

## **Solicitation 1811-278**

### **Forest North Drainage Improvements - Anderson Mill Zone**

**Bid Designation: Public**



**Williamson County, Texas**

## Bid 1811-278

### Forest North Drainage Improvements - Anderson Mill Zone

Bid Number 1811-278  
 Bid Title Forest North Drainage Improvements - Anderson Mill Zone  
 Expected Expenditure **\$400,000.00** (This price is expected - not guaranteed)

Bid Start Date In Held  
 Bid End Date Jan 8, 2019 3:30:00 PM CST  
 Question & Answer End Date Jan 4, 2019 5:00:00 PM CST

Bid Contact Blake Skiles  
 Senior Purchasing Specialist  
 512-943-1478  
 blake.skiles@wilco.org

Contract Duration 30 days  
 Contract Renewal Not Applicable  
 Prices Good for 365 days  
 Pre-Bid Conference Dec 13, 2018 10:00:00 AM CST  
 Attendance is optional  
 Location: 3151 Southeast Innerloop  
 Georgetown, TX 78626

Bid Comments **Williamson County is seeking qualified contractors to provide materials, experienced construction crews and equipment to construct the Forest North Drainage Improvements - Anderson Mill Zone in Austin, Texas.**

#### Item Response Form

Item 1811-278-01-01 - Total Bid Price  
 Quantity 1 each  
 Unit Price   
 Delivery Location **Williamson County, Texas**  
No Location Specified  
 Qty 1

**Description**  
 Total Bid Price

Item 1811-278-01-02 - Please Attach All Documents To This Line  
 Quantity 1 each  
 Prices are not requested for this item.  
 Delivery Location **Williamson County, Texas**



No Location Specified

Qty 1

**Description**

Please Attach All Documents To This Line



## PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

### **WILLIAMSON COUNTY PURCHASING DEPARTMENT SOLICITATION 1811-278 Forest North Drainage Improvements - Anderson Mill Zone**

**BIDS MUST BE RECEIVED ON OR BEFORE:  
Jan 8, 2019 3:30:00 PM CST**

**BIDS WILL BE PUBLICLY OPENED:  
Jan 8, 2019 3:30:00 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](http://www.bidsync.com).

**Williamson County prefers and requests electronic submittal of this Bid.**

**All electronic bids must be submitted via: [www.bidsync.com](http://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](http://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](http://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 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](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](http://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 be 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 CONSIDERATION 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.

### 3.11. REJECTION OR ACCEPTANCE

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>

### 3.12 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.

### 3.13 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.

### **3.14 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.

### **3.15 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.

### **3.16 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<sup>th</sup>) 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, statutes, 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 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, nor 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 the 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 the Agreement will be located in the Additional Stipulations 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 (31<sup>st</sup>) 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 (1<sup>st</sup>) 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 (21<sup>st</sup>) 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](mailto: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. If the contractor or Subcontractor and affected worker do not agree before the fifteenth (15<sup>th</sup>) 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 (11<sup>th</sup>) 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.



## **Additional Stipulations**

### **1 Additional Stipulations**

#### **1.1 Introduction**

The Bid evaluation and selection process is detailed in this section, as are other factors, and the format in which the Price Bid of each Bid should be submitted.

#### **1.2 Contract Administrator**

J. Terron Evertson, P.E. (or successor), County Engineer, Williamson County 3151 South East Inner Loop, Suite B, Georgetown, Texas shall serve as the County's Technical Contact with designated responsibility to ensure compliance with the requirements of the Contract and any Ensuing Agreement, such as, but not limited to, acceptance, inspection and delivery. The Technical Contact together with the Purchasing Department will serve as a liaison between the Williamson County Commissioners Court and the Successful Bidder.

#### **1.3 Time for Performance**

A time frame of thirty (30) days (twenty five (25) to substantial completion / thirty (30) to final completion) is given for completion of plans on this bid. This may begin at the time specified by the County within the three hundred sixty-five (365) days of the pricing quoted on this bid, starting on the day of award. The Contractor will be given written notice to begin work on this project. The Work on this project shall begin within five (5) calendar days after such notification.

Liquidated damages for failure to substantially complete the work within the allotted time will be applied. Liquidated damages are \$200 per working day.

The Contractor will be given written notice to begin work on this project. Work on this project shall begin within five (5) working days after such notification. Failure to begin work within the allotted time will result in liquidated damages being incurred at the rate of \$200 per working day.

## Additional Stipulations - Bid

## 1.4 Performance and Payment Bonds

To the extent, this IFB is for the procurement of a public work contract, and the following shall apply:

Texas Local Government Code, Chapter 262.032, governs the requirements for performance bonds for government entities making public work contracts. A performance bond is required if the contract is in excess of \$50,000 and is to be made for the full amount of the contract.

Texas Government Code, Chapter 2253.021, governs the requirements for payment bonds for government entities making public work contracts. A payment bond is required if the contract is in excess of \$25,000 and is to be made for the full amount of the contract.

The bonds are to be executed and delivered to the County **prior to issuing Notice to Proceed**. The bonds must be executed by a corporate surety or sureties in accordance with the Texas Insurance Code. For unit price contracts, the total contract price shall be estimated and calculated by multiplying the estimated quantities to the Bidder's unit bid price.

If the public works contract is less than \$50,000, the performance bond will not be required as long as the contract provides that payment is not due until the work is completed and accepted by the County.

## 1.5 Bidder's Bonds

All Bids requiring a Bid Bond shall be accompanied by a certified cashier's check upon a National or State bank in an amount not less than five (5) percent of the total maximum bid price, payable without recourse to the County, or a bid bond in the same amount from a reliable surety company, as a guarantee that the Bidder will enter into a contract and **execute and deliver to the County performance and payment bonds prior to being recommended for award of the Contract. Bid guarantees must be submitted in the same sealed envelope with the Bid.** Bids submitted without check or bid bonds will not be considered. For unit price contracts, the total maximum bid price shall be estimated and calculated by multiplying the estimated quantities to the unit bid price.

## 1.6 Warranty Bonds

**When a Warranty Bond is required it shall be submitted by the Successful Bidder prior to issuing Notice to Proceed**, and shall be in the amount of twenty (20) percent of the total project construction cost. This Warranty Bond shall be security for the true and faithful performance of all warranties for two (2) years from the date of final payment. For unit price contracts, the total project construction cost shall be estimated and calculated by multiplying the estimated quantities to the bidder's unit bid price.



## Additional Stipulations - Bid

## 1.7 Insurance Requirements

By signing its Bid, the Bidder agrees to maintain at all times during any term of the Contract and any ensuing Agreement at Bidder's cost, insurance in accordance with this provision.

Bidder will be required to submit Certificates of Insurance **prior to contract award and any renewals.**

All certificates of insurance coverage as specified below must be provided to the following location:

Williamson County Purchasing Department  
901 S Austin Ave  
Georgetown, Texas 78626

Failure to comply with these Insurance Requirements may result in the termination of the Contract and any ensuing Agreement(s) between the Successful Bidder and County.

The following coverage limits shall be required at a minimum:

- |    |                                                                                                                                                                            |                        |                |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------|
| A. | Worker's Compensation                                                                                                                                                      | Statutory – Texas Law  |                |
| 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                                                                                                                                            | \$1,000,000            | \$1,000,000    |
|    | Aggregate policy limits:                                                                                                                                                   | \$2,000,000            |                |

Successful Bidder's property will not be covered by any insurance that may be carried by the County. Successful Bidder assumes the risk of loss on its contents and property that are situated on/in/around the County property. The Successful Bidder is strongly encouraged to obtain insurance on its property to the extent deemed necessary by the Successful Bidder.

The deductible for an insurance policy required hereunder shall not exceed \$100,000. **The County shall be named as an additional insured under any policy of insurance required hereunder.**

Successful Bidder shall not commence any work until it has obtained all required insurance and such insurance has been approved by County. Successful Bidder shall not allow any subcontractor(s) to commence work to be performed until all required insurance has been obtained by such subcontractor(s) and approved by County. Approval of the insurance by County shall not relieve or decrease the liability of Successful Bidder or its subcontractor(s) hereunder.

## Additional Stipulations - Bid

The required insurance must be written by a company approved to do business in the State of Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued. Successful Bidder shall furnish County with a certificate of coverage issued by the insurer. Successful Bidder shall not cause any insurance to be canceled nor permit any insurance to lapse. ALL INSURANCE CERTIFICATES SHALL INCLUDE A CLAUSE TO THE EFFECT THAT THE POLICY SHALL NOT BE CANCELED OR REDUCED, RESTRICTED OR LIMITED UNTIL TEN (10) CALENDAR DAYS AFTER COUNTY HAS RECEIVED WRITTEN NOTICE AS EVIDENCED BY RETURN RECEIPT OF REGISTERED OR CERTIFIED LETTER.

It is the intention of the County, and agreed to and hereby acknowledged by the Successful Bidder, that no provision of this Contract or any ensuing Agreement shall be construed to require the County to submit to mandatory arbitration or mediation in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder which absolutely requires arbitration or mediation of such claim, or as otherwise required by law or a court of law with jurisdiction over the provisions of this Contract or any ensuing Agreement.

**Workers' Compensation Coverage Requirements**

The Texas Labor Code, Section 406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a governmental entity such as the County. The rule requires the County to timely obtain certificates of coverage and retain them for the duration of the project. The rule also sets out the language to be included in the Bid specifications and in contracts awarded by a governmental entity and the information required to be in the posted notice to employees. The rule is adopted under the Texas Labor Code, Section 402.061.

The information provided below is a result of this rule. By submitting your Bid to the County, you are acknowledging that this rule is a part of these Bid specifications, and that you will observe and abide by all of the requirements outlined in the rule. You are further agreeing that should your Bid be accepted by the Williamson County Commissioners Court, the necessary certificates of coverage showing workers' compensation coverage, will be provided to the following name and address prior to beginning work:

Williamson County Purchasing Department  
901 S. Austin Ave.  
Georgetown, TX 78626

Failure to comply with this request may result in termination of the Contract and any ensuing Agreement. If you have any questions related to this ruling and/or requirement, you are encouraged to contact either the Williamson County Purchasing Department at (512) 943-1546, or you may call the Texas Workers' Compensation Commission at (800) 372-7713.

- A. The following words and terms, when used in this provision, shall have the following meanings. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.

## Additional Stipulations - Bid

1. Certificate of coverage (certificate) – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation 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 (including those subject to a coverage agreement) providing services on a project, for the duration of the project.
  2. Building or Construction – Has the meaning defined in the Texas Labor Code, Section 406.096(e)(1).
  3. Contractor – A person bidding for or awarded a building or construction project by Williamson County.
  4. Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, Section 401.011(44).
  5. Coverage agreement – A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Texas Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.
  6. Duration of the project--Includes the time from the beginning of work on the project until the work on the project has been completed and accepted by the County.
  7. Persons providing services on the project ("subcontractor" in the Texas Labor Code, Section 406.096) – includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
  8. Project – Includes the provision of all services related to a building or construction contract for the County.
- 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 the Texas Labor Code, Section 401.011(44), for all employees of the contractor providing services on the project, for the duration of the project.
- C. The Contractor must provide a certificate of workers compensation coverage to Williamson County prior to being awarded the Contract.

## Additional Stipulations - Bid

- D. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with Williamson County showing that coverage has been extended.
- E. The contractor shall obtain from each person providing services on a project, and provide to the County:
  - 1. A certificate of coverage, prior to that person beginning work on the project, so Williamson County will have on file certificates of coverage showing coverage for all persons providing services on the project; 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 project.
- F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. The contractor shall notify the County in writing by certified mail or personal delivery, within ten (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 on the project.
- H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
  - 1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44), for all of its employees providing services on the project, for the duration of the project;
  - 2. Provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
  - 3. Provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

## Additional Stipulations - Bid

4. Obtain from each other person with whom it contracts, and provide to the contractor:
    - i. (a) a certificate of coverage, prior to the other person beginning work on the project; and
    - ii. (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  5. Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
  6. Notify the County in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
  7. Contractually require each person with whom it contracts, to perform as required by paragraphs 1 – 7, with the certificates of coverage to be provided to the person for whom they are providing services
- J. By signing this Contract or providing or causing to be provided a certificate of coverage, the contractor is representing to Williamson County that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. The contractor's failure to comply with any of these provisions is a breach of Contract by the contractor which entitles the County to declare the contract void if the contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the County.



**WILLIAMSON COUNTY  
PROJECT CONSTRUCTION MANUAL  
FOR  
FOREST NORTH DRAINAGE IMPROVEMENTS  
Anderson Mill Zone**

**Bid No. \_\_\_\_\_**

**Bid Date: <TBD>**

**Bid Time: <TBD>**

**Williamson County, Texas  
Purchasing Department  
901 South Austin Avenue  
Georgetown, TX 78626**

**September 2015**

**The enclosed Texas Department of Transportation Specifications, Special Specifications, Special Provisions, General Notes and Specification Data in this document have been selected by me, or under my responsible supervision as being applicable to this project. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.**

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FOREST NORTH DRAINAGE IMPROVEMENTS – ANDERSON MILL ZONE  
**WILLIAMSON COUNTY**  
 GOVERNING SPECIFICATIONS  
 (STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND SPECIAL SPECIFICATIONS)

WHERE DISCREPANCIES OCCUR BETWEEN THE TECHNICAL SPECIFICATIONS, THE FOLLOWING DESCENDING ORDER OF PRIORITY SHALL GOVERN: (1) SPECIAL CONDITIONS, (2) SPECIAL PROVISIONS TO SPECIAL SPECIFICATIONS, (3) SPECIAL SPECIFICATIONS, (4) SPECIAL PROVISIONS, AND (5) STANDARD SPECIFICATIONS.

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION NOVEMBER 1, 2014. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

< > REFERENCE ITEMS NOT USED ON THIS CONTRACT  
 ( ) REFERENCE ITEMS USED ON THIS CONTRACT

ITEMS 1 - 9 ARE SUPERSEDED BY THE CONTRACT GENERAL AND SPECIAL CONDITIONS, WHERE APPLICABLE. WHEREVER, IN THE TXDOT STANDARD SPECIFICATIONS, REFERENCE IS MADE TO THE STATE OF TEXAS, THE DEPARTMENT AND ITS REPRESENTATIVES, SUCH REFERENCE SHALL BE TAKEN TO MEAN WILLIAMSON COUNTY AND ITS REPRESENTATIVES.

ITEM 100	PREPARING RIGHT OF WAY <103>
ITEM 110	EXCAVATION (132)
ITEM 132	EMBANKMENT (100) <204> <210><216>(400)
ITEM 160	FURNISHING AND PLACING TOPSOIL
ITEM 161	COMPOST (160)
ITEM 164	SEEDING FOR EROSION CONTROL <162><166>(168)
ITEM 168	VEGETATIVE WATERING
ITEM 169	SOIL RETENTION BLANKET
ITEM 400	EXCAVATION AND BACKFILL FOR STRUCTURES (132)<401><420><421>
ITEM 432	RIPRAP <420><421><427><440>
ITEM 464	REINFORCED CONCRETE PIPE (400)
ITEM 465	JUNCTION BOXES, MANHOLES, AND INLETS
ITEM 467	SAFETY END TREATMENT (400)<420><421><430>(432)<440>(464)
ITEM 500	MOBILIZATION
ITEM 502	BARRICADES, SIGNS AND TRAFFIC HANDLING
ITEM 506	TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS
ITEM 530	INTERSECTIONS, DRIVEWAYS AND TURNOUTS <247><260><263><275><276> <292><316><330><334><340><360><421><440>
ITEM 531	SIDEWALKS <104><360><420><421><440>(530)
ITEM 644	SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES <421><440><441><442><445><634><636><643><656>

STANDARD SPECIFICATIONS: MOST CURRENT VERSION ADOPTED BY THE CITY OF AUSTIN

ITEM 701S FENCING <403S>

SPECIAL PROVISIONS: THE CONTENT OF THE SPECIAL PROVISIONS ARE INCLUDED ON THE FOLLOWING PAGES.

SPECIAL PROVISION TO ITEM 002 002-WC2 (TO BE PROVIDED BY OTHERS)



SPECIAL SPECIFICATIONS: THE CONTENT OF THE SPECIAL SPECIFICATIONS ARE INCLUDED ON THE FOLLOWING PAGES.

ITEM SS1004                      TREE PROTECTION  
ITEM SS2241                      IRRIGATION SYSTEM CAPPING

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL PROVISIONS AND SPECIAL SPECIFICATIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFICATIONS FOR THIS PROJECT.

ATTACHMENT A              UTILITY ADJUSTMENT EXHIBITS

*Charlotte Gilpin*



10/12/2015

**Project Number:** < >

**County:** Williamson

**Project Name:** Forest North Drainage Improvements – Anderson Mill Zone

### **Definition of Terms**

County: Williamson County acting through the Road and Bridge Division.

Contractor: Successful bidder of the attached Invitation for Bid.

Engineer: Williamson County Director of Road and Bridge or designee.

Inspector: Engineer's designee assigned full, or part, time to the contractor's crew for the oversight of the work.

Specifications: Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges 2014.

TxDOT: Texas Department of Transportation

Working Day: Monday through Friday (excluding County approved holidays), if weather permits the performance of the contract (as determined by the inspector) for a continuous period of at least 6 hrs. (excluding lunch) between 8:00 A.M. and 5:00 P.M.

### **Control of Materials**

**Source Control.** The Contractor shall use only materials that meet Contract requirements. Unless otherwise specified or approved by the Engineer, the Contractor shall use new materials for the work. The Contractor shall secure the Engineer's approval of the proposed source of materials to be used before their delivery to the site. Materials can be approved by the Engineer at a supply source or staging area but may be re-inspected at the job site. Contractor shall be responsible for cost of additional sampling and testing if material source changes.

**Material Quality.** It is the Contractor's responsibility to correct or remove materials that fail to meet the contract requirements.

Materials not meeting Contract requirements will be rejected, unless the Engineer approves corrective actions. Upon rejection by the Engineer, the Contractor must immediately remove and replace rejected materials.

If the Contractor does not comply with this Article, the County may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from invoice submitted to the County.

**Manufacturer Warranties.** Contractor shall transfer to the County warranties and guarantees required by the Contract, from Contractor sources, or received as part of normal trade practice.

**Project Number:** < >

**County:** Williamson

**Project Name:** Forest North Drainage Improvements – Anderson Mill Zone

**Plant Inspection and Testing.** The Engineer may, but is not obligated to, inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements. Materials produced under County inspection are for County use only unless released in writing by the Engineer.

If inspection is at the plant, Contractor shall meet the following conditions unless otherwise specified:

- Cooperate fully and assist the Engineer during the inspection.
- Ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials.
- In accordance with pertinent items and the Contract, provide a facility at the plant for use by the Engineer as an office or laboratory.

The Engineer may provide inspection for periods other than daylight hours if:

- Continuous production of materials for County use is necessary due to the production volume being handled at the plant, and
- The lighting is adequate to allow satisfactory inspection.

The Contractor shall provide copies of all test results to the County and the Engineer prior to the County's acceptance of improvements.

The Contractor shall coordinate with the County's field representative 48 hours prior to schedule density testing. The County's field representative shall witness all testing.

#### **BASIS OF ESTIMATE & GENERAL NOTES:**

##### **Specification Data Basis of Estimate**

<b>Item</b>	<b>Description</b>	<b>Rate **</b>	<b>Basis</b>	<b>Quantity</b>
161	Compost Manufactured Topsoil	1 CY/9 SY	134 CY	1,198 SY
164	Seed for Erosn Cont	4840 SY/AC	0.3 AC	1,198 SY
168	Veg Watering			
	(Item 164) Perm	151.2 MG/SY	1,198 SY	182 MG
	(Item 164) Temp	75.6 MG/SY	1,198 SY	91 MG

\*\* For Informational Purposes Only

**Project Number:** < >

**County:** Williamson

**Project Name:** Forest North Drainage Improvements – Anderson Mill Zone

### GENERAL NOTES

All work performed and all products furnished under the provision of the contract shall comply with requirements which pertain to the various items of work included herein as *Standard Specification for Construction of Highways, Streets and Bridges* of the Texas Department of Transportation, adopted November 1, 2014, and as amended and/or updated, which is incorporated herein by reference for all purposes. In the event that any specification set out herein conflicts with said TxDOT specifications, the specification set out herein shall control and govern.

The Contractor will be given written Notice to Proceed on this project. The overlay project shall begin within five (5) working days after such notification and shall continue for thirty (30) working days.

Once work begins, Contractor shall continuously execute the work until completion, unless otherwise directed by Engineer.

The Contractor shall determine the exact location of all existing utilities before commencing work, and is fully responsible for any and all damages associated by Contractor's failure to locate and preserve utilities.

All construction equipment involved in roadway work shall be equipped with a permanently mounted 360 degree revolving or strobe warning light with amber lens. This light shall have a minimum lens height of 5 inches and a diameter of 5 inches. This light shall have a mounting height of not less than 6 feet above the roadway surface and shall be visible from all sides. This equipment shall also have attached at each side of the rear end of the vehicle an approved orange warning flag mounted not less than 6 feet above the roadway surface.

The actual quantity required may be varied from the estimated quantities in the contract. The Contractor shall be compensated for completed work based on actual quantities per bid item.

If multiple days are required to complete work, Contractor shall not leave work in hazardous conditions, as determined by the engineer.

Do not park equipment or make stockpiles where driver sight distance to businesses and side street intersections is obstructed, especially after work hours. If it is necessary to park where driver's views are blocked, Contractor shall make every effort to flag traffic accordingly. Give the travelling public first priority.

The Contractor shall be responsible for marking every 100 foot station, and shall maintain the markings for the duration of the project. This work shall be considered subsidiary to the various bid items.

**Project Number:** < >

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An English-speaking superintendent shall be available on the project at all times when work is being performed. The Contractor shall provide the construction inspector with contact information for the superintendent.

If any significant recharge features, such as sinkholes, caves, or any other subterranean openings are discovered during construction or core sampling, all activities near the feature must be immediately suspended. The construction inspector must be contacted for evaluation. The discovery may require TCEQ review and approval for the methods proposed to protect the aquifer from any potential adverse impacts.

Construction vehicles may be restricted from traversing or utilizing existing roadways, unprotected construction areas, and areas with vegetative cover, as determined by the construction inspector.

Contractor's equipment and vehicles shall not be maintained on-site during construction, except at designated maintenance sites as approved by the construction inspector.

Any soils contaminated during construction of the proposed project shall be transported from the site and properly disposed of off-site, off the contributing zone, and off any draining to the recharge zone of the Edwards Aquifer. Payment for this work shall be considered subsidiary to the pertinent bid items.

Contractor shall provide at least one portable restroom near the work site(s) at all times in order to provide a bathroom to individuals providing work hereunder. Contractor shall monitor and prevent its employees and any of its subcontractors that are providing work on the project from urinating or defecating on property in, on or adjacent to the areas in which work is being performed.

Contractor shall maintain positive drainage for permanent and temporary site conditions for duration of project.

Contractor shall comply with insurance requirements dictated within this contract.

Weekend and holiday work is allowed with prior approval by engineer.

The Contractor shall perform work during appropriate weather conditions, unless otherwise directed by engineer. If work is performed at the Contractor's option during, or prior to, inclement weather conditions and the work is damaged, the Contractor is responsible for all costs associated with replacing the work.

#### ABOVE-GROUND STORAGE TANKS

Shall not be permitted.

**Project Number:** < >

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### BLASTING

No Blasting will be allowed on the project.

### ENTRY INTO AND PROTECTION OF ADJACENT PROPERTIES

Design of this project did not contemplate a need to enter adjacent properties except where either permanent or temporary working easements are shown on the Plans. Should it be necessary during construction of the work to enter on adjacent properties, the County shall be notified. The Contractor shall be responsible for all arrangements to enter and shall be liable for repair of fences and restoration of any property damage outside of the right of way and easements shown in the plans.

The Contractor shall access the Lake Creek Channel at the designated maintenance access ramps. Access to the right of way and easements adjacent to private property shall be coordinated with the adjacent property owner at least 48 hours in advance.

### LOCATION AND PROTECTION OF UTILITIES

Notwithstanding any other provision of this Contract, the Contractor shall be solely responsible for the location and protection of any and all public and/or private utility lines and utility customer service lines in the work area. The Contractor shall exercise due care to locate and to mark, uncover or otherwise protect all such lines in the construction zone and any of the Contractor's work or storage areas. Upon request, the County may provide such information that it has about the location and grade of water, gas, telephone, cable TV and electric lines and other utilities in the work area, but such information shall not relieve or be deemed to be in satisfaction of the Contractor's obligation hereunder, which shall be primary and nondelegable. Any such lines damaged by the Contractor's operations shall be immediately repaired by the Contractor or he shall cause such damage to be repaired at his expense. Contractor shall contact Dig-Tess at 1-800-344-8377, for utility verification, prior to beginning construction.

### SURPLUS MATERIAL

Excavated or surplus natural soil and rock material, unless otherwise noted in the Plans or Specifications, shall be known as "spoil" and properly disposed of by the Contractor off-site at his sole expense. Any permits necessary for the disposal of such material shall be acquired by the Contractor at his expense.

Any surplus material defined as "solid waste" under the Texas Commission on Environmental Quality Municipal Solid Waste Regulations shall be disposed of in compliance with all applicable solid waste management regulations.

Final cleanup will include the removal of excess material considered detrimental to vegetation growth within the working area. Materials such as excess concrete and other materials, as specified by the Engineer, will be removed at the Contractor's expense.

### RESTORATION/REVEGETATION

All disturbed areas within the right of way, easements, and limits of construction shall be restored. Restoration shall include all topsoil, seeding/sodding, watering, fertilizer, labor and equipment necessary to complete the project in accordance with the Plans and Specifications.

**Project Number:** < >

**County:** Williamson

**Project Name:** Forest North Drainage Improvements – Anderson Mill Zone

Restoration shall be installed and vegetation established prior to final acceptance of the project, or as approved by the County.

Care shall be exercised to prevent damage to all property in and around the construction zone. The Contractor shall be liable for the repair and restoration of any property damaged as a result of the Contractor's prosecution of the work. This shall include, but is not limited to, revegetation of all areas damaged or destroyed by construction. Contractor will be held liable and responsible for such areas until growth is reestablished to the satisfaction of the County.

Ornamental landscape plantings of trees, shrubs and grasses that are damaged or destroyed during construction shall be replaced with plant material of comparable size and quality approved by the County.

Revegetation measures will begin as soon as practical. The County reserves the right to require the immediate installation of revegetation measures whenever deemed necessary.

The County reserves the right to require additional revegetation measures deemed necessary at any time after construction has begun until the County has accepted the erosion control measures and revegetation measures.

The Contractor shall be responsible for maintaining, repairing or replacing all erosion control devices as may be directed by the Construction Inspector. This work will be considered subsidiary to the various bid items.

#### **Item 100**

The Contractor shall notify the Construction Inspector prior to clearing operations. Upon notification, the observer will schedule a walk-through with the Contractor and designate all trees and other features to be protected during construction. The Contractor shall not begin any clearing of the right-of-way prior to this walk-through. The designated trees shall be protected in accordance with the plans and specifications, or as directed by the inspector. No fences shall be removed without notification to the observer.

Removal of any obstructions on the right of way that are not shown on the plans is included under preparing right of way. The inspector shall be notified prior to removal of obstructions. All right-of-way clearing operations will be coordinated with the project's SW3P and as directed or approved by the construction observer.

The Contractor may be required to trim and remove brush and trees in order to construct the project or to provide a horizontal clearance of approximately 2 feet inside the right-of-way line and a vertical clearance of at least 12 feet. For this operation, no vertical flailing equipment shall be used and the method shall be approved by the Construction Observer.

Burning of brush will not be permitted, unless otherwise directed by the County.

The Contractor is responsible for plugging and capping all irrigation systems at the right-of-way line. The Contractor shall notify the property owner at least 48-hours in advance of performing modifications to irrigation systems.

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**Item 110**

Excavation quantities are measured to the bottom of the topsoil (4" below the proposed grade). To the extent possible, all existing topsoil shall be salvaged, stockpiled and redistributed to the graded areas.

**Item 132**

All materials brought to project site shall have a maximum P.I. of 25 and minimum P.I. of 6. Borrow sources shall be submitted and approved by observer prior to delivery to project. The Engineer must approve the embankment material before use on the project.

Embankment quantities are measured to the bottom of the topsoil (4" below the proposed grade). To the extent possible, all existing topsoil shall be salvaged, stockpiled and redistributed to the graded areas.

**Item 160**

The Construction Observer shall be notified to inspect all topsoil sources before digging begins. All off-site topsoil shall have a minimum PI of 20. The actual depth of the topsoil source shall be as approved by the construction observer. Topsoil shall comply with the requirements of item 20-1 of the Williamson County Protocol for sustainable roadsides.

**Item 161 and Item 164**

Compost, mulch and seed mixtures shall comply with the requirements of the Williamson County protocol for sustainable roadsides. Apply 3" of erosion control compost (ECC) on top of 4" of topsoil in all areas to be revegetated, unless otherwise directed. Install topsoil at proposed grade and place ECC above proposed grade.

**Item 168**

The Contractor shall obtain water at a source that is metered or shall furnish the manufacturer's specifications showing tank capacity for each truck used. The Contractor shall notify the Construction Observer prior to watering so that the Construction Observer may verify meter readings or truck counts. Water all areas of the project to be seeded or sodded. Maintain the seed bed in a condition favorable for the growth of grass. Watering can be postponed immediately after a rainfall on the site of 1/2 -inch or greater, but shall be resumed before the soil dries out, continue watering until final acceptance. County is not responsible for the source of water to be used on the project even during a drought condition. Watering rates shall comply with the requirements of the Williamson County protocol for sustainable roadsides.

**Item 400**

Any adjustments or changes made to a job mix formula must be submitted and approved prior to production of the new job mix formula. No RAP or RAS will be allowed in asphalt mix. Maximum lifts for level-up at culverts is 2-inches. Temporary pavement will be subsidiary to the Cut & Restore Pavement pay item.



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**Item 432**

Typical concrete riprap shall be placed at a 5" thickness or as directed by the Engineer.

**Item 462**

If pre-cast units are used, the fill material between the boxes shall consist of concrete aggregate with two sacks of Portland Cement per cubic yard (two sack concrete). The two sacks of cement are part of the box culvert work and will not be paid for directly.

**Item 466**

Removal of existing headwalls will not be paid for directly, but will be considered subsidiary to the pertinent bid items.

**Item 467**

Contractor shall cut extruding pipe ends, in the field, to match roadway or driveway side slope and shall use asphalt based paint on cut end.

**Item 496**

If necessary, Contractor shall perform traffic control for any structure removal, as directed by the Engineer.

**Item 502**

Traffic control plans shown within these plans are a minimum requirement. The contractor shall be responsible for any additional signs, barricades, flagmen or other traffic control devices as necessary for the safety of the traveling public. All traffic control devices shall be compliant with the current Texas Manual of Uniform Traffic Control Devices.

Necessary barricades, sufficient lighting, signage and other traffic control methods as may be necessary for the protection and safety of the public shall be provided by the Contractor and maintained during the construction process. Any open trenches shall be covered and protected overnight as needed. The traffic control shall be adjusted in the morning prior to beginning any work.

The Contractor shall notify the County when any traffic control changes are to be made. The notification must be made TWO DAYS prior to any change.

The Contractor shall provide all traffic control measures to prosecute the work in conformance with the Texas Manual on Uniform Traffic Control Devices, latest edition.

The Contractor will be required to maintain a minimum of one through lane in each direction during daylight hours on all roadways, except with written approval by the Inspector. Two lane roadways shall use single lane traffic control, which will require the use of flagmen. This shall not be paid for directly, but shall be considered subsidiary. Flaggers must comply with all

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requirements outlined in TxDOT specification Item 502.2B. The Contractor shall notify the County 48 hours prior to any closures. Lane closures are restricted to 9:00 A.M. to 4:30 P.M.

Access to all side streets and driveways shall be maintained at all times by the Contractor. The Contractor shall maintain 3:1 safety slopes on drop-offs greater than 2-inches that are adjacent to traffic.

The Contractor's crew leader shall be a competent person who will be responsible and available on the project site or in the immediate area to insure compliance with the TCP.

Advanced warning signs shall be in compliance with TxDOT standard specifications and standards.

**Item 530**

Notify property owners a minimum of 48 hours in advance of beginning work on their driveways. Provide, to the County, a list of each notification and contact prior to each closure.

Provide access, at all times, to adjacent property. Construct driveways one-half sections, to allow access. Do not completely close driveways for reconstruction purposes, unless a reasonable alternate access exists to the property, as approved.

**Item 531**

Notify property owners who utilize access of sidewalk 48-hours in advance of proposed work. Access to property must be provided at all times by the Contractor. Construction of sidewalks shall be in accordance with the TxDOT standards.

**Item 560**

Contractor shall coordinate the locations of temporary mailboxes with the Engineer and homeowner. All temporary products shall match the setup approved by the Engineer. This work shall be considered subsidiary to the installation of the proposed mailbox.

Contractor shall replace all mailboxes disturbed by the work with the existing mailboxes removed or with mailboxes approved by the Engineer. This work shall be coordinated with the sequence of construction within the plan set. All permanent replacement products used shall match the existing mailboxes removed or be replaced with Gibraltar mailboxes Freemont post mount mailbox and post kit model #FC000B01 or equivalent approved by the Engineer.

**Item 644**

All small signs not detailed in the plans shall be built in accordance with the latest edition of the Standard Highway Sign Designs for Texas. Where a sign size or particular legend is shown and such sign size or legend is not shown in the publication, the Contractor shall furnish the sign as detailed in the plans.

**Project Number:** < >

**County:** Williamson

**Project Name:** Forest North Drainage Improvements – Anderson Mill Zone

All existing regulatory signs must remain displayed at all times unless the roadway is closed to traffic.

The Contractor shall be responsible for removing and replacing any signs that are in the way of construction. Existing signs and sign posts that are in good condition can be replaced with a new triangular slipbase per TxDOT detail. A complete new sign assembly will be required if sign is damaged or at the direction of the Engineer. Sign mounting height shall comply with TxDOT standards.

1004

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## Special Specification 1004

### Tree Protection

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#### 1. DESCRIPTION

Install tree protection as shown on the plans or as directed.

---

#### 2. MATERIALS

Furnish materials in accordance with the plans.

---

#### 3. CONSTRUCTION

Use construction methods in accordance with the plans.

---

#### 4. MEASUREMENT

This Item will be measured by the acres of trees protected or by each tree protected.

---

#### 5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Tree Protection." This price is full compensation for furnishing all materials, equipment, labor, and incidentals.

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**SS2241****IRRIGATION SYSTEM CAPPING**

---

## SPECIAL SPECIFICATION SS2241

## IRRIGATION SYSTEM CAPPING

## PART 1: GENERAL

## 1.01 DESCRIPTION

- A. Installation and materials necessary to cap existing irrigation systems at the right-of-way.

## PART 2: EXECUTION

## 2.01 CONSTRUCTION

- A. All irrigation system piping encountered within the project area shall be cut at the right-of-way line and capped. All materials shall be disposed of per contract.

## PART 3: MEASUREMENT &amp; PAYMENT METHOD

## 3.01 MEASUREMENT

- A. Irrigation system capping will be measured by each property.

## 3.02 PAYMENT

- A. The work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Irrigation System Capping". This price is full compensation for furnishing materials.

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CASE #: SP-2017-0014D SHEET 1 OF 52



TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION  
OF HIGHWAYS, STREETS AND BRIDGES ADOPTED ON  
NOVEMBER 1, 2014 AND ALL APPLICABLE SPECIAL PROVISIONS  
AND SPECIAL SPECIFICATIONS AS INDICATED IN THE BID  
DOCUMENTS SHALL GOVERN ON THIS PROJECT. FOR ALL  
WORK IN THE ETS, CITY OF AUSTIN  
STANDARDS FOR ALL WORK IN COA LIMITS

# WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVEMENTS



NOTES:  
UTILITY RELOCATIONS WILL BE  
PERFORMED BY OTHERS.  
SEE COBB FENDLEY SHEETS  
44-52.

K FRIESE & ASSOCIATES, INC.  
1120 S. CAPITAL OF TEXAS HWY, II-100, AUSTIN, TX 78746

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WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS

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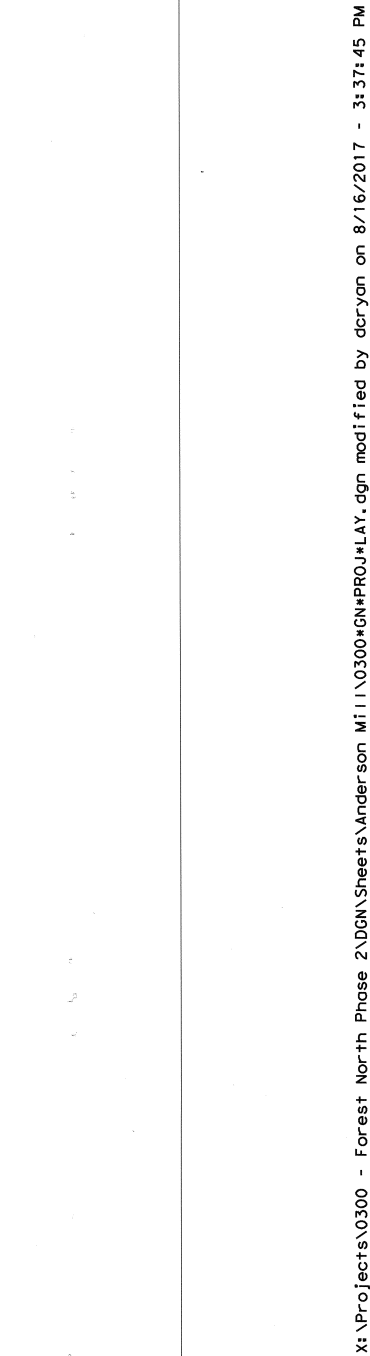
SUMMARY OF QUANTITIES  
ANDERSON MILL ZONE

**K·FRIESE**  
+ ASSOCIATES  
PUBLIC PROJECT ENGINEERING

1120 S. Capital of Texas Highway  
CityView 2, Suite 100  
Austin, Texas 78746  
P - 512.338.1704 F - 512.338.1784  
TBPE Firm #6535  
[www.kfriesee.com](http://www.kfriesee.com)



SCALE	
DATE	8/16/2017
SHEET NO. <b>GN2 OF GN7</b>	




Williamson County, Texas

p. 53

TREE LEGEND

TREE SYMBOLS WITHOUT DESIGNATIONS  
ARE ORNAMENTALS



SCALE	
DATE	8/16/2017
SHEET NO. <b>GN4 OF GN7</b>	

WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVMENTS - ANDERSON MILL ZONE CASE #: SP-2017-0014D SHEET 4 OF 52

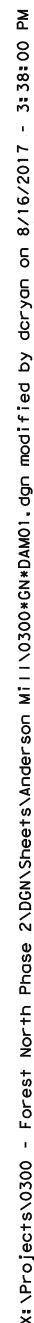
p. 54

## SHEET 5 OF 52



p. 55

## SHEET 6 OF 52



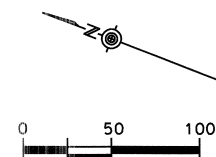
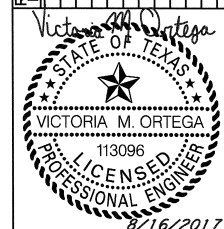
Drainage Area ID	Drainage Area (ac)	IC %	C Value	Tc (min)	Intensity (25-yr) (in/hr)	Discharge (25-yr) (cfs)	Intensity (100-yr) (in/hr)	Discharge (100-yr) (cfs)
AM100	0.32	30	0.50	16.65	6.63	1.17	8.55	1.51
AM101	0.76	30	0.50	24.55	5.46	2.28	7.13	2.98
AM103	3.00	30	0.50	25.32	5.37	8.85	7.02	11.57
AM200	0.52	30	0.50	18.50	6.30	1.82	8.16	2.33
AM201	0.95	30	0.50	19.50	6.14	3.22	7.97	4.18
AM202	0.79	30	0.50	21.20	5.89	2.54	7.66	3.31
AM203	0.89	30	0.50	23.10	5.64	2.76	7.35	3.60
AM204	0.62	30	0.50	24.30	5.49	1.88	7.17	2.46

1. HYDROLOGY FOR THE ONSITE DRAINAGE BASINS WAS DEVELOPED USING THE RATIONAL METHOD DESCRIBED IN THE TXDOT HYDRAULIC MANUAL, MAY 2014, SECTION 13.

