

Memorandum

To: Eugene Taylor, County Attorney
Williamson County
From: Michael Weaver
Prime Strategies, Inc.
Regarding: Construction Bid Documents/Contracts
Date: May 6, 2002

Please find enclosed a redline version of the Williamson County Bond Program Bid Instructions, Special Conditions, General Conditions of Agreement, and Appendix A. As you recall these documents were reviewed and approved by your office late last year. The Commissioners Court then adopted these for use on all road bond project.

We have been using these documents for the projects currently being advertised and those under construction. Through this process we have worked with both the construction industry and our team to identify several areas to clarify and update. The recommended changes are highlighted in these revisions.

I would like to schedule Commissioners Court action to adopt these revisions as soon as possible. Because of our construction letting schedule, I would like for the Court to consider this item on May 21st. If you have any questions, please let me know.

Cc: Judge John Doerfler, w/attachments
Commissioner Mike Heiligenstein, Pct. 1, w/attachments
Commissioner Greg Boatright, Pct. 2, w/attachments
Commissioner David Hays, Pct. 3, w/attachments
Commissioner Frankie Limmer, Pct. 4, w/attachments

Approved 6-11-02
John C. Doerfler

BID INSTRUCTIONS/REQUIREMENTS

Bids must be received in the Williamson County Auditor's Office **prior to _____ PM on _____, 200_**. At which time the Bids will be opened in the Williamson County Auditor's Office Commissioners Court Room on the 3rd 2nd floor of the County Courthouse. Bids received after that time will not be opened and will be considered void and unacceptable. As to each item bid, the Court may either reject all Bids or award a contract to the lowest and best Bid.

SEALED BIDS may be hand-delivered to:

Williamson County Auditor's Office
Attn: Ginny Atkinson, Assistant Purchasing Director
Third (3rd) floor - Suite 303
Williamson County Courthouse (on the square)
710 Main Street, Georgetown, Texas

OR

SEALED BIDS may be mailed to:

Williamson County Auditor's Office
Attn: Ginny Atkinson, Assistant Purchasing Director
710 Main Street - Suite 303
Georgetown, Texas 78626

ALL BIDS MUST BE SUBMITTED ON THE FORMS PROVIDED IN THIS BID DOCUMENT. (May be replaced with a computer generated printout, if submitted in an identical format to the proposal).

ALL INFORMATION REQUIRED BY THE BID FORM MUST BE FURNISHED OR THE BID MAY BE DEEMED NON RESPONSIVE. WHERE THERE IS AN ERROR IN THE EXTENSION OF PRICE, THE UNIT PRICE SHALL GOVERN.

ALL BIDS MUST BE SUBMITTED IN FIVE (1 ORIGINAL BID SET & 4 COPIES – BID SETS MUST BE MARKED ORIGINAL OR COPY) A BID SET CONSISTS OF COUNTY BID FORM, BID SPECIFICATIONS, BID SHEETS, & ANY OTHER DOCUMENTATION REQUIRED BY THE BID.

ALL BIDS MUST BE RETURNED IN A SEALED ENVELOPE, MARKED WITH THE BID NAME, BID NUMBER, AND BID OPENING DATE & TIME. IF AN OVERNIGHT DELIVERY SERVICE IS GOING TO DELIVER THE BID THE BID NAME, BID NUMBER, AND BID OPENING DATE & TIME MUST ALSO APPEAR ON THE OUTSIDE OF THE DELIVERY SERVICE ENVELOPE.

For questions relating to the bidding process, contact Ginny Atkinson – Asst. Purchasing Director. (512) 943- 1554.

For technical questions, contact the office of _____ (Project Engineer). Put address and phone number of project engineer here.

AGENDA ITEM 30

Discuss and take appropriate action on road bond program.

There was no action taken on this agenda item.

AGENDA ITEM 31

Discuss and take appropriate action on jail/courthouse annex expansion.

Sheriff Maspero introduced Jack Hall, the new Assistant Chief of Corrections.

Ed Lee gave an update on the jail/courthouse annex expansion. He stated that there should be updated figures on the courthouse annex by Friday. He also mentioned that the jail project is behind schedule right now, due in part to foundation issues.

AGENDA ITEM 32

Consider approving revisions to the Williamson County Bond Program Bid Instructions, Special Conditions, General Conditions of Agreement, and Appendix A.

Moved: **Commissioner Boatright**

Seconded: **Commissioner Limmer**

Motion: To approve revisions to the Williamson County Bond Program Bid Instructions, Special Conditions, General Conditions of Agreement, and Appendix A.

Vote: **4 - 0**

< Attachment >

FACSIMILE AND ELECTRONIC MAIL TRANSMITTALS SHALL NOT BE ACCEPTED.

1. 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. **This price must be good from the date of Bid opening for a fixed period of time. Unless the Bid expressly states otherwise, this period shall be until the end of the current fiscal year on September 30, 200_.** 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.
2. 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 price, 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 point.
3. 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 materials and/or services covered in this Bid request, and to waive informalities or defects in the Bid or to accept such Bid it shall deem to be in the best interest of Williamson County.
4. ~~Awards should be made approximately four (4) weeks after the Bid opening date. To obtain results, or if you have any questions, please contact _____ (Project Engineer) at (512) _____.~~
5. Funding: Funds for payment have been provided through the Williamson County budget approved by Commissioners Court for the October 1, 200_/September 30, 200_ fiscal year.
6. Late Bid: Bids received after submission deadline shall be unopened and will be considered VOID AND UNACCEPTABLE. Williamson County is not responsible for lateness of mail, carrier, etc.
7. Altering Bid: Bids **cannot be altered or amended** after submission deadline.
8. Sales Tax: Williamson County is by statute, exempt from the State Sales Tax and Federal Excise Tax.
9. Contract: This Bid, when properly accepted by Williamson County, shall constitute a contract equally binding between the successful bidder and Williamson County. No different or additional terms will become part of this contract.
10. Changes: No oral statement of any person shall modify or otherwise change, or affect the terms, conditions, plans and/or specifications stated in the Bid Package and or Bid Instructions/Requirements.
11. Delivery Times and Locations: The commodity and/or service covered by this Bid shall be as stated in the Bid Package.

12. Payments: The Construction Observer will manage the Contractor payments. Invoices for the work specified in the Contract Documents will be submitted to the Construction Observer. Upon satisfactory completion and acceptance of these invoices, the Construction Observer will forward the invoices to the County. Payment shall be made by check from the County upon final acceptance of the submitted invoices. As a minimum, invoices shall include:

- (1) Name, address, and telephone number of Contractor and similar information in the event the payment is to be made to a different address
- (2) County contract, Purchase Order, and/or delivery order number
- (3) Identification of items or service as outlined in the contract
- (4) Quantity or quantities, applicable unit prices, total prices, and total amount
- (5) Any additional payment information which may be called for by the contract

Payment inquiries should be directed to the Construction Observer.

13. 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.
14. 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 Williamson County.
15. Minimum Standards for Responsible Bidders: A prospective bidder must affirmatively demonstrate bidder's responsibility. A prospective bidder must 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;
 - d. be otherwise qualified and eligible to receive an award.

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

16. References: Williamson County **REQUIRES** bidder to supply with this Bid, a list of at least **three (3) references** where like services have been supplied by their firm. Include name of firm, address, telephone number and name of representative.
17. Bidder shall provide with this Bid response, all documentation required by this Bid. Failure to provide this information may result in rejection of the Bid.

18. Termination for Default: Williamson County reserves the right to enforce the performance of this contract in any manner prescribed by law or deemed to be in the best interest of the County in the event of breach or default of this contract. Non-Performance of the bidder in terms of specifications shall be a basis for the termination of the contract by the County. The County shall not pay for commodities/services which are unsatisfactory. Contractors will be given a reasonable opportunity before termination to correct the deficiencies. This, however, shall in no way be construed as negating the basis for termination for non-performance.
19. Contract Administration: Under this contract, Joe England, County Engineer, Williamson County Unified Road & Bridge System, shall be the contract administrator with designated responsibility to ensure compliance with contract requirements, such as but not limited to, acceptance, inspection and delivery. The contract administrator will serve as liaison between Williamson County Commissioners Court and the successful bidder or the Construction Observer.
20. Purchase Order: Williamson County shall generate a purchase order(s) to the successful bidder as products and/or services are required. The purchase order number must appear on all itemized invoices and/or request for payment.
21. 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.
22. ~~Liquidated Damages for Failure to Enter into Contract: The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within ten (10) days after receipt of notice of the acceptance of the bid, shall forfeit to the County, as liquidated damages for such failure or refusal, the security deposited with the bid.~~
23. Contract Times and Liquidated Damages - Bidders must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the County, and to fully complete the project within the specified time stated in the proposal. Bidders must agree to pay liquidated damages of _____ dollars (\$____) to County for every day past the specified completion date stated in the proposal.
22. BIDS MUST BE: legible and of a quality that can be reproduced.
23. Bid forms that are included in the Bid package shall be used. **CHANGES to Bid forms made by bidders shall DISQUALIFY THE BID.** Exceptions to the Bid forms and or specifications shall be made on an **attachment** to the Bid package. **Call Ginny Atkinson (512) 943-1554 for explanation if exceptions are needed.**
24. The Texas Labor Code, S406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a governmental entity. The rule requires a governmental entity 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 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, S402.061. 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 or proposal 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:

~~Mike J. Weaver~~
~~Prime Strategies, Inc.~~
~~1508 S. Lamar Blvd.~~
~~Austin, TX 78704~~
Ginny Atkinson
Williamson County Auditor's Office
Purchasing
710 Main Street- Suite 303
Georgetown, Tx. 78626

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) 943-1554, or you may call the Texas Workers' Compensation Commission at (512) 440-3789.

WORKERS' COMPENSATION INSURANCE COVERAGE.

- A. Definitions: Certificate of coverage ("certificate")-A copy of a certificate of insurance, a certificate of authority to self-insure issued by the 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 project.

Duration of the project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in S406.096) - 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.

- 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, 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 coverage to the governmental entity prior to being awarded the contract.
- 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 the governmental entity showing that coverage has been extended.
- E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project;
 - (2) no later than seven (7) 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 governmental entity 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;
 - (4) obtain from each other person with whom it contracts, and provide to the

contractor:

- (a) a certificate of coverage, prior to the other person beginning work on the project; &
 - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (6)) notify the governmental entity in writing by certified mail or personal delivery, within 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 the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity 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 governmental entity.
24. **PERFORMANCE AND PAYMENT BONDS:** Chapter 2253.021 of the Texas Government Code governs the requirements for performance and payment 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. 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 within ten (10) days after receipt of written notification of award of contract prior to beginning work on the project and must be executed by a corporate surety or sureties in accordance with the Texas Insurance Code. In the event the bond exceeds \$100,000.00, the surety must also (1) hold a certificate of authority from the United States secretary of the treasury to qualify as a surety on obligations permitted or required under federal law; or (2) have obtained reinsurance for any liability in excess of \$100,000.00 from a reinsurer that is authorized and admitted as are insurer in this state and is the holder of a certificate of authority from

the United States secretary of the treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law.

In determining whether the surety or reinsurer holds a valid certificate of authority the County may rely on the list of companies holding certificates of authority as published in the Federal Register covering the date on which the bond is to be executed. 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. The purpose of a performance bond is for the protection of the government entity and is conditioned on the faithful performance of the work being done in accordance with the plans, specifications and contract documents. The payment bond is for the protection of persons supplying labor and materials to the contractor to ensure payment.

25. **BIDDERS BOND:** All bids shall be accompanied by a certified cashier's check upon a National or State bank in an amount not less than five percent (5%) of the total maximum bid price, payable without recourse to Williamson 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 performance and payment bonds, as stipulated by item 24 above, within ten (10) days after notice of award of contract to him. Bid guarantees must be submitted in the same sealed envelope with the bid. Bids submitted without check or bid bonds will not be considered.
26. All bid securities will be returned to the respective bidders within twenty-five (25) days after bids are opened, except those which the County elects to hold until the successful bidder has executed the contract. Thereafter, all remaining securities, including security of the successful bidder, will be returned within sixty (60) days.
27. Prior to submitting any bid, bidders are required to read the plans, specifications, bid, contract and bond forms carefully; to inform themselves by their independent research, test and investigation of the difficulties to be encountered and judge for themselves of the accessibility of the work and all attending circumstances affecting the cost of doing the work and the time required for its completion and obtain all information required to make an intelligent bid.
28. Should the bidder find discrepancies in, or omissions from the plans, specifications, or other documents, or should he/she be in doubt as to their meaning, he/she should notify at once the Project Engineer and may obtain clarification or addendum prior to submitting any bid.
29. In case of ambiguity or lack of clarity in the statement of prices in the bids, the county reserves the right to consider the most favorable analysis thereof, or to reject the bid. Unreasonable (or unbalanced) prices submitted in a bid may result in rejection of such bid or other bids.
30. Award of the contract, if awarded, will be made within sixty (60) days after opening of the bids and no bidder may withdraw his bid within said sixty (60) day period of time unless a prior award is made.
31. ~~Failure to execute the construction contract w~~ Within ten (10) days of written notification of award ~~or failure of the contract the bidder shall execute to and furnish to the~~

County the performance bond, or letter of credit if applicable, and payment bond as required by item 24 above.; and the Certificate of Insurance showing coverages in accordance with contract documents. Failure to execute contract, Bonds and Certificate of Insurance shall be just cause for the annulment of the award. In case of the annulment of the award, the bid guarantee shall become the property of Williamson County, not as a penalty, but as a liquidated damage.

32. ~~The Contractor shall not commence work under this contract until he has furnished certification of all insurance required and such has been approved by Williamson County, nor shall the contractor allow any subcontractor to commence work on his subcontract until proof of all similar insurance that is required of the subcontractor has been furnished and approved. The certificate of insurance form included in the contract documents must be used by the Contractor's insurer to furnish proof of insurance.~~

33. Any quantities given in any portion of the contract documents, including the plans, are estimates only, and the actual amount of work required may differ somewhat from the estimates. The basis for the payment shall be the actual amount of work done and/or material furnished.

34. ~~Bids shall be submitted on a separated contract basis. No Texas sales tax shall be included in the prices bid for materials consumed or incorporated into the finished product under this contract. This contract is issued by an organization which is qualified for exemption pursuant to the provisions of Section 151.309(5) of the Texas Tax Code. Williamson County will issue an exemption certificate to the Contractor. The Contractor must then issue a resale certificate to the material supplier for materials purchased. The Contractor must have a valid sales tax permit in order to issue a resale certificate.~~

~~In obtaining consumable materials, the Contractor will issue a resale certificate in lieu of payment of sales tax, and the following conditions shall be observed:~~

- ~~1) The contract will transfer title of consumable, but not incorporate, materials to Williamson County at the time and point of receipt by the Contractor;~~
- ~~2) The Contractor will be paid for these consumable materials by the County as soon as practicable. Payment will not be made directly but considered subsidiary to the pertinent bid item. The Contractor's monthly estimate will state that the estimate includes consumables that were received during the month covered by the estimate; and~~
- ~~3) 1) The designated representative of Williamson County must be notified as soon as possible of the receipt of these materials so that an inspection can be made by the representative. Where practical, the materials will be labeled as the property of the Williamson County.~~

35. **THE TEXAS HAZARD COMMUNICATION ACT**, Chapter 502 of the Health and Safety Code, Sec. 502.006, states that a chemical manufacturer or distributor shall provide appropriate Material Safety Data Sheets (MSDS) to employers who acquire hazardous chemicals in this state with each initial shipment and with the first shipment after a MSDS is updated. The MSDS must conform to the most current requirements of the OSHA standard in 29 CFR 1910.1200. By submitting your bid to the County you are

acknowledging that this regulation is a part of this bid and that you will provide appropriate MSDS with each initial shipment and with the first shipment after a MSDS is updated.

36. **THE WILLIAMSON COUNTY HAZARD COMMUNICATION PROGRAM POLICY** Under Revised Texas Hazard Communication Act (THCA) of 1993 states that it is the responsibility of all contractor/sub-contractors who bring hazardous chemicals onto county property to provide appropriate MSDS to the county at the work site. When exposure to a hazardous chemical is expected each contractor/sub-contractor shall be responsible for the appropriate training of their employees. For a copy of the Williamson County Hazard Communication Program Policy contact the Williamson County Unified Road & Bridge System Safety/Training Coordinator at 512/930-3330. By submitting your bid to the County you are acknowledging that this policy is a part of this bid and that you will provide appropriate MSDS to the county work site and provide for appropriate training as applicable.

