details of doing the Work herein covered or to exercise a measure of control over the Work shall be deemed to mean that Contractor shall follow the desires of Owner in the results of the Work only. Owner shall not retain or have the right to control the Contractor's means, methods or details pertaining to the Contractor's performance of the Work described herein, nor shall Owner have the power to direct the order in which Contractor's Work is performed under this agreement. Owner and Contractor hereby agree and declare that Contractor is an Independent Contractor and as such meets the qualifications of an Independent Contractor under Texas Worker's Compensation Act, Texas Labor Code, Section 406.141, that the Contractor is not an employee of Owner for purposes of this Agreement, and that the Contractor and its employees, agents and sub-subcontractors shall not be entitled to worker's compensation coverage or any other type of insurance coverage held by Owner.

6.5 As part of Contractor obligation to coordinate the Work, Contract shall:

a. cooperate with the ODR and endeavor to further the interests of the Owner and the Work;
b. provide an on-site, full-time superintendent for the duration of the Work;
c. visit the Work site and inspect the existing facilities, systems and conditions to insure an accurate understanding of the existing conditions as required;
d. at Owner's request, attend public meetings and hearings concerning the development of the Work;
e. review all drawings, specifications, and other plans as they are developed by the Owner and/or its architect and advise Owner of any error, inconsistency or omission discovered in the drawings, specifications, and other plans;
f. review the drawings, specifications, and other plans for compliance with all applicable laws and code requirements;
g. advise Owner of any tests that should be performed;
h. organize and maintain a competent, full-time staff at the Work site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor and direct progress of the Work;
i. attend Owner's regularly scheduled Work progress meetings and fully advise the ODR of the Work status including schedule, costs, quality and changes;
j. assist Owner in obtaining building permits and obtain special permits for permanent improvements as required by law; and
k. shall coordinate, monitor and inspect the Work of subcontractors to ensure conformance with the drawings, specifications, other plans and with the terms of this Agreement.

6.6 Contractor shall identify every subcontractor it intends to use for the Work to the Owner in writing at least ten (10) days before entering into any subcontract. Contractor shall not use any subcontractor to which Owner has a reasonable objection. If Owner does not object to a particular subcontractor with said ten (10) days, such subcontract may be considered acceptable to Owner. Following Owner's acceptance of a subcontractor, that subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.

6.7 Contractor's designated representative, which is set forth below Contractor's signature herein below, shall be responsible for the day-to-day management of the Work on behalf of Contractor. The designated representative shall be the Owner's primary contact during the Work and shall be available as required for the benefit of the Work and the Owner. The contractor's designated representative shall be authorized to act on behalf of and bind the Contractor in all matters related to the Work including, but not limited to, execution of Change Orders.

6.8 NO ALTERATIONS OR CHANGES SHALL BE MADE, HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR THE ODR.

6.9 Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees, in writing, to accept the Work.

6.10 Contractor shall maintain and deliver the close out documents that describe changes or deviations from the original drawings, specifications and plans that occurred during construction and that reflect the actual "As Built" conditions of the completed Work.

COMMISSIONING AND WARRANTY RESPONSIBILITIES

6.11 Contractor shall provide commissioning, starting and check-out services for the systems installed as a part of the Work prior to completion and acceptance. Operation manuals and instructions will be provided to the Owner, the systems will be demonstrated and training provided to Williamson County's operators upon completion and prior to acceptance.

6.12 Contractor hereby warrants that the materials and equipment provided for the Work will be of good quality and new unless otherwise required or permitted by the Owner; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the plans, specifications, drawings and the terms of this Agreement.

6.13 Contractor shall provide warranty services for the Work for a full **12 months** (30 months for Work involving mechanical services, if any) following Final Completion and final payment. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner to ensure that all warranty issues have been identified and properly remedied.