C-VALUE: 0.50 FOR SF RESIDENTIAL  
TC: KERBY-KIRPICH METHOD

2. IMPERVIOUS COVER IS BASED ON A LAND USE OF 1/3 ACRE RESIDENTIAL LOTS, USDA URBAN HYDROLOGY FOR SMALL WATERSHEDS, TR-55.

LEGEND  
-- CITY OF AUSTIN LIMITS  
== DRAINAGE AREA  
--- CHANNEL  
-- TC FLOW PATH  
FLOW DIRECTION  
DRAINAGE AREA ID  
INLET ID

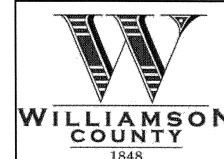
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K FRIESE & ASSOCIATES, INC.  
11120 S. CAPITAL OF TEXAS HWY, II-100, AUSTIN, TX 78746

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
DRAINAGE AREA MAP

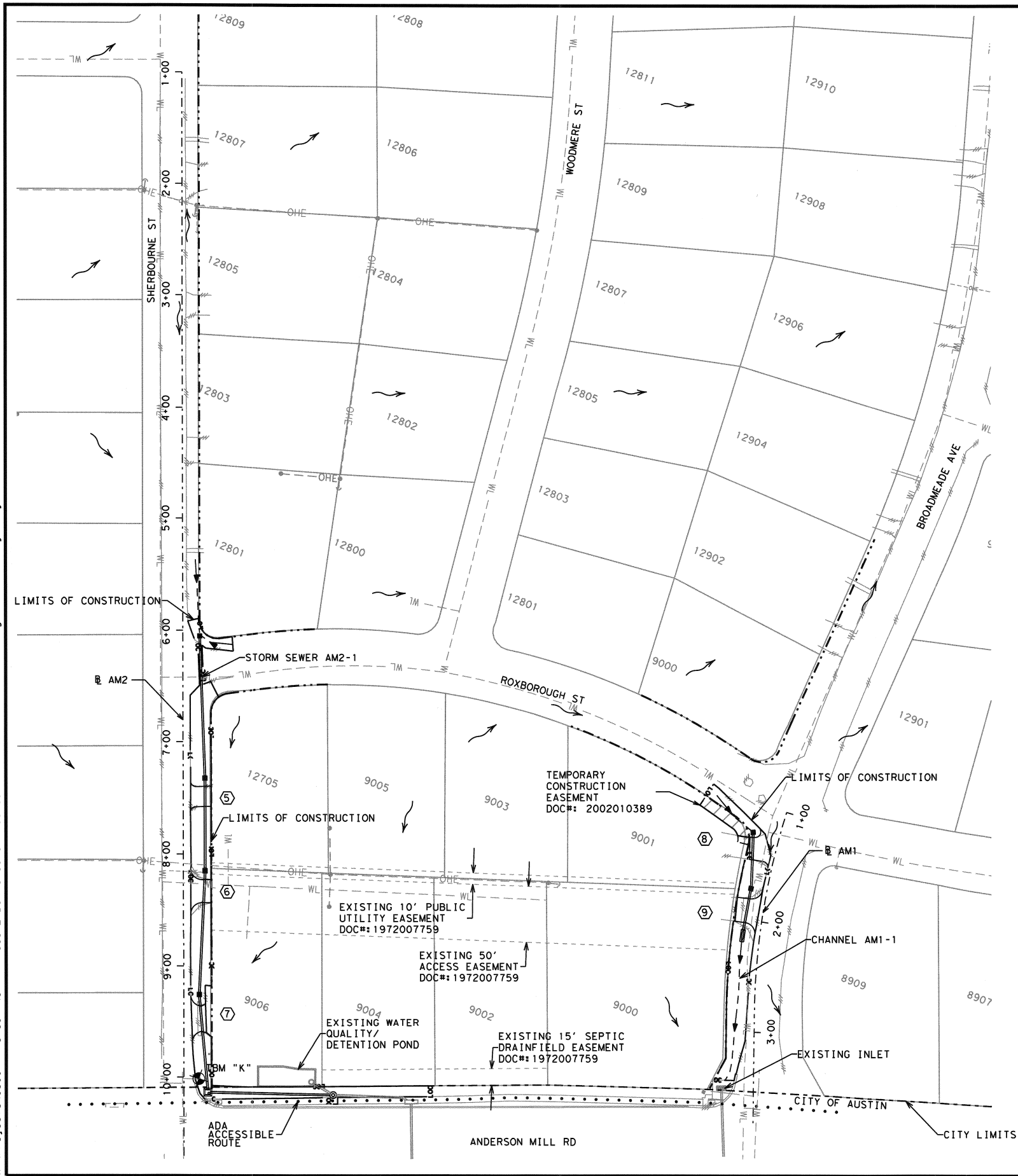


City of Austin  
Reviewed for General Compliance  
FEB 08 2018

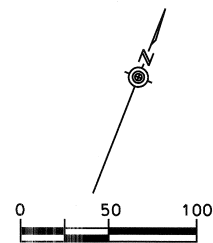


SCALE	1" = 100'
DATE	8/16/2017
SHEET NO. <b>GN7 OF GN7</b>	

X:\Projects\0300 - Forest North Phase 2\DWG\Sheets\Anderson Mill\0300-AM-PROJ-LAY.dgn modified by dcryon on 8/16/2017 10:38:33 PM



- LEGEND
- CITY OF AUSTIN LIMITS
  - EXISTING PROPERTIES
  - 13515 --- EXISTING ADDRESS
  - EXISTING R.O.W.
  - EXISTING EASEMENT
  - OHE --- EXISTING OVERHEAD ELECTRIC
  - WL --- EXISTING WATERLINE
  - EXISTING RIGHT-OF-WAY
  - PROPOSED EASEMENT
  - PROPOSED TEMPORARY EASEMENT
  - CHANNEL CENTERLINE
  - FLOW DIRECTION
  - (X) --- DRIVEWAY ID
  - (B) --- BENCHMARK
  - LOC --- LIMITS OF CONSTRUCTION



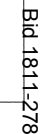
- COORDINATES ARE BASED ON TEXAS STATE PLANE SYSTEM, CENTRAL ZONE, ADJUSTED TO THE SURFACE. TO TRANSFORM FROM SURFACE VALUES TO LAMBERT GRID VALUES USE A FACTOR OF 0.99988706.
- BENCHMARKS: (VERTICAL DATUM: NAD 83)  
  
TBM "K":  
BOLT ON FIRE HYDRANT FLANGE  
EL=932.07  
N: 10138839.6726  
E: 3102013.1406
- PARCEL INFORMATION FOR THE PROJECT LAYOUT WAS OBTAINED FROM THE WILLIAMSON COUNTY APPRAISAL DISTRICT AND IS FOR REFERENCE ONLY.
- CIP AM1 DESCRIPTION:  
CHANNEL AM1-1:  
INSTALL STORM SEWER AND REGRADE CHANNEL ALONG WEST SIDE OF BROADMEADE AVE FROM ROXBOROUGH STREET TO THE EXISTING STORM SEWER NETWORK ON ANDERSON MILL ROAD.
- CIP AM2 DESCRIPTION:  
STORM SEWER AM2-1:  
INSTALL NEW STORM SEWER ALONG THE EAST SIDE OF SHERBOURNE STREET AND THE NORTH SIDE OF ANDERSON MILL ROAD CONVEYING FLOW FROM ROXBOROUGH STREET TO THE EXISTING STORM SEWER NETWORK ON ANDERSON MILL ROAD.
- ALL PROPERTIES WITHIN THIS ZONE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS IN ACCORDANCE WITH FOREST NORTH SUBDIVISION RESTRICTIONS:  
-ALLOWED ONE-RIBBON DRIVEWAY  
-NO FENCE, WALL OR HEDGE SHALL BE BUILT FORWARD OF THE BUILDING SET-BACK LINE

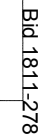
City of Austin  
Reviewed for General Compliance  
FEB 08 2018

REVISION DESCRIPTION	13515	
	DATE	NO.
REV. BY	DATE	NO.
K FRIESE & ASSOCIATES, INC. 1120 S. CAPITAL OF TEXAS HWY, II-100, AUSTIN, TX 78746		
WILLIAMSON COUNTY FOREST NORTH DRAINAGE IMPROVEMENTS ANDERSON MILL ZONE PROJECT LAYOUT		
SCALE	1" = 100'	
DATE	8/16/2017	
SHEET NO.	AM1 OF AM9	

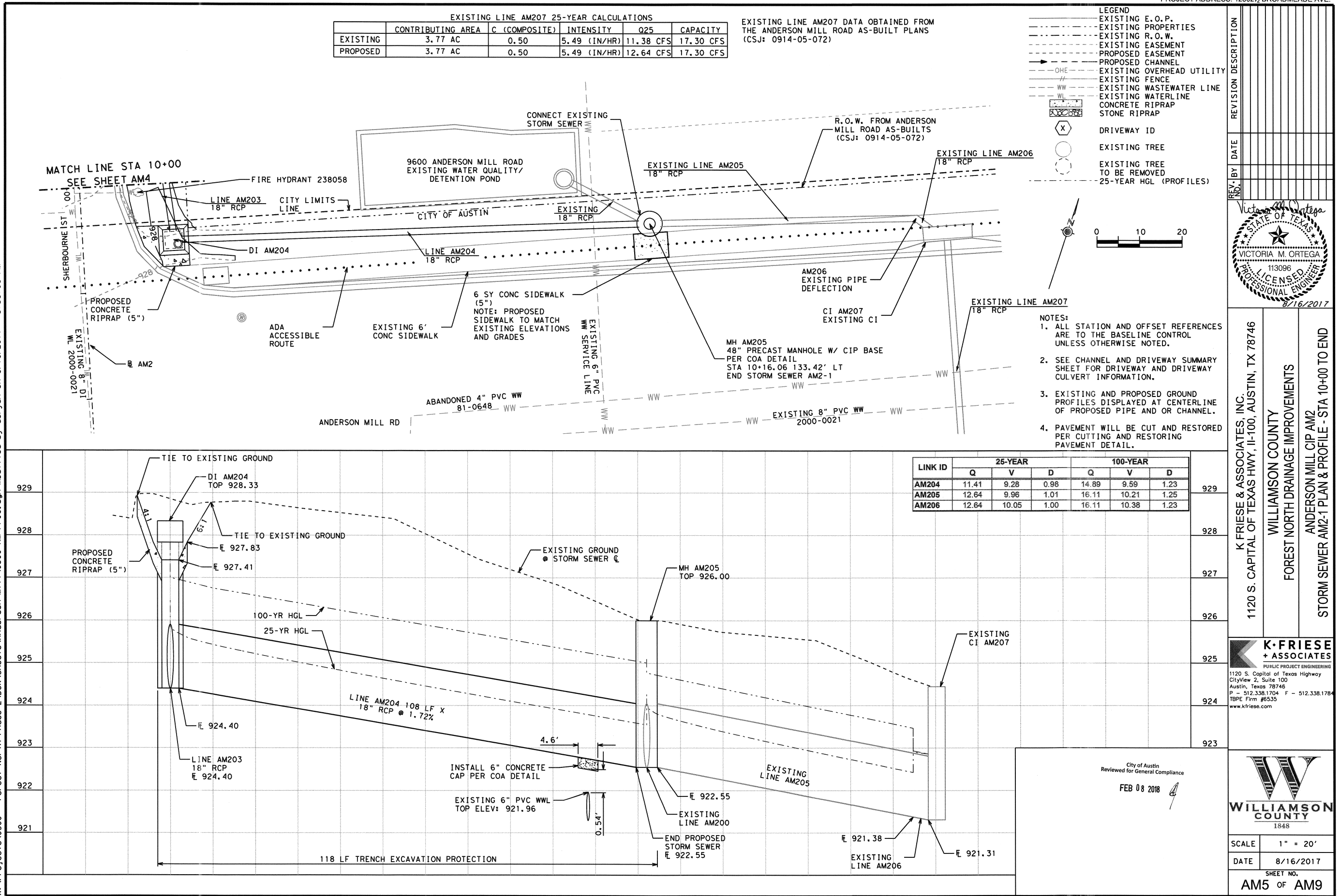
SHEET 9 OF 52







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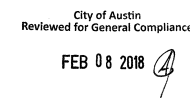
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Diagram illustrating a Channel Typical Section. The section is V-shaped, defined by 4:1 back and front slopes. Key dimensions and features include:

- VARIES**: Dimension indicating the variable width of the channel top.
- P.O.W.**: Point of Width, located at the top left corner of the channel.
- 1' BERM**: A horizontal section at the top of the channel.
- 4:1 BACK SLOPE**: The left side of the channel.
- 4:1 FRONT SLOPE**: The right side of the channel.
- D**: Depth of the channel.
- EXISTING PAVEMENT**: Indicated by a dashed line on the right side.
- EXISTING EDGE OF PAVEMENT**: Indicated by a dashed line on the right side.

CHANNEL TYPICAL SECTION

CIP Project ID	Driveway ID	Station (A) (sta)	Length (L) (ft)	Width (W) (ft)	Radius (R <sub>1</sub> ) (ft)	Radius (R <sub>2</sub> ) (ft)	Roadway Grade (G <sub>1</sub> ) (%)	Driveway Grade (G <sub>2</sub> ) (%)	Sidewalk Grade (G <sub>3</sub> ) (%)	Driveway Grade (G <sub>4</sub> ) (%)	Elevation			Sidewalk Area (sy)	Driveway Area (sy)	Number of Barrels	RCP (CL III) (18 in) (lf)	Upstream				Downstream				Slope (%)	Roughness Coefficient (n)	Culvert Flows				
											(E <sub>1</sub> ) (ft)	(E <sub>2</sub> ) (ft)	(E <sub>3</sub> ) (ft)					End Treatment (ea)	Station (sta)	Offset (ft)	Flowline (ft)	End Treatment (ea)	Station (sta)	Offset (ft)	Flowline (ft)			Q <sub>25</sub> (cfs)	d <sub>25</sub> (ft)	Capacity (cfs)		
AM1	8	1+38.53	22	19	5	5	-0.96	-4.30	N/A	2.78	925.53	925.20	925.28	N/A	48	1	47	TY PSL(FG)(3-3)	1+25.00	23.75	RT	922.02	TY PSL(FG)(3-3)	1+72.55	14.35	RT	921.88	0.30	0.012	1.5	0.4	6.2
	9	1+93.40	21	24	10	10	-1.38	-1.05	N/A	N/A	925.08	924.87	924.90	N/A	65	1	37	TY PSL(FG)(3-3)	1+72.55	14.35	RT	921.88	6.1 SET	2+09.80	15.25	RT	921.77	0.30	0.012	3.5	0.5	6.2
AM2	5	7+49.35	19	18	5	5	-2.83	-3.50	N/A	N/A	936.26	935.53	935.58	N/A	38			SEE STORM SEWER HYDRAULIC CALCULATIONS SHEETS														
	6	8+33.90	18	23	10	10	-2.67	-3.80	N/A	N/A	934.64	934.15	934.00	N/A	56			SEE STORM SEWER HYDRAULIC CALCULATIONS SHEETS														
	7	9+47.17	13	25	10	10	-2.53	-0.30	N/A	N/A	931.86	931.84	931.71	N/A	39			SEE STORM SEWER HYDRAULIC CALCULATIONS SHEETS														



WILLIAMSON  
COUNTY  
1848

WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVMENTS - ANDERSON MILL ZONE CASE #: SP-2017-0014D SHEET 14 OF 52



ANALYSIS PERFORMED USING GEOPAK DRAINAGE (2009 EDITION), WHICH PERFORMED HYDRAULIC COMPUTATIONS IN ACCORDANCE WITH FHWA HEC-22 GUIDELINES.

1. EXISTING STORM SEWER.
2. TAILWATER SET TO HGL FROM ANDERSON MILL ROAD AS BUILT PLANS (CSJ: 0914-05-072). ADJUSTED TO ENGLISH UNITS.
3. ALL TY PSL INLETS SHALL INCLUDE 1.5 FT CAST-IN-PLACE REINFORCED CONCRETE APRON PER DETAIL 'A' ON TYPE PSL DETAIL SHEET.
4. THE HEADWATER ELEVATION, AS NOTED, FOR THE EXISTING CULVERT WAS USED AS THE ALLOWABLE PONDED ELEVATION AT CORRESPONDING INLET.

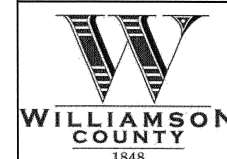
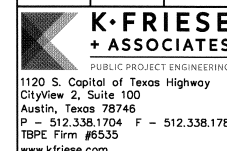
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11120 S. CAPITAL OF TEXAS HWY, II-100, AUSTIN, TX 78746

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS

ANDERSON MILL ZONE

STORM SEWER HYDRAULIC CALCULATIONS



SCALE	
DATE	8/16/2017
SHEET NO. <b>AM8 OF AM9</b>	

Link ID	Upstream				Downstream				Number of Barrels	Size	Length (ft)	Link Slope (%)	Roughness Coefficient (n)	Flows		Notes		
	Station (sta)	Offset (ft)	Flowline (ft)	HGL (ft)	Station (sta)	Offset (ft)	Flowline (ft)	HGL (ft)						Q25 (cfs)	Capacity (cfs)			
AM200	6+05.00	15.00	LT	931.66	932.37	7+32.75	19.40	LT	928.81	929.14	1	18" RCP	125	2.28	0.012	1.82	18.50	
AM201	7+32.75	19.40	LT	928.81	929.82	8+15.00	19.40	LT	927.00	927.56	1	18" RCP	80	2.28	0.012	4.99	18.50	
AM202	8+15.00	19.40	LT	927.00	928.18	9+25.70	14.00	LT	925.34	926.11	1	18" RCP	108	1.54	0.012	7.33	15.19	
AM203	9+25.70	14.00	LT	925.34	927.02	10+13.58	21.40	LT	924.40	926.30	1	18" RCP	85	1.11	0.012	9.78	12.87	
AM204	10+13.58	21.40	LT	924.40	926.30	10+16.06	133.42	LT	922.55	923.54	1	18" RCP	108	1.72	0.012	11.41	16.07	
AM205	10+16.06	133.42	LT	922.55	924.17	10+18.42	196.07	LT	921.38	922.43	1	18" RCP	61	1.94	0.012	12.64	17.07	1
AM206	10+18.42	196.07	LT	921.38	923.23	10+20.68	198.77	LT	921.31	922.86	1	18" RCP	4	1.99	0.012	12.64	17.27	1.2

Inlet ID	Station	Chain	Offset	Description	Grate Perimeter	Grate Area	Clog Reduction Factor	Perimeter Reduction Factor	Inlet Elevation	Q <sub>25</sub>	Allowable Pondered Depth	Pondered Elevation
	(sta)		(ft)		(ft)	(sf)			(ft)	(cfs)	(ft)	(ft)
AM100	1+25.00	AM1	23.75	RT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	925.00	1.17	0.25	925.15
AM101	1+72.55	AM1	14.35	RT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	924.70	2.28	0.50	924.94
AM200	6+05.00	AM2	15.00	LT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	937.50	1.82	0.25	937.71
AM201	7+32.75	AM2	19.40	LT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	934.94	3.22	1.00	935.24
AM202	8+15.00	AM2	19.40	LT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	933.14	2.54	0.75	933.39
AM203	9+25.70	AM2	14.00	LT TY PSL(FG)(3-3)(3-3)	12.67	5.50	0.50	0.50	931.48	2.76	0.50	931.75
AM204	10+13.58	AM2	21.40	LT COA 4-SIDED INLET	n/a	n/a	n/a	n/a	927.83	1.88	0.50	927.95

City of Austin  
Reviewed for General Compliance

FEB 08 2018 *A*

OAK WILT CONSTRUCTION NOTES:

- ENVIRONMENTAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR DETERMINING LOCATION OF STAGING AND SPOILS AREA. ADEQUATE BMPs SHALL BE PROVIDED WITHIN THESE AREAS WITH SILT FENCE INSTALLED IMMEDIATELY DOWNSLOPE.
2. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY VEGETATION, MULCH, TARP OR REVEGETATION MATTING. [ECM 1.4.4.B.3, SECTION 5, 1.]
3. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN-COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS. [LDC 25-8-183]
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. [ECM 1.4.4.D.4]

EXISTING WATER QUALITY/  
DETENTION POND  
NOTE: CONTRACTOR IS RESPONSIBLE FOR REMOVING  
ANY SEDIMENT TRANSPORTED FROM THE LOC TO THE  
DETENTION/WATER QUALITY POND

EXISTING 15' SEPTIC  
—DRAINFIELD EASEMENT  
DOC#: 1972007759

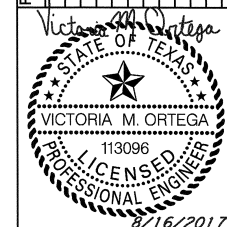
CITY OF AUSTIN

ANDERSON MILL RD

LEGEND  
 --- EXISTING E.O.P.  
 --- EXISTING PROPERTIES  
 --- EXISTING R.O.W.  
 --- EXISTING EASEMENT  
 --- PROPOSED EASEMENT  
 --- SILT FENCE  
 --- ROCK FILTER DAM  
 --- TREE PROTECTION  
 --- SOIL RETENTION BLANKET  
 --- CONCRETE RIPRAP  
 --- STONE RIPRAP  
 --- TOPSOIL AND SEEDING (4")  
 --- EXISTING TREE/LANDSCAPING  
 --- TREE/LANDSCAPING REMOVAL  
 --- (XX-YY) (SPECIES-SIZE)  
 --- TREE PROTECTION - PLANK

NOTES:

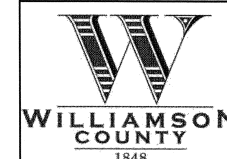
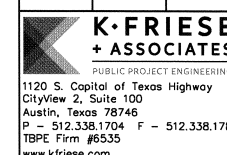
1. PROVIDE TEMPORARY INLET PROTECTION FOR ALL EXISTING AND PROPOSED CURB INLETS AND AREA INLETS.
2. VEGETATION REMOVAL SHALL BE CONTAINED TO THE CHANNEL BOTTOM. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO REMOVING TREES LARGER THAN 8-INCHES IN DIAMETER WHICH ARE NOT INDICATED FOR REMOVAL ON THE PLANS.
3. ALL AREAS OUTSIDE THE EASEMENTS AND ROW ARE NO WORK AREAS.
4. CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY SEDIMENT TRANSPORTED FROM THE LOC TO THE DETENTION/WATER QUALITY POND.

[illegible]

K FRIESE & ASSOCIATES, INC.  
11120 S. CAPITAL OF TEXAS HWY, II-100, AUSTIN, TX 78746

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS

ANDERSON MILL ZONE  
EROSION AND SEDIMENTATION CONTROL



SCALE	1" = 50'
DATE	8/16/2017
SHEET NO.	
AM9	OF AM9

WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVMENTS - ANDERSON MILL ZONE

CASE #: SP-2017-0014D

SHEET 16 OF 52

Williamson County, Texas

Bid 1811-2/8

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DATE: FILE:

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- 1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- 2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- 3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
- 4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
- 5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets", the TxDOT "Roadway Design Manual" or engineering judgment.
- 6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
- 7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
- 8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
- 9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
- 10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
- 11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
- 12. The Engineer has the final decision on the location of all traffic control devices.
- 13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY APPAREL NOTES:

- 1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.


Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation  
Traffic Operations Division - TE  
Phone (512) 416-3118

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT  
<http://www.txdot.gov>

COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

 Texas Department of Transportation		Traffic Operations Division Standard	
BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS			
BC (1) - 13			
FILE: bc-13.dgn	DN: TxDOT	CK: TxDOT	DN: TxDOT
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9-07 7-13	AUS	WILLIAMSON	DT1

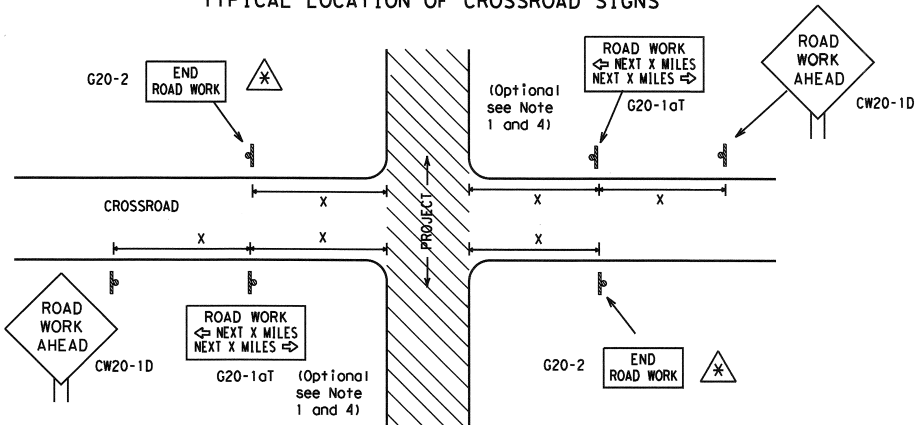
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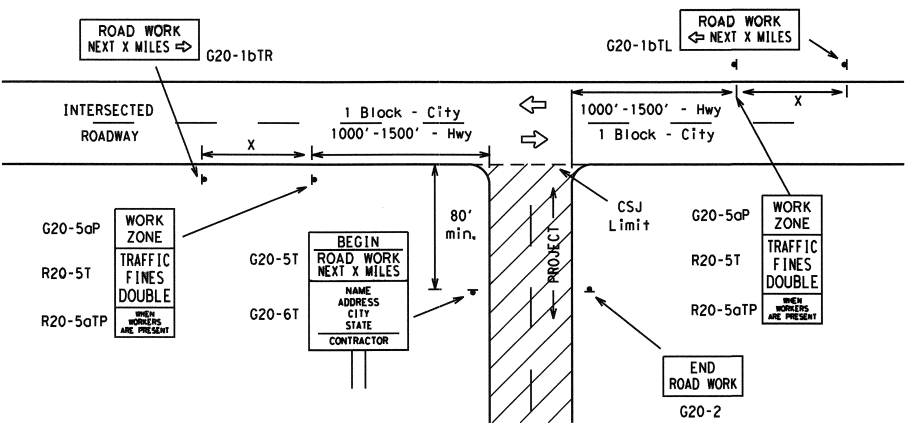
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD" (CW20-1D) sign with approval of engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D) sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK" (G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES" (G20-1aT) sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection the Contractor shall place the "CONTRACTOR NAME" (G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow (G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR) signs shall be replaced by the detour signing called for in the plans.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be used on low volume crossroads at the discretion of the Engineer. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING 1.5.6

Sign Number or Series	SIZE		SPACING	
	Conventional Road	Expressway/Freeway	Posted Speed MPH	Sign Δ Spacing "X" (Feet (Apprx.))
CW20 <sup>4</sup> CW21 CW22 CW23 CW25	48" x 48"	48" x 48"	30 35 40 45	120 160 240 320
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"	50 55 60 65	400 500 <sup>2</sup> 600 <sup>2</sup> 700 <sup>2</sup>
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"	70 75 80	800 <sup>2</sup> 900 <sup>2</sup> 1000 <sup>2</sup>
			*	* <sup>3</sup>

\* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

Δ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES" (G20-5T) sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

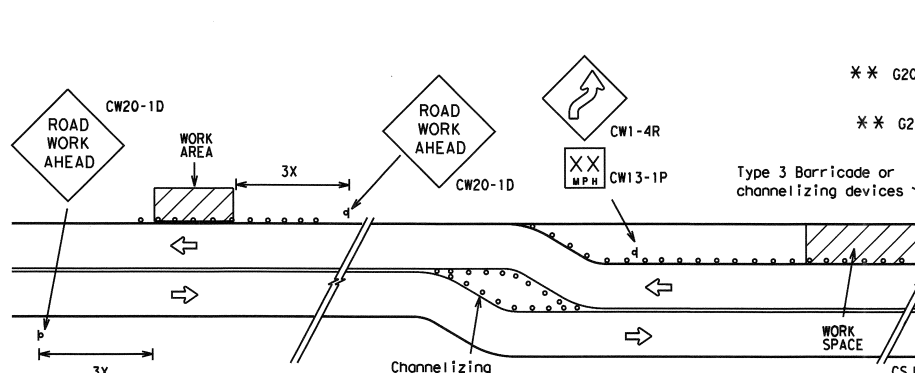
\* The "BEGIN WORK ZONE" (G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

\*\* Required CSJ Limit signing. See Note 10 on BC(1). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.

\* Area for placement of "ROAD WORK AHEAD" (CW20-1D) sign and other signs or devices as called for on the Traffic Control Plan.

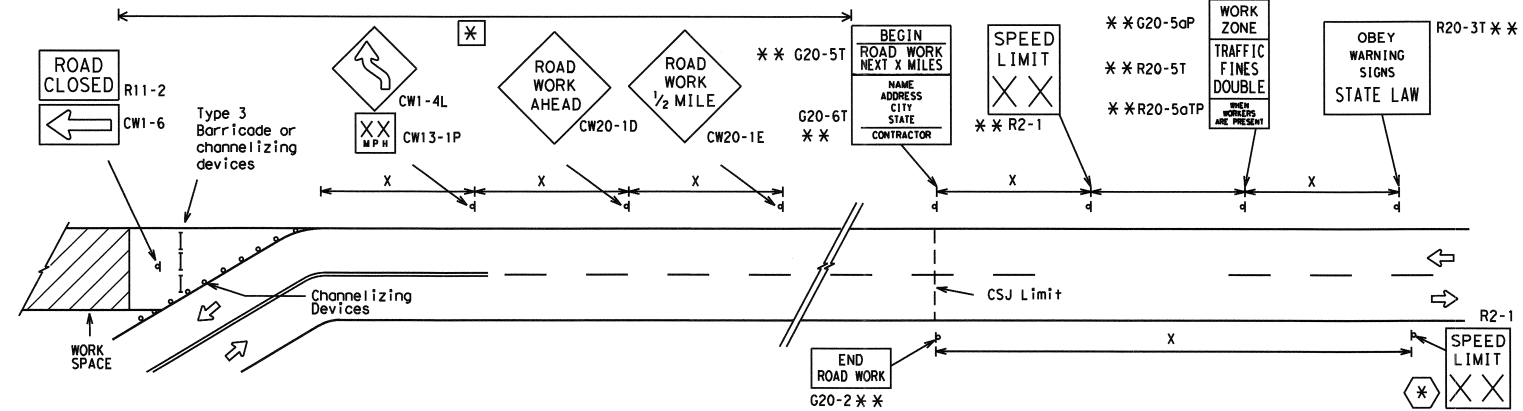
\* Contractor will install a regulatory speed limit sign at the end of the work zone.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

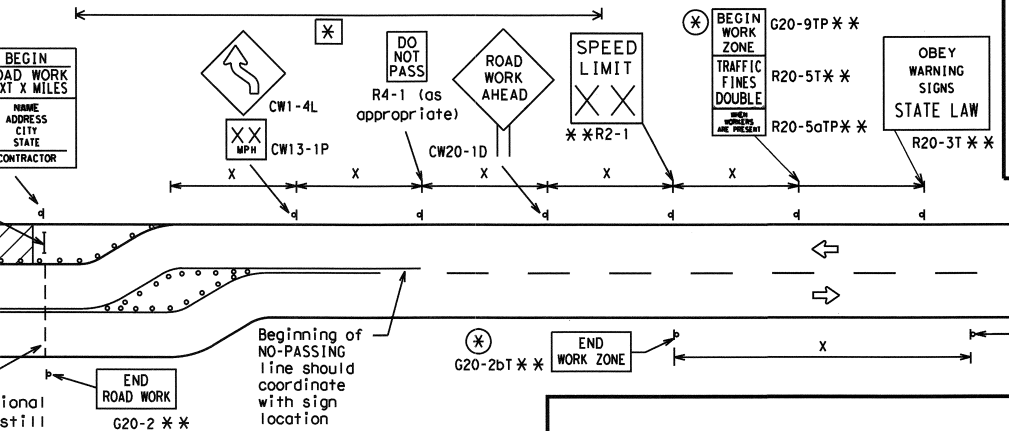


When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD" (CW20-1D) signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



LEGEND

—	Type 3 Barricade
o o o	Channelizing Devices
—	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

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Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

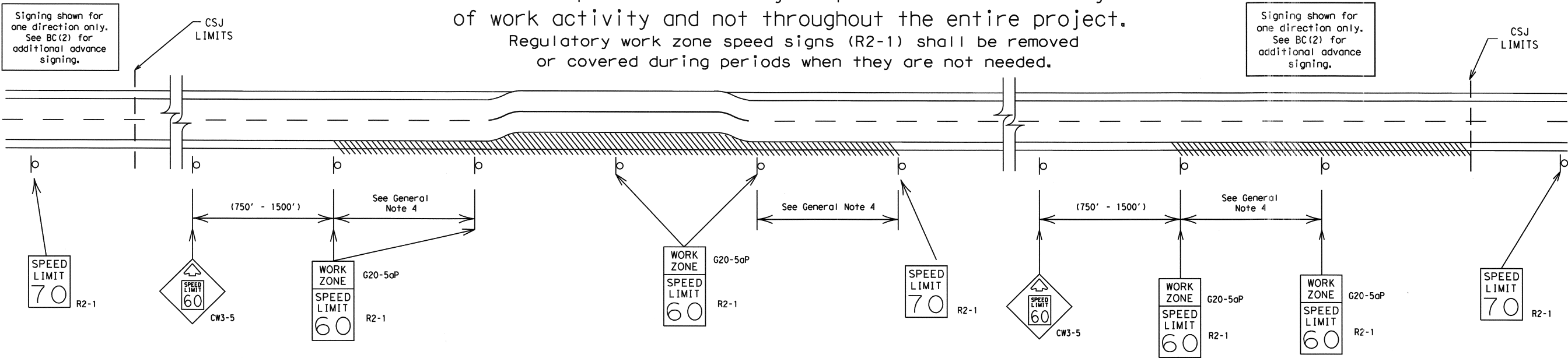
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# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project. Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

- a) rough road or damaged pavement surface
- b) substantial alteration of roadway geometrics (diversions)
- c) construction detours
- d) grade
- e) width
- f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

### SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered. (See Removing or Covering on BC(4)).

### GENERAL NOTES

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of work zone speed limit signs should be:
  - 40 mph and greater 0.2 to 2 miles
  - 35 mph and less 0.2 to 1 mile
- Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
- Fabrication, erection and maintenance of the "ADVANCE SPEED LIMIT" (CW3-5) sign, "WORK ZONE" (G20-5aP) plaque and the "SPEED LIMIT" (R2-1) signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
- Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
- Techniques that may help reduce traffic speeds include but are not limited to:
  - A. Law enforcement.
  - B. Flagger stationed next to sign.
  - C. Portable changeable message sign (PCMS).
  - D. Low-power (drone) radar transmitter.
  - E. Speed monitor trailers or signs.
- Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
- For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

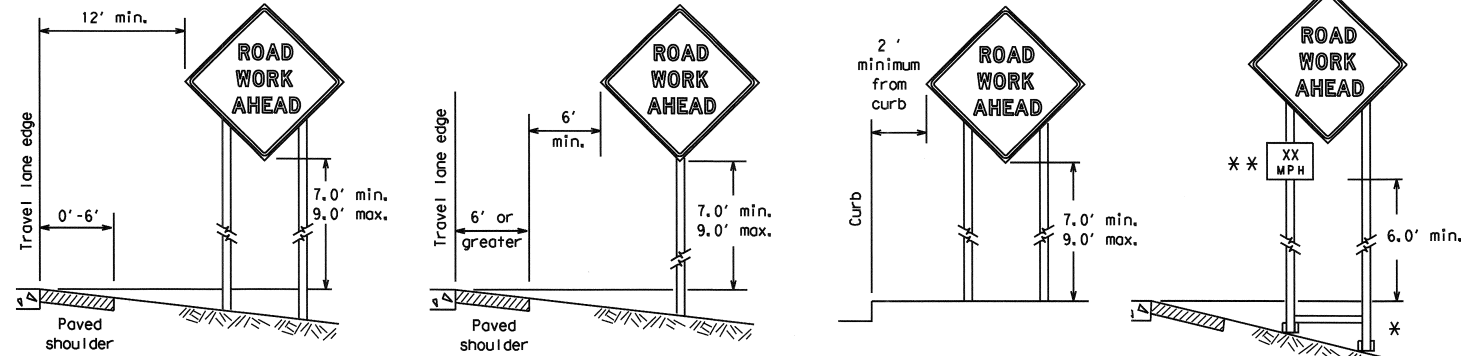
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		Traffic Operations Division Standard	
BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT			
BC (3) - 13			
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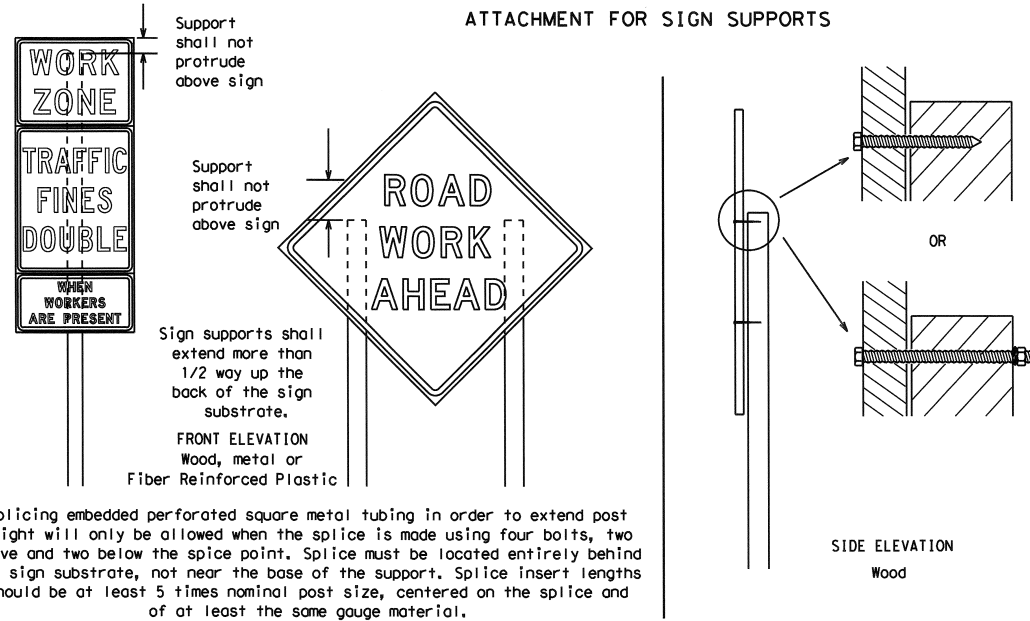
## TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



\* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

\*\* When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

## ATTACHMENT FOR SIGN SUPPORTS

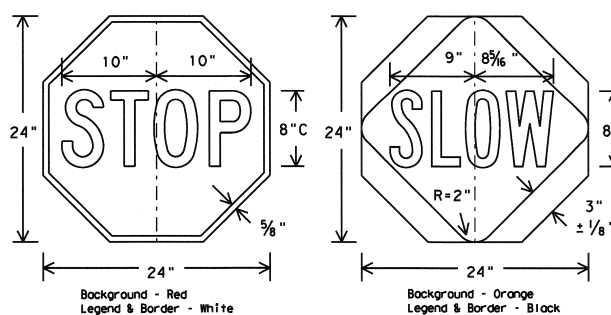


Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

## STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectORIZED.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



## CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

## GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

## DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
  - a. Long-term stationary - work that occupies a location more than 3 days.
  - b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
  - c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
  - d. Short - duration - work that occupies a location up to 1 hour.
  - e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)
2. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
3. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
4. Long-term/Intermediate-term signs may be used in lieu of Short-term/Short Duration signing.
5. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
6. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

## SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

## SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleats, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

## REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B<sub>1</sub> or Type C<sub>1</sub>, shall be used for rigid signs with orange backgrounds.

## SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

## REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

## SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

## FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

SHEET 4 OF 12

Texas Department of Transportation  
Traffic Operations Division Standard

## BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC (4) - 13

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WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVMENTS - ANDERSON MILL ZONE

CASE #: SP-2017-0014D

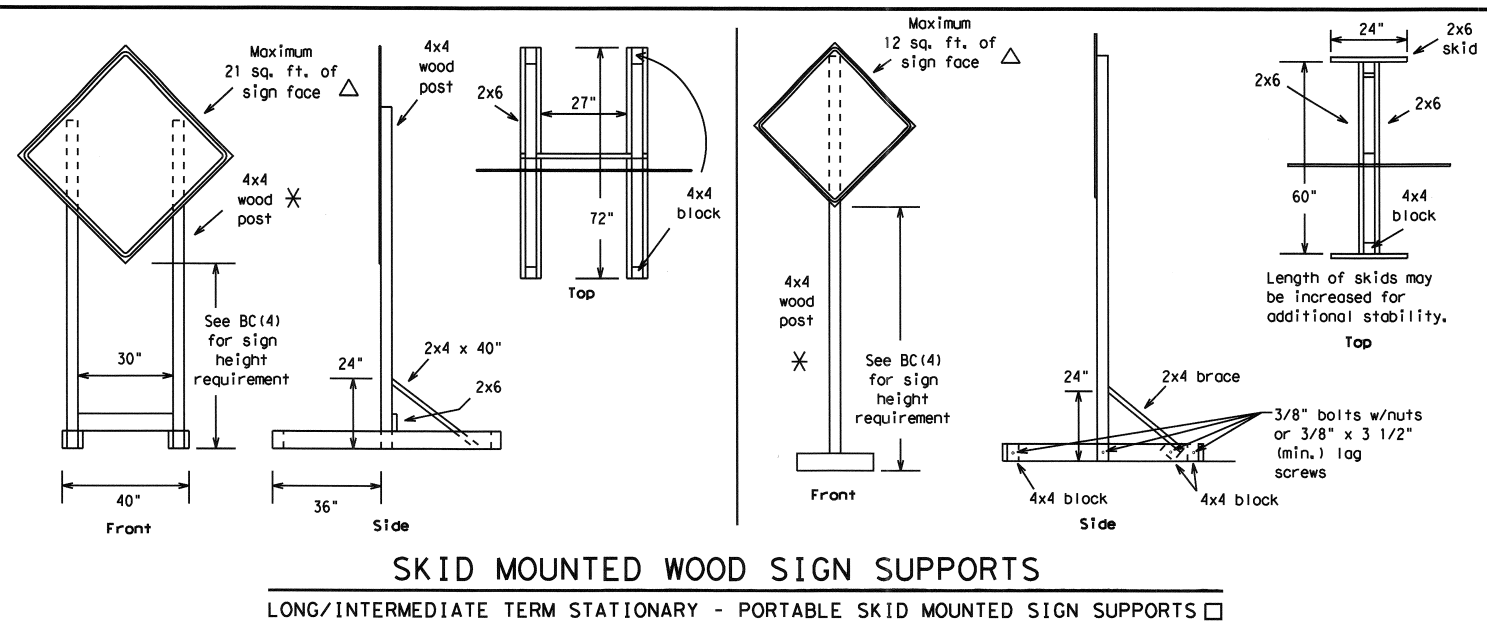
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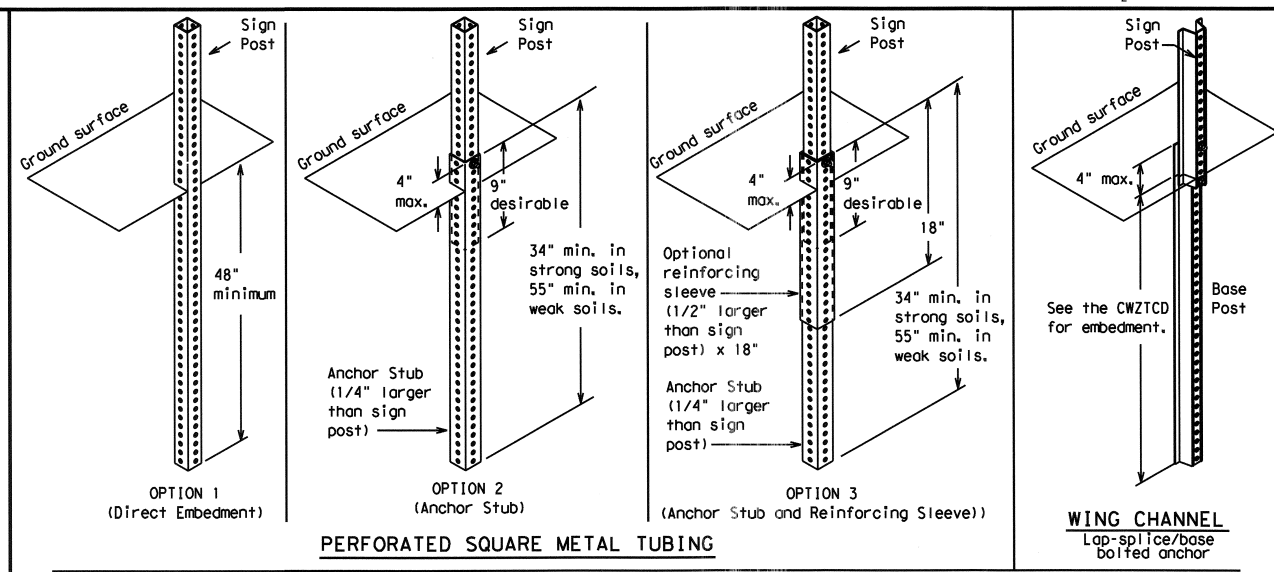
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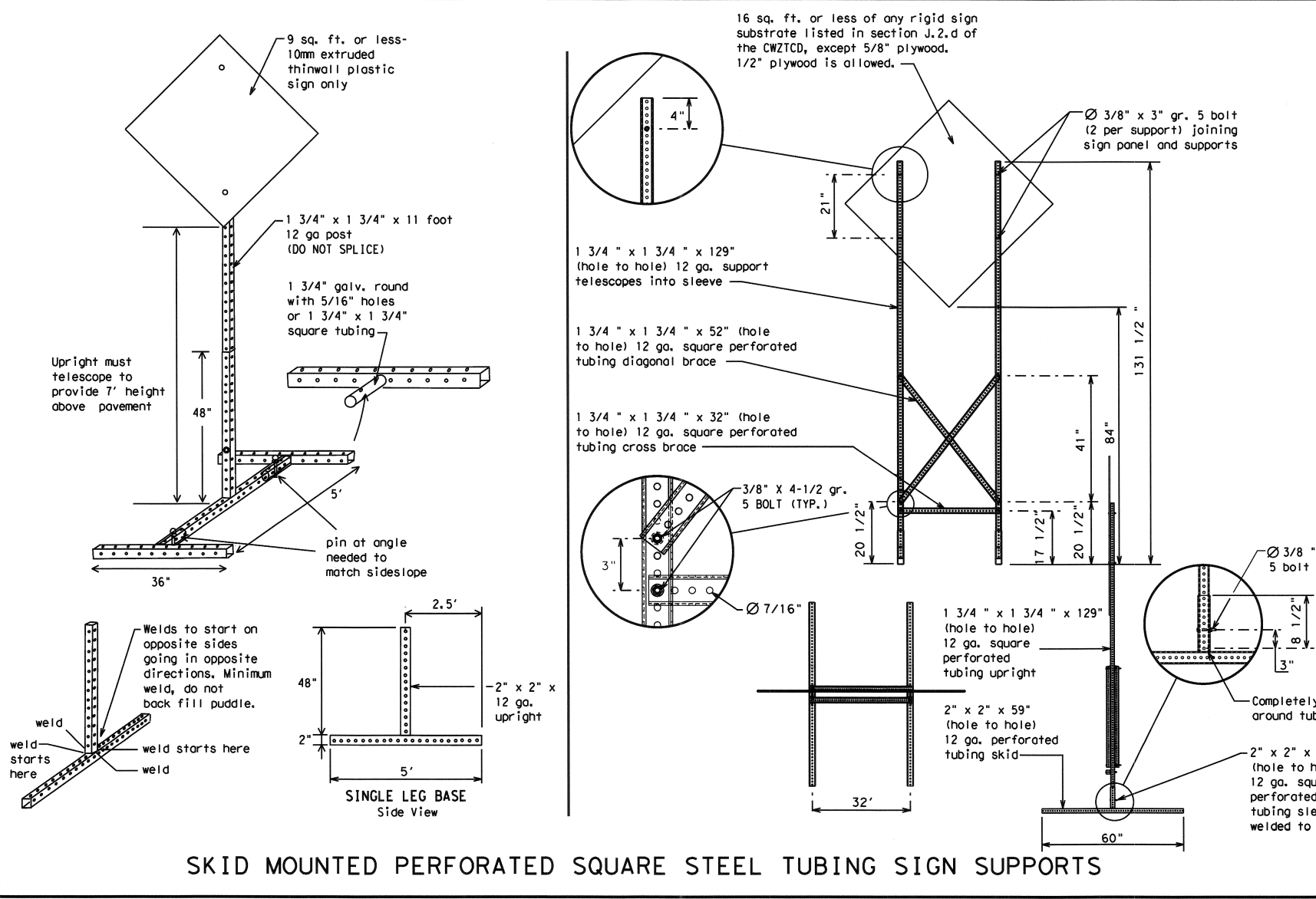
SKID MOUNTED WOOD SIGN SUPPORTS

LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □



GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.



SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

Nominal Post Size	Number of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES

**WEDGE ANCHORS**

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

**OTHER DESIGNS**

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

**GENERAL NOTES**

- Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
- No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
- When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

□ See BC(4) for definition of "Work Duration."

✱ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC (5) - 13

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
- Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
- The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
- The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
- Do not use the word "Danger" in message.
- Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- Do not display messages that scroll horizontally or vertically across the face of the sign.
- The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMTUCD.
- PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
- Each line of text should be centered on the message board rather than left or right justified.
- If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION	WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD	Major	MAJ
Alternate	ALT	Miles	MI
Avenue	AVE	Miles Per Hour	MPH
Best Route	BEST RTE	Minor	MNR
Boulevard	BLVD	Monday	MON
Bridge	BRDG	Normal	NORM
Canot	CANT	North	N
Center	CTR	Northbound	(route) N
Construction Ahead	CONST AHD	Parking	PKING
CROSSING	XING	Road	RD
Detour Route	DETOUR RTE	Right Lane	RT LN
Do Not	DONT	Saturday	SAT
East	E	Service Road	SERV RD
Eastbound	(route) E	Shoulder	SHLDR
Emergency	EMER	Slippery	SLIP
Emergency Vehicle	EMER VEH	South	S
Entrance, Enter	ENT	Southbound	(route) S
Express Lane	EXP LN	Speed	SPD
Expressway	EXPWY	Street	ST
XXXX Feet	XXXX FT	Sunday	SUN
Fog Ahead	FOG AHD	Telephone	PHONE
Freeway	FRWY, FWY	Temporary	TEMP
Freeway Blocked	FWY BLKD	Thursday	THURS
Friday	FRI	To Downtown	TO DWN TN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Hazardous Material	HAZMAT	Travelers	TRVLRS
High-Occupancy	HOV	Tuesday	TUES
Vehicle	HWY	Time Minutes	TIME MIN
Highway	HR, HRS	Upper Level	UPR LEVEL
Hour(s)	HR, HRS	Vehicles (s)	VEH, VEHS
Information	INFO	Warning	WARN
It Is	ITS	Wednesday	WED
Junction	JCT	Weight Limit	WT LIMIT
Left	LFT	West	W
Left Lane	LFT LN	Westbound	(route) W
Lane Closed	LN CLOSED	Wet Pavement	WET PVMT
Lower Level	LWR LEVEL	Will Not	WONT
Maintenance	MAINT		

Roadway designation \* IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE
ROAD CLOSED AT SH XXX
ROAD CLSD AT FM XXXX
RIGHT X LANES CLOSED
CENTER LANE CLOSED
NIGHT LANE CLOSURES
VARIOUS LANES CLOSED
EXIT CLOSED
MALL DRIVEWAY CLOSED
XXXXXXXX BLVD CLOSED

Other Condition List

FRONTAGE ROAD CLOSED	ROADWORK XXX FT	ROAD REPAIRS XXXX FT
SHOULDER CLOSED XXX FT	FLAGGER XXXX FT	LANE NARROWS XXXX FT
RIGHT LN CLOSED XXX FT	RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFFIC XX MILE
RIGHT X LANES OPEN	MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXX FT
DAYTIME LANE CLOSURES	LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
I-XX SOUTH EXIT CLOSED	DETOUR X MILE	ROUGH ROAD XXXX FT
EXIT XXX CLOSED X MILE	ROADWORK PAST SH XXXX	ROADWORK FRI-SUN
RIGHT LN TO BE CLOSED	BUMP XXXX FT	US XXX EXIT X MILES
X LANES CLOSED TUE - FRI	TRAFFIC SIGNAL XXXX FT	LANES SHIFT

\* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

APPLICATION GUIDELINES

- Only 1 or 2 phases are to be used on a PCMS.
- The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
- A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
- A Location Phase is necessary only if a distance or location is not included in the first phase selected.
- If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
- For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

FULL MATRIX PCMS SIGNS

- When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
- When symbol signs, such as the "Flagger Symbol" (CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it for, or replace that sign.
- When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
- A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

MERGE RIGHT	FORM X LINES RIGHT
DETOUR NEXT X EXITS	USE XXXXX RD EXIT
USE EXIT XXX	USE EXIT I-XX NORTH
STAY ON US XXX SOUTH	USE I-XX E TO I-XX N
TRUCKS USE US XXX N	WATCH FOR TRUCKS
WATCH FOR TRUCKS	EXPECT DELAYS
EXPECT DELAYS	PREPARE TO STOP
REDUCE SPEED XXX FT	END SHOULDER USE
USE OTHER ROUTES	WATCH FOR WORKERS
STAY IN LANE	*

Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXXX TO XXXXXXXX
US XXX TO FM XXXX

Warning List

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE


\*\* Advance Notice List

TUE-FRI XX AM- X PM
APR XX- XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM- XX AM

\*\* See Application Guidelines Note 6.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

SHEET 6 OF 12

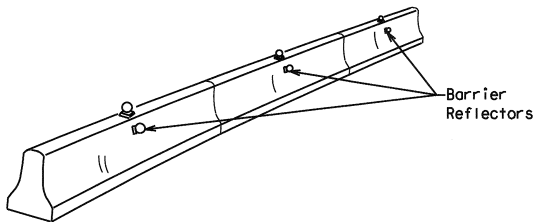
		Traffic Operations Division Standard	
<b>BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)</b>			
<b>BC (6) - 13</b>			
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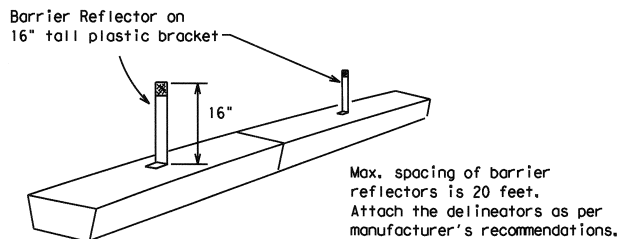
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- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



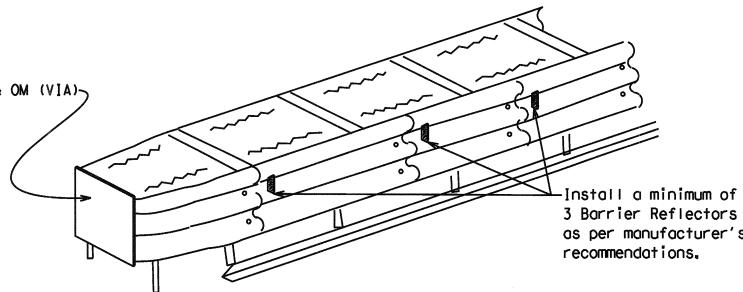
CONCRETE TRAFFIC BARRIER (CTB)

- Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
- Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional) while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
- When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
- Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
- Maximum spacing of Barrier Reflectors is forty (40) feet.
- Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
- Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
- Single slope barriers shall be delineated as shown on the above detail.



LOW PROFILE CONCRETE BARRIER (LPCB)

See D & OM (VIA)



DELINEATION OF END TREATMENTS

END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

WARNING LIGHTS

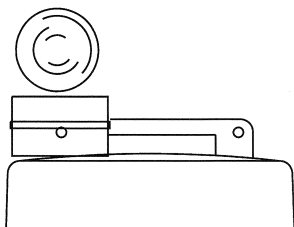
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B<sub>FL</sub> or C<sub>FL</sub> Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
- Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
- The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
- When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
- When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
- The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

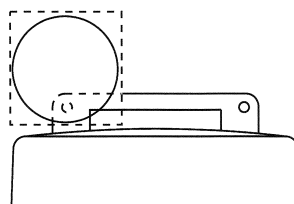
- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
- Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
- Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
- Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

- A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
- The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
- The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- Round reflectors shall be fully reflectorized, including the area where attached to the drum.
- Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
- The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
- When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
- The warning reflector should be mounted on the side of the handle nearest approaching traffic.
- The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.



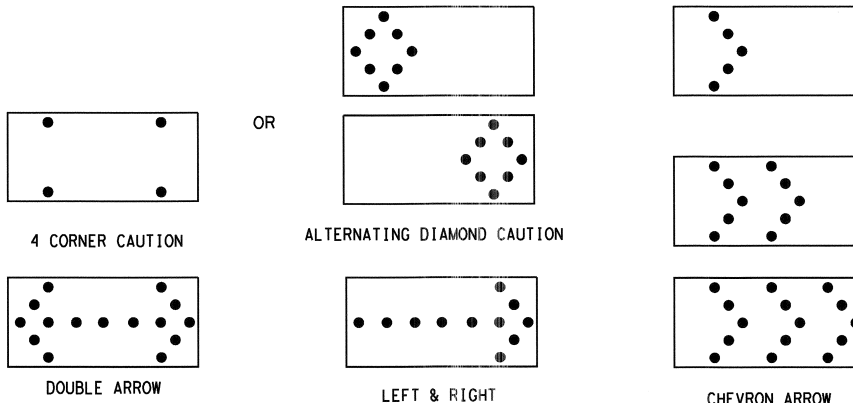
Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

- The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
- Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
- The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
- The Flashing Arrow Board should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
- The straight line caution display is NOT ALLOWED.
- The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
- Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
- The sequential arrow display is NOT ALLOWED.
- The Flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.
- The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
- A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
- A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
- Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION
Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
- The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

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BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC (7) - 13

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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

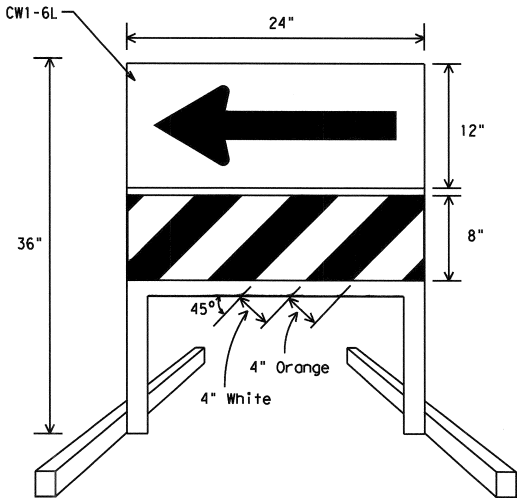
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

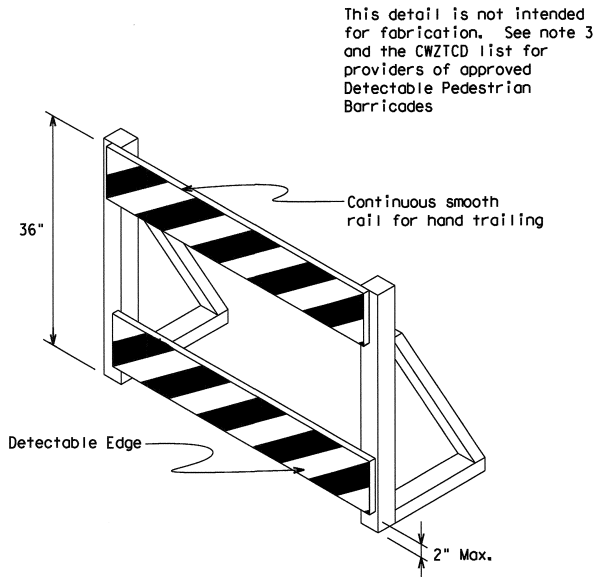
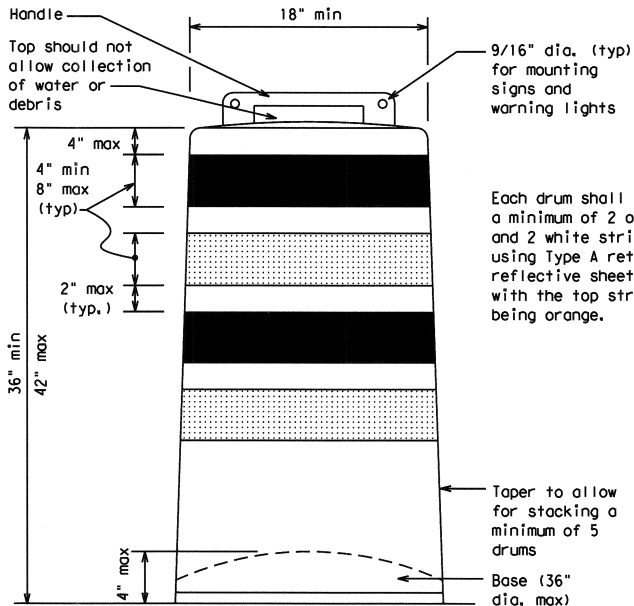
BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.



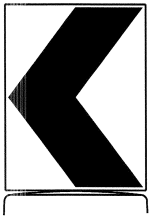
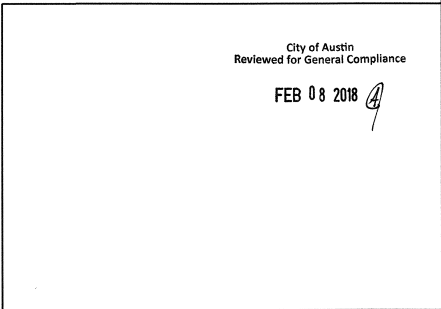
DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.

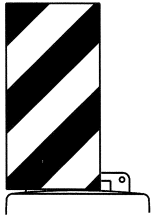


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign  
(Maximum Sign Dimension)  
Chevron CW1-8, Opposing Traffic Lane  
Divider, Driveway sign D70a, Keep Right  
R4 series or other signs as approved  
by Engineer




12" x 24"  
Vertical Panel  
mount with diagonals  
sloping down towards  
travel way

Plywood, Aluminum or Metal sign  
substrates shall NOT be used on  
plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED  
ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B<sub>EL</sub> or Type C<sub>EL</sub> Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

SHEET 8 OF 12



Texas Department of Transportation

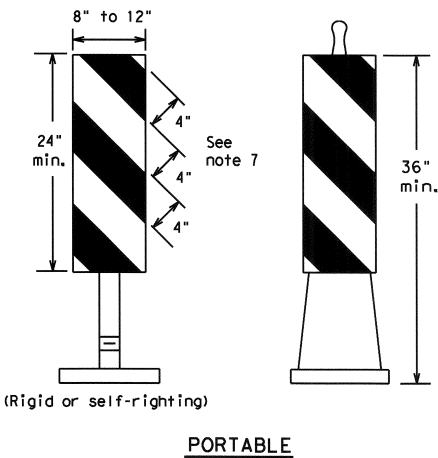
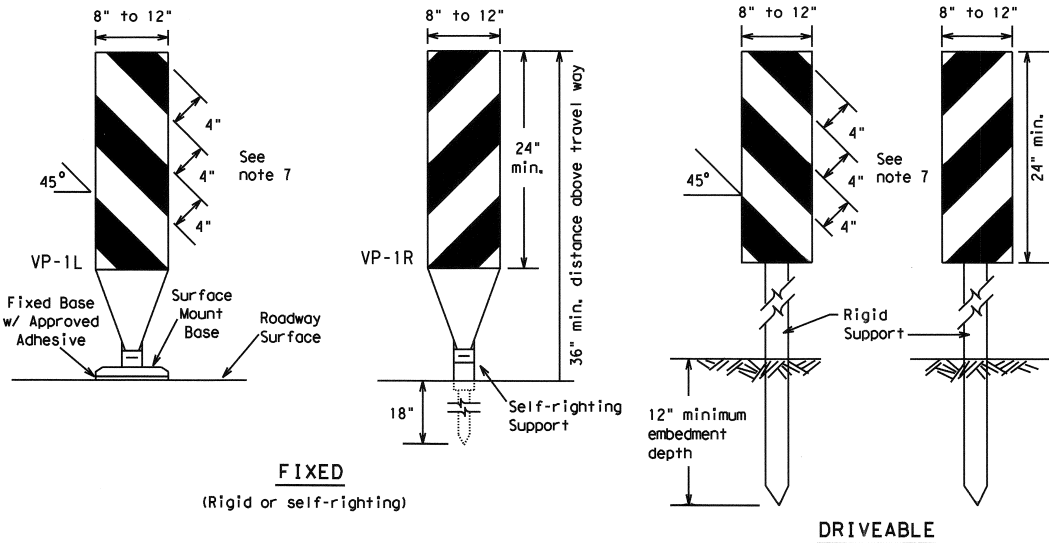
Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (8) - 13

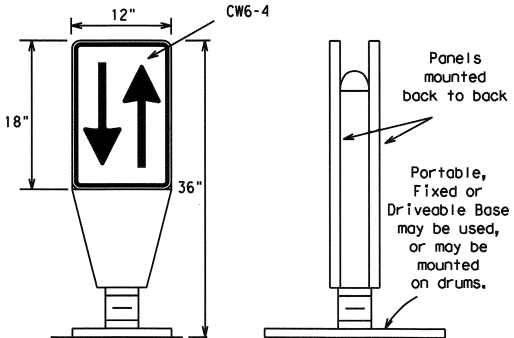
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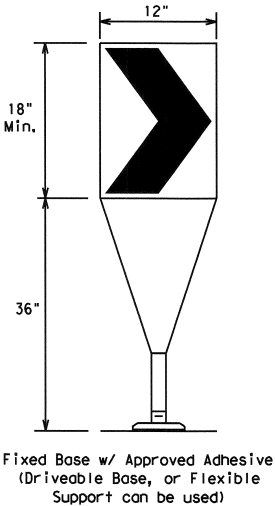
### VERTICAL PANELS (VPs)

- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
- VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
- VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
- Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
- Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



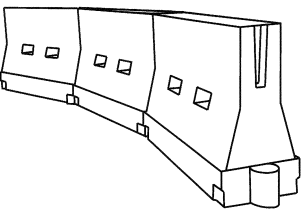
### OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
- The OTLD may be used in combination with 42" cones or VPs.
- Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B<sub>FL</sub> or Type C<sub>FL</sub> conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.



- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- To be effective, the chevron should be visible for at least 500 feet.
- Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B<sub>FL</sub> or Type C<sub>FL</sub> conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
- For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

### CHEVRONS



### LONGITUDINAL CHANNELIZING DEVICES (LCD)

- LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

### WATER BALLASTED SYSTEMS USED AS BARRIERS

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
- Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long cones and the top of the unit shall not be less than 32 inches in height.

### HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

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9-07  
7-13

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40	L = WS	265'	295'	320'	40'	80'
45		450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

\*\*Taper lengths have been rounded off.  
L=Length of Taper (FT.) W=Width of Offset (FT.)  
S=Posted Speed (MPH)

### SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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### BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (9) - 13

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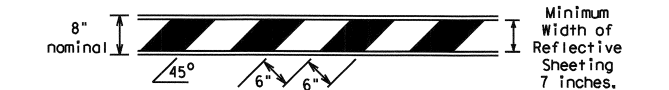
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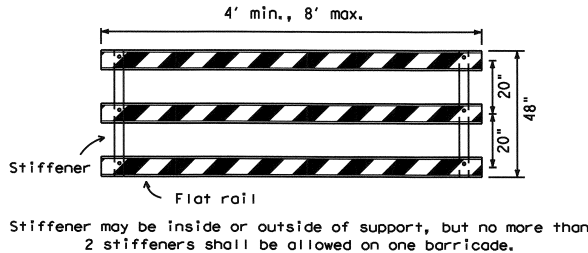
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

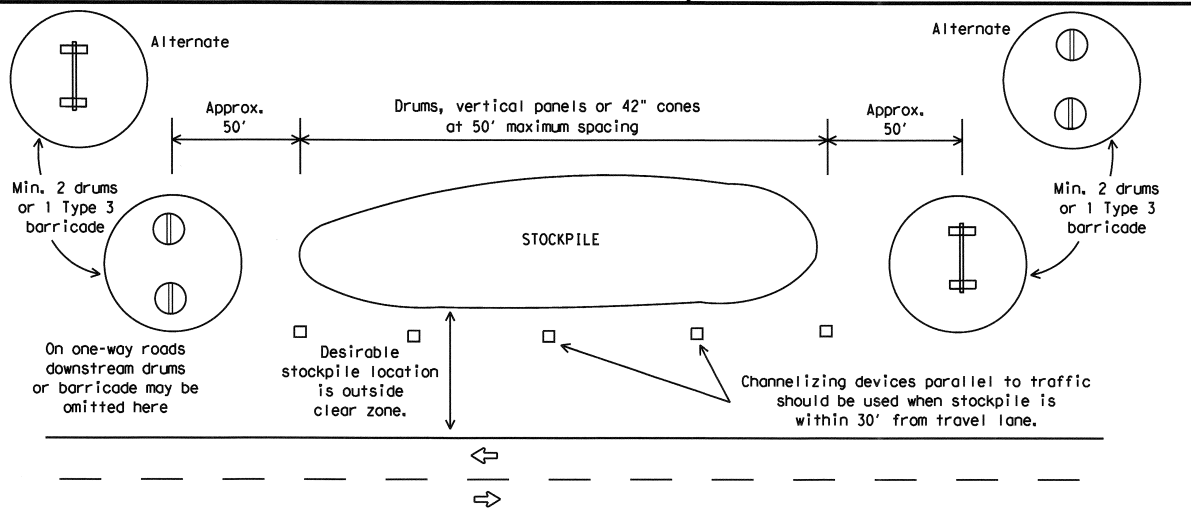
Barricades shall NOT be used as a sign support.



TYPICAL STRIPING DETAIL FOR BARRICADE RAIL

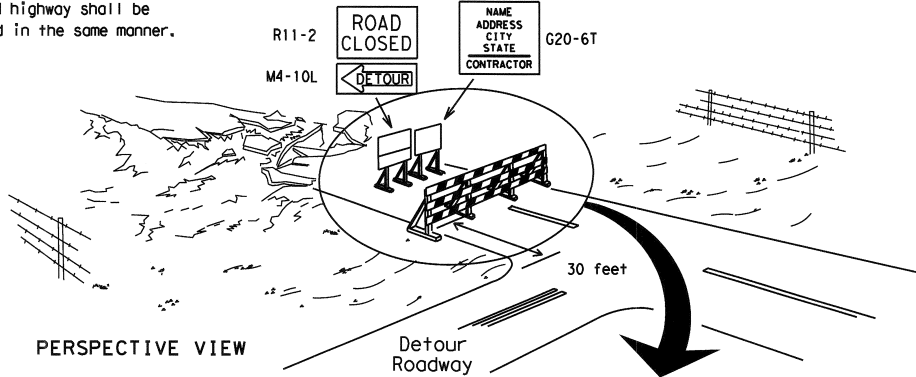


TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

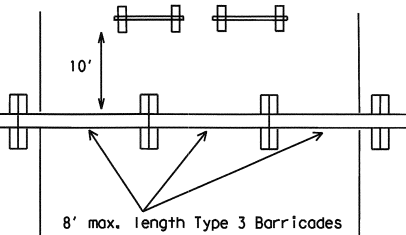
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

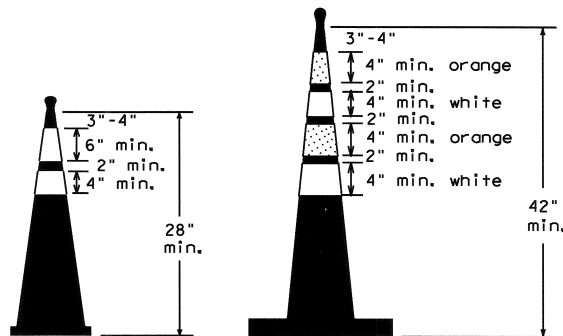
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.

1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

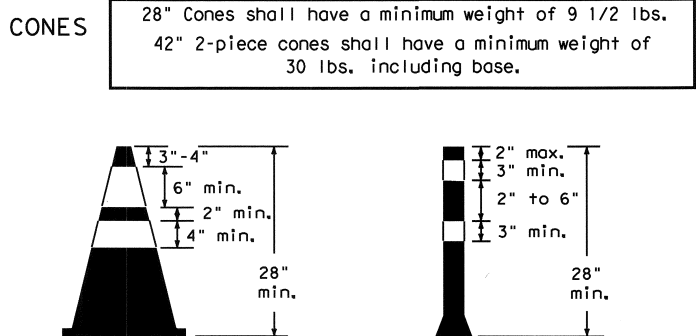


PLAN VIEW

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



Two-Piece cones

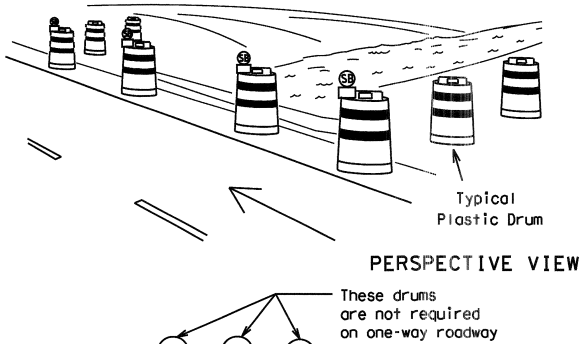


One-Piece cones

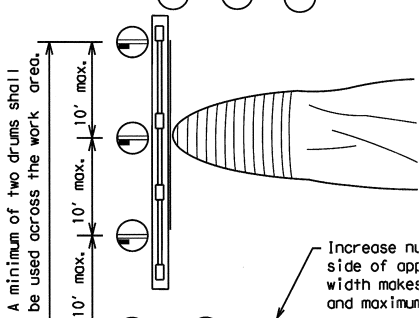
Tubular Marker

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers used at night shall have white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.

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FEB 08 2018



PERSPECTIVE VIEW



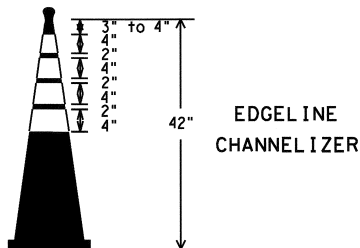
PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

1. Where positive redirection capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.

LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
	Steady burn warning light or yellow warning reflector

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.