SPECIAL CONDITIONS**I. County:**

Williamson County, a government corporation, organized and existing under the laws of the State of Texas, acting through its respective executive officer, or his/her designee, agents or employees, whom Contractor has entered into the Agreement and for whom the work is to be performed, is referred to as "County". The County shall be contacted through its Purchasing Department for Contract related subjects and through the County Engineer's office for design and construction related subjects:

Purchasing Department
Williamson County
710 Main Street, Suite 303
Georgetown, TX 78626

County Engineer
Williamson County
1900 Inner Loop
Georgetown, TX 78626

The County may elect to use any combination of bid items in this proposal. **in the completion of the project. However, the successful bidder will be determined using all the items listed.**

The Contractor will then have full responsibility for proper construction as required to obtain final Certificate of Acceptance from the County Engineer.

The successful bidder shall enter into a contract with the County to perform the specified work.

II. The Project Engineer:

_____ is the County's design professional, who shall provide professional engineering services as defined in the Texas Government Code Chapter 2254, Subchapter A, and referred to as the "Project Engineer" in the "General Conditions of Agreement" contained in the Contract Documents. Nothing contained in the Contract Documents shall create any contractual or agency relationship between the Project Engineer and the Contractor.

III. The Construction Observer:

_____ is the "Construction Observer" referred to herein and in the Contract Documents. The Construction Observer will be responsible for observing the construction of the project including, but not limited to, inspection observation of work, daily reports, quantity verification, record drawings, **Quality Assurance** material sampling and testing, and Contractor payments. Description of these duties are listed below:

~~Inspection of Work. Inspections should be performed at all critical stages of work. However, all stages, materials, and details of the work may be subject to inspection. The Construction Observer should meet with the Contractor to establish an understanding of the critical stages, and the Contractor should keep the Construction Observer informed of all operations so inspections can be scheduled. The Construction Observer and/or Contractor will frequently check line, grade, and dimensions of roadways and structures with survey instruments, depending on client procedures. Means and methods are the Contractor's domain, and the Construction Observer shall not dictate these in order to achieve desired results. However, where specified procedures are spelled out in the plans and Specifications, the Construction Observer will periodically observe to see if they are being followed. If an inspection reveals that work has not been properly performed the~~

~~Contractor should be advised and the Construction Observer should request that corrective action be taken. The Contractor should inform the Construction Observer of his schedule for correcting such work and the time at which a re-inspection can be made. The Construction Observer evaluates and documents the Contractor's operations and production with respect to quality and progress.~~

~~Daily Reports. Keeping accurate and timely Daily Reports is a very important function of the Construction Observer. The Daily Report accounts for time, weather, material, equipment, labor, work progress, and pay quantities. Each Daily Report should be brief and at the same time be complete, clear and factual, and include all work accomplished. The following are typical items to be included in the Daily Reports:~~

- ~~☐ Factors adversely affecting progress; such as, utility delays, delivery of material, availability of work force and equipment, plan changes, changed conditions, weather, and poor Contractor management.~~
- ~~☐ Unsatisfactory work performed by the Contractor and corrective actions proposed or taken.~~
- ~~☐ Situations or conditions that may require changes, extra work, or generate a claim.~~
- ~~☐ Unusual or difficult engineering, construction, or traffic problems involved and their solution.~~
- ~~☐ Safety conditions that require action with respect to the public, workers, and abutting property owners.~~
- ~~☐ When shutdown periods occur, the reasons, the dates of suspension and resumption of work must be included.~~
- ~~☐ Documentation and justification of actions taken, instructions given to the Contractor, and observations on the work performed.~~
- ~~☐ Activity that the Contractor could and should be accomplishing but is not, and the efforts made to have the Contractor improve upon his progress.~~
- ~~☐ Discussions with property owners, official visitors, and representatives of other agencies, utilities, and railroads.~~
- ~~☐ Any authorized extra work, force account work, etc. being performed by the Contractor.~~

~~The Daily Reports should include the day of the week, date of the month and year, daily weather conditions, temperature range, and hours of work for the Contractor. The reports should include who did what, where, when, and how, how much, and for how long. A listing of the Contractor's work force and equipment should be recorded daily, and idle equipment should also be recorded. Measurements taken as dimensional checks and for determination of pay quantities should be included on the Daily Report as sketches with computations shown next to the sketch. The results of field testing are also to be shown on the Daily Report.~~

~~Quantity Verification. The Construction Observer shall verify and perform spot checks on quantities being identified, measured, recorded and verified by comparisons against plan, contract quantities and plan dimensions.~~

~~Record Drawings.~~ The Construction Observer should maintain "Record" drawings to document the changes made to the constructed project. A centrally located complete set of full size contract drawings marked as "Record" should be utilized. The changes should be marked with colored pencil (whatever color is required by the client). Changes should be recorded when they occur to keep the "Record" drawing set current.

~~Material Testing.~~ In accordance with current local agency requirements and the "Quality Assurance Program" included herein, the Construction Observer should check materials delivered to the project to determine if they have been tested. The physical tests would include, but are not limited to:

- ~~☐ Soil classification testing.~~
- ~~☐ Compaction, and moisture content testing for fill sections and backfill operations.~~
- ~~☐ Density, and moisture content testing for subbase stone.~~
- ~~☐ Temperature, and density testing of asphalt courses~~
- ~~☐ Temperature, consistency, air content testing and test cylinders for concrete~~
- ~~☐ Thickness, reflectivity, and temperature testing during application of pavement markings.~~
- ~~☐ Thickness, humidity, dew point and temperature during application of paint on structural steel.~~

~~The results of testing should be recorded and maintained on the project in accordance with County requirements. The tests should be identified with the test number, date of testing, at the station and elevation of the test on the appropriate plan sheet. Tests for pipe, structure, and culvert backfills should be shown on the plan and profile sheets.~~

~~When testing requirements are not met for material testing performed by the Contractor, the Construction Observer shall order the performance of independent material testing in accordance with Article XLII and the "Quality Assurance Program" included in the Contract Documents.~~

~~Contractor Payment.~~ The Contractor shall submit the invoices for all work completed to the Construction Observer. The Construction Observer shall check the invoices for work done and verify quantities used. Upon verification and approval, the Construction Observer shall forward the invoices to the County and payment shall be made to the Contractor in accordance with Article VI.

~~IV~~ — **Inspections:**

~~All work shall be subject to inspection by the Construction Observer and approval by the Project Engineer. The Construction Observer has the authority to inspect and order the performance of any tests deemed necessary. See Article XLII for material sampling and testing.~~

~~Notices:~~ The Contractor shall notify the Construction Observer 24 hours prior to beginning construction. The Contractor shall notify the Construction Observer 72 hours prior to any construction on weekends or holidays. For roadway improvements involving work along existing development such as rehabilitation or resurfacing projects, the

~~Contractor shall notify property owners 48 hours prior to any construction activity. The notices may be in the form of door hangers and shall be obtained from the County and distributed by the Contractor to all impacted or adjacent property owners as directed by the County, the Construction Observer or their designated representatives.~~

V. **Insurance:**

The Contractor will carry Workmen's Compensation Insurance, Public Liability and Property Damage Insurance, and Automobile Insurance sufficient to provide adequate protection against damage claims which may arise from operations under this Contract in compliance with the following:

Contractors Insurance: Without limiting any of the other obligations or liabilities of the Contractor, during the term of the contract, the Contractor and each subcontractor, at their own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly approved to do business in the State of Texas and satisfactory to the County. Certificates of each policy shall be delivered to the County before any work is started, along with a written statement from the issuing company stating that said policy shall not be canceled, non-renewed or materially changed without 30 days advance written notice being given to the County. Prior to the effective date of cancellation, Contractor must deliver to the County a replacement certificate of insurance or proof of reinstatement. A model Certificate of Insurance is illustrated herein. Coverage shall be of the following types and not less than the specified amounts:

- (a) workers' compensation as required by Texas law, with the policy endorsed to provide a waiver of subrogation as to the County; employer's liability insurance of not less than \$100,000 for each accident, \$100,000 disease--each employee, \$500,000 disease-policy limit.
- (b) commercial general liability insurance, including independent contractor's liability, completed operations and contractual liability covering, but not limited to, the liability assumed under the indemnification provisions of this contract, fully insuring Contractor's (or subcontractor's) liability for injury to or death of County's employees and third parties, extended to include personal injury liability coverage with damage to property of third parties, with minimum limits as set forth below:

General Aggregate	\$1,000,000
Products--Components/ Operations Aggregate	\$1,000,000
Personal and Advertising Injury	\$600,000
Each Occurrence	\$600,000
Fire Damage (any one fire)	\$50,000
Medical Expense (any one person)	\$5,000

The policy shall include coverage extended to apply to completed operations, asbestos hazards (if this project involves work with asbestos) and XCU (explosion, collapse and underground) hazards. The completed operations coverage must be maintained for a minimum of one year after final completion and acceptance of the work, with evidence of same filed with County.

- (c) comprehensive automobile and truck liability insurance, covering owned, hired and **non-owned vehicles, with a combined bodily injury** and property damage minimum limit of \$600,000 per occurrence; or separate limits of \$250,000 for bodily injury (per person), \$500,000 bodily injury

(per accident) and \$100,000 for property damage. Such insurance **shall include coverage for loading and unloading hazards.**

- (d) ~~**County's Protective Liability Insurance:** Contractor shall obtain, pay for and maintain at all times during the prosecution of the work under this contract, an County's protective liability insurance policy naming the County and the Project Engineer as insured for property damage and bodily injury, which may arise in the prosecution of the work or Contractor's operations under this contract. Coverage shall be on an "occurrence" basis, and the policy shall be issued by the same insurance company that carries the Contractor's liability insurance with a combined bodily injury and property damage minimum limit of \$600,000 per occurrence and \$1,000,000 aggregate.~~

"Umbrella" Liability Insurance: The Contractor shall obtain, pay for and maintain umbrella liability insurance during the contract term, insuring Contractor for an amount of not less than \$1,000,000 **per occurrence combined** limit for bodily injury and property damage that follows form and applies in excess of the primary liability coverages required herein above. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted. County and Project Engineer shall be named as additional insured.

Policy Endorsements and Special Conditions:

- (a) Each insurance policy to be furnished by Contractor shall include the following conditions by endorsement to the policy:
- (1) name the County, **the Manager, the Manager's agents, the Construction Observer** and the Project Engineer as an additional insured as to all applicable **coverage**;
 - (2) each policy shall require that 30 days prior to the cancellation, non-renewal or any material change in coverage, a notice thereof shall be given to County by certified mail.
 - (3) ~~_____~~ (3) the term "County" shall include all authorities, boards, bureaus, commissions, divisions, departments and offices of the County and individual members, employees and agents thereof in their official capacities, and/or while acting on behalf of the County;
 - (4) the "Manager" represents and assists the County in the planning, design, review, and coordination of the design and construction phases of the project.
 - (4)(5) the policy phrase "other insurance" shall not apply to the County where the County is an additional insured on the policy; and
 - (5) all provisions of the contract concerning liability, duty and standard of care together with the indemnification provision, shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies.
- (b) Insurance furnished by the Contractor shall be in accordance with the following requirements:

- (1) any policy submitted shall not be subject to limitations, conditions or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by Contractor. The County's decision thereon shall be final;
 - (2) all policies are to be written through companies duly licensed to transact that class of insurance in the State of Texas; and
 - (3) all liability policies required herein shall be written with an "occurrence" basis coverage trigger.
- (c) Contractor agrees to the following:
- (1) Contractor hereby waives subrogation rights for loss or damage to the extent same are covered by insurance. Insurers shall have no right of recovery or subrogation against the County, it being the intention that the insurance policies shall protect all parties to the contract and be primary coverage for all losses covered by the policies;
 - (2) companies issuing the insurance policies and Contractor shall have no recourse against the County for payment of any premiums or assessments for any deductibles, as all such premiums and deductibles are the sole responsibility and risk of the Contractor;
 - (3) approval, disapproval or failure to act by the County regarding any insurance supplied by the Contractor (or any subcontractors) shall not relieve the Contractor of full responsibility or liability for damages and accidents as set forth in the contract documents. Neither shall the bankruptcy, insolvency or denial of liability by the insurance company exonerate the Contractor from liability; and
 - (4) no special payments shall be made for any insurance that the Contractor and subcontractors are required to carry; all are included in the contract price and the contract unit prices.

Any of such insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

The Contractor shall furnish the County with satisfactory proof that he has provided adequate insurance coverage in amounts and by approved carriers as required by these contract documents.

~~VI.~~ Payment:

~~Payment will be made to the Contractor on the basis of approved monthly estimates of work completed during the preceding month. The Contractor will submit to the Construction Observer his estimate of the total value of the work done by him to date, less 10% retained, and less all previous payments received by him. The Construction Observer may either approve the Contractor's estimate, or prepare a statement of the total value of the work done by the Contractor, less 10% retained, and less all previous payments and such other sums that may be retained by the County under the terms of this agreement. The estimate as approved or the statement prepared by the Construction Observer will be sent to the County through the Road Bond Program Manager (Manager) or directly for payment.~~

VII. Acceptance and Final Payment:

~~Upon satisfactory completion of the work, and the furnishing by the Contractor to the County, an affidavit stating that all bills related to any work, labor, equipment or supplies have been paid and that there are no outstanding claims or bills remaining, the~~

~~The Construction Observer will issue a Certificate of Completion. The Contractor shall prepare his final statement of the value of all the work performed, showing the balance due under the terms of this agreement. The Manager or Project Engineer shall verify and approve or request revisions before certifying same to County as provided in Section 5.06 of the General Conditions.~~

~~The Certificate of Completion and the final statement of the amount due to Contractor, will be sent to the County for payment.~~

VIII. "As-Built" Drawings:

The Contractor shall mark all changes and revisions on all of his copies of the working drawings during the course of the Project as they occur. Upon completion of the Project and prior to final acceptance and payment, the Contractor shall submit to the Construction Observer one set of his working drawings, dated and signed by himself and his project superintendent and labeled as "As-Built", that shows all changes and revisions outlined above and that shows field locations of all above ground appurtenances including but not limited to valves, fire hydrants and manholes. These as-built drawings shall be forwarded to the Project Engineer and then to the County and become the property of the County. Each appurtenance shall be located by at least two (2) horizontal distances measured from existing, easily identifiable, immovable appurtenances such as fire hydrants or valves. Property pins can be used for as-builts tie-ins provided no existing utilities as previously described are available. Costs for delivering as-built drawings shall be subsidiary to other bid items.

IX. Limit of Financial Resources:

The County has a limited amount of financial resources committed to this Project; therefore, it shall be understood by all bidders that the County may be required to change and/or delete any items which he may feel is necessary to accomplish all or part of the scope of work within its limit of financial resources. Contractor shall be entitled to no claim for damages or anticipated profits on any portion of work that may be omitted. At any time during the duration of this contract, the County reserves the right to omit any work from this contract. Unit prices for all items previously approved in this contract shall be used to delete or add work per change order.

X. Limits of Work and Payment:

It shall be the obligation of the Contractor to complete all work included in this Contract, so authorized by the County, as described in the contract documents and technical specifications. All items of work not specifically paid for in the bid proposal shall be included in the unit price bids. Any question arising as to the limits of work shall be left up to the interpretation of the Project Engineer.

XI. State Sales Tax:

On a contract awarded by municipality for the construction of a publicly-owned improvement in a street right-of-way or other easement which has been dedicated to the Public and to the City, an Organization which qualifies for exemption pursuant to the provisions of Article 20.04 (F) of the Texas Limited Sales, Excise and Use Tax Act, the Contractor can probably be exempted in the following manner:

The Contractor may buy tax-free any materials incorporated into the project by issuing a resale certificate in lieu of paying the sales tax at the time of purchase. The Contractor may then accept an exemption certificate from the City for the materials.

Even with a separated contract, the rental of equipment and the purchase of items which do not ultimately become part of the physical structure will still be subject to state and local sales taxes.

XII. Completion of Work on Time:

The Contractor agrees that time is of the essence for this Contract and that the definite value of damages which would result from delay would be incapable of ascertainment and uncertain, so that for each day of delay beyond the number of days herein agreed upon for the completion of the work herein specified and contracted for, after due allowance for such extension of time as is provided for under the provisions of Section 4.02 of the General Conditions, the County may withhold permanently from the Contractor's total compensation, not as penalty but as liquidated damages, the sum of \$_____ per calendar day.