ARTICLE 7 OWNER'S RESPONSIBILITIES

7.1 The Owner shall:

a. provide the general schedule for the Work provided Owner is of the opinion such schedule is necessary. The general schedule will set forth the Owner's plan for milestone dates and completion of the Work;
b. identify a person as its ODR who is authorized to act in the Owner's behalf with respect to the Work. The ODR shall examine the documents submitted by the Contractor and shall render decisions on behalf of the Owner to the extent allowed by Texas law;

c. at Owner's cost, will secure the services of surveyors, soils engineers, existing facility surveys, testing and balancing, environmental surveys or other special consultants to develop such additional information as may be necessary for the design or construction of the Work;
d. furnish required information and services and shall render approvals and decisions as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Contractor's services and of the Work;
e. shall have the right to reject any defective Work. Should Contractor refuse or neglect to correct any such Work within a reasonable time after notice, Owner may have the Work corrected and recover all expenses incurred from Contractor on demand; and
f. Owner shall furnish to the Contractor a sufficient number of plans, drawings and specifications sets.

ARTICLE 8 INSURANCE AND INDEMNITY

8.1 Insurance. The Contractor shall carry insurance in the types and amounts indicated below for the duration of the Agreement, which shall include items owned by Owner in the care, custody and control of Contractor prior to and during construction. Contractor must also complete and file the declaration pages from the insurance policies with Owner whenever a previously identified policy period expires during the term of the Agreement, as proof of continuing coverage. Contractor shall update all expired policies prior to submission of any payment requests hereunder. Failure to update policies shall be reason for payment to be withheld until evidence for renewal is provided to the Owner.

8.1.1 The Contractor shall provide and maintain, until the Work covered in this Agreement is completed and accepted by the Owner, the minimum insurance coverage in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company or otherwise acceptable to Owner.

Type of Coverage	Limits of Liability
a. Worker's Compensation	Statutory
b. Employer's Liability	
Bodily Injury by Accident	$500,000 Ea. Accident
Bodily Injury by Disease	$500,000 Ea. Employee
Bodily Injury by Disease	$500,000 Policy Limit

c. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER PERSON	PER OCCURRENCE
Comprehensive General Liability (*including premises, completed operations and contractual*)	$ 1,000,000	$ 1,000,000
Aggregate policy limits:		$1,000,000

d. Comprehensive automobile and auto liability insurance (covering owned, hired, leased and non-owned vehicles):

COVERAGE	PER PERSON	PER OCCURRENCE
Bodily injury (including death)	$1,000,000	$1,000,000
Property damage	$1,000,000	$1,000,000
Aggregate policy limits	No aggregate limit	

e. Builder's Risk Insurance (*all risks*)

An all risks policy shall be in the amount equal at all times to 100% of the Contract Sum. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act. The policy shall be issued in the name of the Contractor and shall name his Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

1. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

2. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the Special Conditions., in this Agreement. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.

f. Umbrella coverage in the amount of not less than $1,000,000.

8.1.2 The above insurance requirements are not intended to be compounded with the Contractor's standing insurance policies. If the Contractor already has in force insurance policies which provide the required coverage, there is no need to purchase duplicate coverage for this Work.

8.1.3 Policies must include the following clauses, as applicable.

a. "This insurance shall not be canceled, limited in scope or coverage, or non-renewed until after thirty (30) days prior written notice, or ten (10) days for non-payment of premium, has been given to Williamson County."
b. "It is agreed that the Contractor's insurance shall be deemed primary with respect to any insurance or self insurance carried by Williamson County for liability arising out of operations under the Agreement with Williamson County."
c. "Williamson County, it officials, directors, employees, representatives, and volunteers are added as additional insured as respects operations and activities of, or on behalf of the named insured performed under Agreement with the Owner." This is not applicable to the workers' compensation policy.
d. "The workers' compensation and employers' liability policy will provide a waiver of subrogation in favor of Williamson County."

8.1.4 Workers' Compensation Insurance Coverage:

In the event that Contractor employs any individual to perform any portion of the Work, Contractor shall comply with Texas Labor Code, §406.096, which requires workers' compensation insurance coverage for all employees providing services on a building or construction project for a governmental entity.

a. Definitions:

(1) Certificate of Coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the Duration of the Work.

(2) Duration of the Work - includes the time from the beginning of the Work until the Work has been completed and accepted by the Owner.