EDGE LINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

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Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (10) - 13

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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

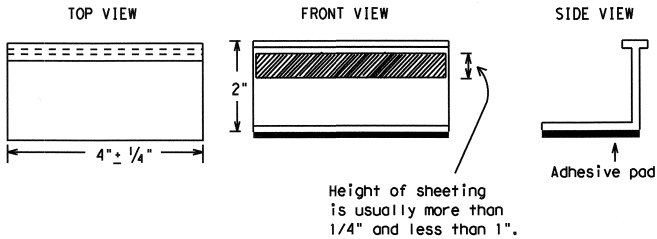
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
  - A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
  - B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:  
YELLOW - (two amber reflective surfaces with yellow body).  
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

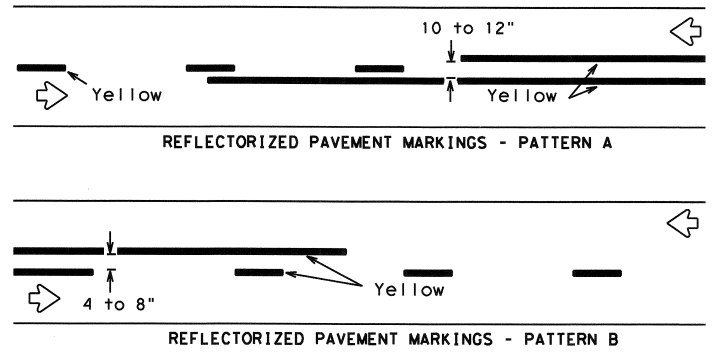
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BC(11)-13			
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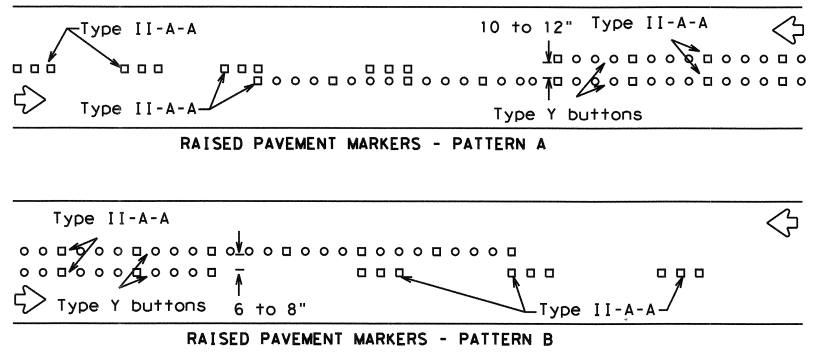
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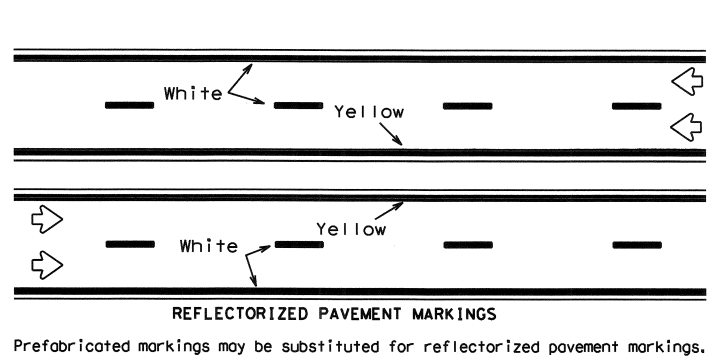
### PAVEMENT MARKING PATTERNS



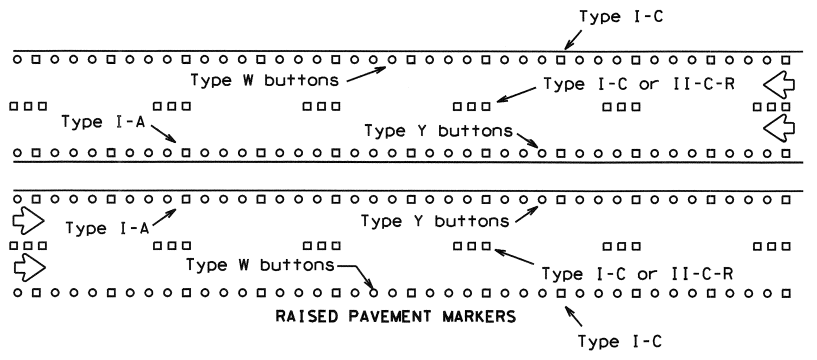
Pattern A is the TxDOT Standard, however Pattern B may be used if approved by the Engineer. Prefabricated markings may be substituted for reflectorized pavement markings.



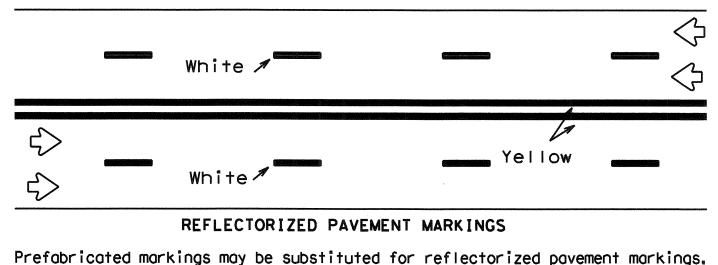
### CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



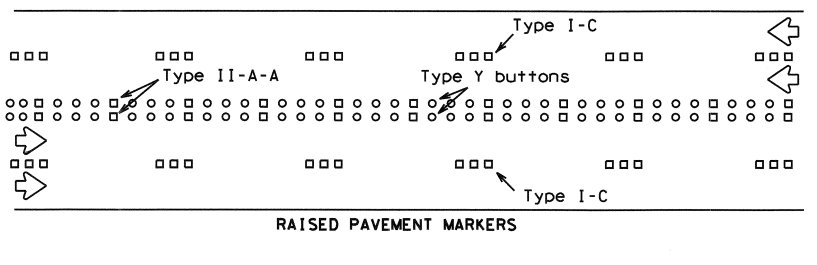
Prefabricated markings may be substituted for reflectorized pavement markings.



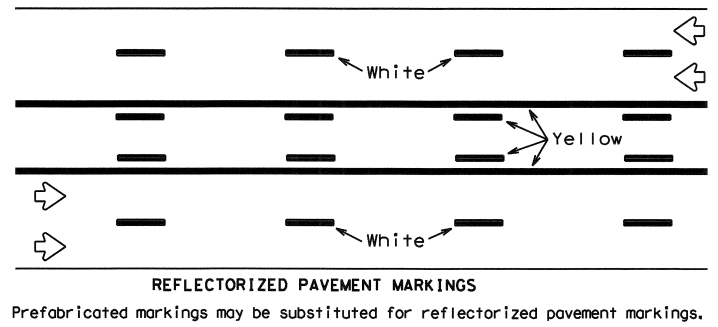
### EDGE & LANE LINES FOR DIVIDED HIGHWAY



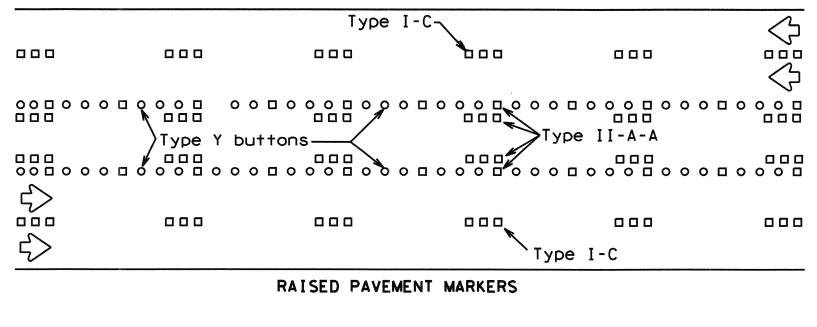
Prefabricated markings may be substituted for reflectorized pavement markings.



### LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

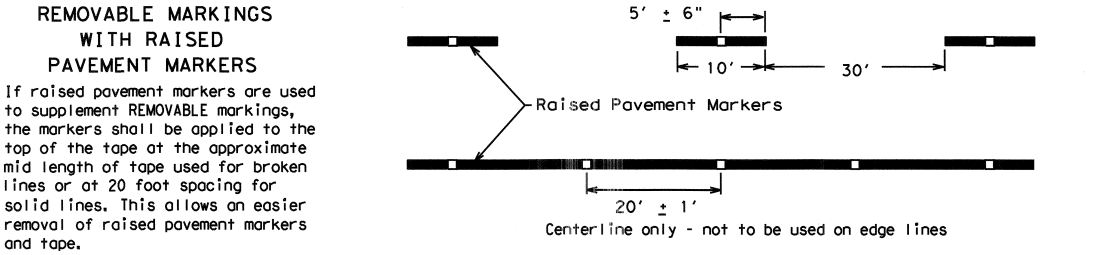
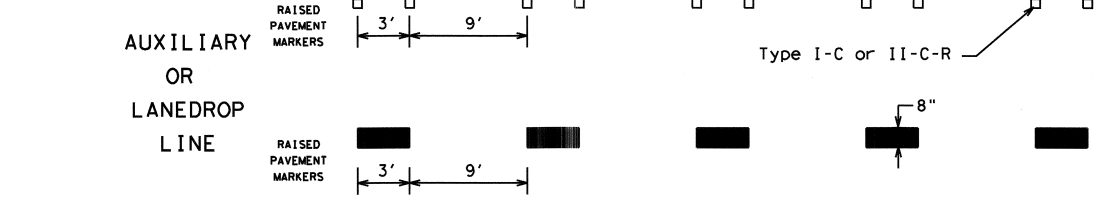
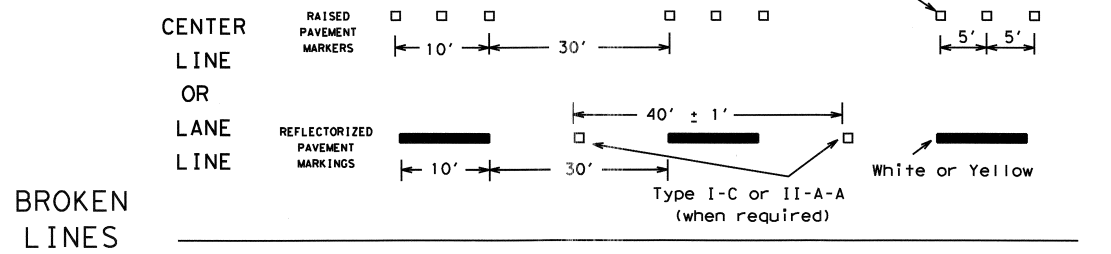
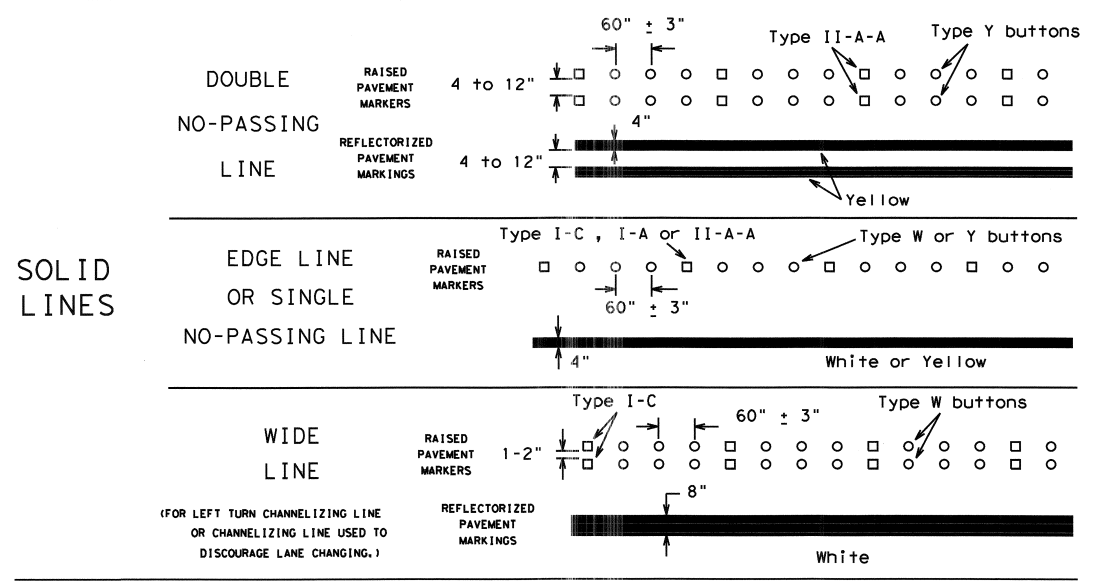


Prefabricated markings may be substituted for reflectorized pavement markings.



### TWO-WAY LEFT TURN LANE

### STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



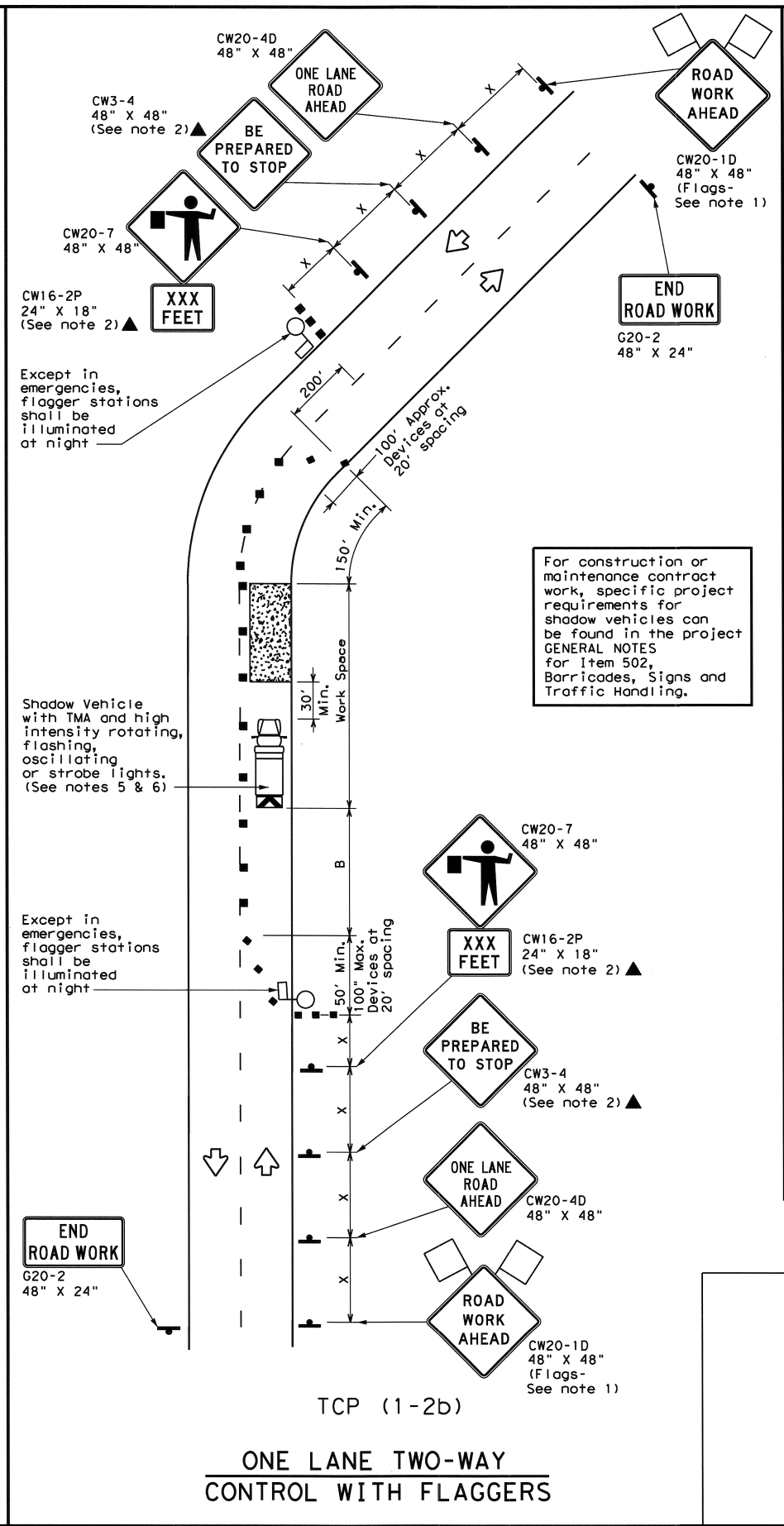
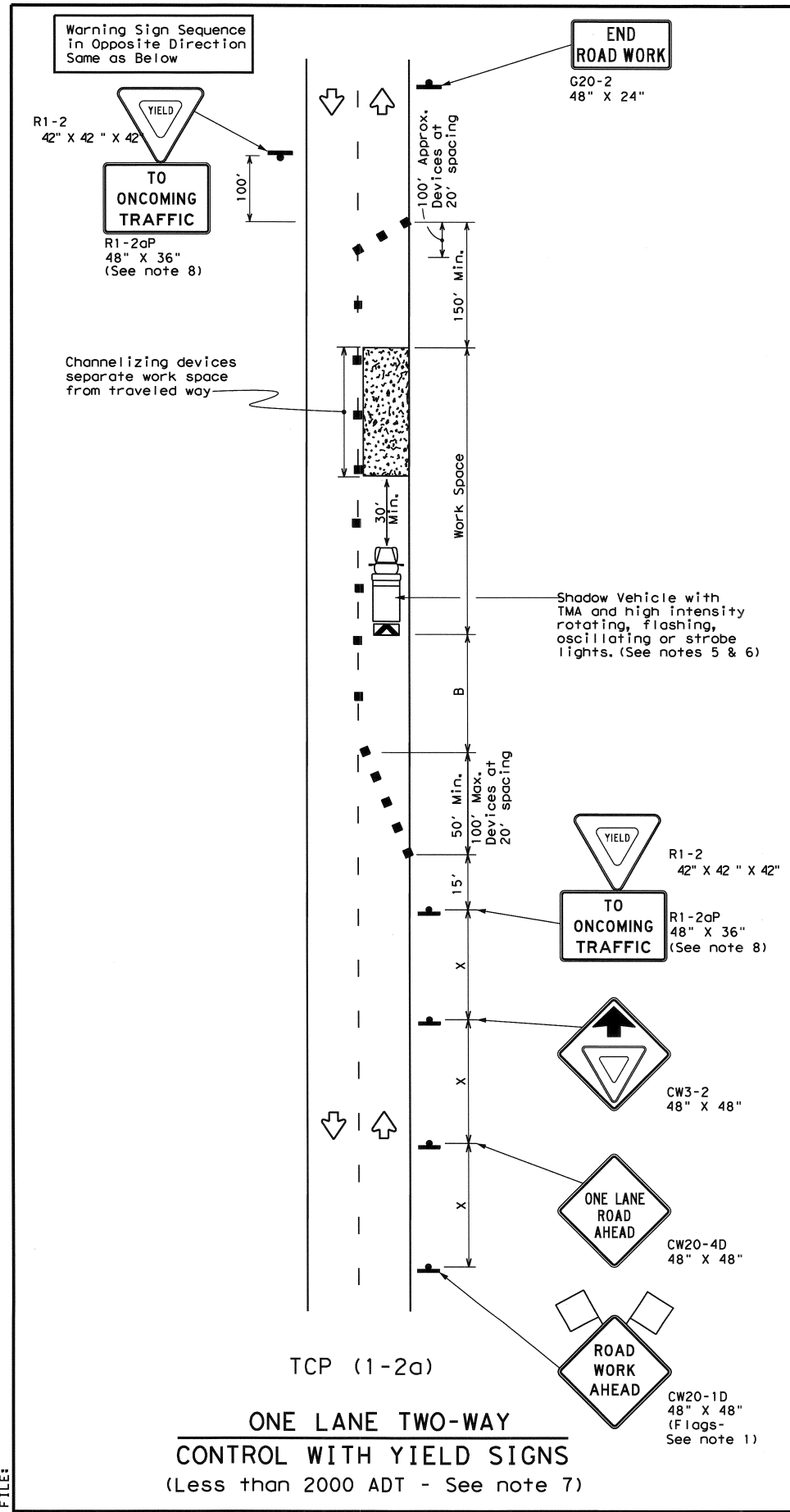
Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

City of Austin  
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FEB 08 2018

SHEET 12 OF 12		Traffic Operations Division Standard	
Texas Department of Transportation			
BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS			
BC (12) - 13			
FILE: bc-13.dgn	DW: TxDOT	CK: TxDOT	DW: TxDOT
© TxDOT February 1998	CONT	SECT	JOB
REVISONS		HIGHWAY	
1-97 11-02 7-13	DIST	COUNTY	SHEET NO.
2-98 9-07	AUS	WILLIAMSON	DT12

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DATE: FILE:



LEGEND					
	Type 3 Barricade		Channelizing Devices		
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)		
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)		
	Sign		Traffic Flow		
	Flag		Flagger		

Posted Speed *	Formula	Minimum Desirable Taper Lengths * X			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45		450'	495'	540'	45'	90'	320'	195'	360'
50	L = WS	500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

\* Conventional Roads Only  
\*\* Taper lengths have been rounded off.  
L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
  - Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
  - A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
- TCP (1-2a)**
- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
  - R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.
- TCP (1-2b)**
- Flaggers should use two-way radios or other methods of communication to control traffic.
  - Length of work space should be based on the ability of flaggers to communicate.
  - If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
  - Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
  - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.



TRAFFIC CONTROL PLAN  
ONE-LANE TWO-WAY  
TRAFFIC CONTROL

TCP (1-2) - 12

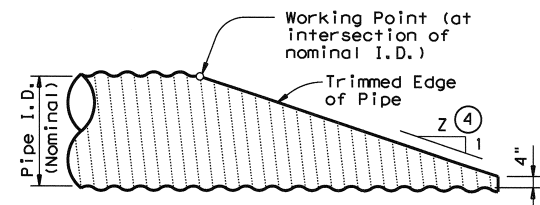
City of Austin  
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FEB 08 2018

© TxDOT December 1985		DNH TxDOT	CK1 TxDOT	DNH TxDOT	CK1 TxDOT
REVISIONS		CONT	SECT	JOB	HIGHWAY
4-90	2-12				
2-94					
1-97					
4-98					
		DIST	COUNTY	SHEET NO.	
		AUS	WILLIAMSON	DT13	



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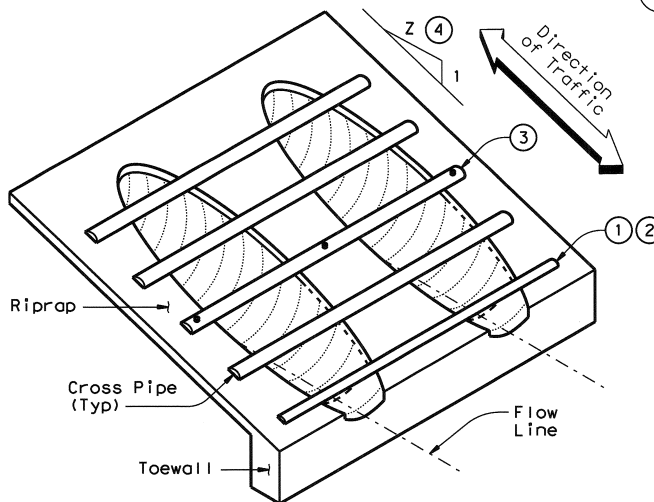
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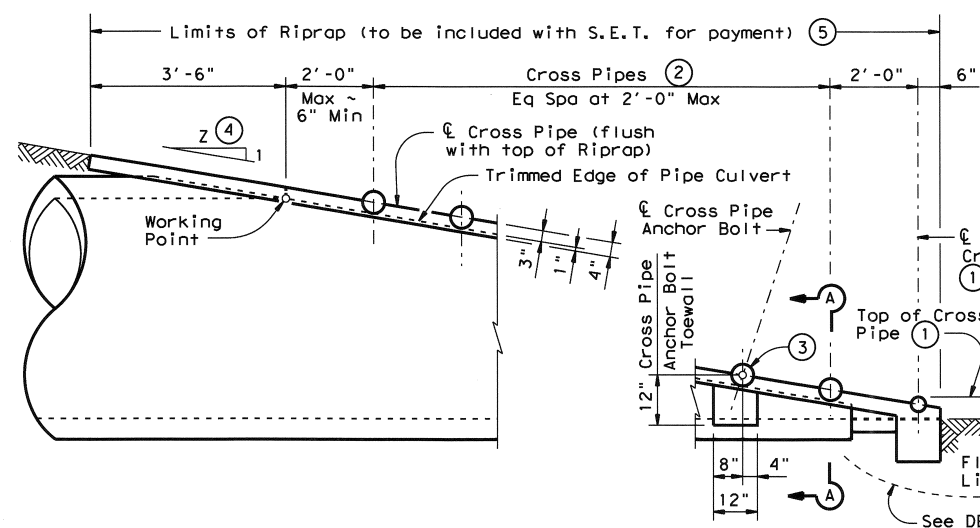
NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

### SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert.)  
(Details at Concrete Pipe Culvert are similar.)

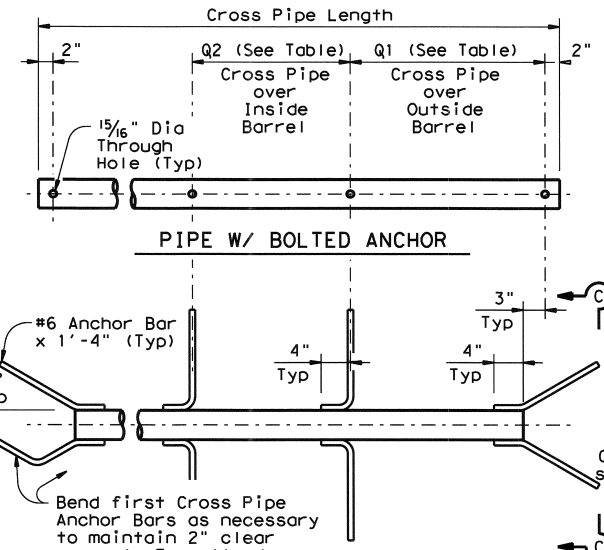


### ISOMETRIC VIEW OF TYPICAL INSTALLATION

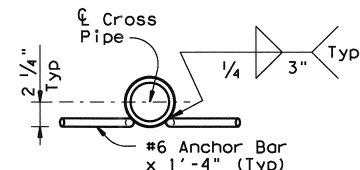


### SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

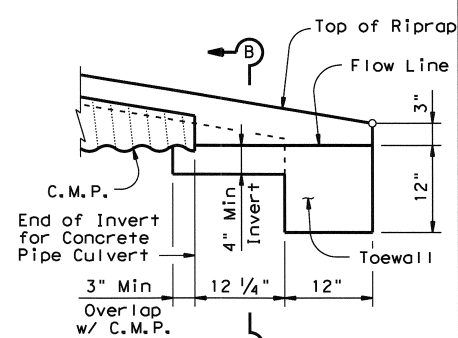
(Showing Concrete Pipe Culvert.)  
(Details at Corrugated Metal Pipe Culvert are similar.)



### PIPE W/ ANCHOR BARS

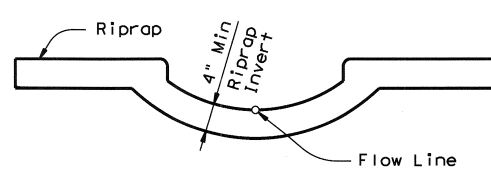


### CROSS PIPE DETAILS



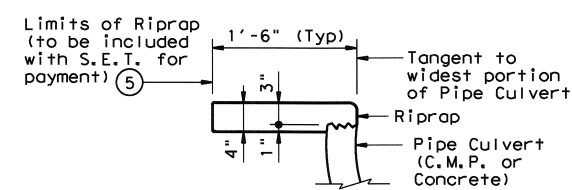
### DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)

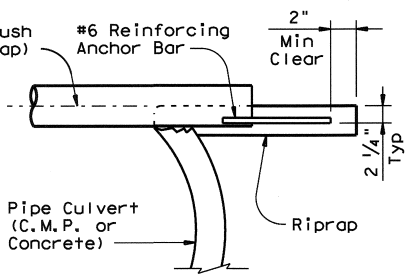


### SECTION B-B

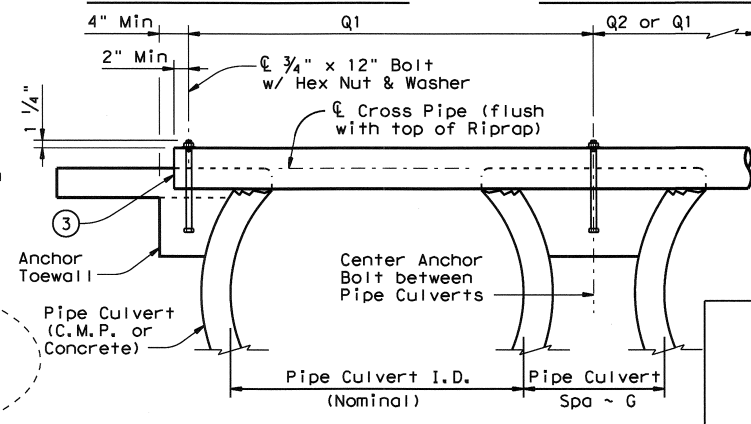
(Cross Pipes not shown for clarity.)



### SHOWING TYPICAL PIPE CULVERT & RIPRAP



### SHOWING CROSS PIPE WITH ANCHOR BAR



### SHOWING CROSS PIPE WITH BOLTED ANCHOR

### SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, & RIPRAP QUANTITIES ②									
Nominal Culvert I.D.	4:1 Conc Riprap (CY) ⑥	6:1 Conc Riprap (CY) ⑥	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size	
12"	0.5	0.6	9"	N/A	2'- 1"	1'- 9"	3 or more Pipe Culverts	3" Std (3.500" O.D.)	
15"	0.6	0.7	11"	N/A	2'- 5"	2'- 2"			
18"	0.6	0.8	1'- 2"	N/A	2'-10"	2'- 8"			
21"	0.7	0.9	1'- 4"	N/A	3'- 2"	3'- 1"			
24"	0.8	0.9	1'- 7"	N/A	3'- 6"	3'- 7"			
27"	0.8	1.0	1'- 8"	N/A	3'-10"	3'-11"	3 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)	
30"	0.9	1.1	1'-10"	N/A	4'- 2"	4'- 4"	2 or more Pipe Culverts		
33"	1.0	1.2	1'-11"	4'- 2"	4'- 5"	4'- 8"	All Pipe Culverts		
36"	1.1	1.3	2'- 1"	4'- 5"	4'- 9"	5'- 1"	All Pipe Culverts	4" Std (4.500" O.D.)	
42"	1.2	1.5	2'- 4"	4'-11"	5'- 5"	5'-10"			
48"	1.4	1.7	2'- 7"	5'- 5"	6'- 0"	6'- 7"			
54"	1.6	2.0	3'- 0"	5'-11"	6'- 9"	7'- 6"	All Pipe Culverts	5" Std (5.563" O.D.)	
60"	1.7	2.2	3'- 3"	6'- 5"	7'- 4"	8'- 3"			
66"	-	2.4	3'- 3"	6'-11"	7'-10"	8'- 9"			
72"	-	2.7	3'- 4"	7'- 5"	8'- 5"	9'- 4"			

- ① The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.
- ② Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).
- ③ The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, all other Cross Pipes may also be installed using the bolted connection details.
- ④ Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is preferred where fits within R.O.W., 4:1 permitted where shown on plans.
- ⑤ Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".
- ⑥ Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple pipe culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

#### GENERAL NOTES:

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap". Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52. Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.



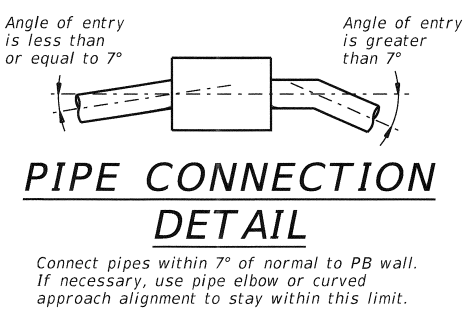
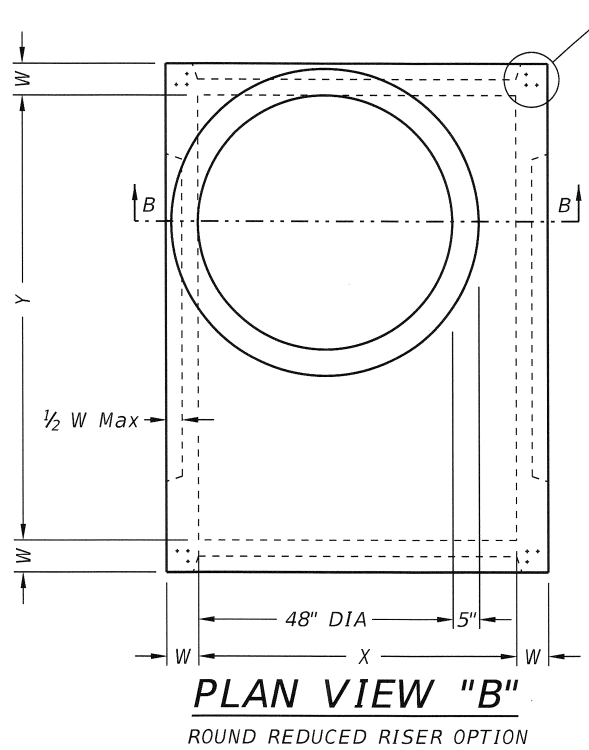
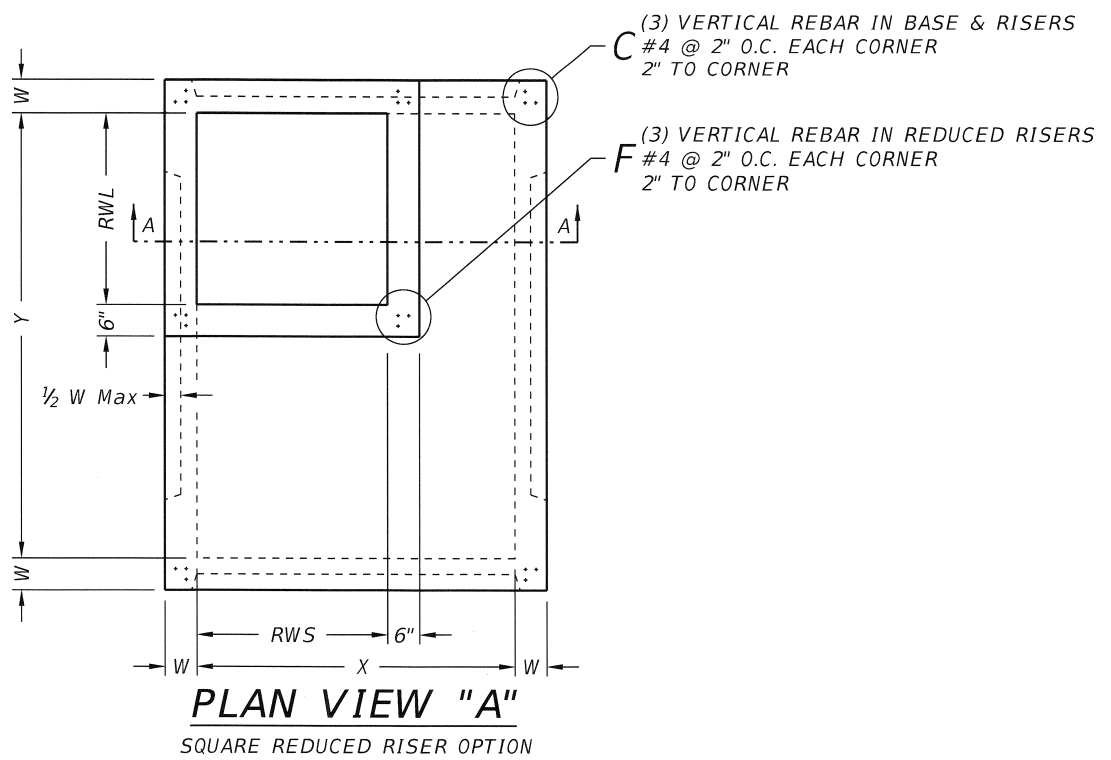
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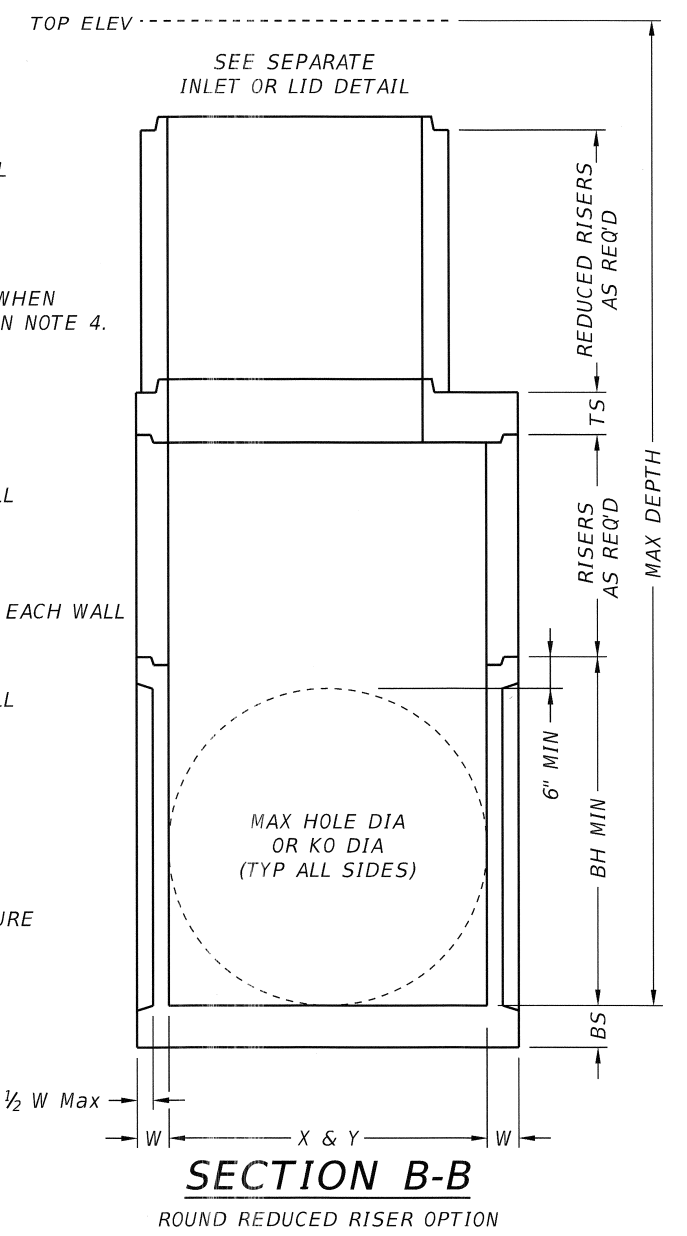
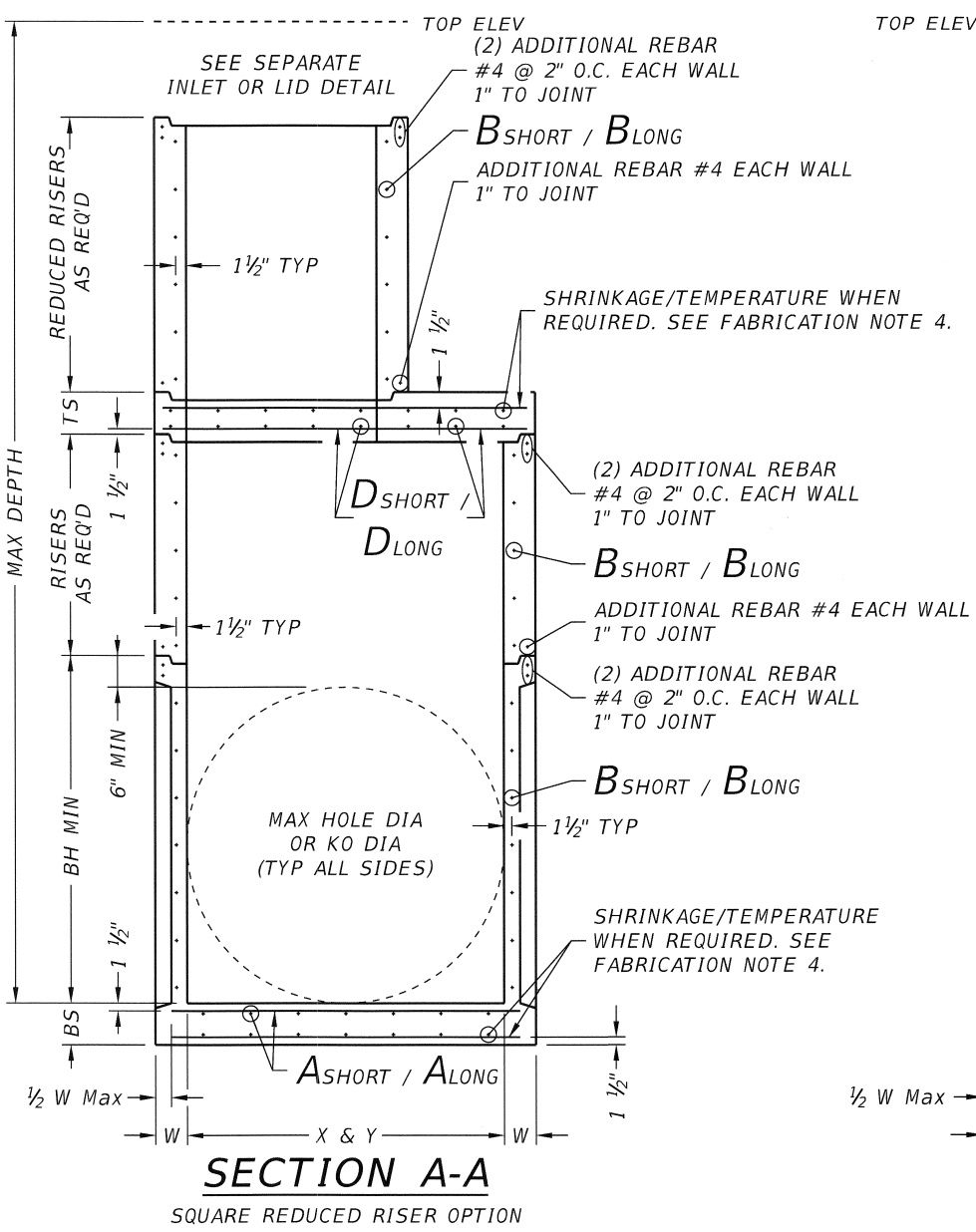
Texas Department of Transportation		Bridge Division Standard	
SAFETY END TREATMENT			
FOR 12" DIA TO 72" DIA			
PIPE CULVERTS			
TYPE II ~ PARALLEL DRAINAGE			
SETP-PD (MOD)			
FILE: setppdse.dgn	DN: GAF	CK: CAT	DW: JRP
REVISIONS	CONT	SECT	JOB
11-10: Add note for synthetic fibers.	DIST	COUNTY	SHEET NO.
	AUS	WILLIAMSON	DT14

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DATE:  
FILE:



- FABRICATION NOTES:**
1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
  2. Provide Grade 60 reinforcing steel or equivalent area of WWR.
  3. Provide typical clear cover of 1 1/2" to reinforcing steel at interior or exterior walls.
  4. Walls or slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in²/ft each way.
  5. No substitution is allowed for vertical and horizontal #4 bars in corners.
  6. Manufacture base and risers to nearest 3" increment.
  7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is 3/4".
  8. Provide lifting devices in conformance with Manufacturer's recommendations.
  9. See sheet PDD for sizes, dimensions, and reinforcing steel not shown.
- INSTALLATION NOTES:**
1. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to specified inlet or manhole.
  2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or 1/2 the joint depth, whichever is greater.
  3. Do not grout rubber gasket joints without Manufacturer's recommendation.
  4. For rigid pipe, cut hole in thin wall panel (KO) 4" Max, 2" Min larger than pipe OD.
  5. For flexible pipe, consult boot/seal Manufacturer's specification for placement tolerance and hole size. Center pipe in hole and install boot/seal per Manufacturer's specification.
- GENERAL NOTES:**
1. Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PDD for sizes.
  2. Designed according to ASTM C913.
  3. Payment for precast base is subsidiary to the specified inlet, per Item 465, "Junction Boxes, Manholes, and Inlets."