XIII. Guarantees:

~~The Contractor warrants the materials and workmanship and that the work is in conformance with the plans and specifications included in this contract for the period that the Warranty Bond, as outlined in Section 04 of the Special Conditions, is in effect. Upon notice from County, the Contractor shall repair defects in all construction or materials which develop during specified period and at no cost to County. Neither final acceptance, Certificate of Completion, final payment, nor any provision in Contract Documents relieves Contractor of the above guarantee. Notice of observed defects will be given with reasonable promptness. Failure to repair or replace defect upon notice entitles County to repair or replace same and recover reasonable cost thereof from Contractor.~~

XIV. Minimum Wage Scale:

~~Contractors are required to pay prevailing wage rates to laborers, workmen and mechanics employed on behalf of the County engaged in the construction of public works. The wage rate for these jobs shall be the general prevailing wage rates for work of a similar character. This applies to Contractors and Subcontractors. The Contractors and Subcontractors shall keep and make available records of workers and their wages. Contractors and Subcontractors shall pay the prevailing wage rates as adopted by the County. There is a statutory penalty of \$60.00 per worker per day or portion of a day that the prevailing wage rate is not paid by the Contractor or any Subcontractor.~~

XV. Layout and Construction Stakes:

All construction staking shall be performed by the Contractor at the Contractor's expense.

XVI. Safety:

The Contractor must use methods of construction that meet or exceed Occupational Safety and Health Administration Standards and any other local, state or federal regulations for safety that are in effect. The contractor will have a trench safety plan prepared and sealed by a registered professional engineer.

XVII. Maintenance Bond Term & Amount:

The required maintenance bond amount for this project shall be twenty percent (20%) of the total amount bid and the bond period shall be two years from date of final acceptance.

XVIII. Safety Restrictions - Work Near High Voltage Lines:

The following procedures shall be followed for work near high voltage lines on this contract.

- A. A warning sign not less than five (5) inches by seven (7) inches, painted yellow with black letters that are legible at twelve (12) feet shall be placed inside and outside vehicles such as cranes, derricks, power shovels, drilling rigs, pile drivers, hoisting equipment or similar apparatus. The warning sign shall read as follows: "Warning-Unlawful to Operate This Equipment Within Six Feet of High Voltage Lines".
- B. Equipment that may be operated with ten (10) feet of high voltage lines shall have an insulating cage guard around the boom or arm (except backhoes or dippers), and insulator links on the lift hook connections.
- C. When necessary to work within six (6) feet of high voltage electrical lines, notify the power company. The electric company will erect temporary mechanical barriers, de-energize the line, or raise or lower the line. All such work done by the power company shall be at the expense of the contractor. The contractor shall maintain an accurate log of all such calls to the electric company.
- D. No person shall work within six (6) feet of high voltage lines without protection measures having been taken as outlined in Paragraph C.

XIX. Protection of Existing Structures and Utilities:

~~The Contractor's attention is directed to the necessity of taking adequate measures to protect all existing structures, facilities, improvements, and utilities encountered. The locations of utilities shown on the Plans are approximate only and do not necessarily indicate all utilities that may be encountered during construction. Failure of a utility to be indicated does not relieve the Contractor of responsibility to protect utility lines encountered. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work, or for increasing the pay quantities in any manner, unless the obstruction encountered is such as to necessitate substantial changes in the lines or grades, or requires the building of special works not provided for in the Contract Documents. It shall be the Contractor's responsibility to verify locations of adjacent and/or conflicting utilities sufficiently in advance of construction that he may~~

~~coordinate such local adjustments as necessary in the construction process to provide adequate clearances.~~

~~The Contractor shall indemnify or reimburse such expenses or costs (including fines that may be levied against the County) that may result from unauthorized or accidental damage to all public lines and utility customer service lines in the work area. The County reserves the right to repair such damages that the Contractor may cause, and withhold payment from the Contractor to cover the cost of such repairs.~~

~~The owners of the various utilities will do major utility adjustments necessary to complete this Contract, if not provided in the Bid.~~

~~Whenever existing utilities, not indicated on Plans, present obstructions to grade and alignment of proposed improvements immediately notify the Project Engineer, who without delay, will determine if existing utilities are to be relocated, or grade and alignment of proposed improvements changed. Where necessary to move existing services, poles, guy wires, pipelines, etc., as determined by the Project Engineer, the Contractor will make arrangements with the owner of the utility to be moved and have it moved. The costs of any utility relocations will be at the Contractor's sole expense. County will not be liable for relocations costs or damages on account of delays due to changes made by owners of privately owned utilities which hinder progress of the work.~~

~~XX. **Pavement Replacement and Repair:**~~

~~Pavement replacement on this project has been allocated in the Proposal on the basis of per linear foot measured along the route of the pipe centerline where the pipe crosses any road in accordance with the minimum dimensions and materials as shown on the pavement repair detail as contained in the Plans. Care shall be taken to leave a neat uniform edge or joint on any section where only a portion is scheduled for removal. Damage to any section not scheduled for removal shall be restored to its original condition at the cost of the Contractor. Ragged edge cuts along the pavement will not be accepted. Any other pavement or concrete work damaged by the Contractor will be restored to a condition equal to the original at the Contractor's expense.~~

~~Repair of roads will be in accordance with the Plans and the Materials and Construction Methods sections of the Standard Specifications as stated in the Contract Documents. This shall be the total compensation for all labor, materials, tools, machinery, equipment, and incidentals necessary to complete the work in accordance with the plans and specifications.~~

~~The Contractor shall at all times maintain streets and drives in a condition which will provide easy ingress and egress, and upon completion of the work, repair all damages to roads and streets used during construction to a condition at least as good as existed prior to the start of work.~~

~~The Contractor shall take proper means to protect adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction; and he shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The Contractor shall immediately repair or replace any damage to private property, including, but not limited to, fences, walls, pavement, and trees at no cost to the County. This shall be subsidiary to the contract and not a separate pay item. The Contractor agrees to indemnify, save and hold harmless the County against any claim or claims for damages due to any injury to adjacent or adjoining property arising or growing out of the performance of the work regardless of whether or not it is caused in part by a party indemnified hereunder.~~

~~The Contractor shall repair or replace all fences, walls, broken curbs, gutters, gravel, asphalt, or concrete surfaces (including gouges, scarring, and scrapes in streets), cracked pavement, signs, culverts, and all other property and/or improvements damaged by the Contractor due to his operations on the project to a condition equal to or better than their condition prior to construction, at no additional expense to the County.~~

XXI. Erosion Control:

Contractor shall comply with all laws prohibiting the pollution of any lake, stream, river, or wetland by the dumping of any refuse, rubbish, dredge material, or debris therein.

Contractor shall be responsible for the maintenance of all temporary and permanent water quality and erosion control measures proposed under the Storm Water Pollution Prevention Plan (SWPPP) or the Water Pollution Abatement Plan (WPAP) for the duration of the project construction. Upon completion of construction and before the Construction Observer issue the "Certificate of completion", Contractor shall be responsible for the removal of all temporary measures and the cleaning and resetting of all permanent measures. All costs associated with this work shall be considered subsidiary to other bid items and no additional compensation shall be allowed.

Contractor shall take special precautions during all periods of heavy rainfall and at all locations where storm water, groundwater and/or mud and debris may enter the sewer systems. All mud, stones, and debris that enter the sewer systems due to Contractor's operations, or his neglect, shall be cleaned from the system by Contractor. It shall be Contractor's responsibility to see that such storm water, groundwater and debris do not enter the sewer system. All costs for such work shall be merged in the unit prices bid and no additional compensation shall be allowed.

If it is necessary in the prosecution of the work to interrupt existing surface drainage, sewers, or under drainage, temporary drainage shall be provided until permanent drainage work is completed. The construction of all temporary drainage installations shall be considered as incidental to the construction of the work. Drainage ways shall be kept clear or other satisfactory provisions made for drainage.

Contractor shall be responsible for and shall take all reasonable and necessary precautions to preserve and protect all existing tile drains, sewers, and other subsurface drains, or

parts thereof, which may be continued in service without change. Contractor shall repair at his own expense any and all damage to such facilities resulting from negligence or carelessness on the part of his operations.

XXII. Discovery of Hazardous Materials:

If, during the course of this work, the existence of hazardous material, including asbestos containing material, is observed in the work area, the Contractor shall immediately notify the County in writing. The Contractor shall not perform any work pertinent to the hazardous material prior to receipt of special instructions from the County. Asbestos containing material includes transite pipe.

XXIII. Submittals – Certificate of Compliance:

The Contractor shall submit to the Construction Observer a Certificate of Compliance from the manufacturer and/or supplier of each and every specified material or manufactured equipment item. The Certificate shall state that the material or the item of equipment to be furnished has been manufactured with materials in accordance with the applicable sections of all required codes, specifications, and standards as required by the specifications.

XXIV. Unavailability of Materials:

Bids must be based on use of the materials specified. If the Contractor is unable to furnish or use any of the materials or equipment specified because of any order by a governmental agency limiting the manufacture or use, or because of the supply situation in the general market for such material or equipment, the Contractor shall offer substitutes therefor. The substitutes shall be suitable for the purpose, considering the factors of quality, serviceability, appearance, and maintenance. No substitute shall be used until the Project Engineer has approved it.

No consideration will be given to the use of substitutes on account of market conditions unless the Contractor demonstrates that, for the item in question, he placed his order without delay, that he has shown due diligence in attempting to locate the item as specified, and that the unavailability is due to market conditions in general throughout the particular industry.

If substitutes are used in the work, the compensation to be paid to the Contractor shall be subject to review and adjustment. As a general principle, if the Project Engineer shall determine that the substitute will be less satisfactory, the Contractor shall allow a credit to the County; only under unusual circumstances shall there be an increase in compensation to the Contractor on account of substitution. The basis upon which the amount of price and adjustments will be founded shall be the cost of the appropriate items at the time the bids were opened.

XXV. Traffic Control:

Access shall be provided for residents and emergency vehicles at all times. When it becomes necessary to restrict access, the Contractor shall notify all applicable agencies (ie. Fire Department, E.M.S., Public Works, etc.). At the end of each day two lanes of traffic shall be opened to the public, **unless otherwise stated in the plans**. ~~The Contractor shall be responsible for all maintenance, signing and safety precautions necessary for traffic control. This item shall be considered subsidiary to other bid items and no additional compensation shall be given for complying with this Special Condition.~~

XXVI. Temporary Traffic Handling Devices:

The Contractor shall, ~~at his own expense,~~ furnish, erect and maintain all necessary barricades, lights, warning signs and temporary pavement markings as shown on the Plans and/or in accordance with the Texas Manual on Uniform Traffic Control Devices and with the Specifications in the Contract Documents. In Addition, the Contractor shall provide ~~watchmen~~ **flagpersons** and take necessary precautionary measures for the protection of persons, property and the work, when deemed necessary by the County or the Project Engineer **Construction Observer**.

~~No compensation will be paid to the Contractor for the furnishing, maintaining or removal of any of the required precautionary measures for the protection of the work or the public.~~

XXVII. Roadway Signs:

All permanent **and temporary** roadway signing designated in the plans shall be in accordance with the Texas Manual on Uniform Traffic Control Devices.

XXVIII. Project Signs:

The Contractor shall erect at the site of construction, and maintain during construction, signs satisfactory to the County identifying the Project and indicating that the Government is participating in the development of the project. Two project signs will be required for this contract. ~~Contractor shall contact Mr. Pete Peters (512) 218-0899 regarding fabrication of the project signs.~~ The signs shall be 8' X 4' and made out of white 10 mm corrugated plastic with pressure sensitive vinyl lettering to include: Road Bond Project, County tax dollars at work, Williamson County seal, Project name and brief description, Estimated date of completion, contact phone number, website address and Commissioner's name and precinct number. For more information, call Mr. Tom Green at (512) 251-5517. These signs shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling".

XXIX. Permits:

The Contractor will obtain any and all required permits. Contractor agrees to comply with all conditions of the permits and to maintain copies of the permits at the site at all times while the Work is in progress.

XXX. Usage of Water:

~~All water used during construction shall be provided by the County. The County shall specify the location from which the Contractor is to procure water. The Contractor shall be responsible for providing all apparatus necessary for procuring, storing, transporting and using water during construction. The Contractor shall strive to use that amount of water which is reasonable to perform the work associated with this contract and shall endeavor to avoid excessive waste. The Contractor will be required to pay for all water used if it is found that unnecessary or excessive waste is occurring during construction.~~

XXXI. Utility Services for Construction:

~~The Contractor will be responsible for providing his own utility services while performing the work associated with this contract. No additional payment will be made for this item.~~

XXXII. Trench Backfill:

~~The Contractor shall obtain the services of an independent testing laboratory to perform soil density tests on all trench backfill under existing or proposed pavement or gravel surfacing and curbs and gutters, in street right of way, parking lots, driveways, and emergency accesses. Tests shall be performed at two feet vertical intervals beginning at a level two feet above the top of all installed pipes and continuing to the top of the completed backfill, at intervals along the trench of not to exceed 300 linear feet, to assure a minimum density of 95 percent Standard Procter. Test results shall be furnished to the Construction Observer upon completion of testing, as part of the qualification for acceptance of the installed pipe. The County expects to perform unannounced spot checks of the compaction tests for verification and control purposes. The cost of the testing described herein shall be considered subsidiary to the pipeline installation and no other compensation will be allowed. Any compaction tests performed by the County as described above will be performed by County personnel at County's expense and will not be charged to the Contractor. However, the cost of providing access to the level of trench backfill to be tested will be a cost to the Contractor, and this cost must be included in the price bid for the pipe installed in the trench, and no extra compensation will be allowed for exposing of the backfill layer to be tested by the County.~~

XXXIII. Landscape Restoration:

If not designated as a specific pay item in the Proposal, the Contractor shall take the means necessary to protect all trees, shrubbery and sod. Protection, removal and replacement of existing landscaping will be in accordance with the Plans and Specifications.

XXXIV. Existing Fencing:

All fences encountered and removed during construction within the ROW shall be removed by the contractor under Preparation of Right-of-Way. of this project shall be restored to the original or better than original condition upon completion of this project. Where wire fencing, either wire mesh or barbed wire, is to be crossed, the Contractor shall set cross braced posts on either side of the permanent easement before the fence is cut. Should additional fence cuts be necessary, the Contractor shall provide cross braced posts at the point of the proposed cut in addition to the cross braced posts provided in the permanent easement limits, before the fence is cut. When designated in the Proposal as a specific pay item, only fencing designated in the plans will be measured for payment. The cost of the fence removal, temporary closures, and replacement other than that specified in the plans shall be subsidiary to the various items bid in the Proposal, unless approved by the County or the Project Engineer. Permanent fencing, designating the ROW, will be provided by others. The Contractor will be required to coordinate his Preparation of Right-of-Way operations with fence building contractors.

XXXV. Easements:

Any easements, both temporary and permanent, required for this project will be provided by the County as shown on the plans. Other easements required or desirable by the Contractor shall be arranged by the Contractor at his sole expense. The easements shall be cleaned after use and restored to their original conditions, or better by the Contractor. In the event additional work is required by the Contractor, it shall be the Contractor's responsibility to obtain written permission from the property owners involved for the use of additional property required. No additional payment will be allowed for this item.

XXXVI. Ingress and Egress:

The Contractor shall provide ingress and egress to all properties adjacent to the construction limits. Drives shall be left accessible at night, on weekends, and during holidays. Contractor shall at all times during construction of this project maintain sufficient access for fire, emergency and garbage vehicles to the properties adjacent to the construction of these projects. No additional payment will be allowed for this item.

XXXVII. Limits of Contractor's Operation:

The Contractor shall limit construction operations to within the right-of-way or the easement unless otherwise directed by the County or its authorized representative. The Contractor's equipment, materials, stockpiles, etc., shall be limited to one construction week use at a time, along the construction route.

XXXVIII. Maintenance of Pedestrian Walkways:

The Contractor will be required to maintain clear walkways for pedestrians during construction in a manner to provide access in the most convenient and safest manner consistent with essential construction operations. Specifically, the following will be enforced.

Pedestrian traffic may be blocked at a location where work is actually in progress. Signs, barricades, and warning devices must be placed at nearest crosswalks approaching the construction site from every direction advising pedestrians of the blockage and advising them to use alternate routes.