(3) Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(4) Persons providing services relating to the Work ("subcontractor") - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform the Work, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services in relation to the Work. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Work, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

b. The Contractor shall provide Coverage, based on proper reporting of classification codes and payroll amounts and filing of any Coverage agreements, which meets the statutory requirements of Texas labor Code, §401.011(44) for all employees of the Contractor providing services in relation to the Work, for the Duration of the Work.

c. The Contractor must provide a Certificate of Coverage to the Owner prior to or contemporaneously with the execution of this Agreement.

d. If the Coverage period shown on the Contractor's current Certificate of Coverage ends during the Duration of the Work, the Contractor must, prior to the end of the Coverage period, file a new Certificate of Coverage with the Owner showing that Coverage has been extended.

e. The Contractor shall obtain from each person providing services in relation to the Work, and provide to the Owner:

(1) a Certificate of Coverage, prior to that person beginning any of the Work, so the Owner will have on file Certificates of Coverage showing Coverage for all persons providing services in relation to the Work; and

(2) no later than seven days after receipt by the Contractor, a new Certificate of Coverage showing extension of Coverage, if the Coverage period shown on the current Certificate of Coverage ends during the Duration of the Work.

f. The Contractor shall retain all required Certificates of Coverage for the Duration of the Work and for one year thereafter.

g. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of Coverage of any person providing services in relation to the Work.

h. The Contractor shall post on the Work site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services in relation to the Work that they are required to be covered, and stating how a person may verify Coverage and report lack of Coverage.

i. By signing this Agreement or providing or causing to be provided a Certificate of Coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services in relation to the Work and all persons providing services in relation to the Work will be covered by workers' compensation coverage for the Duration of the Work, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

j. The Contractor's failure to comply with any of these provisions is a breach of Agreement by the Contractor which entitles the Owner to declare the Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.1.5 The furnishing of the above listed insurance coverage must be tendered prior to execution of the Agreement, and in no event later than ten (10) calendar days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

8.1.6 The Contractor shall not cause or allow any of its required insurance to be canceled, nor permit any insurance to lapse during the term of the Agreement or as required in the Agreement. If the Contractor fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.1.7 The Owner reserves the right to review the insurance requirements set forth in this Article during the effective period of the Agreement and to make reasonable adjustments to the insurance coverage and their limits when deemed necessary and prudent by the Owner based upon changes in statutory law, court decisions, or the claims history of the industry as well as the Contractor.

8.1.8 The Owner shall be entitled, upon request, and without expense, to receive complete copies of the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the Parties or the underwriter of any of such polices. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.

8.1.9 Contractor shall be responsible for payment of premiums for all of the insurance coverages required under this Agreement. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. **Any deductibles or self-insured retentions over $50,000 in the Contractor's insurance must be declared and approved in writing by Owner in advance.**

8.1.10 The Contractor shall contractually require each person or entity with whom it contracts to provide services in relation to the Work, to comply with each and every insurance requirement that Contractor must comply with hereunder. More specifically, each person or entity with whom Contractor contracts to provide services on the in relation to the Work must comply with each insurance requirement under this Article 8 just as if such person or entity was the Contractor. Thus, every reference to Contractor under each insurance requirement of this Article 8 shall mean and include each person or entity with whom Contractor contracts to provide services in relation to the Work. If any such person or entity with whom Contractor contracts to provide services in relation to the Work fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.2 INDEMNITY.

8.2.1 INDEMNIFICATION - EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF INDEMNITEES' GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, OR DEATH, OF ANY EMPLOYEE OF THE CONTRACTOR, OR OF ANY SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE WORK SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNITEES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE SOLE, COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

8.2.2 INDEMNIFICATION - OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT OR THE WORK DESCRIBED HEREIN, TO THE EXTENT CAUSED BY THE NEGLIGENCE, ACTS, ERRORS, OR OMISSIONS OF CONTRACTOR OR ITS SUBCONTRACTORS, ANYONE EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN WHOLE OR IN PART BY A PARTY INDEMNIFIED HEREUNDER.

8.3 Except for the obligation of Owner to pay Contractor the Contract Price pursuant to the terms of this Agreement, and to perform certain other obligations pursuant to the terms and conditions explicitly set forth herein, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future partner or affiliate of Owner or any agent, officer, director, or employee of Owner, Williamson County, or of the various departments comprising Williamson County, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 9 BONDS

9.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Price. The surety for a Performance Bond shall meet the requirements of Texas law.