Cover dimensions are clear dimensions, unless noted otherwise.

City of Austin  
Reviewed for General Compliance  
FEB 08 2018

HL93 LOADING		Texas Department of Transportation		Bridge Division Standard
PRECAST BASE				
PB				
FILE: prest01.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
January 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS		COUNTY		SHEET NO.
		AUS		WILLIAMSON
				DT15

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DATE:  
FILE:

PROJECT ADDRESS: 12802½ BROADMEADE AVE.

	Size	MAX DEPTH = 15 ft. to top of BASE SLAB										MAX DEPTH = 25 ft. to top of BASE SLAB										Min Height (See Gen Note 3)	Max HOLE DIA (See Fab Note 2)	Max KO DIA (See Fab Note 2)
		Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)				Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)						
		Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness			
	X x Y	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	BH MIN	HOLE DIA	KO DIA
	ft.	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	ft. **	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	ft. **	in <sup>2</sup> /ft	in <sup>2</sup> /ft	in.	ft.	in.	in.
Precast Junction Box (PJB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	0.37	0.37	9	0.29	0.29	6	0.24	0.24	6	N/A	0.37	0.37	9	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	0.41	0.41	9	0.47	0.47	6	0.38	0.38	6	N/A	0.41	0.41	9	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	N/A	0.48	0.48	9	0.39	0.18	6	0.23	0.59	6	N/A	0.48	0.48	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	N/A	0.42	0.42	9	0.53	0.26	6	0.39	0.59	6	N/A	0.42	0.42	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	N/A	0.43	0.43	9	0.62	0.62	6	0.59	0.59	6	N/A	0.43	0.43	9	5.5	60	60
	5x6	0.27	0.27	9	0.34	0.45	6	N/A	0.48	0.48	9	0.47	0.45	9	0.38	0.54	8	N/A	0.48	0.48	9	5.5	60/72	60/72
	6x6	0.27	0.27	9	0.45	0.45	6	N/A	0.56	0.56	9	0.52	0.52	9	0.54	0.54	8	N/A	0.56	0.56	9	6.5	72	72
	8x8	0.46	0.46	9	0.51	0.51	8	N/A	0.45	0.45	12	0.87	0.87	9	0.59	0.59	10	N/A	0.45	0.45	12	8.5	96	72
Precast Base (PB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	N/A	N/A	N/A	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	0.47	0.47	6	0.38	0.38	6	N/A	N/A	N/A	N/A	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	3x3	0.30	0.34	9	0.39	0.18	6	0.23	0.59	6	3x3	0.40	0.40	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x3	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	3x3	0.46	0.37	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	4x4	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	4x4	0.39	0.39	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	48"	0.39	0.39	9	0.53	0.26	6	0.39	0.59	6	48"	0.47	0.47	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x5	0.33	0.40	9	0.53	0.26	6	0.39	0.59	6	3x5	0.48	0.48	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	3x3	0.34	0.34	9	0.62	0.62	6	0.59	0.59	6	3x3	0.53	0.53	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	4x4	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	4x4	0.64	0.64	9	5.5	60	60
	5x5	0.38	0.38	6	0.34	0.34	6	48"	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	48"	0.64	0.64	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	3x5	0.34	0.40	9	0.62	0.62	6	0.59	0.59	6	3x5	0.53	0.53	9	5.5	60	60
	5x6	0.31	0.31	9	0.34	0.45	6	3x3	0.34	0.34	9	0.47	0.45	9	0.38	0.54	8	3x3	0.61	0.50	9	5.5	60/72	60/72
	5x6	0.27	0.27	9	0.34	0.45	6	4x4	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	4x4	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	48"	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	48"	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	3x5	0.45	0.45	9	0.47	0.45	9	0.38	0.54	8	3x5	0.61	0.61	9	5.5	60/72	60/72
	6x6	0.29	0.29	9	0.45	0.45	6	3x3	0.41	0.41	9	0.52	0.52	9	0.54	0.54	8	3x3	0.74	0.74	9	6.5	72	72
	6x6	0.27	0.27	9	0.45	0.45	6	4x4	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	4x4	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	48"	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	48"	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	3x5	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	3x5	0.87	0.87	9	6.5	72	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x3	0.61	0.61	12	0.91	0.91	9	0.70	0.70	10	3x3	0.85	0.85	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	4x4	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	4x4	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	48"	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	48"	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x5	0.70	0.85	12	0.87	0.87	9	0.70	0.70	10	3x5	1.01	1.01	12	8.5	96	72

\*\* Unless otherwise indicated.

FABRICATION NOTES:

- Maximum spacing of reinforcement is 8".
- At manufacturer's option, provide cast or cored holes or thin wall panels (KO) to the maximum diameter shown for each. When no penetration is required, it is acceptable to provide a wall with no sectional reduction.

GENERAL NOTES:

- Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PJB for details.
- Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PB for details.
- Min Height shown is for stock base units. Use stock base units whenever practical. Smaller height base units can be used in special installation circumstances, when noted elsewhere in the plans. Absolute minimum height of base units is 2'-6".

City of Austin  
Reviewed for General Compliance

FEB 08 2018

HL93 LOADING



Texas Department of Transportation

Bridge  
Division  
Standard

DESIGN DATA FOR  
PRECAST BASE AND  
JUNCTION BOX

PDD

FILE: prestd10.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.
AUS	WILLIAMSON			DT16

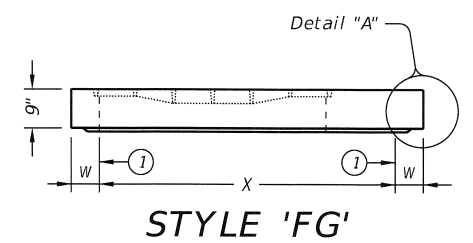
WILLIAMSON COUNTY - FOREST NORTH DRAINAGE IMPROVMENTS - ANDERSON MILL ZONE

CASE #: SP-2017-0014D

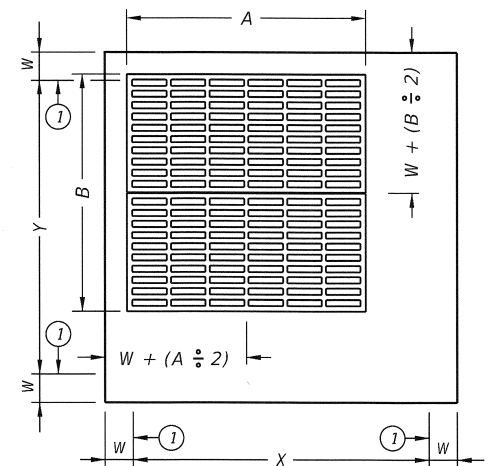
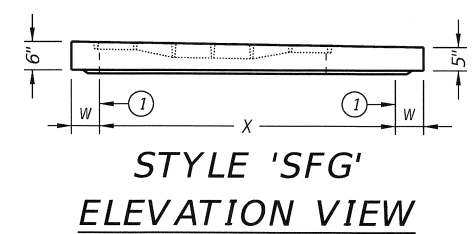
SHEET 32 OF 52

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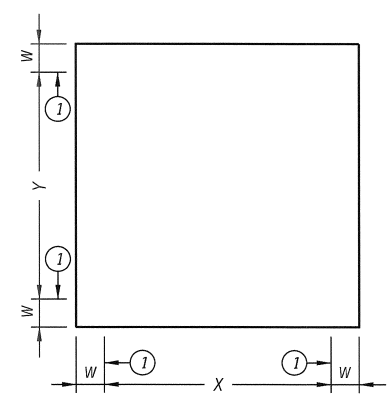
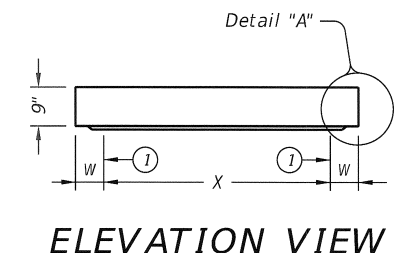
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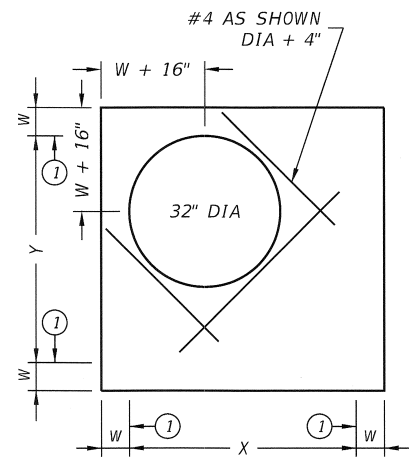
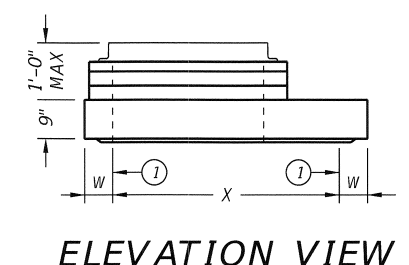
ORIENT TAPER TO CORRESPOND WITH ROADWAY CROSS-SLOPE.



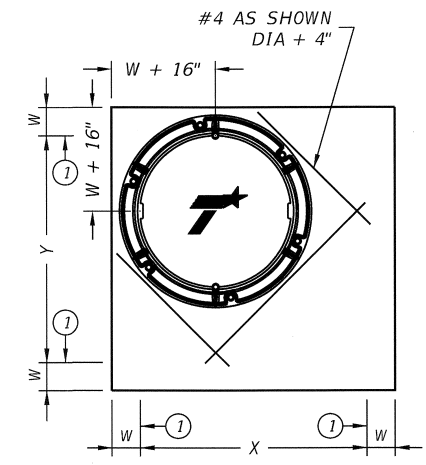
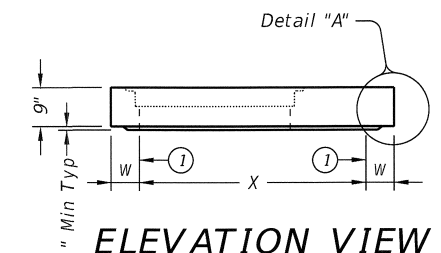
**PLAN VIEW**  
CAST-IN FRAME & GRATE  
**STYLES 'FG' & 'SFG'**



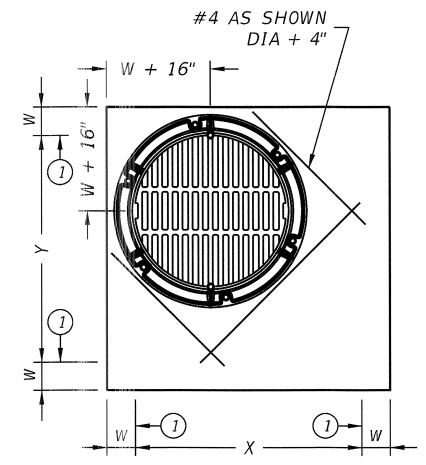
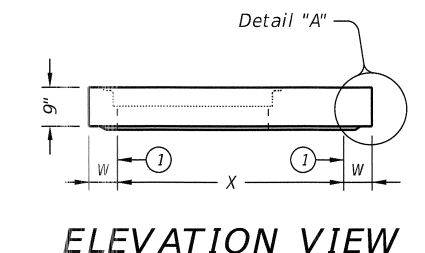
**PLAN VIEW**  
NO OPENINGS  
**STYLE 'SL'**



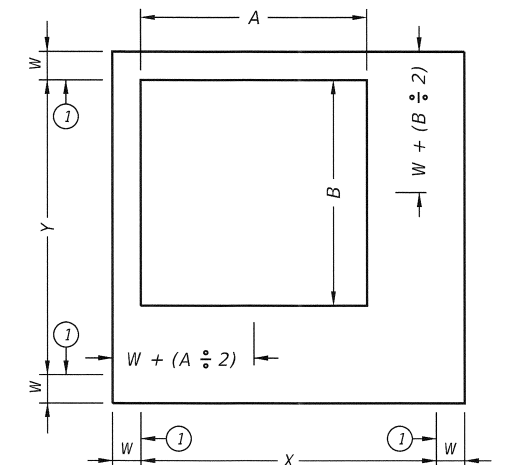
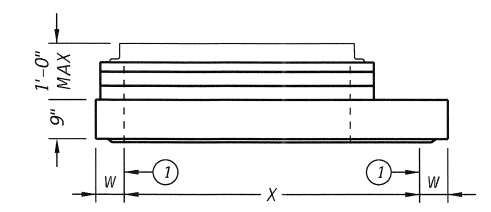
**PLAN VIEW**  
SHIP LOOSE RING & COVER  
**STYLE 'RH'**



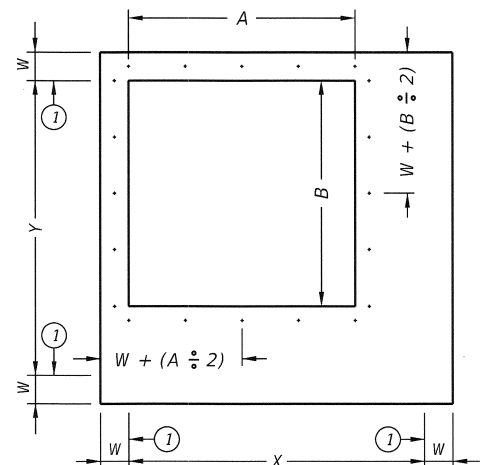
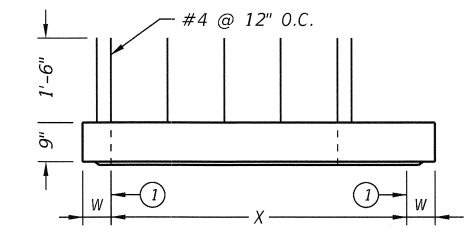
**PLAN VIEW**  
32" DIA CAST-IN RING & COVER  
**STYLE 'RC'**



**PLAN VIEW**  
32" DIA CAST-IN RING & GRATE  
**STYLE 'RG'**



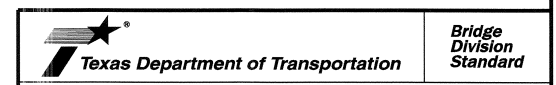
**PLAN VIEW**  
SHIP LOOSE FRAME & GRATE  
**STYLE 'SH'**



**PLAN VIEW**  
EXPOSED REBAR  
**STYLE 'S1'**

① Matches inside face of wall of precast base or riser below inlet.

HL93 LOADING SHEET 1 OF 2



**PRECAST SLAB LID**

**PSL**

FILE: prest05.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
January 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.
AUS	WILLIAMSON			DT18



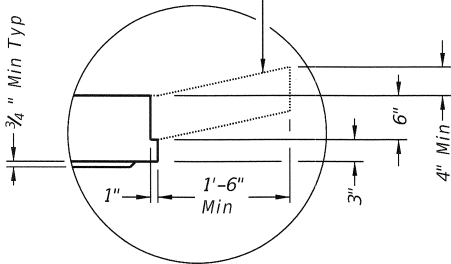
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DATE:  
FILE:

Style	Size (X x Y)	W <sup>②</sup>	A x B (nominal)	Short Span Reinf Steel Area	Long Span Reinf Steel Area
SL	3'x3'	6"	n/a	0.37 in <sup>2</sup> /ft	0.37 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	3'x3'	6"	3'x3' or 32" Dia	0.37 in <sup>2</sup> /ft	0.37 in <sup>2</sup> /ft
SFG	3'x3'	6"	3'x3'	0.32 in <sup>2</sup> /ft	0.32 in <sup>2</sup> /ft
SL	4'x4'	6"	n/a	0.34 in <sup>2</sup> /ft	0.34 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	4'x4'	6"	3'x3' or 32" Dia	0.41 in <sup>2</sup> /ft	0.41 in <sup>2</sup> /ft
SH,S1,FG	4'x4'	6"	4'x4'	0.41 in <sup>2</sup> /ft	0.41 in <sup>2</sup> /ft
SFG	4'x4'	6"	4'x4'	0.32 in <sup>2</sup> /ft	0.32 in <sup>2</sup> /ft
SL	3'x5'	6"	n/a	0.39 in <sup>2</sup> /ft	0.39 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	3'x5'	6"	3'x3' or 32" Dia	0.48 in <sup>2</sup> /ft	0.48 in <sup>2</sup> /ft
SH,S1,FG	3'x5'	6"	3'x5'	0.48 in <sup>2</sup> /ft	0.48 in <sup>2</sup> /ft
SFG	3'x5'	6"	3'x5'	0.32 in <sup>2</sup> /ft	0.32 in <sup>2</sup> /ft
SL	4'x5'	6"	n/a	0.42 in <sup>2</sup> /ft	0.42 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	4'x5'	6"	3'x3' or 32" Dia	0.42 in <sup>2</sup> /ft	0.42 in <sup>2</sup> /ft
SH,S1,FG	4'x5'	6"	4'x4'	0.63 in <sup>2</sup> /ft	0.63 in <sup>2</sup> /ft
SH,S1,FG	4'x5'	6"	3'x5'	0.66 in <sup>2</sup> /ft	0.66 in <sup>2</sup> /ft
SL	5'x5'	6"	n/a	0.36 in <sup>2</sup> /ft	0.36 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	5'x5'	6"	3'x3' or 32" Dia	0.43 in <sup>2</sup> /ft	0.43 in <sup>2</sup> /ft
SH,S1,FG	5'x5'	6"	4'x4'	0.63 in <sup>2</sup> /ft	0.63 in <sup>2</sup> /ft
SH,S1,FG	5'x5'	6"	3'x5'	0.63 in <sup>2</sup> /ft	0.63 in <sup>2</sup> /ft
SL	5'x6'	6"/8"	n/a	0.48 in <sup>2</sup> /ft	0.48 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	5'x6'	6"/8"	3'x3' or 32" Dia	0.48 in <sup>2</sup> /ft	0.48 in <sup>2</sup> /ft
SH,S1,FG	5'x6'	6"/8"	4'x4'	0.60 in <sup>2</sup> /ft	0.60 in <sup>2</sup> /ft
SH,S1,FG	5'x6'	6"/8"	3'x5'	0.60 in <sup>2</sup> /ft	0.60 in <sup>2</sup> /ft
SL	6'x6'	6"/8"	n/a	0.43 in <sup>2</sup> /ft	0.43 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	6'x6'	6"/8"	3'x3' or 32" Dia	0.56 in <sup>2</sup> /ft	0.56 in <sup>2</sup> /ft
SH,S1,FG	6'x6'	6"/8"	4'x4'	0.56 in <sup>2</sup> /ft	0.56 in <sup>2</sup> /ft
SH,S1,FG	6'x6'	6"/8"	3'x5'	0.59 in <sup>2</sup> /ft	0.59 in <sup>2</sup> /ft
SL	8'x8'	8"/10"	n/a	0.45 in <sup>2</sup> /ft	0.45 in <sup>2</sup> /ft
RH,RC,RG,SH,S1,FG	8'x8'	8"/10"	3'x3' or 32" Dia	0.45 in <sup>2</sup> /ft	0.45 in <sup>2</sup> /ft
SH,S1,FG	8'x8'	8"/10"	4'x4'	0.45 in <sup>2</sup> /ft	0.45 in <sup>2</sup> /ft
SH,S1,FG	8'x8'	8"/10"	3'x5'	0.45 in <sup>2</sup> /ft	0.45 in <sup>2</sup> /ft

② See sheet PDD for corresponding wall thickness (W) of base unit or riser.

Construct cast-in-place reinforced concrete apron, when shown elsewhere in plans. Use Class "A" concrete. Apron is subsidiary to PSL. Apron is 1'-6" Min width around precast zone drain.



DETAIL "A"

(Reinforcing not shown for clarity)  
When an apron is to be cast around PSL, use detail above to create an apron ledge on all 4 sides.

FABRICATION NOTES:

1. Locate penetration (Style 'RH'), ring and cover (Style 'RC'), ring and grate (Style 'RG'), and frame and grate (Style 'FG') in a corner. Only one penetration is allowed per slab lid.
2. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
3. Provide Grade 60 reinforcing steel or equivalent area of WWR.
4. Provide clear cover of ¾" to reinforcing from lower outside shoulder of slab for structural reinforcement, and 2" from top of slab for shrinkage and temperature reinforcement. Place short span reinforcing closest to surface.
5. Slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing. Provide steel area = 0.11 in<sup>2</sup>/ft each way.
6. No substitution is allowed for diagonal #4 bars around openings.
7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ¾".
8. Provide lifting devices in conformance with Manufacturer's recommendations.

INSTALLATION NOTES:

1. Precast slab lids are intended for direct traffic and may be placed in roadway.
2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or ½ the joint depth, whichever is greater.
3. Do not grout rubber gasket joints without Manufacturer's recommendation.
4. Initial installation of grade adjustment rings for Styles 'RH' and 'SH' is limited to 1'-0" Max as shown.
5. Grade adjustment rings for Styles 'RH' and 'SH' may be increased to 2'-0" Max when future construction affects final grade of structure. Make adjustments greater than 2'-0" with additional risers. Adjustments can be made up to Max depth shown on sheet PDD. Structure must be evaluated if Max depth will be exceeded.
6. Orient long dimension of grate slots perpendicular to traffic, unless noted otherwise on plans

GENERAL NOTES:

1. Designed according to ASTM C913.
2. Payment for lid is per Item 465, "Junction Boxes, Manholes, and Inlets" by type, style, size, and opening size (when applicable).

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

SHEET 2 OF 2



Texas Department of Transportation

Bridge  
Division  
Standard

PRECAST SLAB LID

PSL

FILE: prest005.dgn	DW: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
TxDOT January 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
	AUS	WILLIAMSON		DT19

SHEET 35 OF 52

36 mm (1 1/2") WHEN MANHOLE IS LOCATED IN ROADWAY

150 mm (6")

2 1/2

VARIES

610 mm (2') MIN.

200 mm (8")

150 mm (6")

1.5 m (5'-0")

2.0 m (6'-6")

CONE

FLAT TOP

MORTAR

CLASS "A" CONCRETE

15M @ 200 mm (+5 @ 8") BARS BOTH WAYS

MANHOLE DEPTH

VARIES

610 mm (2')

TECHNICAL DRAWING OF A MANHOLE RING AND COVER INSTALLATION.

**Labels and Callouts:**

- REUSE MANHOLE RING AND COVER FOR MINOR ADJUSTMENTS
- MANHOLE RING AND COVER 800 mm (32") COVER
- SEE DETAILS ON SHEET 2 of 2, AS GRADE RINGS, FRAME AND COVER VARY
- BASE MATERIAL
- SUBGRADE
- PRECAST REINFORCED CONCRETE RINGS
- NON-SHRINK GROUT (SEE SPEC. 506S.3)
- MANHOLE RING
- SEE STANDARD 1100S-1

**Notes:**

- NON-SHRINK GROUT SHALL NOT EXCEED 25 mm (1") IN ANY DIMENSION.
- SUB-BASE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO ITEMS 201S AND 210S, RESPECTIVELY, OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
- REFER TO STANDARD 1100S-1 FOR REPAIRS AROUND MANHOLES.
- SEE STANDARD 506S-4A FOR HDPE RING INSTALLATION (FOR USE IN PAVED AREAS ONLY).

**ELEVATION-SECTION A-A**

#4 EACH POST ALL SIDES (TYP.)

280 mm (11")

300 mm (12")

150 mm (6")

130 mm (5")

48300 mm (12' 6 3/4") BOTH WAYS (TYP.)

PERMISSIBLE JOINTS

457 mm (18") (TYP.)

SLOPE INVERT WITH FILL CONCRETE

PROP. SCF

**ELEVATION-SECTION B-B**

300 mm (12")

1,5 m (5'-0")

1,2 m (4'-0")

300 mm (12")

230 mm (9")

150 mm (6")

130 mm (5")

150 mm (6")

670 mm (26 3/4") MIN.

(5'-6 3/4") MAX.

50 mm (2") CLR. (TYP.)

150 mm (6")

**PLAN**

STANDARD 457 mm (18") INLET FRAME & COVER

150 mm (6") SQUARE POST EACH CORNER

300 mm (12")

PROP. SCF

**NOTES:**

1. CHAMFER ALL EXPOSED EDGES 20 mm (3/4").
2. REINFORCING STEEL SHALL BE CUT OR FIELD-BENT AS REQUIRED TO CLEAR PIPE AND INLET FRAME OPENING. ALL CUT STEEL SHALL BE REPLACED WITH ADDITIONAL DIAGONAL BARS OF THE SAME DIAMETER.
3. INLET FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1.
4. CONCRETE COVERAGE OF STEEL SHALL BE 50 mm (2") MIN. AT ALL SURFACES.

**LID PLAN VIEW**

762 mm (30 7/8" DIA.  
690 mm (27 1/8" DIA.  
660 mm (26" DIA.  
607 mm (23 9/16" DIA.  
569 mm (22 3/8" DIA.  
457 mm (18" DIA.  
416 mm (16 1/2" DIA.  
366 mm (14 3/8" DIA.  
317.5 mm (12 5/8" DIA.  
294 mm (11 5/8" DIA.  
216 mm (8 5/8" DIA.  
178 mm (7" DIA.

12.5 mm (1/2") LETTERS  
- MFR. LOGO  
- COUNTRY OF ORIGIN

32 mm (1 1/4") LETTERS  
- STORM  
- SEWER

12.5 mm (1/2") BORDER (TYP.)

51 mm (2")

38 mm (1 5/8") (TYP.)

30°

45°

19 mm (3/4") LETTERS  
- LID WEIGHT  
- DATE

38 mm (1 1/2") LETTERS  
- AUSTIN  
- TEXAS

**LID SECTION VIEW**

813 mm (32")

569 mm (22")

248 mm (9 7/8")

197 mm (7 7/8")

19 mm (0.75")

756 mm (29.75")

762 mm (30")

806 mm (31.75")

203 mm (8")

PICK BAR 2

**MACHINED SURFACE (LID SEAT)**

19 mm (3/4") LETTERS (TYP.)

AT 705 mm (27 3/8" DIA. BEGIN SPOKE TAPER

25 mm (1")

19 mm (3/4")

RELIEVE SPOKE ENDS 3 mm (1/8") BEYOND LID FOR SEAT MACHINING PURPOSES

**LID SECTION VIEW**

**MACHINED SURFACE (LID SEAT)**

19 mm (3/4") LETTERS (TYP.)

AT 705 mm (27 3/8" DIA. BEGIN SPOKE TAPER

25 mm (1")

19 mm (3/4")

RELIEVE SPOKE ENDS 3 mm (1/8") BEYOND LID FOR SEAT MACHINING PURPOSES

4-GUSSETS AT 90° (TYP.)

35 mm (1 3/8") DIA. LIFT HOLE

16 mm (5/8") MIN. (TYP.)

MACHINED SURFACE

19 mm (3/4") LETTERS
- MFG. LOGO
- DATE
- COUNTRY OF ORIGIN

MANHOLE RING

819 mm (32 1/4")

762 mm (30")

MACHINED SURFACE

867 mm (33 3/4")

1,022 mm (40 1/4")

RING SECTION

**STAR LAYOUT**

**PICK BAR DETAIL**

**MANHOLE LID**

6 mm (1/4") CLEAT

16 mm (5/8")

38 mm (1 5/8")

63.5 mm (2 9/16")

38 mm (1 5/8")

124 mm (4 7/8")

67 mm (2 5/8")

16 mm (5/8")

35 mm (1 3/8") DIA. LIFT HOLE IN GUSSET

41 mm (1 5/8")

MANHOLE RING

6 mm (1/4") CLEAT

17 mm (11/16") PLATE

32 mm (1 1/4")

85 mm (3 3/4")

19 mm (3/4")

59 mm (2 5/16")

49 mm (1 7/8") RADIUS

25 mm (1") DIA. STEEL BAR

12.5 mm (1/2") WALL THICKNESS

MACHINED SURFACE (LID SEAT)

30° (TYP.)

85 mm (3 1/2") RADIUS

19 mm (3/4") TYP.

STAR LAYOUT

PICK BAR DETAIL

MANHOLE LID

MANHOLE RING

LIFT HOLE DETAIL

STAR LAYOUT

PICK BAR DETAIL

NOTES:

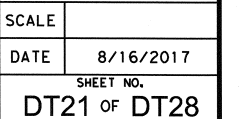
- ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
- LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
- LID WEIGHTS SHALL BE 935 N (210 LBS.) FOR CAST IRON OR 776 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
- MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 25,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-308.
- FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
- MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINE SEATING SURFACES TO NOTED DIMENSIONS.

Technical drawing of a 4-sided area inlet detail at Anderson Mill Rd. The drawing shows a cross-section of a concrete curb and gutter assembly. Key features include:

- CURB TOP ELEV = 928.20'
- PROPOSED CONCRETE RIPRAP
- EXISTING SIDEWALK/CURB RAMP TO REMAIN
- ANDERSON MILL RD
- EXISTING CURB AND GUTTER
- CURB TOP ELEV = 928.06'
- 4-SIDED AREA INLET
- DETAIL A (N.T.S.)
- SHERBOURNE ST

Dimensions and slopes shown:

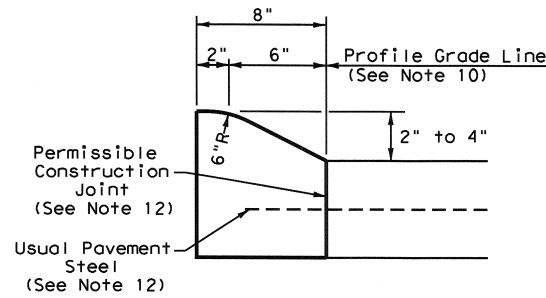
- 2' (curb top flange width)
- 6" (curb top flange thickness)
- 1' (gutter width)
- 6" (inlet width)
- 1% (slope of riprap area)
- 6' (curb width)
- 6' (inlet width)

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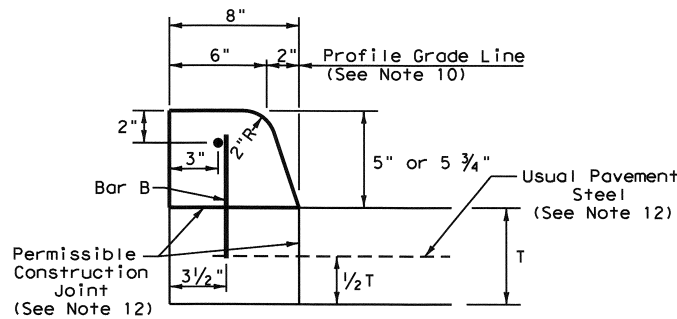
SHEET 36 OF 52

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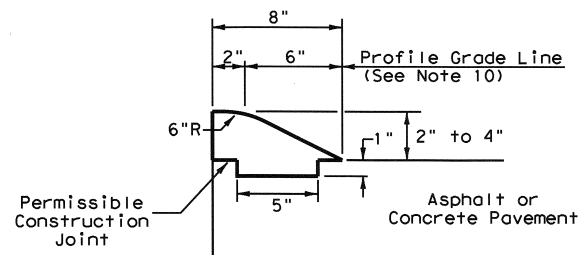
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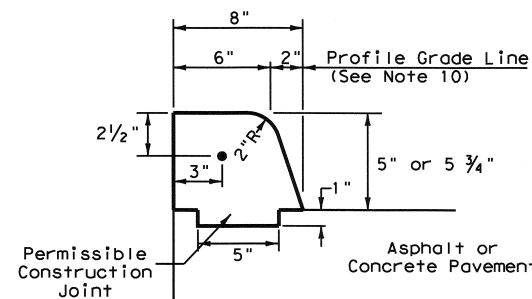
TYPE I CURB (MONOLITHIC)  
2" - 4" HEIGHT



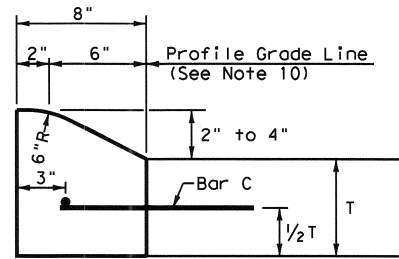
TYPE II CURB (MONOLITHIC)  
5" - 5 3/4" HEIGHT



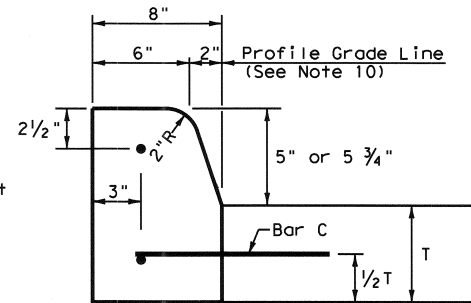
TYPE III CURB (KEYED)  
2" - 4" HEIGHT



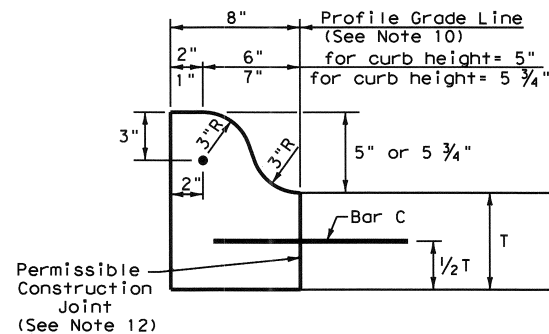
TYPE IV CURB (KEYED)  
5" - 5 3/4" HEIGHT



TYPE I CURB  
2" - 4" HEIGHT

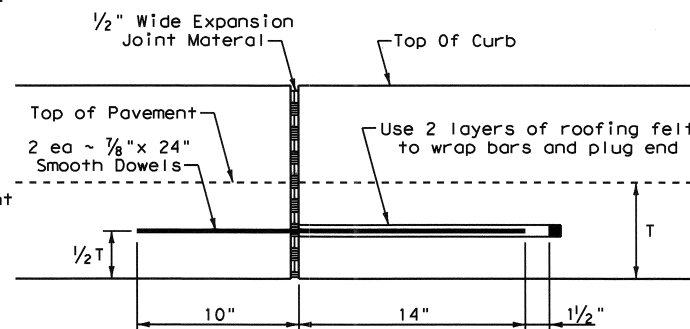


TYPE II CURB  
5" - 5 3/4" HEIGHT

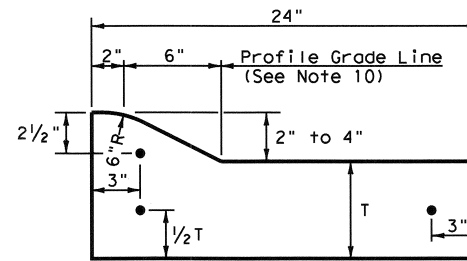


TYPE IIa CURB  
5" - 5 3/4" HEIGHT

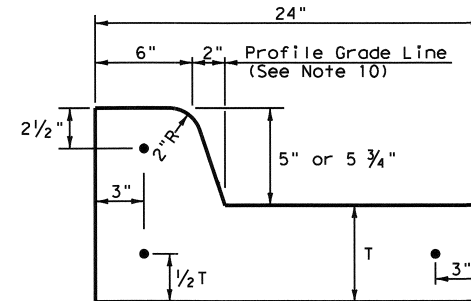
**Curb Transition Note:**  
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.