Access to doorways and pedestrian entrances must be maintained at all times during hours that access is needed by business. Paving by sections or providing temporary access may be required.

No more than one corner of any intersection may be under construction at any one time. Work must be completed and opened for use by pedestrians before starting work on any other corner of the intersection.

The Contractor will be expected to diligently pursue construction from start to completion at every location to avoid prolonged and unnecessary disruptions to pedestrian traffic.

This work shall be considered incidental and not a separate pay item, unless provided in the proposal.

XXXIX. Spoil:

All excavated material unfit for backfill, waste material accumulated on the job, and any material surplus to that needed in the prosecution of the work shall be removed from the site by the Contractor and disposed of at his expense. The Contractor shall indemnify and save harmless the County, all of its officers, agents, and employees from all suits, actions, or claims of any character resulting from his arrangements for the disposal of spoil. This shall be incidental and not a separate pay item.

~~XL.~~ Subsidiary Work:

~~Any and all work specifically governed by documentary requirements for the project, such as conditions imposed by the Plans, the General Provisions, or these Special Provisions, in which no specific bid item has been provided in the Proposal, shall be considered as a subsidiary item of work, the cost of which shall be included in the price bid in the Proposal, for each bid item. Surface restoration and cleanup are general items of work which fall in the category of subsidiary work.~~

XLII. Final Inspection:

~~Part of the final inspection on this Project shall include a visual inspection of the completed project. The Contractor prior to acceptance of the Project as completed shall remedy all imperfections in the installed facility revealed by this inspection. The Contractor shall fully cooperate with the County in making this inspection, as in all other engineering aspects of the Project.~~

XLII. Materials Testing:

~~Quality Control Testing of all materials, construction items or products incorporated in the work shall be performed by the Contractor at the Contractor's expense, and shall be performed in accordance with the Quality Control (QC) / Quality Assurance (QA) Program outlined in Appendix A. All conditions of the General Provisions relating to materials testing, unless contradicted above, shall continue to apply.~~

~~Independent~~Quality Assurance sampling and testing may be required for quality assurance of used materials as directed by the Construction Observer or the County. The cost of such tests will be incurred by the County and coordinated by the Construction Observer through funds made available to the Construction Observer under his/her agreement with the County for the observing the project construction. **This testing shall be in accordance with the QC / QA program in Appendix A.**

~~All project and independent sampling and testing shall be performed in accordance with the "Quality Assurance Program" set forth in the Contract documents.~~

The Contractor shall furnish for review by the Construction Observer, not later than 10 days after receipt of notice to proceed, a Quality Control Plan consisting of plans, procedures, and organization necessary to produce an end product which complies with the contract documents. The Contractor will be allowed the latitude to develop standards of control subject to approval by the County. As a minimum, the plan shall include description of the type and frequency of inspection staffing, materials handling and construction procedures, calibration and maintenance of equipment, production process control, and testing deemed necessary to measure and control quality as specified by the contract documents.

XLIII. Pre-Construction Conference:

~~Before the project work order is issued, a pre-construction conference shall be held with representatives of the County and the successful Contractor. The Contractor shall submit a schedule of operations at the pre-construction conference. See Section LV-Prosecution and Progress for additional construction schedule requirements.~~

XLIV. Sidewalks and Driveways:

~~All sidewalks and driveways shall be saw cut at the point of removal. The new sidewalks and driveways shall match the existing and proposed grades.~~

XLV. Mail Boxes:

~~The contractor shall remove and relocate all mailboxes within the R.O.W. that restrict normal construction operations. Every effort shall be made to match the new mailboxes to the existing mailbox's brick and design.~~

XLVI. Unclassified Excavation:

~~This item shall include all required excavation within the limits of the right of way and areas adjacent thereto. All excavation shall be in accordance with the lines, grades and typical sections shown on the plans. Removal of asphalt shall be subsidiary to excavation.~~

XLVII. Miscellaneous Allowances:

~~Miscellaneous Allowances are provided to cover the cost of miscellaneous items ordered by the County but not included in any other Proposal Item. The County reserves the right to delete any or all of these items from the contract if they are not needed.~~

~~Payment shall be in accordance with Article 1.07 of the General Conditions. Contractor shall furnish all invoices and other documentation required for determining actual field cost of miscellaneous work covered under this Item.~~

XLVIII. Weight Tickets:

~~The Contractor will be responsible for providing asphalt and aggregate tickets for quantity verifications on all asphaltic concrete used for this project.~~

XLIX. Confined Space Entry Program:

~~It shall be the responsibility of the contractor to implement and maintain a variable "Confined Space Entry Program" which must meet OSHA requirements for all its employees and subcontractors at all times during construction. OSHA defines all active sewer manholes, regardless of depth, as "permit required confined spaces". Contractors shall submit an acceptable "Confined Space Entry Program" for all applicable manholes and maintain an active file for these manholes. The cost of complying with this program shall be subsidiary to the pay items involving work in confined spaces.~~

L. Fittings and Concrete Thrust Blocking:

~~Fittings and concrete thrust blocking will be considered subsidiary to the contract.~~

LI. Tees at Fire Hydrant Relocations:

~~If the tee on the main line requires replacement at a fire hydrant relocation, it will not be paid for separately from the fire hydrant relocation.~~

LII. Detectable Warning Tapes:

~~Detectable underground utility warning tapes which can be located from the surface by a pipe detector shall be installed directly above non-metallic water and sanitary sewer pipe. The detectable tape shall be "Detect Tape" manufactured by Allen Systems, Inc. or approved equal, and shall consist of a minimum thickness 0.35 mils solid aluminum foil encased in a protective inert plastic jacket that is impervious to all known alkalis, acids chemical reagents and solvents found in the soil. The minimum overall thickness of the tape shall be 5.5 mils, and width shall not be less than two inches with a minimum unit weight of 2½ pounds/1 inch/100'. The tape shall be color coded and imprinted with the message as follows:~~

<u>Type of Utility</u>	<u>Color Code</u>	<u>Legends</u>
Water	Safety Blue	Caution! Buried Water Line Below
Sewer	Safety Green	Caution! Buried Sewer Line Below

~~Installation of detectable tapes shall be per manufacturer's recommendations and shall be as close to the grade as is practical for optimum protection and detectability. Allow a minimum of 18 inches between the tape and the pipe. Payment for work such as backfill, bedding, blocking, detectable tapes, and all other associated appurtenances required should be included in the unit price bid for water and sewer line bid items.~~

LIII. French Drain System:

~~Contractor shall install 6" PVC perforated pipe French drain system where shown and as detailed on the plans. Contractor shall install French drain system in accordance with the details and specifications included in the Contract Document.~~

LIV. Tree and Plant Protection:

Scope: Provide complete protection and maintenance of existing trees and shrubs designated to remain within construction limits.

Coordination: Coordinate protection of existing trees with other trades so as to prevent damage to trees.

Payment for Damages: If existing trees are destroyed, killed or badly damaged as a result of construction operations, Contract sum will be reduced by the amount of assessed damages. Damages will be evaluated by the Construction Observer, using International Shade Tree Conference Standards and following formula: measurement of a cross section of tree trunk will be made at a point 2 feet above existing grade level to determine cross section area in square inches. Assessment for damage will be \$27.00 per square inch.

Materials: Tree Protection lumber dimensions shall be 4X4 and 2X4 sizes.

Protection: Protect existing trees and shrubs within construction limits from the following damage:

1. Compaction of root area by equipment, vehicles or material storage;
2. Trunk damage by moving equipment material storage, nailing or bolting;
3. Strangling by tying ropes or guy wires to trunks or large branches;
4. Poisoning by pouring solvents, gas, paint or other chemicals on or around trees and roots;
5. Cutting of roots by excavating or ditching;
6. Damage of branches by improper pruning;
7. Drought from failure to water or by cutting or changing normal drainage pattern past roots;
8. Changes of soil pH factor by disposal of lime base materials such as concrete or plaster;
9. Do not cut roots 1-1/2" in diameter or over. Excavation and earthwork within drip line of trees shall be done by hand.

Install barricade protection around trees and shrubs, constructed of 4X4 posts and 2X4 stringers top and bottom. Install protection prior to demolition or excavation operations. Leave protection until construction operations are essentially complete.

Maintenance:

1. Water trees and shrubs within construction limits as required to maintain their health during course of construction operations.
2. Pruning will be performed by County.

LV. **Prosecution and Progress:**

At the Pre-construction meeting, the Contractor shall submit for acceptance a schedule of all planned work activities and sequences that is intended to follow in order to complete the contract within the allotted time. The purpose of the County requiring the project schedule shall be to:

1. Ensure adequate planning during the prosecution and progress of the work in accordance with the allowable number of working/ calendar days and all milestones;
2. Assure coordination of the efforts of the Contractor, County, ~~Program~~ Manager, **Construction** Observer, Utilities and others that may be involved in the project;
3. Assist the Contractor, County, ~~Program~~ Manager and **Construction** Observer in monitoring the progress of the work and evaluating proposed changes to the contract; and
4. Assist the County, ~~Program~~ Manager and **Construction** Observer in administering the contract time requirements.

Either Type A or Type B Schedule will be required on all projects. Unless specifically noted on the plans or in the Specifications, Type A Schedule will be required on all projects. Following is the schedule requirements of both types:

Type A Schedule:

The Schedule should include major material procurements, known utility relocations and other activities which may affect the project completion. The schedule may be prepared in either a bar chart or a critical path method (CPM) format unless the CPM format is specifically required by general note. A beginning date, and ending date, and a duration in working/ calendar days shall be shown for each work activity. If a CPM schedule is specified by general note the schedule shall be prepared using the Precedence Diagram Method (PDM), and the activity float and the relationships between the work activities shall also be shown. The duration of work activities for either type of schedule shall not exceed 20 working days, unless otherwise accepted by County, Program Manager or Observer. An estimated production rate for each activity shall also be shown.

The schedule shall be updated on a monthly basis and submitted to the Observer, Program Manager or County. Updating the project schedule shall be defined as adding actual progress made during the previous month and making minor changes in activity relationships. The Program Manager, Observer, or County may require a monthly project status meeting to review the progress of the work. In the event the progress review indicates the Contractor will not complete the project within the allowable number of working days, then the Contractor shall notify the Observer, Program Manager or County in writing of their intentions of revising the project schedule, accelerating the work, or incurring liquidated damages.

If the Contractor desires to make major changes in the project schedule, the Contractor shall notify the County, Program Manager or Observer in writing. The written notification shall include the reason for the proposed revision, what the revision is comprised of, and how the revision was incorporated into the schedule. Major changes are hereby defined as those that may affect compliance with the contract requirements or those that change the critical path, if applicable. All other changes may be accomplished through the monthly updating process without written notification.

No direct compensation will be allowed for fulfilling these requirements, as such work is considered subsidiary to the various bid items of the contract.

Type B Schedule:

The Contractor shall create and maintain a Critical Path Method (CPM) Project Schedule showing the manner of prosecution of work that he intends to follow in order to complete the contract within the allotted time. The project schedule shall

employ computerized CPM for the planning, scheduling and reporting of the work as described in this specification. The CPM project schedule shall be prepared using the Precedence Diagram Method (PDM). The Contractor shall create and maintain the schedule using the latest version, at the time of the award of the contract, of Primavera System, Inc. Primavera Project Planner or Suretrak Project Scheduler computer scheduling software, except when a general note requires otherwise. No direct compensation will be allowed for fulfilling these requirements, as such work is considered subsidiary to the various bid items of the contract.

(1) Personnel. The Contractor shall provide an individual, referred to hereafter as the Scheduler, to create and maintain the CPM schedule. He shall be proficient in CPM analysis and shall be able to perform required tasks on the specified software. The Scheduler shall be made available for discussion or meetings when requested by the County, **Construction** Observer or ~~Program~~ Manager.

(2) Schedule. The project schedule shall show the sequence and interdependence of activities required for complete performance of the work. The Contractor shall be responsible for assuring all work sequences are logical and show a coordinated plan of the work.

Each activity on the schedule shall be described by: An activity number utilizing an alphanumeric designation system tied to the traffic control plans, and that is agreeable to the County, ~~Program~~ Manager or **Construction** Observer; concise description of the work represented by the activity; and activity durations in whole working days with a maximum of twenty (20) working days. Durations greater than twenty (20) working days may be used for non-construction activities (mobilization, submittal preparation, curing, etc.), and other activities mutually agreeable between the Contractor and County, Manager or **Construction** Observer. The Contractor shall provide a legend for all abbreviations. The activities shall be coded so that organized plots of the schedule may be produced. Typical activity coding includes: Traffic control phase, location and work type. If allowed and if the Contractor chooses to use Suretrak Project Manager to create the schedule, the Contractor shall not use the independent activity type. This would cause the schedule to be incompatible with Primavera Project Planner.

The activity durations shall be based on the quantity for the individual work activity divided by a production rate.

The Contractor shall plan and incorporate major resources into the schedule. Major resources are defined as crews and equipment that constrain the Contractor from pursuing available work. The resources shall accurately represent the Contractor's planned equipment and manpower to achieve the productivity rates specified above.

Seasonal weather conditions shall be considered and included in the CPM schedule for all work influenced by temperature and/or precipitation. Seasonal weather conditions shall be determined by an assessment of average historical climatic

conditions. Average historical weather data is available through the National Oceanic and Atmospheric Administration (NOAA). These effects will be simulated through the use of work calendars for each major work type (i.e., earthwork, concrete paving, structures, asphalt, drainage, etc.) Project and work calendars should be updated each month to show days actually able to work on the various work activities.

Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the schedule. Float time in the schedule is a shared commodity between the County and the Contractor.

Only County responsible delays in activities that affect milestone dates or the contract completion date, as determined by CPM analysis, will be considered for a time extension.

The schedule shall show the sequence and interdependence of activities required for complete performance of the work. The schedule shall be prepared and maintained in accordance with the scheduling requirements stated in this Section and shall include two (2) organized plots with the activities logically grouped using the activity coding. The Contractor shall also provide an electronic copy of the schedule on diskette or CD-ROM.

The schedule shall encompass the time from the start of the contract time to the project Completion. The longest path through the schedule shall be readily discernable on the plot of the schedule.

(4) Joint Review, Revision and Acceptance. Within twenty (20) calendar days of receipt of the Contractor's proposed schedule, the County or its authorized entities agents shall evaluate the schedule for compliance with this specification, and notify the Contractor of the findings. If the County or its authorized personnel request a revision or justification, the Contractor shall provide a satisfactory revision or adequate justification to the satisfaction of the Construction Observer or County authorized personnel within seven (7) calendar days.

If the Contractor submits a CPM schedule for acceptance which is based on a sequence of work not in the plans, then the Contractor shall notify the County or its authorized entities in writing, separate from the schedule submittal.

The County's review and acceptance of the Contractor's project schedule is for conformance to the requirements of the contract documents only. Review and acceptance by the County or other authorized personnel of the Contractor's project schedule does not relieve the Contractor of any of its responsibility for the project schedule, or of the Contractor's ability to meet interim milestone dates (if specified) and the contract completion date, nor does such review and acceptance expressly or by implication warrant, acknowledge or admit the reasonableness of the logic, durations, manpower or equipment loading of the Contractor's project schedule. In the

event the Contractor fails to define any element of work, activity or logic and the County's review does not detect this omission or error, such omission or error, when discovered by the Contractor or County and its authorized personnel, shall be corrected by the Contractor at the next monthly schedule update and shall not affect the project completion date.

(5) Updates. The Project Schedule shall be updated on a monthly basis. The Project Schedule update shall be submitted on the first working day of each month. The Contractor shall meet with the **Construction Observer** or County authorized personnel each month at a scheduled update meeting to review actual progress made through the data date of the schedule update. The review of progress will include dates activities actually started and/or completed, and the percentage of work completed or remaining duration on each activity started and/or completed. The percentage of work complete shall be calculated by utilizing the quantity and productivity rate information. The Project Schedule update shall include one (1) copy of the following information:

- a) Electronic copy of the updated schedule including revisions and changes on diskette or CD-ROM.
- b) One (1) logically organized plot of the schedule update if requested by the County or its authorized personnel.

(6) Project Schedule Revisions. If the Contractor desires to make major changes in the project schedule, the Contractor shall notify the County or **Construction Observer** in writing. The written notification shall include the reason for the proposed revision, what the revision is comprised of, and how the revision was incorporated into the schedule. In addition to the written notification of the revision, the Contractor shall provide an electronic copy and one logically organized plot of the schedule including the revision if requested by the County or **Construction Observer**.