9.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Price, as security for the true and faithful payment in full of all subcontractors and persons performing labor, services, materials, machinery, and fixtures in connection with the Work. The surety for a Payment Bond shall meet the requirements of Texas law.

9.3 Warranty Bond. Upon execution of this Agreement, Contractor shall provide a Warranty Bond in the amount of 20% of the Contract Price, as security for the true and faithful performance of all warranties set forth in Bid Documents and this Agreement.

ARTICLE 10 TERMINATION

10.1 Termination for Cause. If either party commits an Event of Breach (a breach of any of the covenants, terms and/or conditions of this Agreement), the non-breaching party shall deliver written notice of such Event of Breach to the breaching party. Such notice must specify the nature of the Event of Breach and inform the breaching party that unless the Event of Breach is cured within three (3) business days of receipt of the notice, additional steps may be taken to terminate this Agreement. If the breaching party begins a good faith attempt to cure the Event of Breach within three (3) business days, then and in that instance, the three (3) business day period may be extended by the non-breaching party, so long as the breaching party continues to prosecute a cure diligently to completion and continues to make a good faith attempt to cure the Event of Breach. If, in the opinion of the non-breaching party, the breaching party does not cure the breach within three (3) business days or otherwise fails to make any diligent attempt to correct the Event of Breach, the breaching party shall be deemed to be in breach and the non-breaching party may, in addition to seeking the remedies available hereunder and under the law, terminate this Agreement.

10.2 Termination for Convenience. The Owner may terminate this Agreement for convenience and without cause or further liability upon thirty (30) days written notice to Contractor. In the event of such termination, it is understood and agreed that only the amounts due to Contractor for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for Owner's termination of this Agreement for convenience.

ARTICLE 11 MISCELLANEOUS PROVISIONS

11.1 Interest and Late Payments. Except as otherwise specifically set forth herein, Owner's payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of Owner's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by Contractor, Owner shall notify Contractor of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of Contractor, Contractor shall be entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by Contractor beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the Owner, Contractor shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

11.2 Assignment; Successors and Assigns. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party. This Agreement shall be binding upon and inure to the benefit of parties hereto and their respective successors and assigns.

11.3 Captions. The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

11.4 Governing Law and Venue. This Agreement and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. Williamson County where the Work site is located shall be the sole place of venue for any legal action arising from or related to this Agreement or the project in which the Owner is a party.

11.5 Waivers. No delay or omission by either party in exercising any right or power arising from non-compliance or failure of performance by the other party with any of the provisions of this Agreement shall impair or constitute a waiver of any such right or power. A waiver by either party of any covenant or condition of this Agreement shall not be construed as a waiver of any subsequent breach of that or of any other covenant or condition of the Agreement.

11.6 Interpretation. In the event of any dispute over the meaning or application of any provision of the Contract Documents, the Contract Documents shall be interpreted fairly and reasonably, and neither more strongly for or against any party, regardless of the actual drafter of the Contract Documents.

11.7 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

11.8 Appointment. Owner hereby expressly reserves the right from time to time to designate by notice to Contractor a representative(s) to act partially or wholly for Owner in connection with the performance of Owner's obligations. Contractor shall act only upon instructions from the designated representative(s) unless otherwise specifically notified to the contrary.

11.9 Audits. Contractor agrees that Owner or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of Contractor which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. Contractor agrees that Owner shall have access during normal working hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. Owner shall give Contractor reasonable advance notice of intended audits.

11.10 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

11.11 No Waiver of Immunities. Nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

11.12 Current Revenues. Under Texas law, a contract with a governmental entity that contains a claim against future revenues is void; therefore, each party paying for the performance of governmental functions or services must make those payments from current revenues available to the paying party.

11.13 Compliance with Laws. Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, Contractor shall furnish the County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

11.14 Sales and Use Tax Exemption. Owner is a body corporate and politic under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code Ann. § 151.309, as amended.