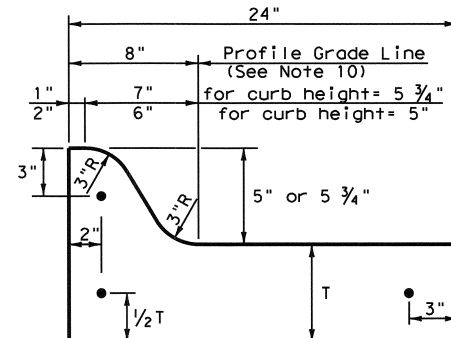
EXPANSION JOINT DETAIL



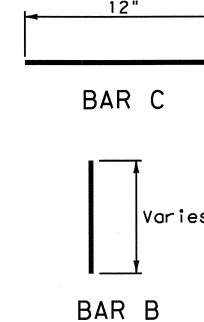
TYPE I CURB AND GUTTER  
2" - 4" HEIGHT



TYPE II CURB AND GUTTER  
5" - 5 3/4" HEIGHT

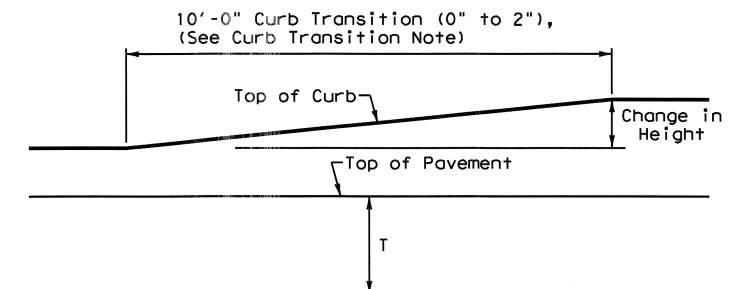


TYPE IIa CURB AND GUTTER  
5" - 5 3/4" HEIGHT



### General Notes

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No. 4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (MPL), maintained by TxDOT, Construction Division.
4. Round exposed sharp edges with a rounding tool, to a minimum radius of 1/4 inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.

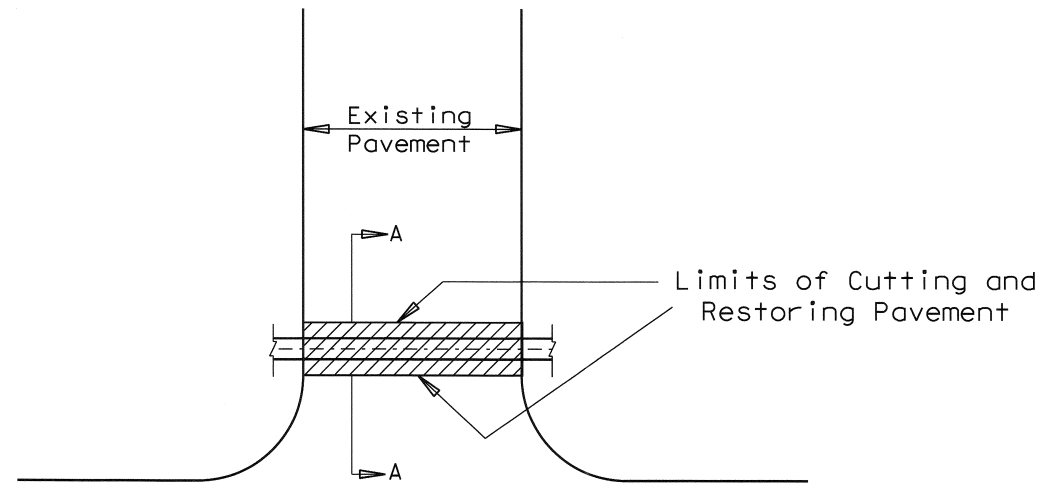


CURB TRANSITION  
Note: To be paid for as Highest Curb

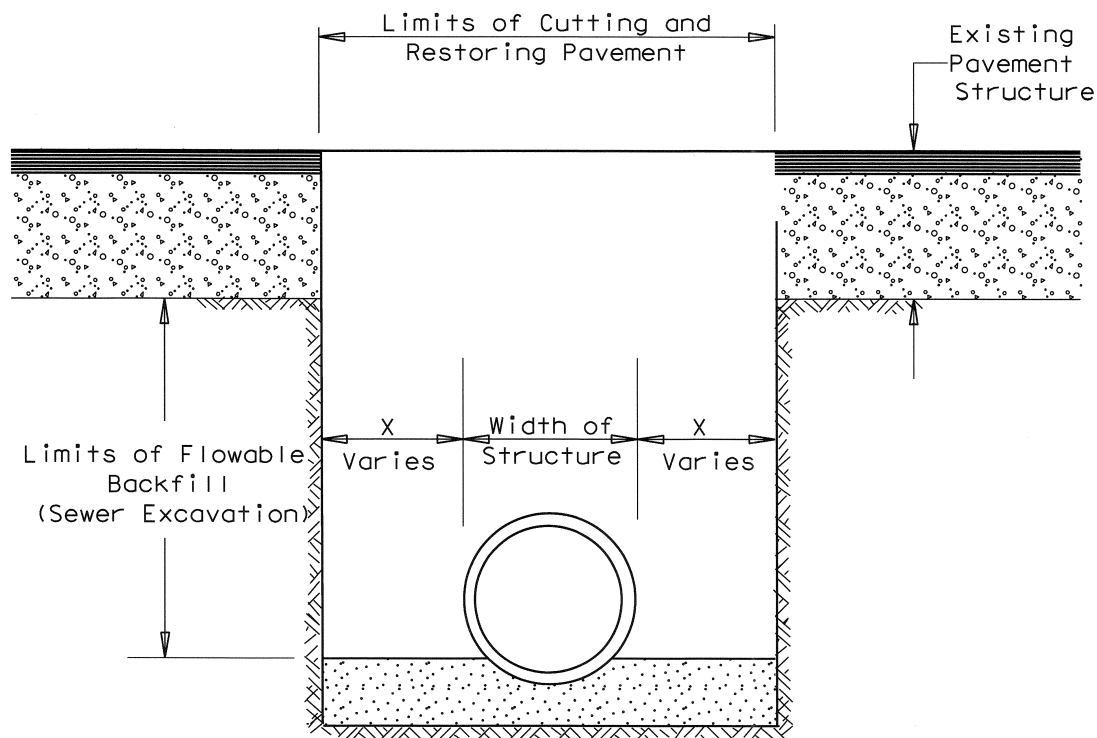
City of Austin  
Reviewed for General Compliance  
FEB 08 2018

Texas Department of Transportation		Design Division Standard	
CONCRETE CURB AND GUTTER			
CCCG-12			
FILE: cccg12.dgn	DNR: TxDOT	CK: AM	DW: VP
© TxDOT: 1995	CONT	SECT	JOB
REVISIONS		DIST	
UPDATED 2012 - VP		COUNTY	
SHEET NO.		DT22	

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PLAN VIEW  
N. T. S.



SECTION A-A  
N. T. S.

TABLE OF STANDARD EXCAVATION WIDTHS FOR RC PIPE			
PIPE		X	WIDTH OF CUTTING AND RESTORING PAVEMENT
ID	OD		
18"	22 1/2"	1'	3.88'
24"	29 1/2"	1'	4.46'
30"	37"	1'	5.08'
36"	44"	1'	5.67'
42"	51"	1'	6.25'
48"	58"	2'	8.83'
54"	65"	2'	9.42'
60"	72"	2'	10.00'
66"	79"	2'	10.58'
72"	86"	2'	11.17'
78"	93"	2'	11.75'
84"	100"	2'	12.33'
96"	114"	2'	13.50'

Provide width of Cutting and Restoring Pavement for installation of storm drain structures as the overall width of the structure plus:

- 2 feet for structures with an inside dimension of 42" or less, or,
- 4 feet for structures with an inside dimension greater than 42".

**GENERAL NOTES:**

Consider any work performed to repair damage to the existing pavement outside the limits shown subsidiary to the pertinent Items.

Replacement material will be an Asphalt Stabilized paving material, Flowable Backfill or Class A Concrete as required by existing conditions or an equivalent material as directed. Ensure that the thickness of the replacement material(s) is equivalent to the thickness of the existing pavement structure.

Payment for Cutting and Restoring Pavement as shown shall be made at the unit price bid for "Cutting and Restoring Pavement."

City of Austin  
Reviewed for General Compliance  
FEB 08 2018

Texas Department of Transportation  
Austin District Design

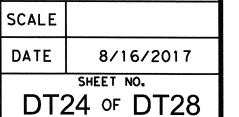
**CUTTING AND RESTORING PAVEMENT DETAILS**  
Austin District Standard

© TxDOT 2003	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	AUS	6		DT23
3/03 District Update			COUNTY	CONTROL SECT JOB HIGHWAY
9/04 2004 Update			WILLIAMSON	



11/26/2018 10:01 AM

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FEB 08 2018 *A*

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DATE: FILE:

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1. WILLIAMSON COUNTY

2. CITY OF AUSTIN

☐ No Action Required ☒ Required Action

Action No.

- 1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
- 2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
- 3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
- 4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

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

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

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

- ☒ No Permit Required
- ☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
- ☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
- ☐ Individual 404 Permit Required
- ☐ Other Nationwide Permit Required: NWP# \_\_\_\_\_

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

- 1.
- 2.
- 3.
- 4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

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

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.
- 4.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.
- 4.

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

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.
- 4.

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

LIST OF ABBREVIATIONS

BMP: Best Management Practice	SPCC: Spill Prevention Control and Countermeasure
CGP: Construction General Permit	SW3P: Storm Water Pollution Prevention Plan
DSHS: Texas Department of State Health Services	PCN: Pre-Construction Notification
FHWA: Federal Highway Administration	PSL: Project Specific Location
MOA: Memorandum of Agreement	TCEQ: Texas Commission on Environmental Quality
MOU: Memorandum of Understanding	TPDES: Texas Pollutant Discharge Elimination System
MS4: Municipal Separate Stormwater Sewer System	TPWD: Texas Parks and Wildlife Department
MBTA: Migratory Bird Treaty Act	TxDOT: Texas Department of Transportation
NOT: Notice of Termination	T&E: Threatened and Endangered Species
NWP: Nationwide Permit	USACE: U.S. Army Corps of Engineers
NOI: Notice of Intent	USFWS: U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used. Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

☐ Yes ☒ No

If "No", then no further action is required.

If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.


VII. OTHER ENVIRONMENTAL ISSUES

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

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.

		Design Division Standard	
ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS			
EPIC			
FILE: epic.dgn	DW: TxDOT	CK: RG	DW: VP
© TxDOT: February 2015	CONT	SECT	JOB
REVISIONS			
12-12-2011 (DS)			
05-07-14 ADDED NOTE SECTION IV.			
01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.			
DIST	COUNTY	SHEET NO.	
		DT25	

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BOARDS  
C.R.Z.  
WOOD CHIP MULCH AREA  
4"-6" DEPTH  
TEMPORARY ACCESS ROAD EXISTING ROADWAY OR EASEMENT AS APPROVED

**LINEAR CONSTRUCTION THROUGH TREES**

FENCE LOCATION PRIOR TO CLEARING, GRADING AND PAVING  
PERMEABLE PAVING AREA  
CURB  
C.R.Z.  
FENCE LOCATION DURING PERMEABLE PAVING INSTALLATION

**TREES IN PAVING AREA**

LIMIT OF CONSTRUCTION LINE AS SHOWN ON PLAN

**NATURAL AREAS**

CRITICAL ROOT ZONE (C.R.Z.)  
RADIUS - 12 mm PER mm (1 FT. PER INCH) OF TRUNK DIAMETER

**INDIVIDUAL TREE**

MINIMUM NECESSARY WORK AREA (WOOD CHIP MULCH 100 TO 150 mm (4" TO 6" DEPTH))  
BLDG.  
C.R.Z.  
ADD BOARDS STRAPPED TO TRUNK DUE TO CLOSENESS OF FENCE LESS THAN 1.5 m (5') FROM TRUNK.

**TREES NEAR CONSTRUCTION ACTIVITY**

**GROUP OF TREES**

CITY OF AUSTIN  
WATERSHED PROTECTION DEPARTMENT  
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99  
ADOPTED

**TREE PROTECTION FENCE LOCATIONS**

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 610S-1

CHAIN LINK FENCE  
3 m (10'-0") MAX.  
DRIPLINE (VARIES)  
FENCE LOCATION (LIMITS OF CRITICAL ROOT ZONE) RADIUS-12 mm PER mm (1 ft PER in) OF TRUNK DIAMETER  
CRITICAL ROOT ZONE  
DRIPLINE  
TREE PROTECTION FENCE  
6.0 m FOR 500 mm DIA. TREE (20'-0" FOR 20" DIA. TREE)

**TREE PROTECTION FENCE TYPE A - CHAIN LINK**

CITY OF AUSTIN  
WATERSHED PROTECTION DEPARTMENT  
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99  
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 610S-2

24 m (8') OR AS REQUIRED FOR MAXIMUM TREE PROTECTION  
1.5 m (5')  
LIMITS OF CRITICAL ROOT ZONE VARIES  
RADIUS-12 mm PER mm (1 ft PER in) OF TRUNK DIAMETER  
\*AS NEEDED TO PROVIDE MINIMUM NECESSARY WORK SPACE. IF LESS THAN 1.5 m (5'), THEN ADD BOARDS STRAPPED TO TRUNK.  
WOOD CHIP MULCH 150 mm (6") DEPTH  
TREE PROTECTION FENCE  
CRITICAL ROOT ZONE  
BUILDING  
6 m FOR 500 mm DIA. TREE (20'-0" FOR 20" DIA. TREE)  
DRIPLINE  
WOOD CHIP MULCH AREA 100 mm-150 mm (4"-6") DEPTH

**TREE PROTECTION FENCE MODIFIED TYPE B - WOOD**

CITY OF AUSTIN  
WATERSHED PROTECTION DEPARTMENT  
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99  
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 610S-5

AS REQUIRED  
2:1 OR FLATTER  
300 mm (1') MIN.  
STAGGERED ROCK/BRICK  
**CROSS SECTION YARD DRAIN**

BLOCK INLET WITH PLYWOOD AND SANDBAGS, AS NECESSARY TO PREVENT WATER FROM ENTERING  
FLOW  
BLOCK OUT IN OUTLET  
TRAP MAY BE PLACED BEHIND OR AT END OF INLET  
2:1 OR FLATTER  
300 mm (1') MIN.  
**SECTION A-A CURB DRAIN**

NOTE: WHERE CURB IS IN PLACE PROVIDE A 300 mm (1') WIDE OPENING IN THE CURB, OR USE A SANDBAG TO DAM TO FORCE WATER OVER THE CURB TO THE TRAP.

CITY OF AUSTIN  
WATERSHED PROTECTION DEPARTMENT  
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00  
ADOPTED

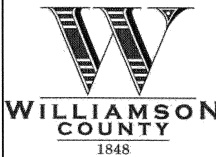
**STORM INLET SEDIMENT TRAP**

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 632S-1

City of Austin  
Reviewed for General Compliance

FEB 08 2018

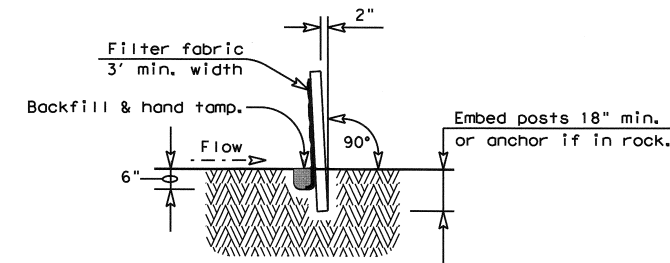


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DATE 8/16/2017  
SHEET NO. DT26 OF DT28



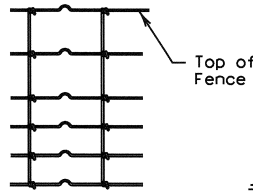
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SECTION A-A

Galv. Hinge joint knot woven mesh (12.5 Ga. Min.) requires a minimum of five horizontal wires spaced at a max. 12 inches apart and all vertical wires spaced at a max. 12 inches apart.



Hinge Joint Knot Woven Mesh (Option)

GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

PLAN SHEET LEGEND

Sediment Control Fence — SCF —

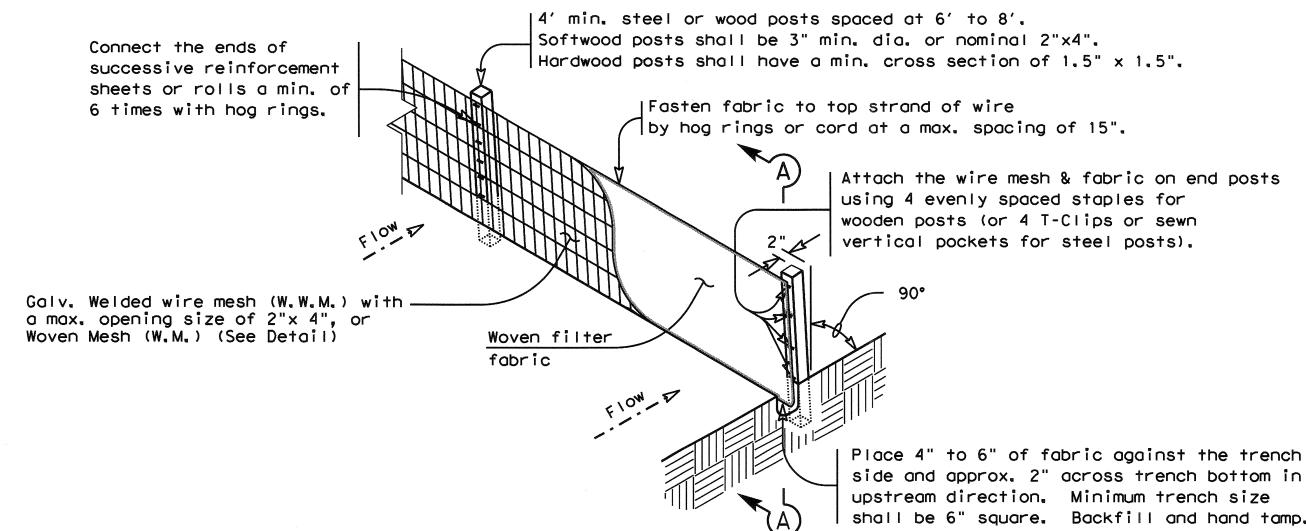
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT<sup>2</sup>. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

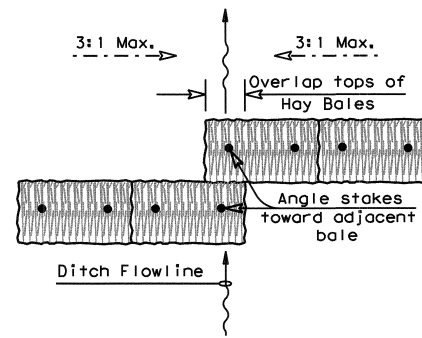
GENERAL NOTES

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetative matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible 1/2 the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with 3/8" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

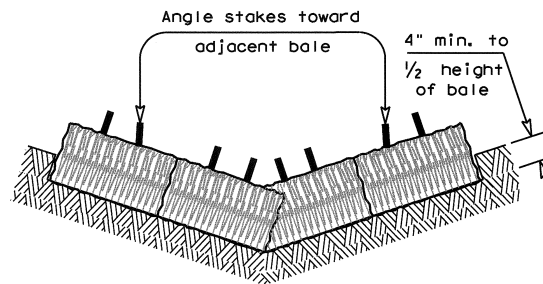


TEMPORARY SEDIMENT CONTROL FENCE

SCF



PLAN VIEW



PROFILE VIEW

PLANS SHEET LEGEND

Baled Hay — BH —

BALED HAY USAGE GUIDELINES

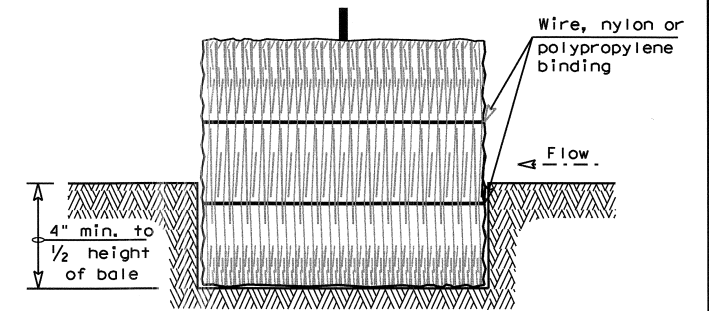
A Baled Hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter a maximum flow thru rate of 5 GPM/FT<sup>2</sup> of cross sectional area. Baled hay may be used at the following locations:

1. Where the runoff approaching the baled hay flows over disturbed soil for less than 100'. If the slope of the disturbed soil exceeds 10%, the length of slope upstream the baled hay should be less than 50'.
2. Where the installation will be required for less than 3 months.
3. Where the contributing drainage area is less than 1/2 acre.

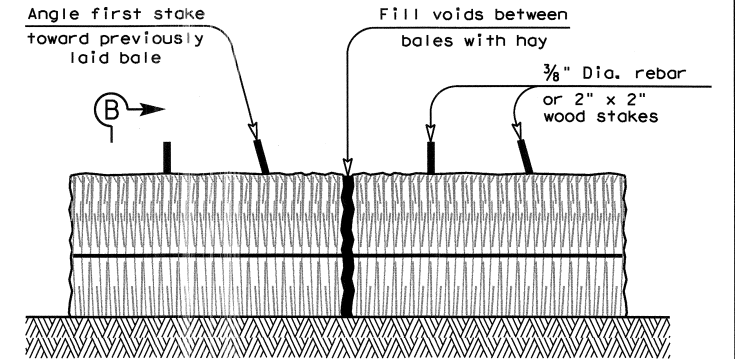
For Baled Hay installations in small ditches, the additional following considerations apply:

1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.

Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



SECTION B-B



BALED HAY FOR EROSION CONTROL

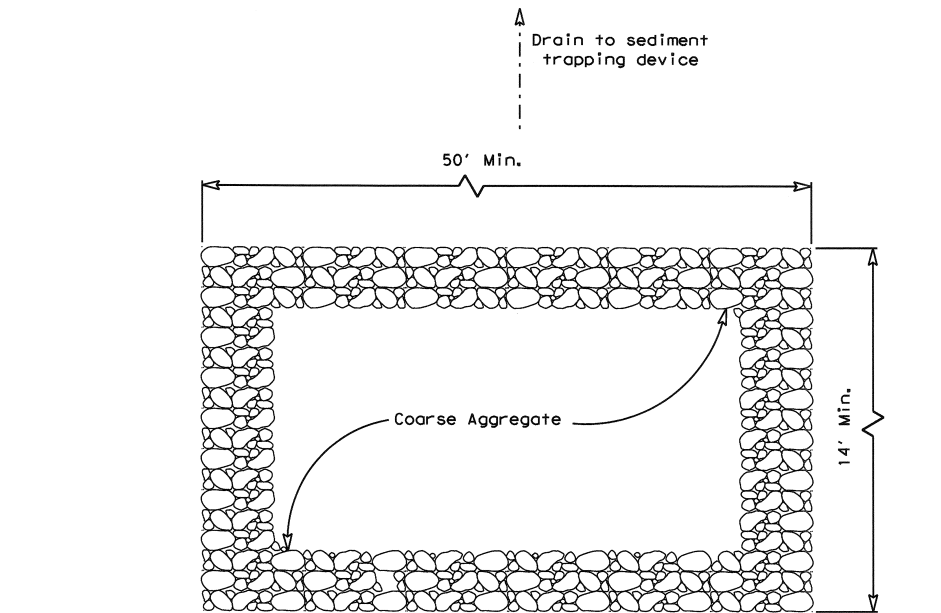
BH

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FEB 08 2018

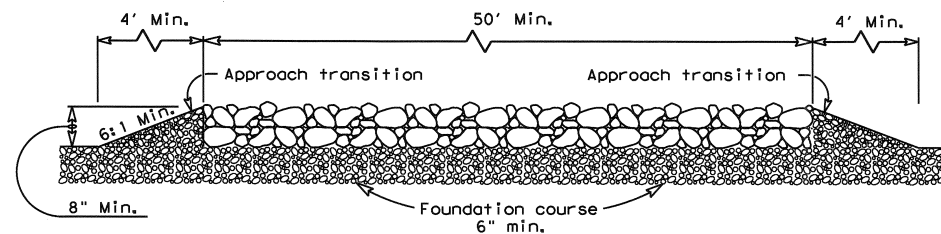
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TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES			
FENCE & BALED HAY			
EC(1)-09			
FILE: ec109.dgn	DWG: TxDOT	CHK: AM	DWG: TV
© TxDOT June 1993	CONT	SECT	JOB
REVIEWS		COUNTY	SHEET NO.
AUS		WILLIAMSON	DT27

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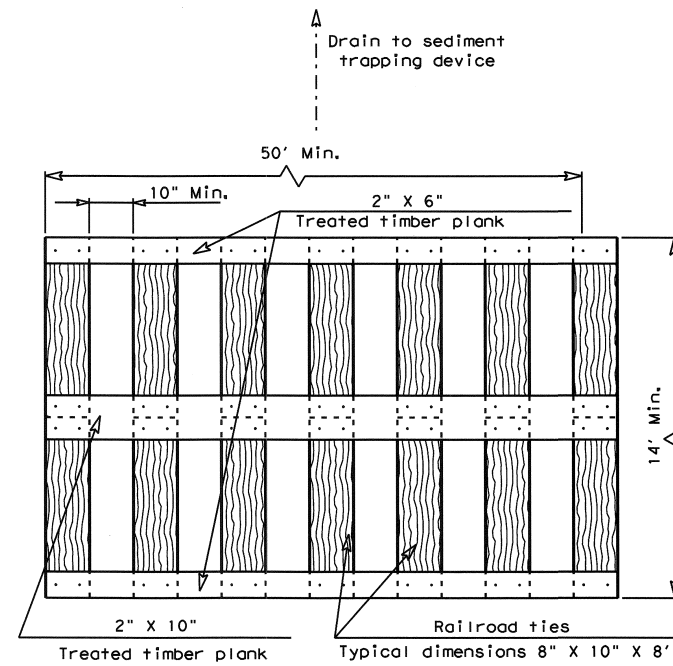
PLAN



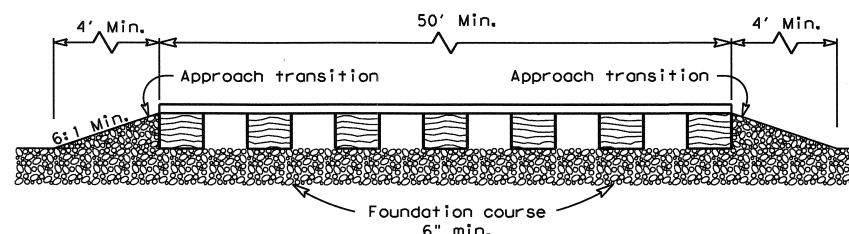
PROFILE

CONSTRUCTION EXIT (TYPE 1)GENERAL NOTES

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



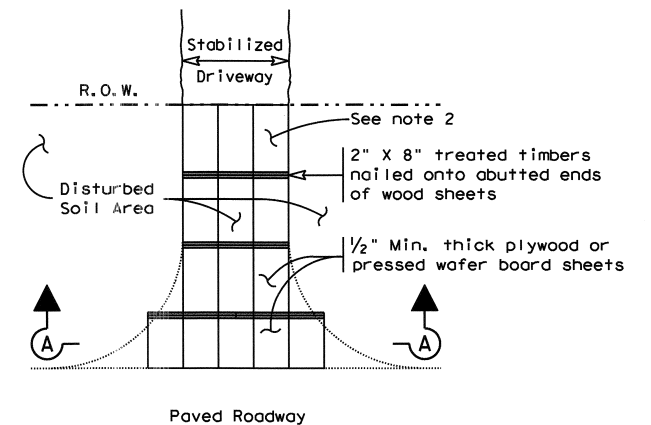
PLAN



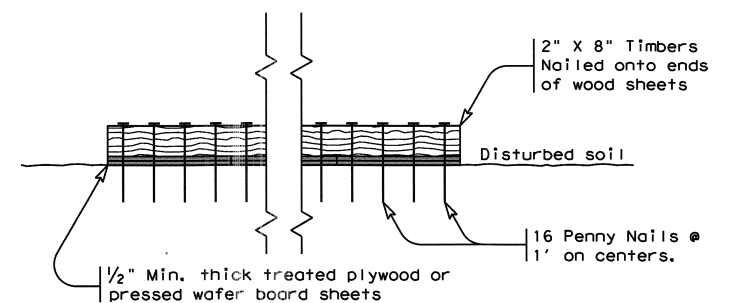
PROFILE

CONSTRUCTION EXIT (TYPE 2)GENERAL NOTES

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
2. The treated timber planks shall be attached to the railroad ties with 1/2" x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



PLAN



SECTION A-A

CONSTRUCTION EXIT (TYPE 3)GENERAL NOTES

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

City of Austin  
Reviewed for General Compliance  
FEB 08 2018

				<b>Design Division Standard</b>	
<b>TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES</b> <b>CONSTRUCTION EXITS</b> <b>EC(3)-93</b>					
FILE: ec393.dgn	DW: TxDOT	CK: HEJ	DW: BD	CK:	
© TxDOT June 1993	CONT	SECT	JOB	HIGHWAY	
REVISONS					
DIST	COUNTY	SHEET NO.			
AUS	WILLIAMSON	DT28			

Dwg Info: G:\CFA\2015\0301501\_Willamson\_County\_Road\_and\_Bridge\Forest North - Anderson Mill\DESIGN\C-001\_GEN NOTES.dwg - Tab: C-001 GEN NOTES - Plotted: 11/21/2017 5:57 PM By: KRISTEN VAN HOOSIER

AUSTIN WATER UTILITY GENERAL CONSTRUCTION NOTES

UPDATED: JUNE 7, 2016

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIAL AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM AUSTIN TRANSPORTATION DEPARTMENT, RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.
3. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY AUSTIN TRANSPORTATION INSPECTION OR DEVELOPMENT SERVICES DEPARTMENT, SITES AND SUBDIVISION INSPECTION, AT THE NUMBER INDICATED ON THE PLANS BY THE AW PLAN REVIEWER.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE AUSTIN WATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER, RECLAIMED WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER, RECLAIMED WATER AND WASTEWATER SERVICES.
6. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.
7. ALL MATERIALS TESTS, INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04.
8. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(24). THE CONTRACTOR SHALL PERFORM EXCAVATION ETC., AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. WHEN CONTRACTORS MAKE THE TAP A CITY INSPECTOR MUST BE PRESENT AND 2 WORKING DAYS (MIN.) NOTICE MUST BE GIVEN. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED, UNLESS, IT HAS BEEN DEMONSTRATED THAT A MORE ACCEPTABLE CONNECTION WOULD INVOLVE CONSIDERABLE HARDSHIP TO THE UTILITY SYSTEM. ALL TAPS SHALL BE MADE BY USE OF AN APPROVED FULL CIRCLE-GASKETED CAST IRON OR DUCTILE IRON TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED UNDER ALL TAP SLEEVES PRIOR TO MAKING THE PRESSURE TAP AND THE USE OF PRECAST BLOCKS MAY BE USED TO HOLD THE TAP IN ITS CORRECT POSITION PRIOR TO BLOCKING. THE BLOCKING BEHIND AND UNDER THE TAP SHALL HAVE A MINIMUM OF 24 HOURS CURING TIME BEFORE THE VALVE CAN BE RE-OPENED FOR SERVICE FROM THAT TAP.
9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3 (22).
10. ALL BRANCH CONNECTIONS SHALL HAVE THE VALVE BOLTED TO THE MAIN BY METHODS OF FLANGE OR SWIVEL TEES. FOSTER ADAPTORS MAY BE USED IN LIEU OF FLANGE OR SWIVEL TEES WHEN CALLED OUT ON THE PLANS BY THE DESIGN ENGINEER.
11. FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 511S.4 B). FIRE HYDRANTS SHALL BE PAINTED FLYNT ALUMINUM OR EQUAL.
12. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURES SHOWN ON THE APPROVED PLANS.
13. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
14. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS PE, THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD OR REPLACED THE FULL LENGTH WITH TYPE K COPPER MATERIAL. ANY TIME PE IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE SERVICE LINE SHALL BE REPLACED FULL LENGTH WITH TYPE K COPPER MATERIAL. NOTE: FULL LENGTH IS FROM CORPORATION STOP TO METER.
15. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY THE AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE.
16. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE AUSTIN WATER AT 972-0000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METERS BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.
17. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF AUSTIN.
18. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ONSITE UTILITY WORK.
19. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.
20. REVIEW BY AUSTIN WATER APPLIES ONLY TO FACILITIES WITHIN PUBLIC STREETS OR PUBLIC UTILITY EASEMENTS. ALL OTHER WATER, RECLAIMED WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICTION OF BUILDING INSPECTION.
21. ALL WATER, RECLAIMED WATER AND WASTEWATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED IN CHAPTER 290 - DRINKING WATER STANDARDS, CHAPTER 210 - USE OF RECLAIMED WATER AND CHAPTER 217 - DESIGN CRITERIA FOR SEWERAGE SYSTEMS, OF TCEQ RULES.
22. CONTRACTOR'S PERSONNEL THAT PERFORM BUTT FUSION AND ELECTROFUSION ON OR TO HDPE PIPE AND FITTINGS MUST HAVE CURRENT QUALIFICATION TRAINING CERTIFICATE ISSUED BY MCELROY OR COMPARABLE TRAINING PROGRAM.
23. SHOP DRAWINGS SHALL BE SUBMITTED FOR AW APPROVAL FOR LARGE DIAMETER PRE-CAST MANHOLES, JUNCTION BOXES, WET WELLS, AND SIMILAR STRUCTURES. THE SHOP DRAWINGS SHALL INCLUDE FLOWLINE ELEVATIONS OF ALL INCOMING AND OUTGOING PIPES, ELEVATION OF TRANSITION FROM LARGE DIAMETER SECTIONS TO 48" ID SECTION, TOP OF MANHOLE ELEVATION, SURROUNDING GROUND ELEVATION, AS WELL AS SPECIAL CONSTRUCTION CONSIDERATIONS THAT ARE SPECIFIED IN THE CONTRACT DRAWINGS.
24. VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF IRON ROD OF THE REQUIRED LENGTH WITH A SOCKET ON ONE END AND NUT ON THE OTHER.
25. ASBESTOS CONCRETE PIPE (AC PIPE) HAS BEEN INSTALLED IN THE PAST AS PART OF AUSTIN WATER'S WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEMS. AUSTIN WATER'S INFRASTRUCTURE INCLUDES AC PIPE THAT IS CURRENTLY IN SERVICE AS WELL AS AC PIPE THAT HAS BEEN ABANDONED AND IS NO LONGER IN SERVICE. RECORD INFORMATION MAY NOT BE COMPLETE FOR THE PROJECT. CONTRACTORS AND SUBCONTRACTORS MUST BE ALERT TO THE POSSIBLE PRESENCE OF AC PIPE WITHIN THE LIMITS OF THE PROJECT AND BE KNOWLEDGEABLE OF HOW TO IDENTIFY IT. DISTURBANCE, REMOVAL OR CUTTING OF ASBESTOS CONTAINING PIPE IS TO BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE 25, SECTION 15, ARTICLE 4477-3A AND 29 CFR 1926.1101. CONTACT THE CITY OF AUSTIN ASBESTOS MANAGER AT 512-974-7154 THIRTY (30) DAYS PRIOR TO THE PLANNED DISTURBANCE OF THE AC PIPE. ONLY STATE LICENSED PERSONNEL ARE PERMITTED TO DISTURB, REMOVE, TRANSPORT AND DISPOSE OF AC PIPE.