Major changes are hereby defined as those that may affect compliance with the contract requirements or those that change the critical path. All other changes may be accomplished through the monthly updating process without written notification.

(7) Time Impact Analysis. The Contractor shall notify the County or **Construction Observer** when an impact may justify an extension of contract time or adjustment of milestone dates. This notice shall be made in writing as soon as possible, but no later than the end of the next estimate period after the commencement of an impact or the notice for a change is given to the Contractor. Not providing notice to the County or **Construction Observer** by the end of the next estimate period will indicate the Contractor's approval of the time charges as shown on that time statement. Future consideration of that statement will not be permitted and the Contractor forfeits his right to subsequently request a time extension or time suspension unless the circumstances are such that the Contractor could not reasonably have knowledge of the impact by the end of the next estimate period.

When changes are initiated or impacts are experienced, the Contractor shall submit to the County or **Construction** Observer a written time impact analysis describing the influence of each change or impact.

A time impact analysis is an evaluation of the effects of changes in the construction sequence, contract, plans, or site conditions on the Contractor's plan for constructing the project, as represented by the schedule. The purpose of the time impact analysis is to determine if the overall project has been delayed, and if necessary, to provide the Contractor and the County a basis for making adjustments to the contract.

A time impact analysis shall consist of one or all of the steps listed below.

Step 1. Establish the status of the project before the impact using the most recent project schedule update prior to the impact occurrence.

Step 2. Predict the effect of the impact on the most recent project schedule update prior to the impact occurrence. This requires estimating the duration of the impact and inserting the impact into the schedule update. The Contractor shall demonstrate how the impact was inserted into the schedule showing the added or modified activities and the added or modified relationships. Any other changes made to the schedule including modifications to the calendars or constraints shall be noted.

Step 3. Track the effects of the impact on the schedule during its occurrence. Note any changes in sequencing, and mitigation efforts.

Step 4. Compare the status of the work prior to the impact (Step 1) to the prediction of the effect of the impact (Step 2), and to the status of the work during and after the effects of the impact are over (Step 3). Note that if an impact causes a lack of access to a portion of the project, the effects of the impact may extend to include a reasonable period for remobilization.

The time impact analysis shall include an electronic copy of the complete schedule prepared in Step 2. If the project schedule is revised after the submittal of a time impact analysis but prior to its approval, the Contractor shall promptly indicate in writing to the County or **Construction** Observer the need for any modification to its time impact analysis.

Only one (1) copy of each time impact analysis shall be submitted within fourteen (14) calendar days after the completion of an impact. The County or **Construction** Observer may require Step 1 and Step 2 of the time impact analysis be submitted at the commencement of the impact, if needed to make a decision regarding the suspension of contract time.

Approval or rejection of each time impact analysis by the County, **Construction** Observer or ~~Program~~ Manager shall be made within fourteen (14) calendar days after

receipt unless subsequent meetings and negotiations are necessary.

The time impact analysis shall be incorporated into and attached to any relevant change order(s) and/or supplemental agreement(s).

General Conditions of Agreement

1. Definition of Terms

1.01 County, Contractor, Construction Observer and Project Engineer

Williamson County, Texas (County), the Contractor, the Construction Observer (Observer) and the Project Engineer (Engineer) are those persons or organizations identified as such in the Agreement and are referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Observer means the County's representative during construction. The term Project Engineer (Engineer) means the consulting engineering firm representing and assisting the County in the design, review, and coordination of the design and construction phases of the project. Nothing contained in the Contract Documents shall create any contractual or agency relationship between the Engineer and the Contractor or between the Observer and the Contractor.

1.02 Contract Documents

The Contract Documents shall consist of the Special Conditions, Notice for Bidders, Proposal, signed Agreement, Performance and Payment Bonds, Special Bonds (when required), General Conditions of Agreement, Technical Specifications, Plans and all modifications thereof incorporated in any such documents before the execution of the agreement.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation shall be in the following order: Signed Agreement, Performance and Payment Bonds, Special Bonds (if any), Proposal, Special Conditions of Agreement, , Technical Specifications, Plans, and General Conditions of Agreement.

1.03 Subcontractor

The term "Subcontractor", as employed herein, includes only those having a direct contract with the Contractor. It includes one who furnishes material worked to special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

1.04 Sub-Subcontractor

The term "Sub-Subcontractor" means one who has a direct or indirect contract with a Subcontractor to perform any of the work at the site. It includes one who furnishes material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

1.05 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual or to an officer of the corporation for whom it is intended, or if delivered to or sent by registered mail to the last business address known to him who gives the notice.

1.06 Work

The Contractor shall provide and pay for all materials, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, light, power, fuel, transportation and other facilities necessary for the execution and completion of the work covered by the Contract Documents. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of a good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words which, when so applied, have a well-known technical or trade meaning shall be held to refer to such recognized standards.

1.07 Extra Work

The term "Extra Work" as used in this Contract shall be understood to mean and include all work that may be required by the Engineer or the County to be done by the Contractor to accomplish any change, alteration or addition to the work shown upon the plans, or reasonably implied by the specifications, and not covered by the Contractor's Proposal, except as provided under Section 2.15 "Changes and Alterations" herein.

1.08 Working Day

The term "Working Day" is defined as any day not including Saturdays, Sundays or any legal holidays, in which weather or other conditions, not under the control of the Contractor, will permit construction of the principal units of the work for a period of not less than seven (7) hours between 7:00 a.m. and 6:00 p.m.

1.09 Calendar Day

The term "Calendar Day" is defined as any day of the week or month, no days being excepted.

1.10 Substantially Completed

The term "Substantially Completed" shall be understood to mean that the structure has been made suitable for use or occupancy or that the facility is in condition to serve its intended purpose, but still may require minor miscellaneous work and adjustment.

2. Responsibilities of the Engineer and the Contractor

2.01 County-Observer Relationship

The Observer will be the County's representative during construction. The duties, responsibilities and limitations of authority of the Observer as the County's representative during construction are as set forth in the Contract Documents and/or the Agreement for Construction Observation Engineering Services and shall not be extended or limited without written consent of the County, the Observer and the Engineer. The Observer will advise and consult with the County, and all of the County's instructions to the Contractor shall be issued through the Observer.

2.02 Professional Inspection by the Construction Observer

The **Observer** shall make periodic visits to the site to familiarize himself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the **Observer** shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this agreement or any other Contract Document, the Engineer and the Observer shall not be responsible or liable for any acts, errors, omissions or negligence of the Contractor, any Subcontractor or any of the Contractor's or Subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

2.03 Payments for Work

The Observer shall review the Contractor's applications for payment and supporting data, determine the amount owed to the Contractor and recommend, in writing, payment to the Contractor in such amounts; such recommendation of payment to the Contractor constitutes a representation to the County of the Observer's professional judgment that the work has progressed to the point indicated to the best of his knowledge, information and belief, but such recommendation of an application for payment to the Contractor shall not be deemed as a representation by the Observer that the Observer has made any examination to determine how or for what purpose the Contractor has used the monies paid on account of the contract price.

2.04 Initial Determinations

The Observer initially shall determine all claims, disputes and other matters in question between the Contractor and the County relating to execution or progress of the work or interpretation of the Contract Documents. The Observer's decision shall be rendered in writing within a reasonable time, which shall not be construed to be less than ten (10) days.

2.05 Objections

In the event the Observer renders any decision which, in the opinion of either party hereto, is not in accordance with the meaning and intent of this contract, either party may file with the Observer within thirty (30) days his written objection to the decision, and by such action may reserve the right to submit the question so raised to litigation as hereinafter provided.

2.06 Lines and Grades

Unless otherwise specified, all lines and grades shall be furnished by the Contractor at his own expense. Whenever necessary, construction work shall be suspended to permit performance of this work, but such suspension will be as brief as practicable and the Contractor shall be allowed no extra compensation therefor.

2.07 Contractor's Duty and Superintendence

The Contractor shall give adequate attention to the faithful prosecution and completion of this contract and shall keep on the work, during its progress, a competent Superintendent and any necessary assistants to supervise and direct the work. The Superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor.

The Contractor is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing his work under this contract, with full power and authority to select the means, method and manner of performing such work, so long as such methods do not adversely affect the completed improvements, the County and the Observer being interested only in the result obtained and conformity of such completed improvements to the plans, specifications and contract.

Likewise, the Contractor shall be solely responsible for the safety of himself, his employees and other persons, as well as for the protection and safety of the improvements being erected and the property of himself or any other person, as a result of his operations hereunder. Engineering construction drawings and specifications, as well as any additional information concerning the work to be performed passing from or through the Observer, shall not be interpreted as requiring or allowing the Contractor to deviate from the plans and specifications; the intent of such drawings, specifications and any other such information being to define with specificity the agreement of the parties as to the work the Contractor is to perform. ~~The Contractor shall be fully and completely liable, at his own expense, for design, construction, installation, and use or non-use of all items and methods incident to performance of the contract, and for all loss, damage or injury incident thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by him during construction.~~

Any review of work in process, or any visit or observation during construction, or any clarification of plans and specifications, by the Observer, the Engineer or the County, or any agent, employee, or representative of either of them, whether through personal observation on the project site or by means of approval of shop drawings for temporary construction or construction processes, or by other means or methods, is agreed by the Contractor to be for the purpose of observing the extent and nature of work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling the Contractor to more fully understand the plans and specifications so that the completed construction work will conform thereto, and shall in no way relieve the Contractor from full and complete responsibility for the proper performance of his work on the project, including but not limited to the propriety of means and methods of the Contractor in performing said contract, and the adequacy of any designs, plans or other facilities for accomplishing such performance. Deviation by the Contractor from plans and specifications that may have been in evidence during any such visitation or observation by the Observer, the Engineer, or any of their representatives, whether called to the Contractor's attention or not, shall in no way relieve the Contractor from his responsibility to complete all work in accordance with said plans and specifications.

2.08 Contractor's Understanding

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this contract. ~~The Contractor agrees that he will make no claim against the County, the Observer, or the Engineer if, in the prosecution of the work, he finds that the actual site or subsurface conditions encountered do not conform to those indicated by excavation, test excavation, test procedures, borings, explorations or other subsurface excavations. No verbal agreement or conversation with any officer, agent or employee of the County, the Observer or the Engineer either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.~~

2.09 Character of Workers

The Contractor agrees to employ only orderly and competent workers, skillful in the performance of the type of work required under this contract, to do the work; and agrees that whenever the Observer shall inform him in writing that any workers on the work are, in his opinion, incompetent, unfaithful or disorderly, or refuse instructions from the Observer in the absence of the Superintendent, such worker shall be discharged from the work and shall not again be employed on the work without the Observer's written consent. No illegal alien may be employed by any Contractor for work on this project, and a penalty of \$500.00 per day will be assessed for each day and for each illegal alien who works for the Contractor at this project.

2.10 Contractor's Buildings

~~The building of structures for housing workers, or the erection of tents or other forms of protection, will be permitted only at such places as the Observer shall direct, and the sanitary conditions of the grounds in or about such structures shall at all times be maintained in a manner satisfactory to the Observer.~~

2.11 Sanitation

~~Necessary sanitary conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained by the Contractor in such manner and at such points as shall be approved by the Observer, and their use shall be strictly enforced.~~

2.12 Shop Drawings

The Contractor shall submit to the Engineer, with such promptness as to cause no delay in his own work or in that of any other Contractor, four (4) checked copies, unless otherwise specified, of all shop and/or setting drawings and schedules required for the work of the various trades, and the Engineer shall pass upon them with reasonable promptness, making desired corrections. The Contractor may not submit more than four shop drawing plans for review in any one week. The Engineer shall return the shop drawings to the contractor within three weeks of his having received them, with appropriate comments. The Contractor shall make any corrections required by the Engineer, file with him two (2) corrected copies and furnish such other copies as may be needed. The Engineer's approval of such drawings or schedules shall not relieve the Contractor from responsibility for deviations from drawings or specifications, unless he has in writing called the Engineer's attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules. It shall be the Contractor's responsibility to fully and completely review all shop drawings to ascertain their effect on his ability to perform the required contract work in accordance with the plans and specifications and within the contract time. Any shop drawings which are required for temporary supports must be signed and sealed by an Engineer registered in the State of Texas.

Such review by the Engineer shall be for the sole purpose of determining the sufficiency of said shop drawings or schedules to result in finished improvements in conformity with the plans and specifications, and shall not relieve the Contractor of his duty as an independent contractor as previously set forth, it being expressly understood and agreed that the Engineer does not assume any duty to pass upon the propriety or adequacy of such drawings or schedules, or any means or methods reflected thereby, in relation to the safety of either person or property during the Contractor's performance hereunder.

2.13 Preliminary Approval

The Observer shall not have the power to waive the obligations of this contract for the furnishing by the Contractor of good material, and of his performing good work as herein described, and in full accordance with the plans and specifications. No failure or omission of the Observer to discover, object to or condemn any defective work or material shall ~~not~~ release the Contractor from the obligations to fully and properly perform the contract, including without limitation, the obligation to at once tear out, remove and properly replace any defective work or material at any time prior to final acceptance upon the discovery of said defective work or material; provided, however, that the Observer shall, upon request of the Contractor, inspect and accept or reject any material furnished, and in the event the material has been once accepted by the Observer, such acceptance shall be binding on the County unless it can be clearly shown that such material furnished does not meet the specifications for this work.

Any questioned work may be ordered taken up or removed for re-examination by the Observer, prior to final acceptance, and if found not in accordance with the plans and/or specifications for said work, all expense of removing, re-examination and replacement shall be borne by the Contractor. Otherwise, the expense thus incurred shall be allowed as Extra Work and shall be paid for by the County; provided that, where inspection or approval is specifically required by the specifications prior to performance of certain work, should the Contractor proceed with such work without requesting prior inspection or approval he shall bear all expense of taking up, removing, and replacing this work if so directed by the Observer.

2.14 Defects and Their Remedies

It is further agreed that if the work or any part thereof, or any material brought on the site of the work for use in the work or selected for the same, shall be deemed by the Observer as unsuitable or not in conformity with the plans, specifications, or the intent thereof, the Contractor shall, after receipt of written notice thereof from the Observer, forthwith remove such material and rebuild or otherwise remedy such work so that it shall be in full accordance with this contract.

2.15 Changes and Alterations

The Contractor further agrees that the County may make such changes and alterations as the County may see fit in the line, grade, form, dimensions, plans or materials for the work herein contemplated, or any part thereof, either before or after the beginning of the construction, without affecting the validity of this contract and the accompanying Performance and Payment Bonds.

If such changes or alterations diminish the quantity of the work to be done, they shall not constitute the basis for a claim for damages or anticipated profits on the work that may be dispensed with, except as provided for unit price items under Section 5 "Measurement and Payment". If the amount of work is increased, and the work can fairly be classified under

the specifications, such increase shall be paid for according to the quantity actually done and at the unit price, if any, established for such work under this contract, except as provided for unit price items under Section 5 "Measurement and Payment". Otherwise, such additional work shall be paid for as provided under Extra Work. In the event the County makes such changes or alterations as shall make useless any work already done or material already furnished or used in said work, then the County shall compensate the Contractor for any material or labor so used, and for any actual loss occasioned by such change, due to actual expense incurred in preparation for the work as originally planned.

3. General Obligations and Responsibilities

3.01 Keeping of Plans and Specifications Accessible

~~The Engineer shall furnish the Contractor with an adequate and reasonable number of copies of all plans and specifications without expense to him and the Contractor shall keep one (1) copy of the same~~ **the plans and specifications** constantly accessible on the work, with the latest revisions noted thereon. **The Contractor shall give the work his constant attention to facilitate the progress thereof and shall cooperate with the Construction Observer in every way possible. The Contractor shall designate, to the Construction Observer in writing, the name of a Superintendent, employed by the firm, regardless of how much of the work may be sublet. The Superintendent will be available at all time. In the event a competent superintendent is not available, the Construction Observer may suspend work until one is available.**

3.02 Ownership of Drawings

All drawings, specifications and copies thereof furnished by the Engineer shall not be reused on other work, and, with the exception of the signed contract sets, are to be returned to him on request, at the completion of the work. All models, drawings, specifications and copies thereof are the property of the County.