11.15 Texas Public Information Act. To the extent, if any, that any provision in this Agreement is in conflict with Tex. Gov't Code 552.001 *et seq.*, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that Owner, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any information or data furnished to Owner whether or not the same are available to the public. It is further understood that Owner, its officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that Owner, its officers and employees shall have no liability or obligation to Contractor for the disclosure to the public, or to any person or persons, of any software or a part thereof, or other items or data furnished to Owner by Contractor in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

11.16 Force Majeure. If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance of this Agreement. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

11.17 Equal Opportunity in Employment. The parties to this Agreement agree that during the performance of the services under this Agreement they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The parties to this Agreement will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

11.18 Reports of Accidents. Within 24 hours after Contractor becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Contractor), whether or not it results from or involves any action or failure to act by the Contractor or any employee or agent of the Contractor and which arises in any manner from the performance of this Agreement, the Contractor shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Contractor shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Contractor, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Contractor's performance of work under this Agreement.

11.19 Relationship of the Parties. Each party to this Agreement, in the performance of this Agreement, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

11.20 Appropriation of Funds by Owner. Owner believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Agreement. Contractor understands and agrees that the Owner's payment of amounts under this Agreement is contingent on the Owner receiving appropriations or other expenditure authority sufficient to allow the Owner, in the exercise of reasonable administrative discretion, to continue to make payments under this Agreement.

11.21 Execution in Counterparts. This Agreement may be executed in counterparts, each of which, when executed and delivered, shall be deemed to be an original and all of which together shall constitute one and the same document.

11.22 Entire Agreement. This Agreement represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by each party to this Agreement. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of the date of the last party's execution hereof (Effective Date).

OWNER:

WILLIAMSON COUNTY, TEXAS,
a political subdivision of the state of Texas

By: _____

Printed Name: _____

Title: _____

Date: _____

CONTRACTOR:

By: _____

Printed Name: _____

Title: _____

Date: _____

Party Representatives

Owner's Designated Representative ("ODR"):

_____
_____
_____
_____
Phone _____
Fax _____

Contractor's Designated Representative:

_____
_____
_____
_____
Phone _____
Fax _____

BID AFFIDAVIT

This form must be completed, signed, notarized and returned with Bid package

The undersigned attests that the company named below, under the provisions of Subtitle F, Title 10, Texas Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and
2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

The undersigned certifies that the IFB and the Bidder's Bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all goods and/or services upon which prices are extended at the price Bid, and upon the conditions contained in the IFB.

I hereby certify that the foregoing Bid has not been prepared in collusion with any other Bidder or other person or persons engaged in the same line of business prior to the official opening of this Bid. Further, I certify that the Bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities Bid on, or to influence any person or persons to submit a Bid or not to submit a Bid thereon."

Name of Bidder:	
Address of Bidder:	
Email:	
Telephone:	
Printed Name of Person Submitting Affidavit:	
Signature of Person Submitting Affidavit:	

Cooperative Purchasing Program

Check one of the following options below. A non-affirmative Bid will in no way have a negative impact on the County's evaluation of the Bid.

☐	I will offer the quoted prices to all authorized entities during the term of the County's Contract.
☐	I will not offer the quoted prices to all authorized entities.

If no box is checked, the Bidder agrees to make best efforts in good faith to offer the quoted prices to all authorized entities.

BEFORE ME, the undersigned authority, a Notary Public, personally appeared _____ (*Name of Signer*), who after being by me duly sworn, did depose and say: "I, _____, (*Name of Signer*) am a duly authorized officer of/agent for _____ (*Name of Bidder*) and have been duly authorized to execute the foregoing on behalf of the said _____ (*Name of Bidder*).

SUBSCRIBED AND SWORN to before me by the above-named _____

on this the _____ day of _____, 20_____.

_____

Notary Public in and for

The State of _____

The County of _____

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person doing business 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 September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.**

4 **Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.**

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ
Page 2

5

Name of local government officer with whom filer has affiliation or business relationship.
(Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each affiliation or business relationship.

6. Describe any other affiliation or business relationship that might cause conflict of interest:

7

Signature of person doing business with the governmental entity	Date

Signature not required if completing in BIDSYNC electronically.

Bidder References

List the last (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this IFB package, were recently provided by Bidder.

Reference 1

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 2

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 3

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Question and Answers for Bid #1710-197 - Brushy Creek Regional Trail at Champion Park

Overall Bid Questions
There are no questions associated with this bid.