WATER METER REMOVAL AND RELOCATION REQUIREMENTS

1. ALL EXISTING WATER METER, RECOGNIZED TO BE RELOCATED OR ABANDONED AT RESIDENTIAL AND/OR COMMERCIAL DEVELOPMENTS BY THE ENGINEER OF RECORD, SHALL BE REMOVED FROM THE METER BOX(ES) PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE UTILITY INSPECTOR. THE UTILITY INSPECTOR WILL THEN TURN IN THE WATER METER(S) TO AWU CONSUMER SERVICES TAPS OFFICE FOR CREDIT WITHIN FIVE (5) BUSINESS DAYS OF RECEIPT OF THE WATER METER(S). BEFORE ANY LARGE (3" AND ABOVE) METER(S) ARE RECEIVED, THE UTILITY INSPECTOR WILL SCHEDULE THE TIME AND PLACE OF THE METER DELIVERY WITH THE AWU TAPS OFFICE AND METER SHOP, AND PROVIDE THE CONTRACTOR WITH THAT INFORMATION. AT THE PRE-CONSTRUCTION MEETING THE CITY INSPECTOR SHALL VERIFY THAT THE METER NUMBER DISPLAYED ON THE METER COVER AT ITS PHYSICAL LOCATION IS THE SAME METER NUMBER LISTED ON THE APPROVED ENGINEERING DRAWINGS. THE CORRECT METER NUMBER(S) AT THE SITE ADDRESS SHALL BE INCLUDED ON THE PLANS AND PHYSICALLY VERIFIED BY THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL CONTACT AN AWU TAPS CUSTOMER SERVICE REPRESENTATIVE TO CONFIRM THE METER INFORMATION ON THE PLAN MATCHES UTILITY RECORDS.
2. IF WATER SERVICE IS REQUIRED DURING CONSTRUCTION, THE CONTRACTOR WILL CALL CITY OF AUSTIN UTILITIES TO ESTABLISH AN ACTIVE UTILITY ACCOUNT. ONCE SERVICE IS AVAILABLE TO THE SITE, AND ALL APPLICABLE TAP FEES HAVE BEEN PAID, A NEW WATER METER SHALL BE ISSUED TO BE INSTALLED IN ORDER TO ENSURE ACCURATE CALIBRATION OF THE WATER METER(S) TO BE USED FOR THE SITE. UNDER NO CIRCUMSTANCES SHALL AN EXISTING WATER METER BE USED DURING CONSTRUCTION OR RELOCATED TO ANOTHER LOCATION AND/OR ADDRESS WITHOUT PRIOR SUBMITTAL OF A WRITTEN REQUEST FOR EXCEPTION AND SUBSEQUENT WRITTEN APPROVAL FROM THE TAPS OFFICE.

ASBESTOS CEMENT PIPE TIE-IN

1. THE DISTURBANCE OF ANY AC PIPE, INCLUDING TAPPING, CUTTING AND REMOVAL, MUST BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS ADMINISTRATIVE CODE 25, SECTION 15, ARTICLE 4477-3A, CODE OF FEDERAL REGULATIONS; 29 CFR 1926.1101 AND 40 CFR PART 61 SUBPART M AND CITY OF AUSTIN STANDARD SPECIFICATIONS. ONLY PROPERLY LICENSED PERSONNEL ARE PERMITTED TO DISTURB, REMOVE, TRANSPORT AND DISPOSE OF AC PIPE. IF THE PLANNED WORK ACTIVITIES INCLUDE DISTURBANCE OF LESS THAN 260 LINEAR FEET OF AC PIPE, WORK CAN PROCEED AS FOLLOWS:
1. THE ENGINEER, DEVELOPER OR PRIME CONTRACTOR WILL CONTRACT WITH ONE OF THE FOLLOWING STATE LICENSED ASBESTOS ABATEMENT CONTRACTORS CURRENTLY PARTICIPATING IN AN ASBESTOS ABATEMENT SERVICE AGREEMENT WITH THE CITY AND FAMILIAR WITH CITY APPROVED PROCEDURES. CURRENTLY, THESE ARE SRI, INC. (RICK ROBB, 512-260-7171) AND AAR, INC. (BILL POST, 512-778-6800).
2. ALL WORK INVOLVING THE DISTURBANCE OF AC PIPE WILL BE CONDUCTED BY PROPERLY LICENSED CONTRACTORS. ALSO, DURING THE WORK A PROPERLY LICENSED CONSULTANT WILL BE ON SITE TO OBSERVE THE WORK AND COLLECT SAMPLES DOCUMENTING THE AIR QUALITY DURING THE DISTURBANCE.
3. ANY PLANNED TAPS INTO CITY AC PIPE WILL BE CONDUCTED BY REMOVING AN ENTIRE SECTION OF PIPE FROM COLLAR TO COLLAR TO AVOID POSSIBLE FAILURE OF AC PIPE.
4. A COPY OF WASTE MANIFEST FOR DISPOSAL OF REMOVED AC PIPE WILL BE PROVIDED TO THE BUILDING SERVICES DEPARTMENT.
5. A COPY OF THE WRITTEN REPORT PREPARED BY THE LICENSED CONSULTANT WILL BE PROVIDED TO THE BUILDING SERVICES DEPARTMENT.
2. SEND DOCUMENTATION TO: WADE MULLIN, BUILDING SERVICES DEPARTMENT, 411 CHICON STREET, AUSTIN, TX 78702

FIRE HYDRANT AND VALVE ABANDONMENT AND SALVAGING

1. IF A FIRE HYDRANT IS MORE THAN 9 YEARS OLD, REMOVE AND SALVAGE. ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO THE AUSTIN WATER UTILITY. NOTICE MUST BE GIVEN 48 HOURS PRIOR TO RETURN TO: PIPELINE OPERATIONS DISTRIBUTION SYSTEM MAINT. - VALVE AND HYDRANT SERVICES, SUPERVISING AWU PIPELINE TECHNICIAN AT 512-972-1133.

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
WATER RELOCATIONS

REVIEWED  
DEC 11 2017  
Austin Water Utility

City of Austin  
Reviewed for General Compliance

FEB 08 2018

PROJ. NO: 1403-088-03-81  
DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV 21, 2017



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USED FOR CONSTRUCTION PRIOR TO  
ISSUANCE OF PERMITS AND PRINT.

SHEET

C-001

1 of 9

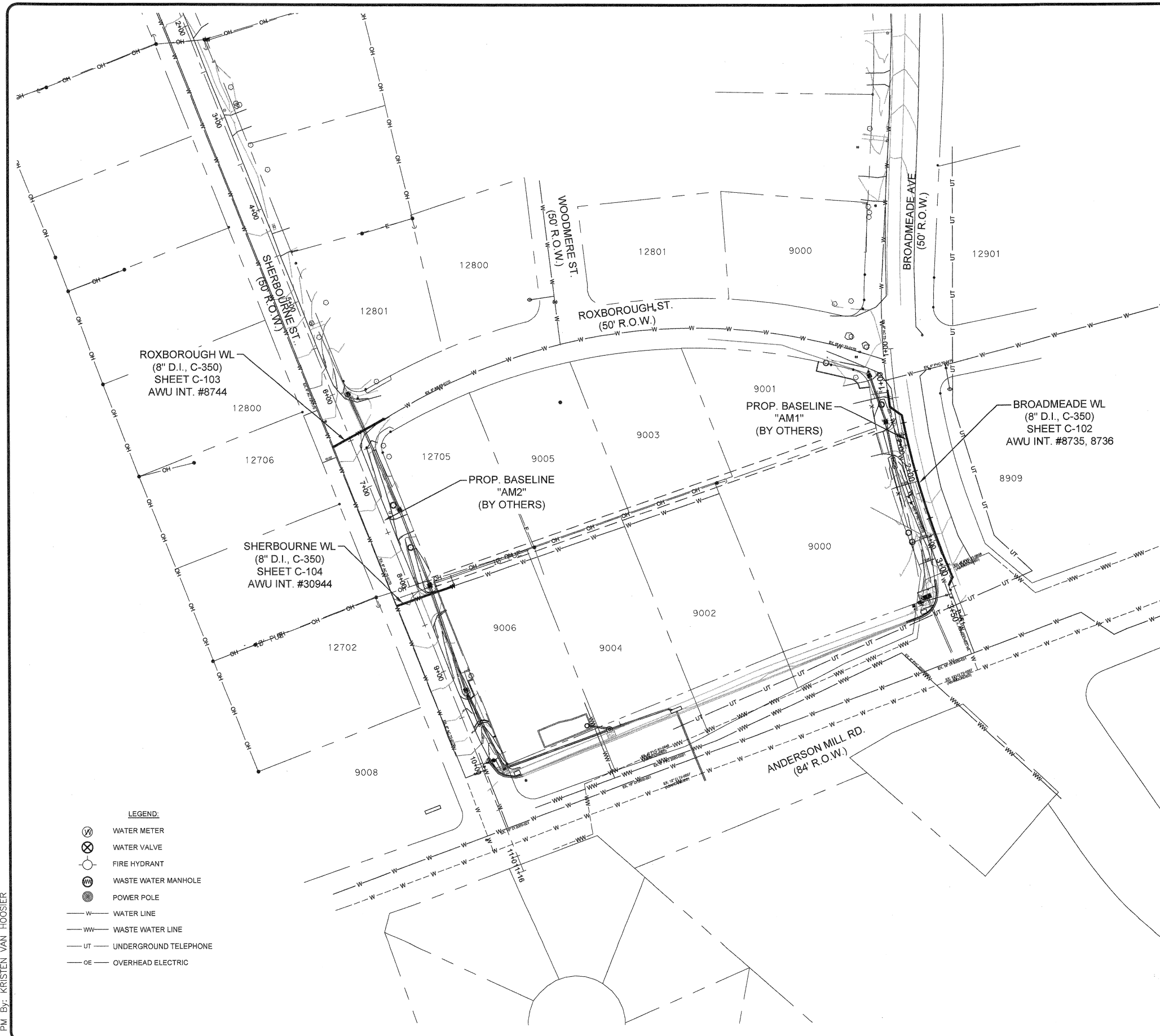
GENERAL NOTES

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX

CobbFendley  
TRF NO. 224 / TRF L.S. NO. 1006701  
505 EAST HUNT LAND DRIVE, SUITE 100  
AUSTIN, TEXAS 78752  
512.854.9398 / FAX 512.854.7727  
WWW.COBBFENDLEY.COM

REV. NO.	REVISION DESCRIPTION	APPROVED BY:	DATE

Dwg Info: G:\CFA\2015\0301501\_Willamson\_County\_Road\_and\_Bridge\Forest North - Anderson Mill-Overall.dwg - Tab: C-100 ANDERSON MILL-OVERALL.dwg - Plotted: 11/21/2017 5:59 PM By: KRISTEN VAN HOOSIER



- LEGEND:**
- ⊗ WATER METER
  - ⊗ WATER VALVE
  - ⊙ FIRE HYDRANT
  - ⊙ WASTE WATER MANHOLE
  - ⊙ POWER POLE
  - W — WATER LINE
  - WW — WASTE WATER LINE
  - UT — UNDERGROUND TELEPHONE
  - OE — OVERHEAD ELECTRIC

- GENERAL NOTES:
1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. 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 THAT MIGHT BE OCCASIONED BY THE FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. WHEN THE CONTRACTOR IS USING TRENCHLESS INSTALLATION METHODS, THE CONTRACTOR SHALL LOCATE ALL UTILITIES FOR THE ENTIRE LENGTH OF THE INSTALLATION PRIOR TO ANY ACTIVITIES.
  2. CONTRACTOR TO MAINTAIN 48" MINIMUM COVER OVER PROPOSED WATER LINE. CONTRACTOR TO MAINTAIN MINIMUM 18" VERTICAL AND 5' HORIZONTAL CLEARANCE BETWEEN PROPOSED AND EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE PLANS.
  3. ANY DISCREPANCIES FROM WHAT IS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BEGINNING WORK.
  4. ALL WATER LINES SHALL BE DUCTILE IRON CLASS 350 AS DEFINED BY AWWA C151 AND DUCTILE IRON FITTINGS COMPLYING WITH AWWA C153 UNLESS OTHERWISE NOTED ON PLANS.
  5. RESTRAIN ALL PIPE JOINTS AND FITTINGS PER SPL WW-27A.
  6. CONNECTION LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE THE EXISTING COUPLINGS ON THE AC PIPE, MAKE CONNECTIONS, AND REMOVE THE AMOUNT OF AC PIPE AS SHOWN PER DETAIL ON SHEET C-502, UNLESS NOTED OTHERWISE ON THE PLANS.
  7. CONTRACTOR SHALL ENSURE PROPOSED FIRE LINE AND SERVICE LINE MEET MINIMUM DEPTH REQUIREMENTS UNDER THE PROPOSED CHANNEL AND CULVERT IMPROVEMENTS.
  8. EXISTING ASBESTOS CEMENT WATER MAIN(S) IS TO BE PROTECTED AND REMAIN IN SERVICE UNTIL THE NEW DUCTILE IRON MAIN(S) IS CONSTRUCTED, TESTED, APPROVED AND SERVICE LINES RECONNECTED AND THE NEW MAIN IS PLACED IN SERVICE. UNLESS OTHERWISE NOTED ON THE PLANS, CONTRACTOR SHALL MAKE EFFORT TO MINIMIZE SERVICE DISRUPTIONS FOR EXTENDED PERIODS OF TIME IN THE REPLACING-IN-PLACE SECTIONS OF PIPE.
  9. EXISTING WATER SERVICE LINES AND METERS ARE TO BE PROTECTED AND REMAIN IN SERVICE UNTIL NEW SERVICE LINES ARE CONSTRUCTED, TESTED, APPROVED AND RECONNECTED AND IN SERVICE.
  10. CONTRACTOR SHALL CONTACT WADE MULLIN AT THE CITY OF AUSTIN BUILDING SERVICES DEPARTMENT (512-974-7154) 3 WEEKS PRIOR TO THE PLANNED START DATE TO COORDINATE INSPECTION OF THE DISTURBANCE OF THE AC PIPE AND REMOVAL REQUIREMENTS. ALL WORK MUST CONFORM TO CITY OF AUSTIN SPECIFICATIONS SECTION 1900 OF THE PROJECT MANUAL.
  11. AN APPROVED CITY OF AUSTIN ASBESTOS CONSULTING FIRM WILL NEED TO BE RETAINED TO OVERSEE THE WORK ACTIVITIES AND DOCUMENT AIR QUALITY. THE CONTRACTOR IS RESPONSIBLE TO RETAIN A LICENSED CONTRACTOR FAMILIAR WITH CITY OF AUSTIN PROCEDURES FOR ANY ACTIVITY DISTURBING THE EXISTING AC PIPE.
  12. THE DEPARTMENT OF STATE HEALTH SERVICES MUST BE CONTACTED 10 DAYS PRIOR TO THE START OF ANY ABATEMENT WORK.
  13. EXISTING SERVICE LINES MAY BE COPPER OR PVC PER RECORD DRAWINGS. NOTIFY ENGINEER IF OTHER MATERIAL IS IN PLACE. PROPOSED SERVICE LINE ARE TO BE INSTALLED BELOW PROPOSED DRAINAGE IMPROVEMENTS.
  14. EXISTING ASBESTOS CEMENT PIPE TO BE REMOVED FROM JOINT TO JOINT. PIPE REMOVAL SHALL INCLUDE THE COST OF TRENCH AND PAVEMENT REPAIRS, AS WELL AS ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE PIPE REMOVAL.
  15. COST OF PIPE INCLUDES ALL BASE AND TRENCH REPAIRS, INCLUDING ALL INCIDENTALS AND ITEMS AS DESCRIBED IN SPECIFICATION 5105.

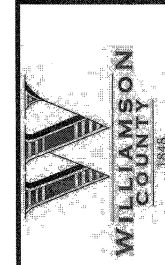
**REVIEWED**  
DEC 11 2017  
Austin Water Utility

City of Austin  
Reviewed for General Compliance  
FEB 08 2018

REV. NO.	REVISION DESCRIPTION	APPROVED BY	DATE

**CobbFendley**  
TYPE NO. 274 / TEMPL NO. 10046701  
505 EAST HUNT DRIVE, SUITE 100  
AUSTIN, TEXAS 78752  
512.453.7272  
WWW.COBBFENDLEY.COM

**ANDERSON MILL OVERALL**  
WILLAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX



PROJ. NO. 1403-088-03-8  
DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV 21, 2017



SHEET  
**C-100**  
2 of 9



[illegible]

**CobbFendley**  
TDS# NO. 374 / TDS# S. NO. 10046701

EAST HUNTLAND DRIVE, SUITE 100  
AUSTIN, TEXAS 78752  
512.834.9798 | FAX 512.834.7727  
WWW.CORBENDLEY.COM

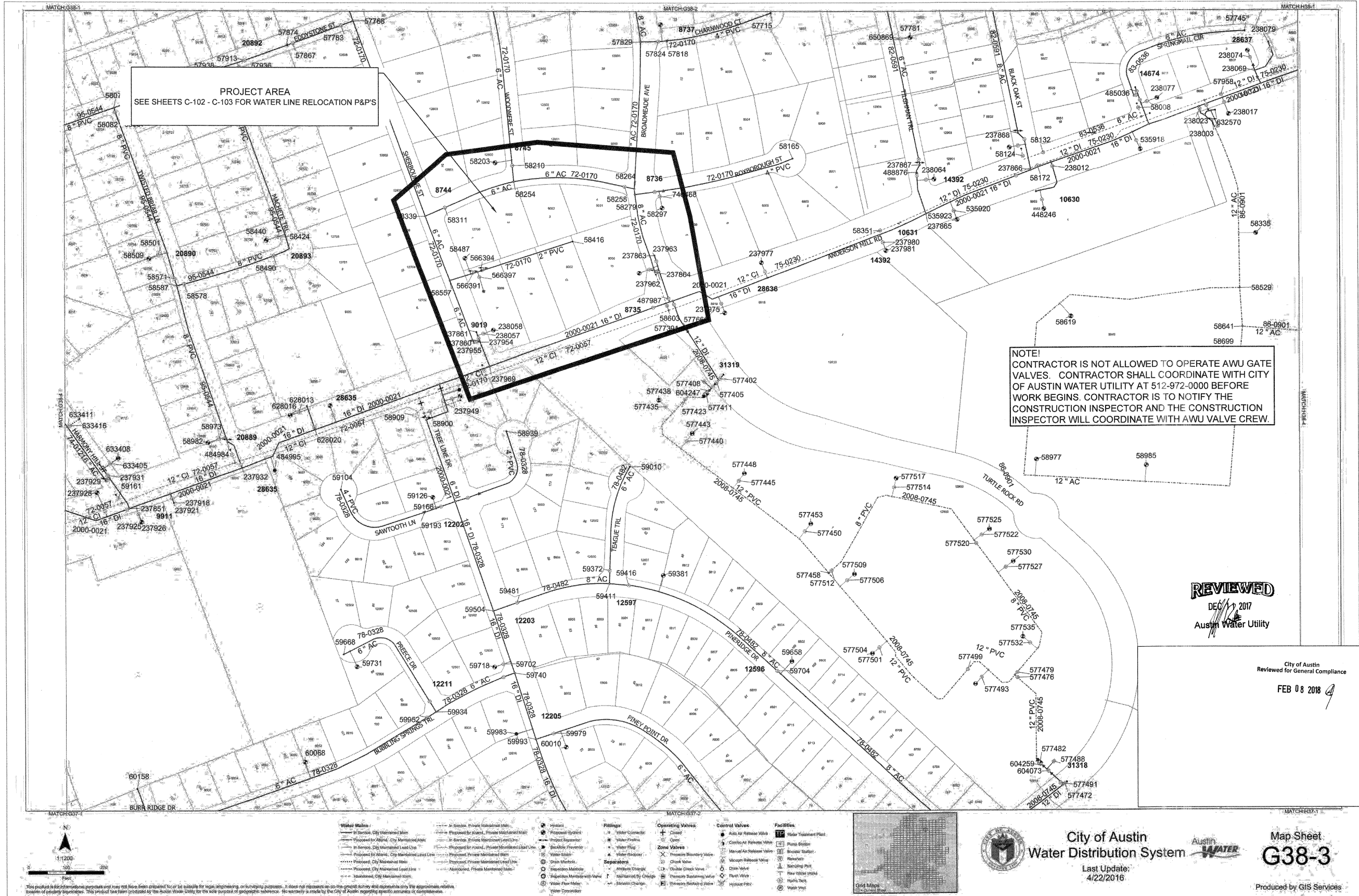
ANDERSON MILL  
EXISTING VALVE MAP

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN TX

PROJ. NO. 1403-088-03-81  
DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J.HASTINGS  
APPR: L.PARISHER  
DATE: NOV. 21, 2017

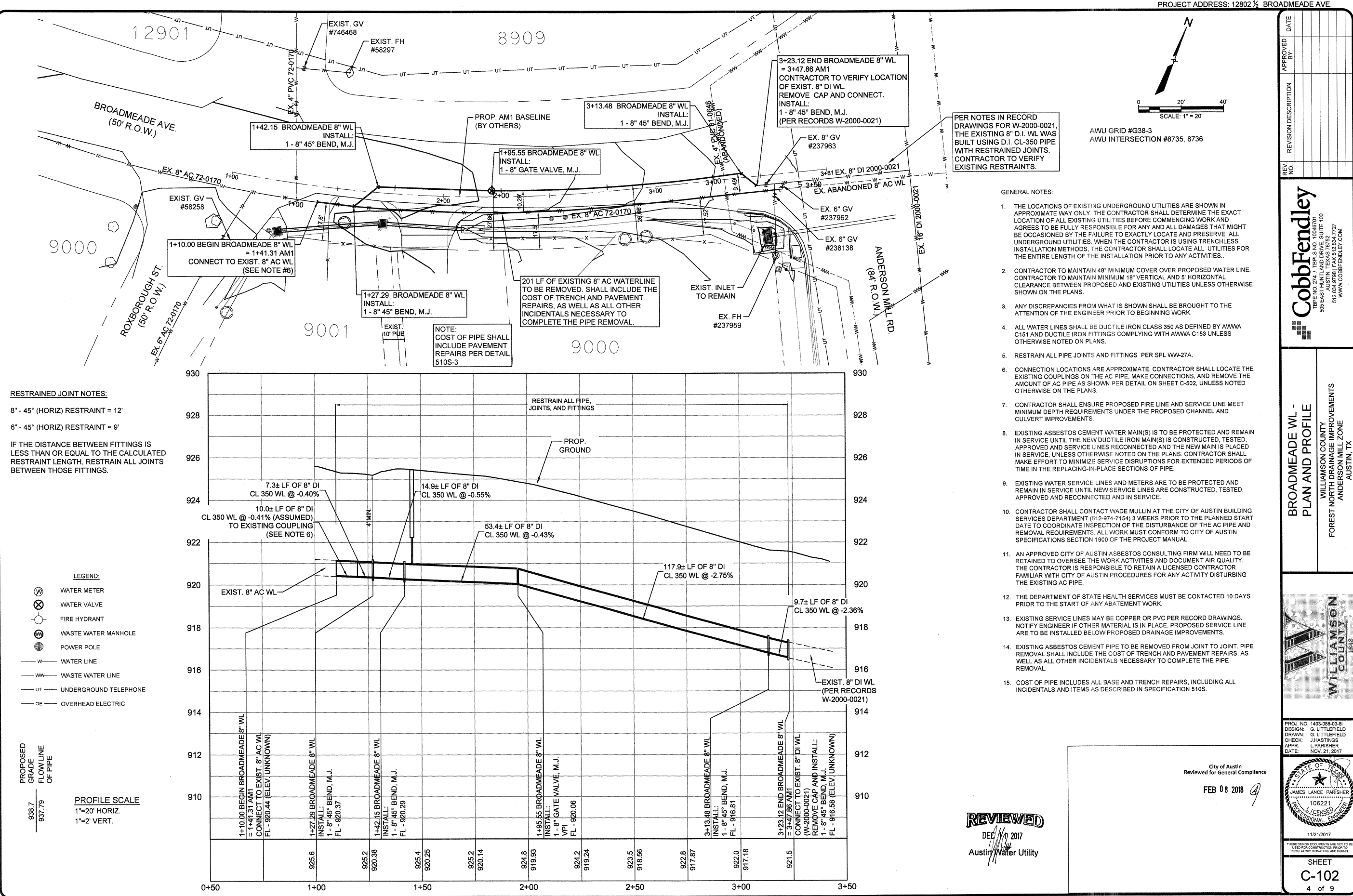
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USED FOR CONSTRUCTION PRIOR TO  
REGULATORY SIGNATURE AND PERMIT.

SHEET  
C-101  
3 of 3



Dwg. Info: G:\CFA\2015\0307501\Williamson\_County\_Road\_and\_Bridge\Forest North - Anderson Mill\DESIGN\C-101 EXIST.VALVE LOCATION MAP.dwg -- Tab: C-101 ANDERSON MILL OVERALL -- Plotted: 11/21/2017 5:59 PM By: KRISTEN VAN HOOSIER

Dwg. Info: G:\CFA\2015\0301501\_Williamson\_County\_Road\_and\_Bridge\Forest\_North - Anderson Mill\DESIGN\C-100 ANDERSON MILL-PP.dwg - Tab: C-106 BROADMEADE PP - Plotted: 11/28/2017 1:03 PM By: KRISTEN VAN HOOSIER



Dwg Info: G:\CFA\2015\0301501\Williamson\_County\_Road\_and\_Bridge\Forest North - Anderson Mill\DESIGN\C-100 ANDERSON MILL-PP.dwg - Tab: C-103 ROXBOROUGH PP - Plotted: 11/21/2017 6:00 PM By: KRISTEN VAN HOOSER

RESTRAINED JOINT NOTES:

8" - 45° (HORIZ) RESTRAINT = 12'

6" - 45° (HORIZ) RESTRAINT = 9'

8" GATE VALVE RESTRAINT = 85'

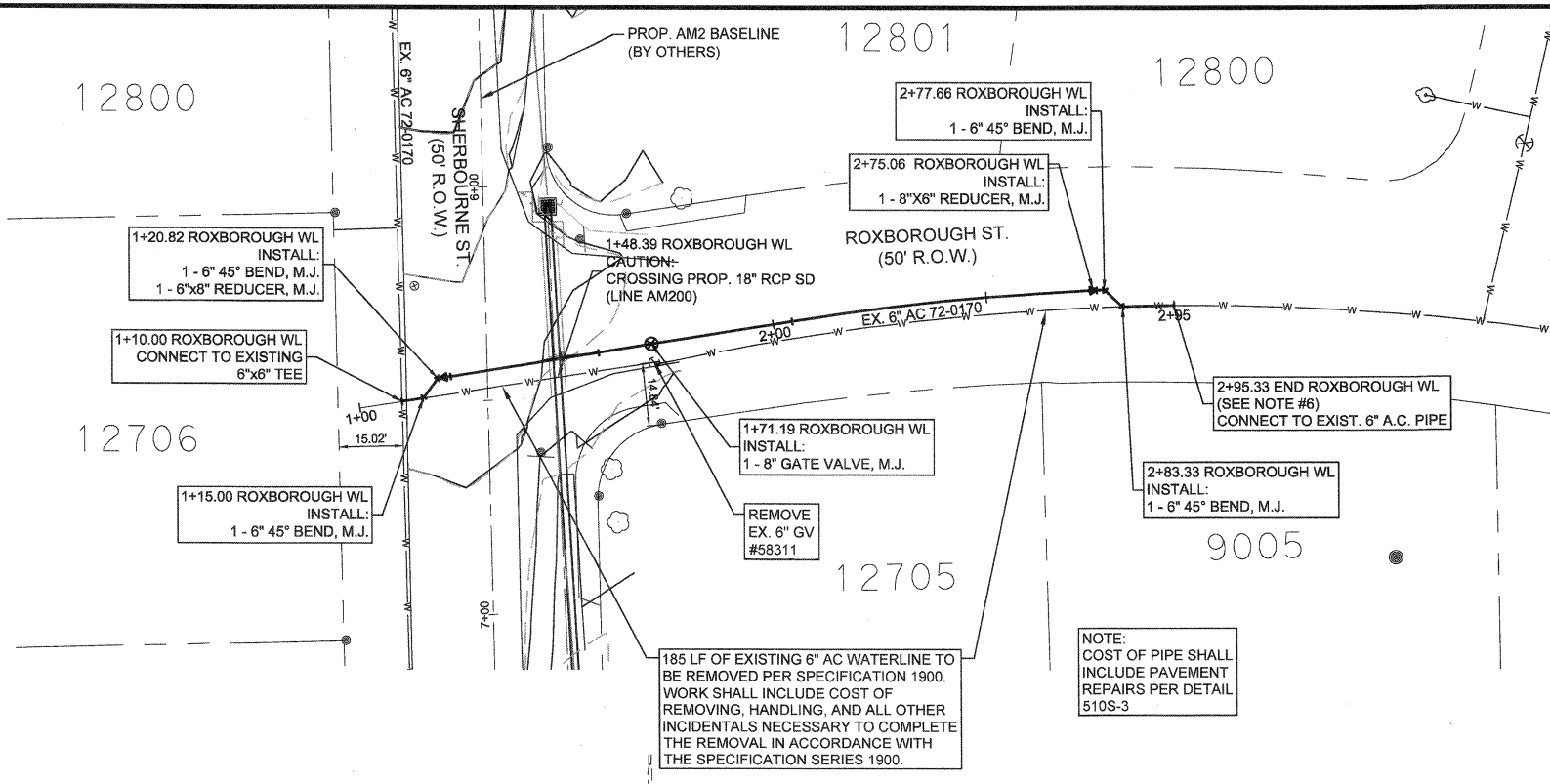
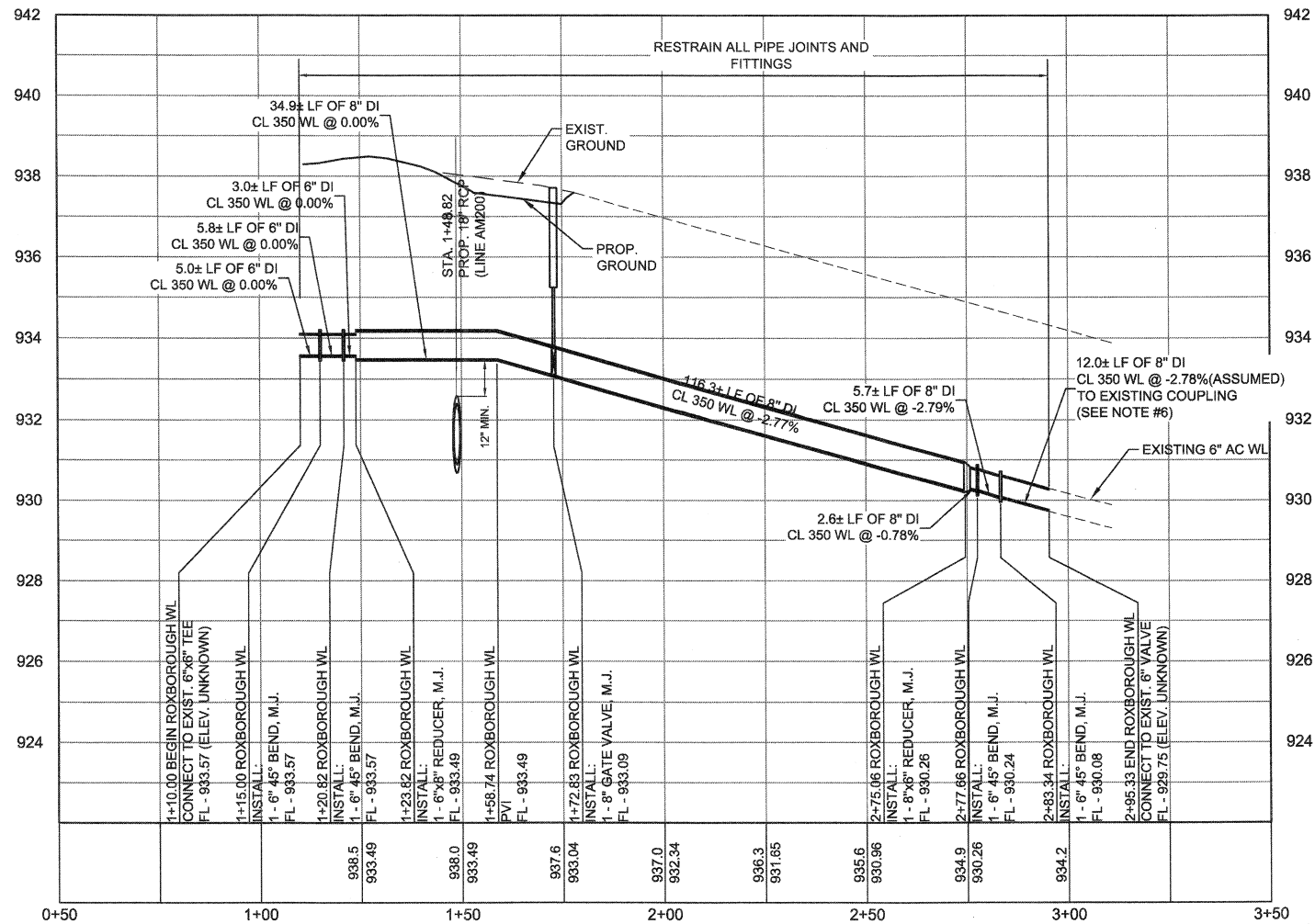
IF THE DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

LEGEND:

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTE WATER MANHOLE
- POWER POLE
- WATER LINE
- WASTE WATER LINE
- UNDERGROUND TELEPHONE
- OVERHEAD ELECTRIC

EXISTING GRADE  
FLOW LINE  
OF PIPE

PROFILE SCALE  
1"=20' HORIZ.  
1"=2' VERT.



GENERAL NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. 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 THAT MIGHT BE OCCASIONED BY THE FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. WHEN THE CONTRACTOR IS USING TRENCHLESS INSTALLATION METHODS, THE CONTRACTOR SHALL LOCATE ALL UTILITIES FOR THE ENTIRE LENGTH OF THE INSTALLATION PRIOR TO ANY ACTIVITIES.
- CONTRACTOR TO MAINTAIN 48" MINIMUM COVER OVER PROPOSED WATER LINE. CONTRACTOR TO MAINTAIN MINIMUM 18" VERTICAL AND 5' HORIZONTAL CLEARANCE BETWEEN PROPOSED AND EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE PLANS.
- ANY DISCREPANCIES FROM WHAT IS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BEGINNING WORK.
- ALL WATER LINES SHALL BE DUCTILE IRON CLASS 350 AS DEFINED BY AWWA C151 AND DUCTILE IRON FITTINGS COMPLYING WITH AWWA C153 UNLESS OTHERWISE NOTED ON PLANS.
- RESTRAIN ALL PIPE JOINTS AND FITTINGS PER SPL WW-27A.
- CONNECTION LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE THE EXISTING COUPLINGS ON THE AC PIPE, MAKE CONNECTIONS, AND REMOVE THE AMOUNT OF AC PIPE AS SHOWN PER DETAIL ON SHEET C-502, UNLESS NOTED OTHERWISE ON THE PLANS.
- CONTRACTOR SHALL ENSURE PROPOSED FIRE LINE AND SERVICE LINE MEET MINIMUM DEPTH REQUIREMENTS UNDER THE PROPOSED CHANNEL AND CULVERT IMPROVEMENTS.
- EXISTING ASBESTOS CEMENT WATER MAIN(S) IS TO BE PROTECTED AND REMAIN IN SERVICE UNTIL THE NEW DUCTILE IRON MAIN(S) IS CONSTRUCTED, TESTED, APPROVED AND SERVICE LINES RECONNECTED AND THE NEW MAIN IS PLACED IN SERVICE, UNLESS OTHERWISE NOTED ON THE PLANS. CONTRACTOR SHALL MAKE EFFORT TO MINIMIZE SERVICE DISRUPTIONS FOR EXTENDED PERIODS OF TIME IN THE REPLACING-IN-PLACE SECTIONS OF PIPE.
- EXISTING WATER SERVICE LINES AND METERS ARE TO BE PROTECTED AND REMAIN IN SERVICE UNTIL NEW SERVICE LINES ARE CONSTRUCTED, TESTED, APPROVED AND RECONNECTED AND IN SERVICE.
- CONTRACTOR SHALL CONTACT WADE MULLIN AT THE CITY OF AUSTIN BUILDING SERVICES DEPARTMENT (512-974-7154) 3 WEEKS PRIOR TO THE PLANNED START DATE TO COORDINATE INSPECTION OF THE DISTURBANCE OF THE AC PIPE AND REMOVAL REQUIREMENTS. ALL WORK MUST CONFORM TO CITY OF AUSTIN SPECIFICATIONS SECTION 1900 OF THE PROJECT MANUAL.
- AN APPROVED CITY OF AUSTIN ASBESTOS CONSULTING FIRM WILL NEED TO BE RETAINED TO OVERSEE THE WORK ACTIVITIES AND DOCUMENT AIR QUALITY. THE CONTRACTOR IS RESPONSIBLE TO RETAIN A LICENSED CONTRACTOR FAMILIAR WITH CITY OF AUSTIN PROCEDURES FOR ANY ACTIVITY DISTURBING THE EXISTING AC PIPE.
- THE DEPARTMENT OF STATE HEALTH SERVICES MUST BE CONTACTED 10 DAYS PRIOR TO THE START OF ANY ABATEMENT WORK.
- EXISTING SERVICE LINES MAY BE COPPER OR PVC PER RECORD DRAWINGS. NOTIFY ENGINEER IF OTHER MATERIAL IS IN PLACE. PROPOSED SERVICE LINE ARE TO BE INSTALLED BELOW PROPOSED DRAINAGE IMPROVEMENTS.
- EXISTING ASBESTOS CEMENT PIPE TO BE REMOVED FROM JOINT TO JOINT. PIPE REMOVAL SHALL INCLUDE THE COST OF TRENCH AND PAVEMENT REPAIRS, AS WELL AS ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE PIPE REMOVAL.
- COST OF PIPE INCLUDES ALL BASE AND TRENCH REPAIRS, INCLUDING ALL INCIDENTALS AND ITEMS AS DESCRIBED IN SPECIFICATION 510S.