3.03 Adequacy of Design

It is understood that the County believes it has employed competent engineers and designers. It is therefore agreed that the County and Engineer shall be responsible for the adequacy of the design, sufficiency of the Contract Documents, the safety of the structure and the practicability of the operations of the completed project provided that the Contractor has complied with the requirements of the said Contract Documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the County. The burden of proof of such compliance shall be upon the Contractor to show that he has complied with the said requirements of the Contract Documents, approved modifications thereof, and all approved additions and alterations thereto.

3.04 ~~Right of Entry~~

~~The County reserves the right to enter the property or location at which the works herein contracted for are to be constructed or installed, by such agent or agents as he may elect, for the purpose of inspecting the work or for the purpose of constructing or installing such collateral work as the County may desire.~~

~~3.05 Collateral Contracts~~

~~The County agrees to provide, by separate contract or otherwise, all labor and material essential to the completion of the work specifically excluded from this contract, in such manner so as not to unreasonably delay the progress of the work or damage the Contractor, except where such delays are specifically mentioned elsewhere in the Contract Documents. The County will attempt to coordinate the collateral work of utility companies regulated by the County franchises, but the County shall not be responsible for delays or other damages to the Contractor which may result from their acts or omissions.~~

~~3.06 Discrepancies and Omissions~~

~~The Contractor shall provide written notice to the Observer of any omissions or discrepancies found in the contract. It is further agreed that it is the intent of this contract that all work must be done and all material must be furnished in accordance with generally accepted practices for construction. In the event of any discrepancies between the separate Contract Documents, the priority of interpretation defined under Section 1.02 "Contract Documents" shall govern. In the event that there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the Observer shall define what is intended to apply to the work.~~

~~3.07 Equipment, Materials and Construction Plant~~ Contractor's Responsibility for Work

~~The Contractor shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, all means of construction, and any and all parts of the work, whether the Contractor has been paid, partially paid, or not paid for such work, until the entire work is completed and accepted. Until final written acceptance of the project by the Observer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non execution of the work.~~

~~In case of suspension of work for any cause, the Contractor shall be responsible for the preservation of all materials. He shall provide suitable drainage of the roadway in good and passable condition until final acceptance, except as outlined below for opening the roadway to traffic.~~

~~Wherever in the opinion of the Observer, any roadway or portion thereof is in suitable condition for travel, it shall be opened to traffic, as may be directed, and such opening shall not be held to be in any way the final acceptance of the roadway or any part of it~~

or as a waiver of any of the provisions of the contract. Where it is considered by the Observer to be in the public interest and so ordered in writing by him, any substantially completed roadway or portion thereof may be opened to traffic as follows:

- (1) When required by plans, job sequence or the approved traffic control plan, with the County accepting responsibility for maintaining that portion of the roadway opened to traffic.
- (2) When work is suspended for a period of time at the convenience of the County, the County will assume the responsibility for maintaining the entire roadway during the period of suspension; or
- (3) When the roadway or portion thereof is opened to traffic during construction operations at the convenience of the County, the County will assume responsibility for the maintenance of the traveled way and shoulders during the period in which it is opened to traffic.

The County in assuming responsibility for maintenance under this provision may require the work to be done in accordance to article 1.07, "Extra Work".

Except for damage by the Contractor or that caused by the Contractor's operations, the Contractor will not be responsible for repair of damage to existing facilities or completed and accepted work such as guard fence, bridge wings, and railing, illumination assemblies, underpass structure, traffic barriers, delineator assemblies, signs, sign bridges, changeable message signs, vehicle impact attenuators (crash cushions and guardrail end treatments) and traffic signals, where such damage is caused by (a) motor-vehicle, seacraft, aircraft or railroad-train collision; (b) vandalism; (c) Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature; or (d) Acts of Governmental Authorities.

Upon completion of all work provided for in the contract for any individual limits, control or project, the Observer may make an inspection, and if the work is found to be satisfactory, the Contractor will be released from further maintenance on that portion of the work, except for damage caused by the Contractor or his operations. Such partial acceptance will be made in writing and shall in no way void or alter any terms of the contract. Other specific units of the project will be accepted on an individual basis when shown on the plans or as approved by the Observer.

3.08 — Damages

~~In the event the Contractor is damaged in the course of completion of the work by the act, negligence, omission, mistake or default of the County or the Engineer, thereby causing loss to the Contractor through no fault of Contractor, the County agrees that he will reimburse the Contractor for such loss. In the event the County is damaged in the course of the work by~~

~~the act, negligence, omission, mistake or default of the Contractor, or should the Contractor unreasonably delay the progress of the work being done by others on the job so as to cause loss for which the County becomes liable, then the Contractor shall reimburse the County for such loss.~~

3.09 Protection Against Accident to Employees and the Public

The Contractor shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of federal, state, and municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America, except where incompatible with federal, state, or municipal laws or regulations. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent contractor.

In the event there is an accident involving injury to any individual on or near the work, the Contractor shall immediately notify the County and the Observer of the event and shall be responsible for recording the location of the event and the circumstances surrounding the event through photographs, interviewing witnesses, obtaining of medical reports and other documentation that defines the event. Copies of such documentation shall be provided to the County and the Observer for their records.

3.10 Performance and Payment Bonds

Unless otherwise specified, it is further agreed by the parties to the contract that the Contractor will execute separate performance and payment bonds, each in the sum of one hundred (100%) percent of the total contract price, on standard forms for this purpose, guaranteeing faithful performance of the work and the fulfillment of any guarantee required, and further guaranteeing payment to all persons supplying labor and materials or furnishing him any equipment in the execution of the contract. It is agreed that the contract shall not be in effect until such performance and payment bonds are furnished and approved by the County.

Unless otherwise specified, the cost of the premium for the performance and payment bonds shall be included in the price bid by the Contractor for the work under this contract, and no extra payment for such bonds will be made by the County.

Unless otherwise approved in writing by the County the surety company underwriting the bonds shall be acceptable according to the latest list of companies holding certificates of authority from the Secretary of the Treasury of the United States.

3.11 ~~Losses from Natural Causes~~

~~Unless otherwise specified, all loss or damage to the Contractor arising out of the nature of the work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the work, shall be sustained and borne by the Contractor at his own cost and expense.~~

3.12 Protection of Adjoining Property

The said Contractor shall take proper means to protect the adjacent or adjoining property or properties, in any way encountered, which might be injured or seriously affected by any process of construction to be undertaken under this agreement, from any damage or injury by reason of said process of construction; and he shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The Contractor agrees to indemnify, save and hold harmless the County, the Observer and the Engineer against any claim or claims for damages due to any injury to any adjacent or adjoining property, arising or growing out of the performance of the contract regardless of whether or not it is caused in part by a party indemnified hereunder, but any such indemnity shall not apply to any claim of any kind arising solely out of the existence or character of the work.

3.13 Protection Against Claims of Subcontractors, Laborers, Materialmen and Furnishers of Machinery, Equipment and Supplies

The Contractor agrees that he will indemnify and save the County, the Observer and the Engineer harmless from all claims growing out the lawful demands of Subcontractors, laborers, workers, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. When so desired by the County, the Contractor shall furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged or waived. If the Contractor fails to do so, then the County may either pay directly any unpaid bills of which the County has written notice, or may withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to liquidate any and all such lawful claims. When satisfactory evidence is furnished that all liabilities have been fully discharged, payments to the Contractor shall be resumed in full in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligation upon the County by either the Contractor or his surety.

3.14 Protection Against Royalties or Patented Invention

The Contractor shall pay all royalties and license fees, and shall provide for the use of any design, device, material or process covered by letter patent or copyright by suitable legal agreement with the patentee or owner. The Contractor shall defend all suits or claims for infringement of any patent or copyright rights and shall indemnify and save the County, the Observer and the Engineer harmless from any loss on account thereof, except that the County

shall defend all such suits and claims and shall be responsible for all such loss when a particular design, device, material or process or the product of a particular manufacturer or manufacturers is specified or required by the County; provided, however, if choice of alternate design, device, material or process is allowed to the Contractor, then the Contractor shall indemnify and save the County harmless from any loss on account thereof. If the material or process specified or required by the County is known by the Contractor to be an infringement, the Contractor shall be responsible for such loss unless he promptly gives such information to the County.

3.15 Laws and Ordinances

The Contractor shall at all times observe and comply with all federal, state and local laws, ordinance and regulations, which in any manner affect the contract or the work, and shall indemnify and save harmless the County, the Observer and the Engineer against any claim arising from the violation of any such laws, ordinances, and regulations whether by the Contractor or his employees, except where such violations are called for by the provisions of the Contract Documents. If the Contractor observes that the plans and specifications are at variance therewith, he shall promptly notify the Observer in writing, and any necessary changes shall be prepared as provided in the contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Observer, he shall bear all costs arising therefrom.

In case the County is a body politic and corporate, the law from which it derives its powers, insofar as the same regulates the objects for which, or the manner in which, or the conditions under which the County may enter into contract, shall be controlling and shall be considered as part of this contract to the same effect as though embodied herein.

3.16 Assignment and Subletting

The Contractor further agrees that he will retain personal control and will give his personal attention to the fulfillment of this contract and that he will not assign by Power of Attorney or otherwise, or sublet said contract without the written consent of the Observer, and that no part or feature of the work will be sublet to anyone objectionable to the Observer or the County. The Contractor further agrees that the subletting of any portion or feature of the work, or materials required in the performance of this contract, shall not relieve the Contractor from his full obligations to the County as provided by this agreement.

3.17 Indemnification

The Contractor shall defend, indemnify and hold harmless the County, the Observer and the Engineer and their respective officers, agents and employees, from and against all damages, claims, losses, demands, suits, judgments and costs, including reasonable attorneys' fees and expenses, arising out of or resulting from the performance of the work, provided that any such damage, claim, loss, demand, suit, judgment, cost or expense:

1. is attributable to bodily injury, sickness, disease or death of any person including Contractor's employees and any Subcontractor's employees and any Sub-subcontractor's employees, or to injury to or destruction of tangible property including Contractor's property (other than the work itself) and the property of any Subcontractor of Sub-subcontractor including the loss of use resulting therefrom; and,
2. is caused in whole or in part by any intentional or negligent act or omission of the Contractor, any Subcontractor, any Sub-subcontractor or anyone directly or indirectly employed by any one of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

The obligation of the Contractor under this paragraph shall not extend to the liability of the Observer, the Engineer, their agents or employees arising out of the preparation of maps, plans, reports, surveys, change orders, designs or specifications, or the approval of maps, plans, reports, surveys, change orders, designs or specifications or the issuance of or the failure to give directions or instructions by the Observer, his agents or employees, provided such is the sole cause of the injury or damage.

In any and all claims against the County, the Observer or the Engineer or any of their agents or employees by any employee of the Contractor, any Subcontractor, any Sub-subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under Section 3.17 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or Sub-subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

3.18 Insurance

The Contractor at his own expense shall purchase, maintain and keep in force such insurance as will protect him from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

- (1) Workman's compensation claims, disability benefits and other similar employee benefit acts;
- (2) Claims for damages because of body injury, occupational sickness or disease, or death of his employees, and claims insured by usual bodily injury liability coverages;
- (3) Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees, and claims insured by usual bodily injury liability coverages; and

- (4) Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

CERTIFICATE OF INSURANCE. Before commencing any of the work, Contractor shall file with the County valid Certificates of Insurance acceptable to the County and the Observer. Such Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least thirty (30) days prior written notice has been given to the County.

The Contractor shall also file with the County valid Certificates of Insurance covering all sub-contractors.

3.19 Final Clean-up

Upon the completion of the work and before acceptance and final payment will be made, the Contractor shall clean and remove from the site of the work all surplus and discarded materials, temporary structures and debris of every kind. He shall leave the site of the work in a neat and orderly condition at least equal to that which originally existed. Surplus and waste materials removed from the site of the work shall be disposed of at locations satisfactory to the Observer.

In the event the Contractor fails or refuses to clean and remove surplus materials and debris as above provided, the County or the Observer may do so, or cause same to be done, at the Contractor's expense, and the reasonable cost thereof shall be deducted from the final payment.

3.20 ~~Guarantee Against Defective Work~~

~~The Contractor warrants the materials and workmanship and that the work is in conformance with the plans and specifications included in this contract for a period of one year from the date of acceptance of the project. Said warranty binds the Contractor to correct any work that does not conform with such plans and specifications or any defects in workmanship or materials furnished under this contract which may be discovered within the said one year period. The Contractor shall at his own expense correct such defect within thirty (30) days after receiving written notice of such defect from the County or the Engineer by repairing same to the condition called for in the Contract Documents and plans and specifications. Should the Contractor fail or refuse to repair such defect within the said thirty (30) day period or to provide acceptable assurances that such repair work will be completed within a reasonable time thereafter, the County may repair or cause to be repaired any such defect at the Contractor's expense.~~

4. Prosecution and Progress

4.01 Time and Order of Completion

It is the meaning and intent of this contract, unless otherwise herein specifically provided, that the Contractor shall be allowed to prosecute his work at such times and seasons, in such order of precedence, and in such manner as shall be most conducive to economy of construction; provided, however, that the order and the time of prosecution shall be such that the work shall be substantially completed as a whole and in part, in accordance with this contract, the plans and specifications, and within the time of completion designated in the proposal: provided, also, that when the County is having other work done, either by contract or by his own force, the Observer may direct the time and manner of constructing the work done under this contract, so that conflict will be avoided and the construction of the various works being done for the County shall be harmonized.

The Contractor shall submit, at such times as may reasonably be requested by the Observer, schedules which shall show the order in which the Contractor proposes to carry on the Work, with dates at which the Contractor will start the several parts of the work, and estimated dates of completion of the several parts.

4.02 Extension of Time

Should the Contractor be delayed in the completion of the work by any act or neglect of the County, the Observer or the Engineer, or of any employee of either, or by other contractors employed by the County, or by changes ordered in the work, or by strikes, lockouts, fires, and unusual delays by common carriers, or unavoidable cause or causes beyond the Contractor's control, or by any cause which the Observer shall decide justifies the delay, then an extension of time shall be allowed for completing the work, sufficient to compensate for the delay, the amount of the extension to be determined by the Observer; provided, however, that the Contractor shall give the Observer prompt notice in writing of the cause of such delay. Adverse weather conditions will not be justification for extension of time on "Calendar Days" contracts.

4.03 Hindrances and Delays

No claims shall be made by the Contractor for damages resulting from hindrances or delays from any cause (except where the work is stopped by order of and for the convenience of the County) during the progress of any portion of the work embraced in this contract. In case said work shall be stopped by the act of the County, then such expense as in the judgment of the Observer is caused by such stoppage of said work shall be paid by the County to the Contractor.

5. Measurement and Payment

5.01 Quantities and Measurements

No extra or customary measurements of any kind will be allowed, but the actual measured and/or computed length, area, solid contents, number and weight only shall be considered, unless otherwise specifically provided.

5.02 Estimated Quantities

This agreement, including the specifications, plans and estimate, is intended to show clearly all work to be done and material to be furnished hereunder. Where the estimated quantities are shown for the various classes of work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the work and for comparing the proposals offered for the work. It is understood and agreed that the actual amount of work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis for payment under this contract is the unit price method, payment shall be for the actual amount of such work done and material furnished.

Where payment is based on the unit price method, the Contractor agrees that he will make no claim for damages, anticipated profits or otherwise on account of any differences which may be found between the quantities of work actually done, the material actually furnished under this contract and the estimated quantities contemplated and contained in the proposal; provided, however, that in case the actual quantity of any major item should become as much as twenty-five percent (25%) more than, or twenty-five percent (25%) less than the estimated or contemplated quantity for such items, then either party to this agreement, upon demand, shall be entitled to revised consideration upon the portion of the work above or below twenty-five percent (25%) of the estimated quantity.

A "Major Item" shall be construed to be any individual bid item incurred in the proposal that has a total cost equal to or greater than five percent (5%) of the total contract cost, computed on the basis of the proposal quantities and the contract unit prices.

Any revised consideration is to be determined by agreement between the parties, otherwise by the terms of this agreement, as provided under Section 6.03 "Extra Work".

5.03 Price of Work

In consideration of the furnishing of all the necessary labor, equipment and material, and the completion of all work by the Contractor, and on the completion of all work and on the delivery of all material embraced in this contract in full conformity with the specifications and stipulations herein contained, the County agrees to pay the Contractor the prices set forth in the proposal hereto attached, which has been made a part of this contract. The Contractor hereby agrees to receive such prices in full for furnishing all material and all labor required

for the aforesaid work, also for all expense incurred by him, and for well and truly performing the same and the whole thereof in the manner and according to this agreement.

5.04 Partial Payments

On or before the 5th day of each month, the Contractor shall submit to the Observer a statement showing the total value of the work performed up to and including the last day of the preceding month. The statement shall also include the value of all sound materials delivered on the job 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 Observer is acceptable. The Observer shall examine and approve or modify and approve such statement.

The County shall then pay the Contractor on or before the 25th day of the current month the total amount of the approved statement, less ten percent (10%) of the amount thereof, which ten percent (10%) shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the County under the terms of this agreement. It is understood, however, that in case the whole work be near to completion and some unexpected and unusual delay occurs due to no fault or neglect on the part of the Contractor, then the County may, upon written recommendation of the Observer, pay a reasonable and equitable portion of the retained percentage to the Contractor; or the Contractor, at the County's option, may be relieved of the obligation to fully complete the work and, thereupon, the Contractor shall receive payment of the balance due him under the contract subject only to the conditions stated under Section 5.07 "Final Payment".

5.05 ~~Use of Completed Portions~~ Final Inspection

~~The County shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired. Such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost or delays the work, the Contractor shall be entitled to such extra compensation, extension of time, or both, as the Observer may determine.~~

The Contractor shall notify the Observer when, in the Contractor's opinion, the contract is "substantially completed" and when so notifying the Observer, the Contractor shall furnish to the Observer in writing a detailed list of unfinished work. The Observer will review the Contractor's list of unfinished work and will add thereto such items as the Contractor has failed to include. The "substantial completion" of the structure or facility shall not excuse the Contractor from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the structure or facility in accordance with the Contract Documents.

5.06 Final Completion and Acceptance

Within ten (10) days after the Contractor has given the Observer written notice that the work has been completed, or substantially completed, the Observer and the County shall inspect the work and within said time, if the work is found to be completed in accordance with the Contract Documents, the Observer shall issue to the County and the Contractor his Certificate of Completion, and thereupon it shall be the duty of the County to issue a Certificate of Acceptance to the Contractor or to advise the Contractor in writing of the reason for non-acceptance.

5.07 Final Payment

Upon the issuance of the Certificate of Completion, the Observer shall proceed to make final measurements and prepare final statement for the value of all work performed and materials furnished under the terms of the agreement and shall certify same to the County, who shall pay to the Contractor on or after the 30th day, and before the 35th day after the date of the Certificate of Completion, the balance due the Contractor under the terms of this contract; and said payment shall become due in any event upon said performance by the Contractor. Neither the Certificate of Acceptance nor the final payment, nor any provision in the Contract Documents, shall relieve the Contractor of the obligation for fulfillment of any warranty which may be required.

5.08 Payments Withheld

The County may, on account of subsequently discovered evidence, withhold or nullify the whole or part of any certificate to such extent as may be necessary to protect himself from loss on account of:

- (a) Defective work not remedied or other obligations hereunder not done.
- (b) Claims filed or reasonable evidence indicating probable filing of claims.
- (c) Failure of the Contractor to make payments properly to Subcontractors or for material or labor.
- (d) Damage to the County or another contractor's work, material or equipment.
- (e) Reasonable doubt that the work can be completed for the unpaid balance of the contract amount.
- (f) Reasonable indication that the work will not be completed within the contract time.
- (g) Other causes affecting the performance of the contract.

When the above grounds are removed or the Contractor provides a surety bond satisfactory to the County, which will protect the County in the amount withheld, payment shall be made for amounts withheld because of them.

5.09 Delayed Payments

Should the County fail to make payment to the Contractor of the sum named in any partial or final statement, when payment is due, then the County shall pay to the Contractor, in addition to the sum shown as due by such statement, interest thereon at the rate of six percent (6%) per annum, unless otherwise specified, from date due as provided under Section 5.04 "Partial Payments" and Section 5.07 "Final Payment", until fully paid, which shall fully liquidate any injury to the Contractor growing out of such delay in payment. It is expressly agreed that delay by the County in making payment to the Contractor of the sum named in any partial or final statement shall not constitute a breach of this contract on the part of the County nor an abandonment thereof nor shall it to any extent or for any time relieve the Contractor of his obligations to fully and completely perform hereunder.

Alternative: but the right is expressly reserved to the Contractor in the event payments be not promptly made, as provided under "Partial Payments", to at any time thereafter treat the contract as abandoned by the County and recover compensation, as provided under "Abandonment of Contract", unless such payments are withheld in accordance with the provisions of "Payments Withheld".

6. Extra Work and Claims

6.01 Change Orders

Without invalidating this agreement, the County may at any time or from time to time order additions, deletions or revisions to the work; such changes will be authorized by Change Order to be prepared by the Observer for execution by the County and the Contractor. The Change Order shall set forth the basis for any change in contract price, as hereinafter set forth for extra work, and any change in contract time which may result from the change.

In the event the Contractor shall refuse to execute a Change Order which has been prepared by the Observer and executed by the County, the Observer may in writing instruct the Contractor to proceed with the work as set forth in the Change Order and the Contractor may make claim against the County for Extra Work involved therein, as hereinafter provided.

6.02 Minor Changes

The Observer may authorize minor changes in the work not inconsistent with the overall intent of the Contract Documents and not involving an increase in contract price. If the Contractor believes that any minor change or alteration authorized by the Observer involves extra work and entitles him to an increase in the contract price, the Contractor shall make written request to the Observer for a written Field Order.

In such case, the Contractor by copy of his communication to the Observer or otherwise in writing shall advise the County of his request to the Observer for a written Field Order and that work involved may result in an increase in the contract price.

Any request by the Contractor for a change in contract price shall be made prior to beginning the work covered by the proposed change.

6.03 Extra Work

It is agreed that the basis of compensation to the Contractor for work either added or deleted by a change order or for which a claim for Extra Work is made shall be determined by the unit prices upon which this contract was bid to the extent such work can be fairly classified within the various work item descriptions and for work items that cannot be so classified by one or more of the following methods:

Method (A)

By agreed unit prices; or

Method (B)

By agreed lump sum; or

Method (C)

If neither Method (A) nor Method (B) is agreed upon before the extra work is commenced, then the Contractor shall be paid the "actual field cost" of the work, plus fifteen percent (15%).

In the event said extra work is performed and paid for under Method (C), then the provisions of this paragraph shall apply and the "actual field cost" is hereby defined to include the cost to the Contractor of all workmen, such as foremen, timekeepers, mechanics and laborers, and materials, supplies, trucks, rentals on machinery and equipment, for the time actually employed or used on such extra work, plus actual equipment, for the time actually employed or used on such extra work, plus actual transportation charges necessarily incurred, together with all power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, Old Age Benefits and other payroll taxes, and a rateable proportion of premiums on performance and payment bonds and maintenance bonds, public liability and property damage and workers' compensation, and all other insurance as may be required by any law or ordinance, or directed or agreed to by the County. The Observer may direct the form in which accounts of the "actual field cost" shall be kept and the records of these accounts shall be made available to the Observer. The Observer or the County may also specify in writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment to be used; otherwise these matters shall be determined by the Contractor. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%), unless otherwise

specified, of the latest schedule of Equipment ownership Expense adopted by the Associated General Contractors of America. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. The fifteen percent (15%) of the "actual field cost" to be paid the Contractor shall cover and compensate him for his profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the "actual field cost" as herein defined, save that where the Contractor's camp or field office must be maintained primarily on account of such extra work; then the cost to maintain and operate the same shall be included in the "actual field cost."

No claim for extra work of any kind will be allowed unless ordered in writing by the Observer. In case any orders or instructions, either oral or written, appear to the Contractor to involve Extra Work for which he should receive compensation or an adjustment in the construction time, he shall make written request to the Observer for written order authorizing such Extra Work. Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefor, and the Observer insists upon its performance, the Contractor shall proceed with the work after making written request for written order and shall keep an accurate account of the "actual field cost" thereof, as provided under Method (C).

6.04 Time of Filing Claims

It is further agreed by both parties hereto that all questions of dispute or adjustment presented by the Contractor shall be in writing and filed with the Observer within thirty (30) days after the Observer has given any directions, order or instruction to which the Contractor desires to take exception. The Observer shall reply within thirty (30) days to such written exceptions by the Contractor and render his final decision in writing. In case the Contractor should appeal from the Observer's decision, the Contractor may file with the County his objection.

It is further agreed that final acceptance of the work by the County and the acceptance by the Contractor of the final payment shall be a bar to any claims by either party, except claims by the County for defective work or enforcement of warranties and except as noted otherwise in the Contract Documents.

6.05 Continuing Performance

The Contractor shall continue performance of the contract during all disputes or disagreements with the County. The production or delivery of goods, the furnishing of services and the construction of projects or facilities shall not be delayed, prejudiced or postponed pending resolution of any disputes or disagreements, except as the County may otherwise agree in writing.

7. Abandonment of Contract

7.01 Abandonment by Contractor

In case the Contractor should abandon and fail or refuse to resume work within ten (10) days after written notification from the County, the Observer or the Engineer, or if the Contractor fails to comply with the orders of the Observer when such orders are consistent with the Contract Documents, then and in that case, where performance and payment bonds exist, the sureties on these bonds shall be notified in writing and directed to complete the work, and a copy of said notice shall be delivered to the Contractor.

After receiving said notice of abandonment, the Contractor shall not remove from the work any machinery, equipment, tools, materials or supplies then on the job, but the same, together with any materials and equipment under contract for the work, may be held for use on the work by the County or the surety on the performance bond, or another contractor in completion of the work; and the Contractor shall not receive any rental or credit therefor (except when used in connection with extra work, where credit shall be allowed as provided for under Section 6, Extra Work and Claims, herein), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the work and be reflected in the final settlement.

Where there is no performance bond provided or in case the surety should fail to commence compliance with the notice for completion hereinbefore provided for, within ten (10) days after service of such notice, then the County may provide for completion of the work in either of the following elective manners:

- (1) The County may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as the County may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials and supplies to the Contractor, and expense so charged shall be deducted and paid by the County out of such monies as may be due, or that may thereafter at any time become due to the Contractor under and by virtue of this agreement. In case such expense is less than the sum which would have been payable under this contract if the same had been completed by the Contractor, then the Contractor shall receive the difference. In case such expense is greater than the sum which would have been payable under this contract if the same had been completed by the Contractor, then the Contractor and/or his surety shall pay the amount of such excess to the County, or
- (2) The County, under sealed bids, after five (5) days notice published one or more times in a newspaper having general circulation in the ~~county~~-area of the location of the work, may let the contract for the completion of the work under substantially the same terms and conditions which are provided in this contract. In case there is any increase in cost to the County under the new contract as compared to what would have been the cost under this contract, such increase shall be charged to the Contractor and the surety shall be and remain bound therefor. However, should the cost to complete any such

contract prove to be less than would have been the cost to complete under this contract, the Contractor and/or his surety shall be credited therewith.

When the work shall have been substantially completed, the Contractor and his surety shall be so notified and Certificates of Completion and Acceptance, as provided in Section 5.06 hereinabove, shall be issued. A complete itemized statement of the contract accounts, certified by the Observer as being correct, shall then be prepared and delivered to the Contractor and his surety, whereupon the Contractor and/or his surety, or the County as the case may be, shall pay the balance due as reflected by said statement within fifteen (15) days after the date of such Certificate of Completion.

In the event the statement of accounts shows that the cost to complete the work is less than that which would have been the cost to the County had the work been completed by the Contractor under the terms of this contract, or when the Contractor and/or his surety shall pay the balance shown to be due by them to the County, then all machinery, equipment, tools, materials or supplies left on the site of the work shall be turned over to the Contractor and/or his surety. Should the cost to complete the work exceed the contract price, and the Contractor and/or his surety fail to pay the amount due the County within the time designated hereinabove, and there remains any machinery, equipment, tools, materials or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the Contractor and his surety at the respective addresses designated in this contract; provided, however, that actual written notice given in any manner will satisfy this condition. After mailing, or other giving of such notice, such property shall be held at the risk of the Contractor and his surety subject only to the duty of the County to exercise ordinary care to protect such property. After fifteen (15) days from the date of said notice, the County may sell such machinery, equipment, tools, materials or supplies and apply the net sum derived from such sale to the credit of the Contractor and his surety. Such sale may be made at either public or private sale, with or without notice, as the County may elect. The County shall release any machinery, equipment, tools, materials, or supplies, which remain on the work, and belong to persons other than the Contractor or his surety, to their proper owners. The books on all operations provided herein shall be opened to the Contractor and his surety.

7.02 Abandonment by the County

In case the County shall fail to comply with the terms of this contract, and should fail to comply with said terms within ten (10) days after written notification by the Contractor, then the Contractor may suspend or wholly abandon the work, and may remove therefrom all machinery, tools and equipment, and all materials on the site of work that have not been included in payments to the Contractor and have not been wrought into the work. Thereupon, the Observer shall make an estimate of the total amount earned by the Contractor, which estimate shall include the value of all work actually completed by said Contractor (at the prices stated in the attached proposal where unit prices are used), the value of all partially completed work at a fair and equitable price, and the amount of all Extra Work performed at the prices agreed upon, or provided for by the terms of this contract, and

a reasonable sum to cover the cost of any provisions made by the Contractor to carry the whole work to completion and which cannot be utilized. The Engineer shall then make a final statement of the balance due the Contractor by deducting from the above estimate all previous payments by the County and all other sums that may be retained by the County under the terms of this agreement and shall certify same to the County who shall pay to the Contractor on or before thirty (30) days after the date of the notification by the Contractor the balance shown by said final statement as due the Contractor, under the terms of this agreement.

8. Subcontractors

8.01 Award of Subcontracts for Portions of the Work

Unless otherwise specified in the Contract Documents or in the Instructions to Bidders, the Contractor, as soon as practicable after the award of the contract, shall furnish to the Observer in writing for acceptance by the County and the Engineer a list of the names of the Subcontractors proposed for the principal portions of the work. The Observer shall promptly notify the Contractor in writing if either the County or the Engineer, after due investigation, has objection to any Subcontractor on such list and does not accept him. Failure of the County or the Engineer to make objection promptly to any Subcontractor on the list shall constitute acceptance of such Subcontractor.

The Contractor shall not contract with any Subcontractor or any person or organization (including those who are to furnish materials or equipment fabricated to a special design) proposed for portions of the work designated in the Contract Documents or in the Instructions to Bidders or, if none is so designated, with any Subcontractor proposed for the principal portions of the work who has been rejected by the County and the Engineer. The Contractor will not be required to contract with any Subcontractor or person or organization against whom he has a reasonable objection.

If the County or the Engineer refuses to accept any Subcontractor or person or organization on a list submitted by the Contractor in response to the requirements of the Contract Documents or the Instructions to Bidders, the Contractor shall submit an acceptable substitute and the contract amount shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate change order shall be issued; however, no increase in the contract amount shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting for acceptance any list or lists of names as required by the Contract Documents or the Instructions to Bidders.

If the County or the Engineer requires a change of any proposed Subcontractor or person or organization previously accepted by them, the contract amount shall be increased or decreased by the difference in cost occasioned by such change and an appropriate change order shall be issued.

The Contractor shall not make any substitution for any Subcontractor or person or organization who has been accepted by the County and the Engineer, unless the substitution is acceptable to the County and the Engineer.

8.02 Subcontractual Relations

All work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate written agreement between the Contractor and the Subcontractor (and where appropriate between Subcontractors and Sub-subcontractors) which shall contain provisions that:

- (1) preserve and protect the rights of the County, the Observer and the Engineer under the contract with respect to the work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;
- (2) require that such work be performed in accordance with the requirements of the Contract Documents;
- (3) require submission to the Contractor of the applications for payment under each subcontract to which the Contractor is a party, in reasonable time to enable the Contractor to apply for payment in accordance with this contract;
- (4) require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like claims by the Contractor upon the County;
- (5) obligate each subcontractor specifically to consent to the provisions of this section.

A copy of all such subcontract agreements shall be filed by the Contractor with the Observer before the Subcontractor shall be allowed to commence work.

8.03 Payments to Subcontractors

The Contractor shall pay each Subcontractor, upon receipt of payment from the County, an amount directly based upon the value of the work performed and allowed to the Contractor on account of such Subcontractor's work, less the percentage retained from payments to the Contractor. The Contractor shall also require each Subcontractor to make similar payments to his subcontractors.