REVIEWED

DEC 11 2017

Austin Water Utility

City of Austin  
Reviewed for General Compliance

FEB 08 2018

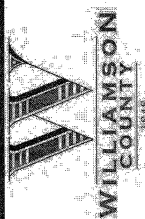
PROJ. NO. 1403-088-03-B  
DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISH  
DATE: NOV 21, 2017



SHEET  
C-103  
5 of 9

ROXBOROUGH WL -  
PLAN AND PROFILE

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX

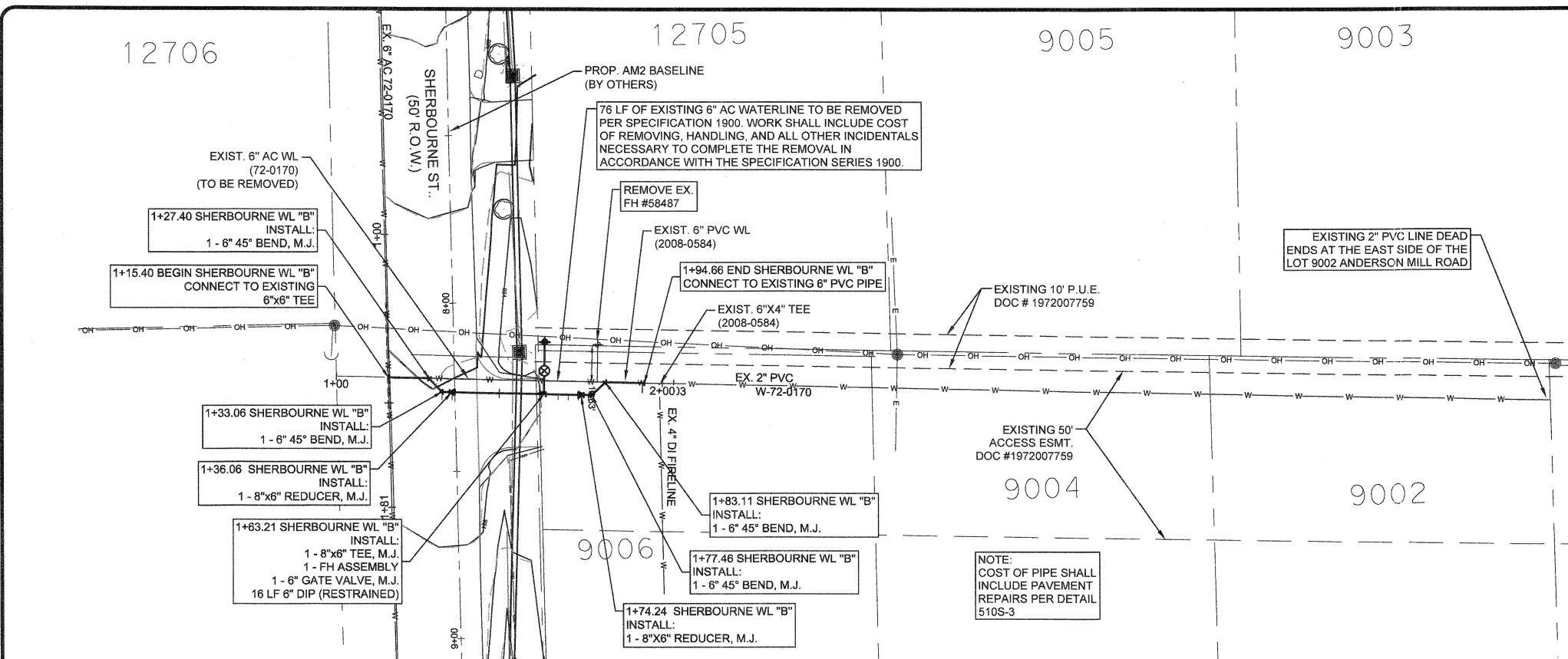


Williamson County, Texas

Bid 1811-278



Dwg Info: G:\CFA\2015\030101\_Willamson\_County\_Road\_and\_Bridge\Forest North - Anderson Mill\DESIGN\C-100 ANDERSON MILL-PP.dwg - Tab: C-104 SHERBOURNE WL-B - Plotted: 11/21/2017 6:00 PM  
By: KRISTEN VAN HOOSIER



AWU GRID #G38-3  
AWU INTERSECTION #30944

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. 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 THAT MIGHT BE OCCASIONED BY THE FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. WHEN THE CONTRACTOR IS USING TRENCHLESS INSTALLATION METHODS, THE CONTRACTOR SHALL LOCATE ALL UTILITIES FOR THE ENTIRE LENGTH OF THE INSTALLATION PRIOR TO ANY ACTIVITIES.
2. CONTRACTOR TO MAINTAIN 48" MINIMUM COVER OVER PROPOSED WATER LINE. CONTRACTOR TO MAINTAIN MINIMUM 18" VERTICAL AND 5' HORIZONTAL CLEARANCE BETWEEN PROPOSED AND EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE PLANS.
3. ANY DISCREPANCIES FROM WHAT IS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BEGINNING WORK.
4. ALL WATER LINES SHALL BE DUCTILE IRON CLASS 350 AS DEFINED BY AWWA C151 AND DUCTILE IRON FITTINGS COMPLYING WITH AWWA C153 UNLESS OTHERWISE NOTED ON PLANS.
5. RESTRAIN ALL PIPE JOINTS AND FITTINGS PER SPL WW-27A.
6. CONNECTION LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE THE EXISTING COUPLINGS ON THE AC PIPE. MAKE CONNECTIONS, AND REMOVE THE AMOUNT OF AC PIPE AS SHOWN PER DETAIL ON SHEET C-502, UNLESS NOTED OTHERWISE ON THE PLANS.
7. CONTRACTOR SHALL ENSURE PROPOSED FIRE LINE AND SERVICE LINE MEET MINIMUM DEPTH REQUIREMENTS UNDER THE PROPOSED CHANNEL AND CULVERT IMPROVEMENTS.
8. EXISTING ASBESTOS CEMENT WATER MAIN(S) IS TO BE PROTECTED AND REMAIN IN SERVICE UNTIL THE NEW DUCTILE IRON MAIN(S) IS CONSTRUCTED, TESTED, APPROVED AND SERVICE LINES RECONNECTED AND THE NEW MAIN IS PLACED IN SERVICE, UNLESS OTHERWISE NOTED ON THE PLANS. CONTRACTOR SHALL MAKE EFFORT TO MINIMIZE SERVICE DISRUPTIONS FOR EXTENDED PERIODS OF TIME IN THE REPLACING-IN-PLACE SECTIONS OF PIPE.
9. EXISTING WATER SERVICE LINES AND METERS ARE TO BE PROTECTED AND REMAIN IN SERVICE UNTIL NEW SERVICE LINES ARE CONSTRUCTED, TESTED, APPROVED AND RECONNECTED AND IN SERVICE.
10. CONTRACTOR SHALL CONTACT WADE MULLIN AT THE CITY OF AUSTIN BUILDING SERVICES DEPARTMENT (512-974-7154) 3 WEEKS PRIOR TO THE PLANNED START DATE TO COORDINATE INSPECTION OF THE DISTURBANCE OF THE AC PIPE AND REMOVAL REQUIREMENTS. ALL WORK MUST CONFORM TO CITY OF AUSTIN SPECIFICATIONS SECTION 1900 OF THE PROJECT MANUAL.
11. AN APPROVED CITY OF AUSTIN ASBESTOS CONSULTING FIRM WILL NEED TO BE RETAINED TO OVERSEE THE WORK ACTIVITIES AND DOCUMENT AIR QUALITY. THE CONTRACTOR IS RESPONSIBLE TO RETAIN A LICENSED CONTRACTOR FAMILIAR WITH CITY OF AUSTIN PROCEDURES FOR ANY ACTIVITY DISTURBING THE EXISTING AC PIPE.
12. THE DEPARTMENT OF STATE HEALTH SERVICES MUST BE CONTACTED 10 DAYS PRIOR TO THE START OF ANY ABATEMENT WORK.
13. EXISTING SERVICE LINES MAY BE COPPER OR PVC PER RECORD DRAWINGS. NOTIFY ENGINEER IF OTHER MATERIAL IS IN PLACE. PROPOSED SERVICE LINE ARE TO BE INSTALLED BELOW PROPOSED DRAINAGE IMPROVEMENTS.
14. EXISTING ASBESTOS CEMENT PIPE TO BE REMOVED FROM JOINT TO JOINT. PIPE REMOVAL SHALL INCLUDE THE COST OF TRENCH AND PAVEMENT REPAIRS, AS WELL AS ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE PIPE REMOVAL.
15. COST OF PIPE INCLUDES ALL BASE AND TRENCH REPAIRS, INCLUDING ALL INCIDENTALS AND ITEMS AS DESCRIBED IN SPECIFICATION 510S.

RESTRAINED JOINT NOTES:

8" - 45° (HORIZ) RESTRAINT = 12'

6" - 45° (HORIZ) RESTRAINT = 9'

IF THE DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

ALL PIPE IS TO BE RESTRAINED TO THE WEST OF THE 8" GATE VALVE, WHERE THE THRUST IS APPLIED.

LEGEND:

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTE WATER MANHOLE
- POWER POLE
- WATER LINE
- WASTE WATER LINE
- UNDERGROUND TELEPHONE
- OVERHEAD ELECTRIC

EXISTING  
GRADE  
FLOW LINE  
OF PIPE

PROFILE SCALE

1"=20' HORIZ.  
1"=2' VERT.

REVIEWED

DEC 11 2017  
Austin Water Utility

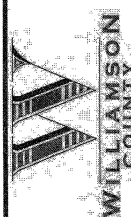
City of Austin  
Reviewed for General Compliance

FEB 08 2018

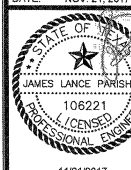
CobbFendley  
TYPE NO. 274 / TEMPL NO. 1004701  
505 EAST HUNTLAND DRIVE, SUITE 100  
512.834.9788 | FAX 512.834.7727  
WWW.COBBFENDLEY.COM

SHERBOURNE WL  
PLAN AND PROFILE

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX



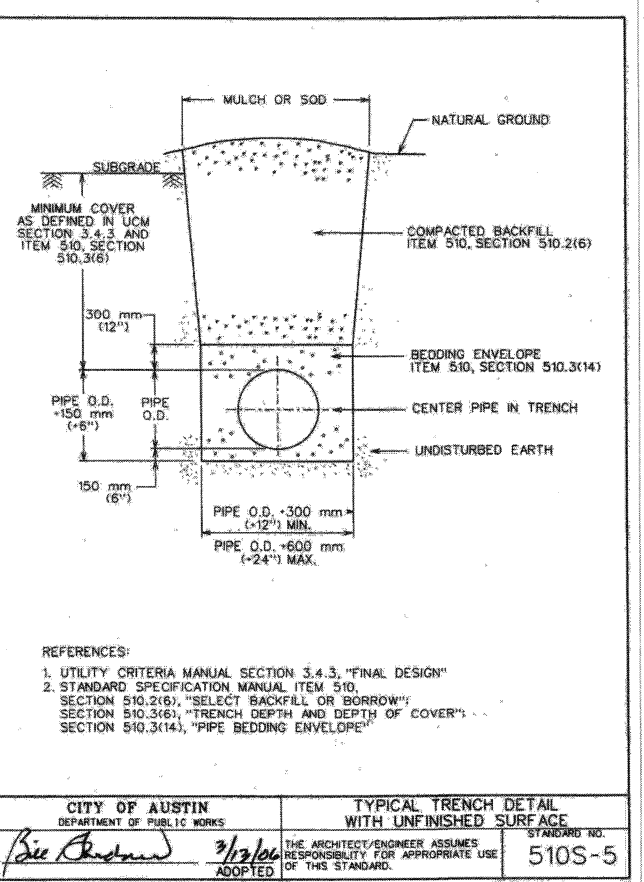
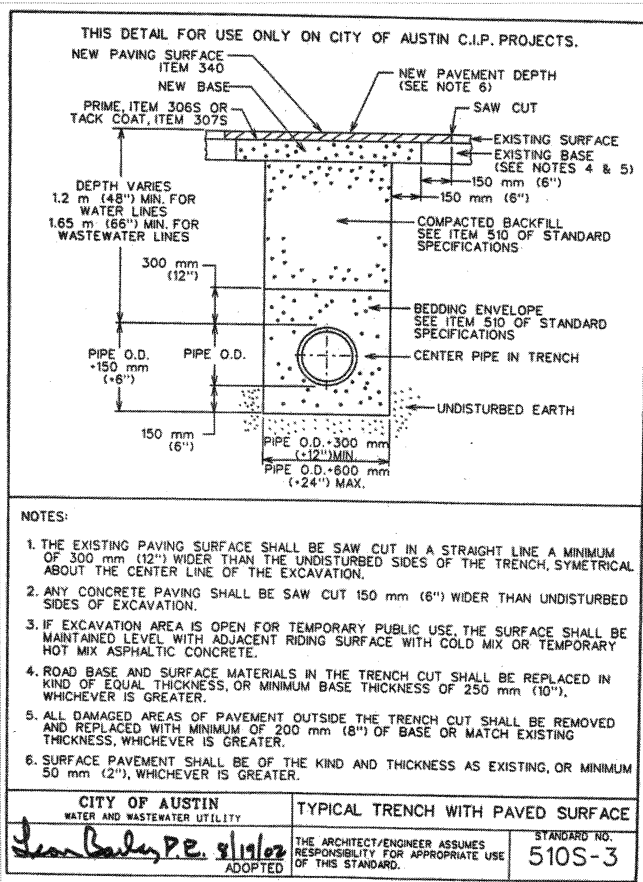
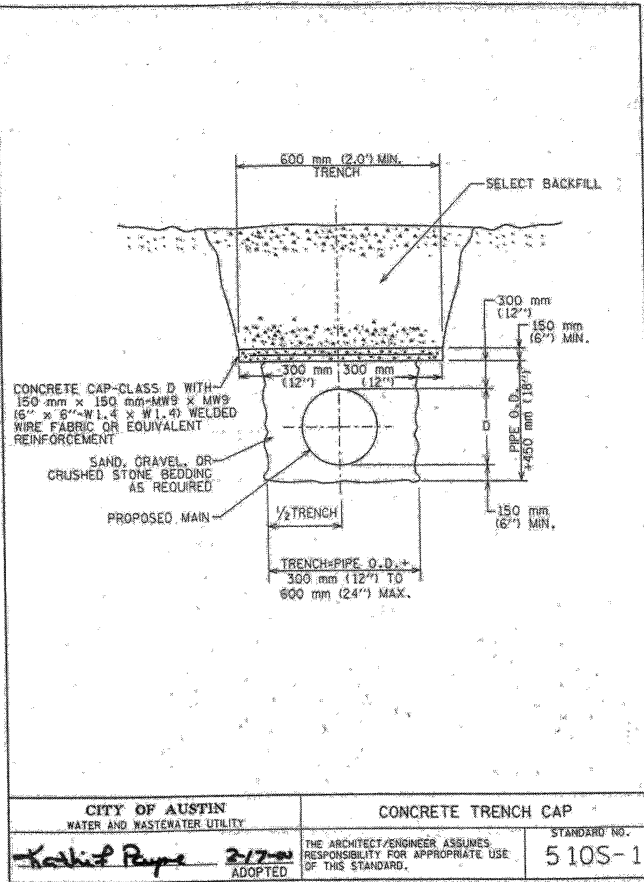
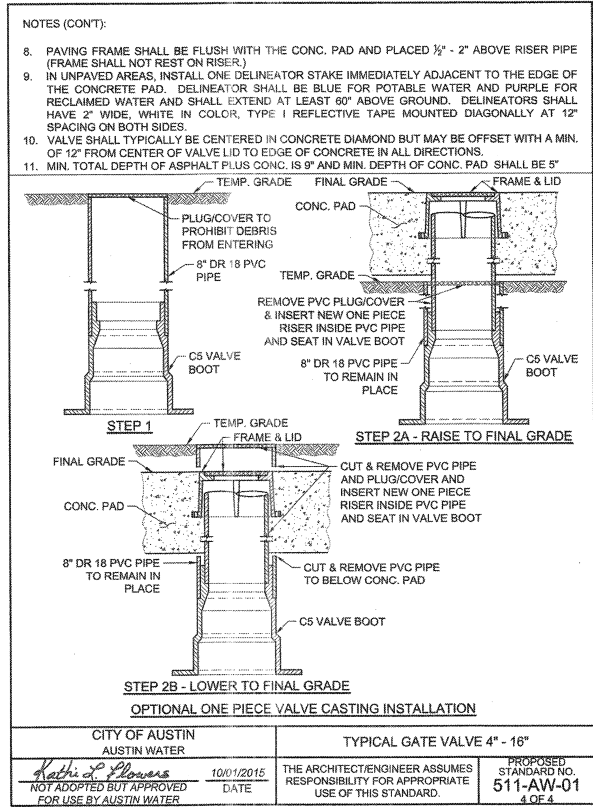
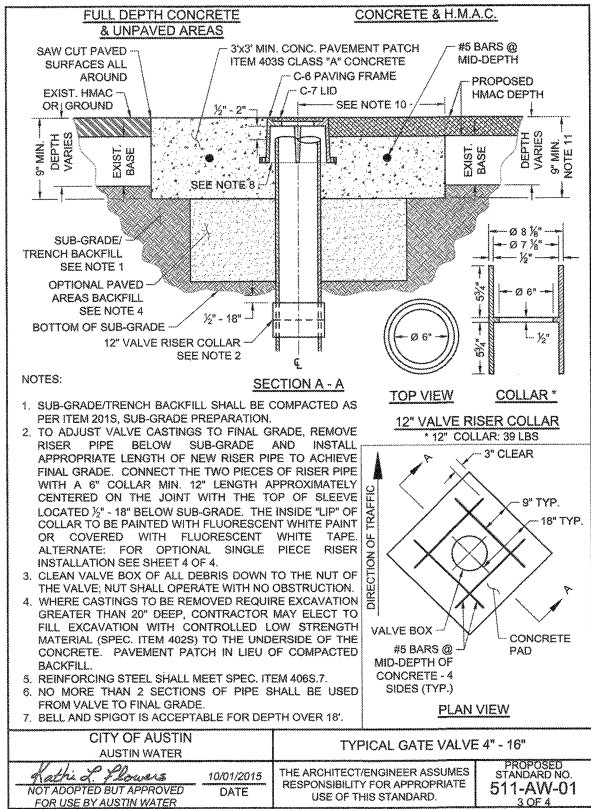
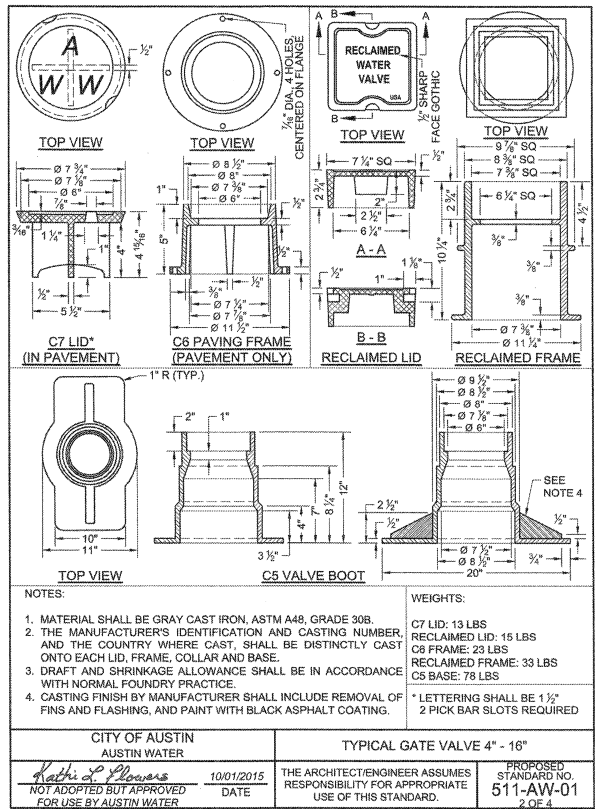
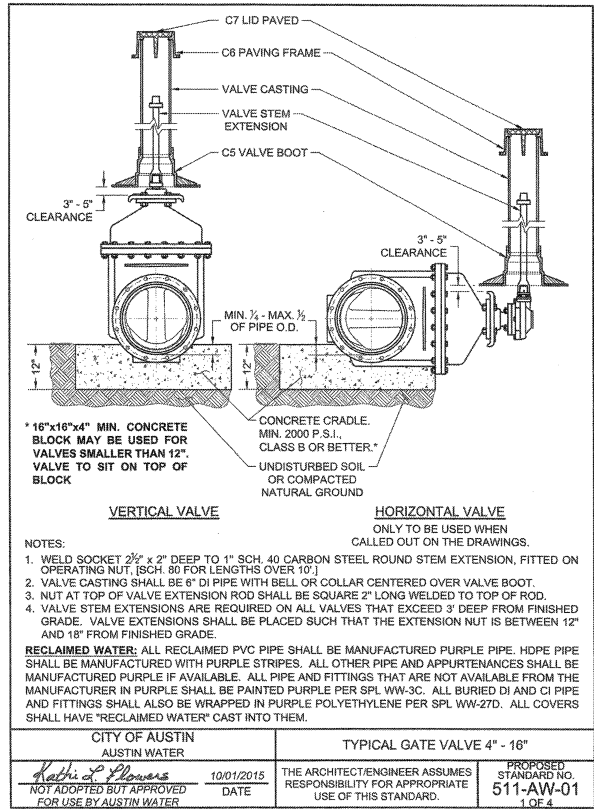
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DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV. 21, 2017



SHEET  
C-104  
6 of 9



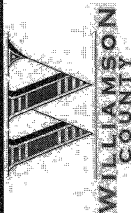
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REVIEWED  
DEC 11 2017  
Austin Water Utility

City of Austin  
Reviewed for General Compliance  
FEB 08 2018

STANDARD WATER DETAILS  
WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX

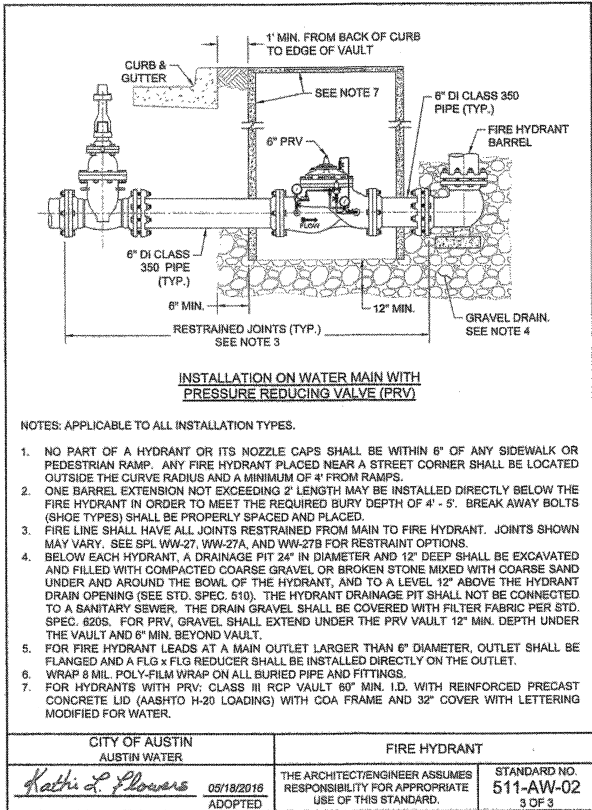
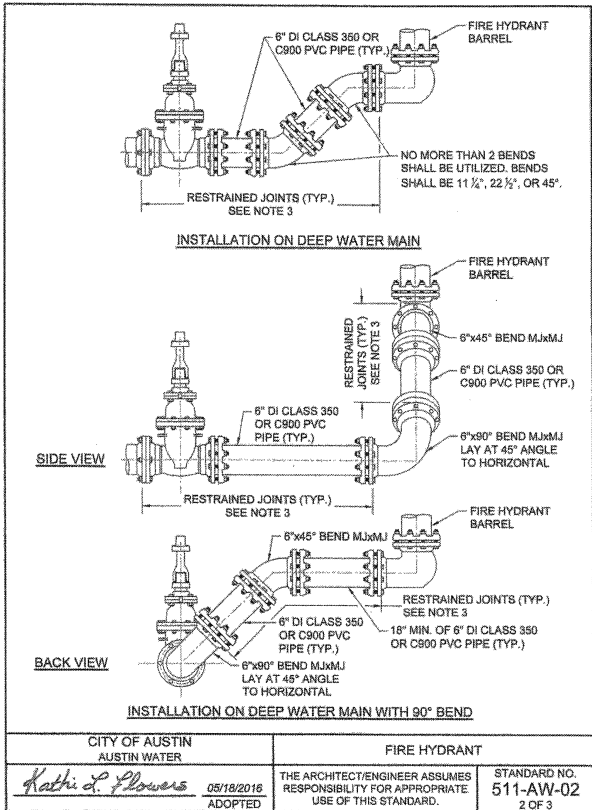
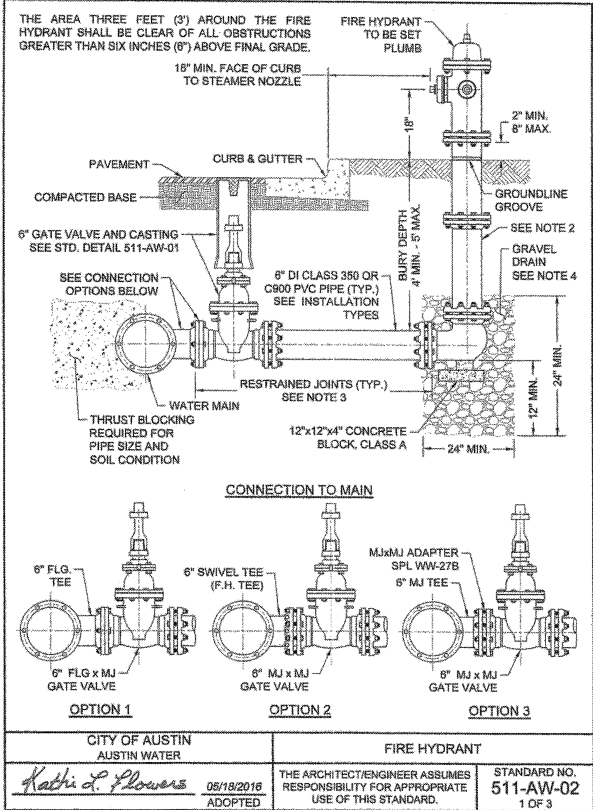


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DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV. 21, 2017



SHEET  
C-500  
7 of 9

Dwg Info: G:\CFA\2015\0301501\_Willamson\_County\_Road\_and\_Bridge\Forest\_North - Anderson Mill\DESIGN\C-500 DETAILS.dwg - Tab: C-501 WATER - Plotted: 11/21/2017 6:01 PM By: KRISTEN VAN HOOSIER



REVIEWED  
DEC 01 2017  
Austin Water Utility

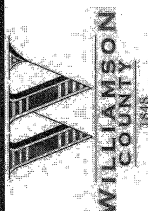
City of Austin  
Reviewed for General Compliance  
FEB 08 2018

DATE	
APPROVED BY	
REVISION DESCRIPTION	
REV. NO.	

**CobbFendley**  
TBE NO. 274 / TBE NO. 10046701  
505 EAST HUNT LAND DRIVE SUITE 100  
AUSTIN, TEXAS 78752  
512.325.0000  
WWW.COBBFENDLEY.COM

STANDARD FIRE HYDRANT DETAILS

WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX



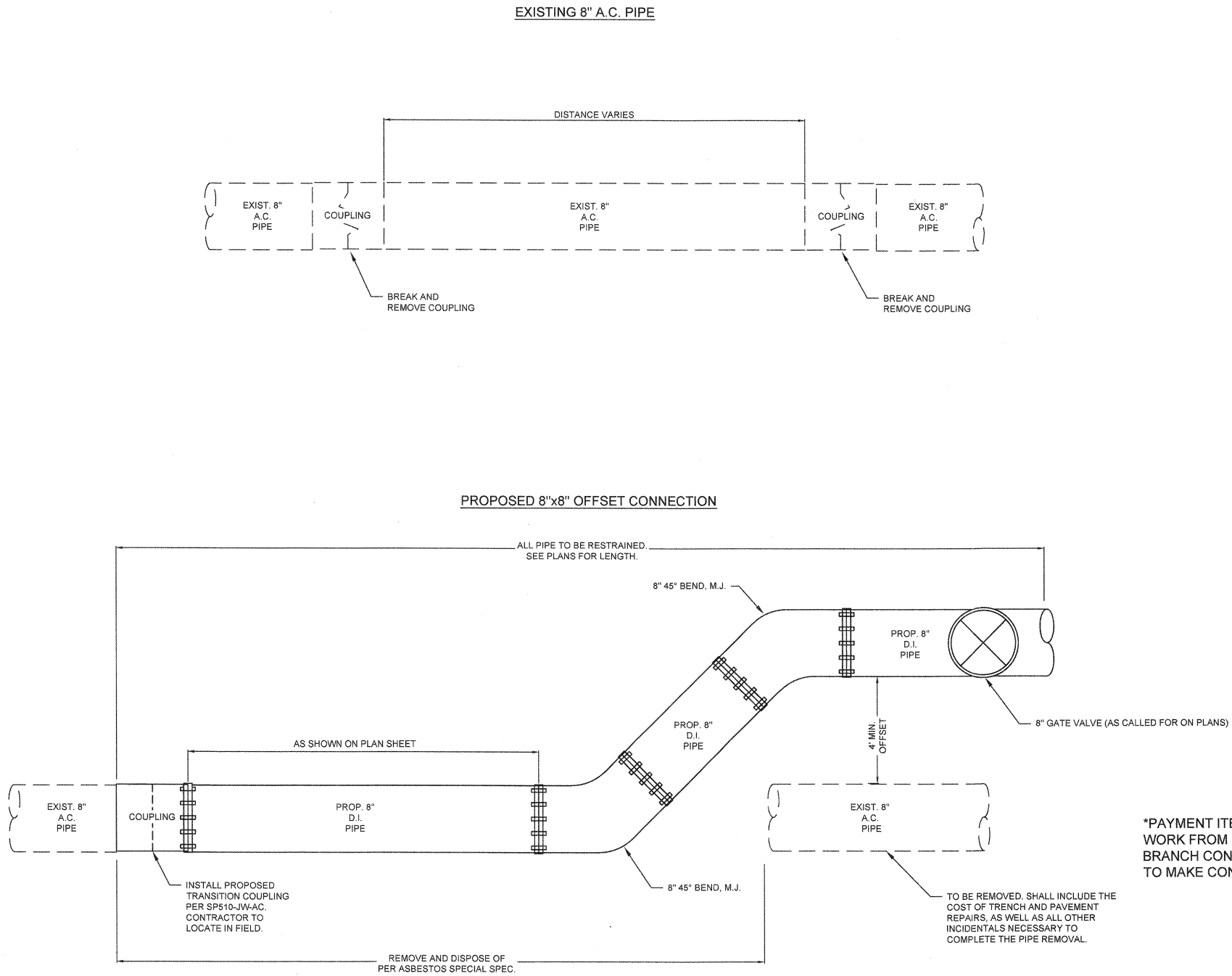
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DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV. 21, 2017



SHEET  
C-501  
8 of 9

Dwg Info: G:\CFA\2015\0301501\_Williamson\_County\_Road\_and\_Bridge\Forest\_North - Anderson Mill\DESIGN\C-500 DETAILS.dwg - Tab: C-508 - Plotted: 11/21/2017 6:01 PM By: KRISTEN VAN HOOSIER

PROJECT ADDRESS: 12802 1/2 BROADMEADE AVE



\*PAYMENT ITEM SP510-JW-AC TO INCLUDE ALL WORK FROM TYING INTO EXISTING COUPLINGS, BRANCH CONNECTION, AND MATERIALS AND LABOR TO MAKE CONNECTION TO EXISTING A.C. SYSTEM.

ASBESTOS CEMENT PROPOSED OFFSET CONNECTION DETAILS  
PROP. 8" D.I. PIPE CONNECTION TO EXIST. 8" A.C. PIPE

N.T.S

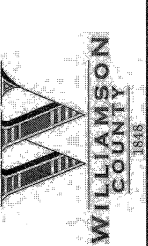
City of Austin  
Reviewed for General Compliance  
FEB 08 2018

REVIEWED  
DEC 11 2017  
Austin Water Utility

REV. NO.	REVISION DESCRIPTION	APPROVED BY:	DATE

**CobbFendley**  
TBP# NO. 274 / TBP#S NO. 10046701  
500 EAST HUNTLAND DRIVE, SUITE 100  
AUSTIN, TEXAS 78751  
512.834.5781 / FAX 512.834.7727  
WWW.COBBFENDLEY.COM

ASBESTOS CEMENT PIPE  
BRANCH CONNECTION DETAILS  
WILLIAMSON COUNTY  
FOREST NORTH DRAINAGE IMPROVEMENTS  
ANDERSON MILL ZONE  
AUSTIN, TX



PROJ. NO. 1403-088-03-8  
DESIGN: G. LITTLEFIELD  
DRAWN: G. LITTLEFIELD  
CHECK: J. HASTINGS  
APPR: L. PARISHER  
DATE: NOV. 21, 2017



11/21/2017  
SHEET  
C-502  
9 of 9

**BID FORM**  
**WILLIAMSON COUNTY, TEXAS**

**PROJECT:** Forest North Drainage Improvements - Anderson Mill Zone

**BIDDER:** \_\_\_\_\_

Full compensation for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract will be considered as included in the unit prices for the work set forth below, and no separate payment will be made for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract, unless separate payment is expressly provided for therein.

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	UNIT COST	AMOUNT BID
1	0100 6002	PREPARING ROW	9	STA		\$ -
2	0110 6002	EXCAVATION (CHANNEL)	127	CY		\$ -
3	0132 6003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	19	CY		\$ -
4	0161 6030	COMPOST MANUF TOPSOIL (6")	1298	SY		\$ -
5	0164 6007	BROADCAST SEED (PERM) (URBAN) (CLAY)	1298	SY		\$ -
6	0164 6009	BROADCAST SEED (TEMP) (WARM)	649	SY		\$ -
7	0164 6011	BROADCAST SEED (TEMP) (COOL)	649	SY		\$ -
8	0168 6001	VEGETATIVE WATERING	197	MG		\$ -
9	0169 6006	SOIL RETENTION BLANKETS (CL 2) (TY F)	1298	SY		\$ -
10	0360 6027	CURB (TYPE II)	10	LF		\$ -
11	0400 6006	CUT & RESTORING PAV	15	SY		\$ -
12	0402 6001	TRENCH EXCAVATION PROTECTION	532	LF		\$ -
13	0432 6002	RIPRAP (CONC)(5 IN)	2	CY		\$ -
14	0464 6003	RC PIPE (CL III)(18 IN)	590	LF		\$ -
15	0465 6126	INLET (COMPL)(PSL)(FG)(3FTX3FT-3FTX3FT)	6	EA		\$ -
16	0467 6363	SET (TY II) (18 IN) (RCP) (6: 1) (P)	1	EA		\$ -

<sup>1</sup>Refer to the Technical Specifications section for a description of the specific reference number.

**BID FORM**  
**WILLIAMSON COUNTY, TEXAS**

**PROJECT:** Forest North Drainage Improvements - Anderson Mill Zone

**BIDDER:** \_\_\_\_\_

Full compensation for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract will be considered as included in the unit prices for the work set forth below, and no separate payment will be made for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract, unless separate payment is expressly provided for therein.

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	UNIT COST	AMOUNT BID
17	0500 6001	MOBILIZATION	1	LS		\$ -
18	0502 6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	2	MO		\$ -
19	0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	443	LF		\$ -
20	0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	443	LF		\$ -
21	0530 6004	DRIVEWAYS (CONC)	246	SY		\$ -
22	0531 6001	CONC SIDEWALKS (4")	6	SY		\$ -
23	0550 6001	CHAIN LINK FENCE (INSTALL) (6')	65	LF		\$ -
24	0644 6071	RELOCATE SM RD SN SUP&AM TY TWT	5	EA		\$ -
25	1004 6002	TREE PROTECTION	0.3	AC		\$ -
26	701S-T	TEMPORARY FENCE, 6 FOOT HIGH, CHAIN LINK	70	LF		\$ -
27	SS2241	IRRIGATION SYSTEM CAPPING	2	EA		\$ -
28	508S-9	COA 4-SIDED AREA INLET	1	EA		\$ -
29	0506 M1WW1	PRECASE MANHOLE W/ CIP BASE (48" DIA.) (4-8' DEPTH)	1	EA		\$ -

<sup>1</sup>Refer to the Technical Specifications section for a description of the specific reference number.

**BID FORM**  
**WILLIAMSON COUNTY, TEXAS**

**PROJECT:** Forest North Drainage Improvements - Anderson Mill Zone

**BIDDER:** \_\_\_\_\_

Full compensation for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract will be considered as included in the unit prices for the work set forth below, and no separate payment will be made for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract, unless separate payment is expressly provided for therein.

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	UNIT COST	AMOUNT BID
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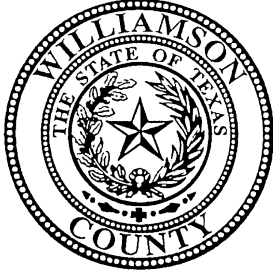
NON-BID ITEMS TO BE INCLUDED IN BID AND CONTRACT AMOUNT. DO NOT MAKE CHANGES TO THIS SECTION.

30	999-WC01	FORCE ACCOUNT	25000	DOL	\$ 1.00	\$ 25,000.00
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**TOTAL AMOUNT OF BID**

\_\_\_\_\_ Dollars and \_\_\_\_\_ Cents \$ 25,000.00

<sup>1</sup>Refer to the Technical Specifications section for a description of the specific reference number.



## 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 \_\_\_\_\_ 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 \_\_\_\_\_ 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: \_\_\_\_\_

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** \_\_\_\_\_; 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 \_\_\_\_\_ 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 be 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, Contractor 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:		\$2,000,000

- 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, its 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 policies. 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 claiming 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 (21<sup>st</sup>) 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: \_\_\_\_\_

**Party Representatives**

Owner's Designated Representative ("ODR"):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

**CONTRACTOR:**

By: \_\_\_\_\_

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

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

Date: \_\_\_\_\_

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."

<b>Name of Bidder:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<b>Address of Bidder:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<b>Email:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<b>Telephone:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<b>Printed Name of Person Submitting Affidavit:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<b>Signature of Person Submitting Affidavit:</b>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>

### 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.

<input type="checkbox"/>	I will offer the quoted prices to all authorized entities during the term of the County's Contract.
<input type="checkbox"/>	I will not offer the quoted prices to all authorized entities.



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**\*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 BIDS SYNC ELECTRONICALLY.**

**CONFLICT OF INTEREST QUESTIONNAIRE****FORM CIQ****For vendor doing business with local governmental entity****OFFICE USE ONLY**

**This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.**

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

Date Received

**1 Name of vendor who has a business relationship with local governmental entity.**

**2** ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

**3 Name of local government officer about whom the information is being disclosed.**

Name of Officer

**4** Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

**5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

**6** ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

**7** Signature is not required if completing in BIDS SYNC electronically;

Signature of vendor doing business with the governmental entity

Date

## CONFLICT OF INTEREST QUESTIONNAIRE

### For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at [http://www.statutes.legis.state.tx.us/ Docs/LG/htm/LG.176.htm](http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm). For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed;

or (ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity. (a-1)

The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (2) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposal or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (3) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or (C) of a family relationship with a local government officer.

Form provided by Texas Ethics Commission

[www.ethics.state.tx.us](http://www.ethics.state.tx.us)

Revised 11/30/2015

# 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:

<input type="text"/>	5
	6

## **Reference 2**

Client Name:

Location:

Contact Name:

Title:

Phone:

E-mail

Contract Date To:

Contract Date From:

Contract Value: \$

Scope of Work:

<input type="text"/>	5
	6

**Reference 3**

Client Name:

Location:

Contact Name:

Title:

Phone:

E-mail

Contract Date To:

Contract Date From:

Contract Value: \$

Scope of Work:

<div></div>	<div>5</div>
<div></div>	<div>6</div>

## Question and Answers for Bid #1811-278 - Forest North Drainage Improvements - Anderson Mill Zone

### Overall Bid Questions

There are no questions associated with this bid.