If the Observer fails to approve a payment for any cause which is the fault of the Contractor and not the fault of a particular Subcontractor, the Contractor shall pay the Subcontractor on demand made at any time after the Certificate for Payment should otherwise have been issued, for his work to the extent completed, less the retained percentage.

The Observer may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding percentages of completion certified to the Contractor on account of work done by such Subcontractors.

Neither the County, the Observer nor the Engineer shall have any obligation to pay or to see to the payment of any monies to such Subcontractor except as may otherwise be required.

9. Separate Contracts

9.01 — ~~County's Right to Award Separate Contracts~~

~~The County reserves the right to award other contracts in connection with other portions of the project under these or similar conditions of the contract.~~

~~When separate contracts are awarded for different portions of the project, "the Contractor" in the contract documents in each case shall be the contractor who signs each separate contract.~~

9.02 — ~~Mutual Responsibility of Contractors~~

~~The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate his work with theirs.~~

~~If any part of the Contractor's work depends for proper execution or results upon the work of any other separate contractor, the Contractor shall inspect and promptly report to the Observer any apparent discrepancies or defects in such work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper to receive his work, except as to defects which may develop in the other separate contractor's work after the execution of the Contractor's work.~~

~~Should the Contractor cause damage to the work or property of any separate contractor on the project, the Contractor shall, upon due notice, settle with such other contractor by agreement, if he will so settle. If such separate contractor sues the County or initiates an proceeding allowed hereunder on account of any damage alleged to have been so sustained, the County shall notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the County arises therefrom the Contractor~~

~~shall pay or satisfy it and shall reimburse the County for all attorney's fees and court costs or other costs which the County has incurred.~~

~~9.03 Cutting and Patching under Separate Contracts~~

~~The Contractor shall be responsible for any cutting, fitting and patching that may be required to complete his work, except as otherwise specifically provided in the Contract Documents. The Contractor shall not endanger any work of any other contractors by cutting, excavating or otherwise altering any work and shall not cut or alter the work of any other contractor except with the written consent of the Engineer.~~

~~Any costs caused by defective or ill timed work shall be borne by the party responsible therefor.~~

10. Protection of Persons and Property

10.01 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work.

10.02 Safety of Persons and Property

The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

- (1) all employees on the work and all other persons who may be affected thereby;
- (2) all the work and all materials and equipment to be incorporated therein, whether in storage or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and
- (3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, fences, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

All blasting, including methods of storing and handling explosives and highly inflammable materials, shall conform to federal, state, local laws and ordinances.

The following is a list of requirements in addition to federal, state, and local laws and ordinances:

1. The Contractor shall furnish the County with a Certificate of Blasting Insurance in the amount of \$300,000.00 for each contract, at least twenty-four (24) hours prior to using explosives. A blasting permit must be obtained from the appropriate jurisdictions at least five (5) days prior to use of explosives. If blasting is covered under the Contractor's General Insurance Certificate for each contract, a separate blasting certificate will not be required.
2. The following public utility companies and departments will be notified by the Contractor, on every occasion, at least twenty-four (24) hours prior to the use of explosives: Water and Wastewater, Electric, Gas, Telephone and the County Engineering Department.
3. Explosive materials to be used shall be limited to blasting agents and dynamite, unless prior approval of other materials is obtained in writing from the Engineering Department.
4. During blasting, all reasonable precautions shall be taken to protect pedestrians, passing vehicles, and public or private property. Blasting mats or protective cover shall be used when required by the Observer, the permit, or by safe blasting practices.
5. All explosives shall be stored in accordance with all applicable laws and codes.
6. The Director of Engineering or his representative shall have the right to limit the use of explosives and/or blasting methods which in his opinion are dangerous to the public or nearby property of any kind.
7. The Contractor, at his expense, shall promptly repair or replace all items known to be damaged as a result of blasting. All claims of damage shall be investigated by the County or by consulting firms approved by the County.

8. The Contractor shall maintain accurate records throughout the blasting operations showing the type explosive used, number of holes, pounds per hole, depth of hole, total pounds per shot, delays used, date and time of blast and initials of the Observer. The Contractor is fully responsible for all claims resulting from his blasting operation.

All damage or loss to any property referred to in this article caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable solely to faulty drawings or specifications or solely to the acts or omissions of the County or the Engineer or anyone employed by either of them, and not attributable in any degree to the fault or negligence of the Contractor.

The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the County and the Engineer.

10.03 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 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 shall provide such information as it has about the location and grade of water, sewer, gas, and telephone 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.

11. Termination

11.01-Termination by the County for Cause

Conditions for termination are as follows:

- A. Without prejudice to any other legal or equitable right or remedy which it would otherwise possess hereunder or as a matter of law, the County shall be entitled by giving Contractor five (5) days prior written notice to terminate this contract in its entirety at any time:

1. If the Contractor becomes insolvent, voluntarily files for bankruptcy, is the subject of an involuntary petition for bankruptcy commenced by its creditors, makes a general assignment for the benefit of creditors or becomes the subject of any other proceeding commenced under any statute or law for the relief of debtors; or
 2. If a receiver trustee or liquidator of any of the property or income of Contractor shall be appointed; or
 3. If Contractor:
 1. Shall fail to prosecute the work or any part thereof with diligence necessary to insure its progress and completion as prescribed by the time schedules; and shall fail to take such steps to remedy such default within ten (10) days after written notice thereof from the County; or
 4. If Contractor:
 1. Shall fail for any reason other than the failure by the County to make payments called upon when due, and
 2. Shall fail to take such steps to remedy such default within ten (10) days after written notice thereof from the County; or
 5. If Contractor:
 1. Shall commit a substantial default under any of the terms, provisions, conditions, or covenants contained herein; or
 2. Shall fail to take such steps to remedy such default within ten (10) days after written notice thereof from the County; or
 3. In the event of such termination, Contractor shall only be paid its reimbursable costs incurred prior to the effective date of the termination notice and shall not be entitled to receive any further fixed fee payments hereunder and shall be further subject to any claim the County may have against Contractor under other provisions of this agreement or as a matter of law, including the refund of any overpayment of reimbursable costs and/or fixed fee.
- B. If this Contract is terminated for cause, the County shall have the right but shall not be obligated to complete the work itself or by others; and to this end, the County shall be entitled to take possession of and use such equipment and materials as may be on the job site, and to exercise all rights, options, and privileges of Contractor under its subcontracts, purchase orders, or otherwise; and Contractor shall promptly assign such rights, options and privileges to the County. If the County elects to complete the work itself or by others, pursuant to the foregoing, the Contractor will reimburse the County 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 work by Contractor which fails to meet contract requirements.

Nothing contained in the preceding sections shall require the County to pay for any work which is unsatisfactory as determined by the Director or which is not submitted in compliance with the terms of this Contract. The County shall not be required to make any payments to Contractor when Contractor is in default under this Contract, nor shall this

11.02-Termination for Convenience

In connection with the work outlined in the Contract, it is agreed and fully understood by Contractor, that the County may cancel or indefinitely suspend further work hereunder or terminate this Contract either for cause as outlined above, or for the convenience of the County, upon fifteen (15) days written notice to Contractor, with the understanding that immediately upon receipt of said notice all work and labor being performed under this Contract shall cease. Contractor shall invoice the County for all work satisfactorily completed and shall be compensated in accordance with the terms of this Contract for work accomplished prior to the receipt of said notice. No amount shall be due for lost or anticipated profits.

After receipt of a notice of termination and acceptance otherwise directed by the County, Contractor shall, in good faith, and to the best of his ability, do all things necessary, in the light of such notice and of such request and implementation thereof as the County may make to assure the efficient proper closeout of the terminated work (including the protection of County property). Among other things, the Contractor shall, except as otherwise directed or approved by the County:

1. Stop the work on the date and to the extent specified in the notice of termination.
2. Place no further orders for subcontracts for services, equipment or materials, except as may be necessary for completion of such portion of the work as is not terminated.
3. Terminate all orders and subcontracts to the extent that they relate to the performance of the work terminated by the notice of termination.
4. Assign to the County, in the manner and to the extent directed by it, all right title, and interest of Contractor under the orders or subcontracts so terminated; in which case, the County shall have the right to settle or pay any or all claims arising out of such termination of such orders and/or subcontracts.
5. With the approval of the County, settle all outstanding liabilities and all claims arising out of such termination or orders and subcontracts.
6. Deliver to the County, all documents, property, plans, field surveys, maps, cross sections and other data, designs and work related to the Project shall become the property of the County upon termination of this Contract, in a reasonably organized form, without restriction on future use. Should the County subsequently contract with a new contractor for continuation of services under this Project, Contractor shall cooperate in providing information.
7. In the event of such termination, no cost incurred after the effective date of the notice of termination shall be treated as reimbursable costs unless it relates to carrying out the unterminated portion or taking closeout measures.

Article constitute a waiver of any right, at law and at equity, which the County may have if Contractor is in default, including the right to bring legal action for damages or to force specific performance of this Contract.

Appendix A

Quality Control / Quality Assurance Program for Construction Projects

Section 1. Overview

Introduction

Williamson County has established the following **Quality Control (QC) / Quality Assurance (QA)** Program to assure that the materials and workmanship incorporated into any **roadway or** highway construction project are in reasonable conformity with the requirements of the approved plans and specifications, including any approved changes. It consists of an "Acceptance Program" and an ~~"Independent Assurance"~~ **QA Program** based on test results obtained by qualified persons and equipment.

This ~~Quality Assurance~~ **QC/QA** Program allows for the use of validated contractor-performed ~~quality control (QC)~~ test results as part of an acceptance decision. It also allows for the use of test results obtained by commercial laboratories in the ~~Independent Assurance~~ **QA Program**, as well as in acceptance decisions, **as well**. The **effectiveness of the "aAcceptance Program** of all materials and workmanship shall be the responsibility of the Construction Observer.

Definitions

Acceptance program. All factors that comprise the Williamson County's determination of the quality of the product as specified in the contract requirements. These factors include **QC and QA** verification sampling, and testing, and inspection and ~~may include results of quality control sampling and testing.~~

~~Independent~~**Quality assurance program.** Activities that are an unbiased and independent evaluation of all the **inspection**, sampling and testing procedures used in the acceptance program.

Proficiency samples are homogenous samples that are distributed and tested by two or more laboratories and/or personnel. The test results are compared to assure that the laboratories and/or personnel are obtaining the same results.

Qualified laboratories. Laboratories that are capable as defined by appropriate programs established by Williamson County and as indicated in the "Laboratory Qualification Program". As a minimum, the qualification program shall include provisions for checking testing equipment and the laboratory shall keep records of calibration checks.

Qualified sampling and testing personnel. Personnel who are capable as defined by appropriate programs established as stated in Section 6 of this Appendix.

Quality assurance is all those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality.

Quality control is all contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements.

Vendor is a supplier of project-produced material that is not the contractor.

Verification sampling and testing is sampling and testing performed to validate the quality of the product, **which consists of the QC and QA sampling and testing.**

Section 2. Acceptance Program

Materials incorporated into any highway construction project shall be subject to verification sampling and testing, and inspection as well as part of the QC program outlined below: ~~sampling and testing when required by the specifications.~~

- **Quality Control Inspection**

- ◆ Contractor-performed QC Inspection will be required as part of the acceptance decision.
- ◆ The contractor shall designate individual(s) responsible for the QC Inspection for the project or each work element thereof. The designated QC individual(s) will maintain responsibility for providing reports detailing the compliance of each work element to the requirements of the approved project plans and specifications.
- ◆ The QC report will detail requirements of the approved project plans and specifications and measures initiated to ensure reasonable conformity.
- ◆ The contractor shall submit the QC Plan for acceptance detailing the individuals & methods(s) intended to be used to obtain reasonable conformance to the approved project plans and specifications.

- ~~Sampling and Testing Frequency and Location~~

~~Verification sampling and testing shall be performed at the location and frequency established in the "Guide Schedule of Sampling and Testing" found in Appendix B or in the specifications specific to each project.~~

- **Quality Control Sampling and Testing and frequency**

- ◆ Contractor-performed QC sampling and testing may will be used as part of an acceptance decision when required or allowed by specification.
- ◆ The frequency and location will be according to the "Project Test" frequency as shown in Appendix B.
- ◆ These QC sampling and testing personnel, laboratories, and equipment shall be qualified according to the "Sampling and Testing Personnel Qualification Program" and the "Laboratory Qualification Program" and shall be evaluated under the "Independent Quality Assurance Program" contained herein.
- ◆ Any equipment used to perform QC sampling and testing shall be subject to an evaluation by QA sampling and testing personnel. This evaluation shall include calibration checks and split or proficiency sample tests. The requirements for, and frequency of, equipment calibration are shown in Appendix B. Acceptable tolerance limits for the comparison of test results from split or proficiency samples are shown in "Acceptable Tolerance Limits for Independent Assurance."
- ◆ Any individual who performs verification or QC sampling and testing shall be evaluated by QA sampling and testing personnel. This evaluation shall include observations and split or proficiency sample testing. Acceptable tolerance limits for

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Appendix A

the comparison of test results for split or proficiency samples are shown in "Acceptable Tolerance Limits for Independence Assurance."

- ◆ Furthermore, these QC test results shall be validated by verification test results obtained from independently taken samples at the direction of the Construction Observer or the County. Dispute Resolution System

~~Dispute Resolution System~~

~~When QC test results are used in the acceptance decision, testing disputes arising between the Construction Observer, or his/her designated agents, and the Contractor shall be resolved in a reliable, unbiased manner. The decision of the County, the Construction Observer, or their authorized representatives will be final.~~

Section 3. IndependentQuality Assurance Program

This IndependentQuality Assurance Program, as deemed necessary by the County or the Construction Observer, shall evaluate all QC inspection, sampling and testing procedures, personnel, and equipment used as part of anthe acceptance decisionprogram.

- QA Inspection
 - ◆ The Construction Observer will perform QA inspection. The inspection will be performed at periodic intervals to assure compliance with the accepted QC program, as well as to assure reasonable close conformity to the approved project plans and specifications.
- Sampling and Testing Frequency and Location
 - ◆ IndependentQuality Assurance sampling and testing shall be performed at the location and frequency established in the "Guide Schedule of Sampling and Testing" found in Appendix B.
 - ◆ ~~Testing procedures performed shall not be subject to the IA program.~~ The frequency will be according to the "Independent Assurance Tests" defined in Appendix B.
- Testing Equipment
 - ◆ Laboratory testing equipment used for IAQA sampling and testing shall be qualified according to the "Laboratory Qualification Program."
 - ◆ All laboratories used for IAQA sampling and testing must be AASHTO accredited.
 - ◆ The frequency for qualifying IAQA sampling and testing equipment shall not exceed one (1) year or as directed by the Construction Observer.
 - ◆ Calibration/verification is required whenever the laboratory or equipment is moved.
 - ◆ The IAQA equipment shall be other than that used for performing verification or QC testing.
 - ◆ ~~Any equipment used to perform verification and/or QC sampling and testing in making an acceptance decision shall be evaluated by IA sampling and testing personnel. This evaluation shall include calibration checks and split or proficiency sample tests. The requirements for, and frequency of, equipment calibrations are shown in Appendix B. Acceptable tolerance limits for the comparison of test results from split or proficiency samples are shown in "Acceptable Tolerance Limits for Independent Assurance."~~
- Testing Personnel
 - ◆ Laboratory personnel who perform IAQA sampling and testing shall be in accordance with the "Sampling and Testing Personnel Qualification Program" Included herein.
 - ◆ The individuals performing IAQA sampling and testing shall be other than those who perform other verification or QC testing.
 - ◆ ~~Any individual who performs verification or QC sampling and testing shall be evaluated by IA sampling and testing personnel. This evaluation shall include observations and split or proficiency sample testing. Acceptable tolerance limits for the comparison of test results for split or proficiency samples are shown in "Acceptable Tolerance Limits for Independence Assurance."~~

~~December 2001~~ 5/6/02 5/6/02 3/13/02

Appendix A

- Comparison of QC and QA Test Results

- ♦ Acceptable tolerance limits for the comparison of test results from split and proficiency samples are shown in "Acceptable Tolerance Limits for Independence Assurance."
- ♦ If the comparison of the test results do not comply with the tolerances, an engineering review of the test procedures and equipment shall be performed immediately to determine the source of the discrepancy.
- ♦ Corrective actions must be identified and incorporated as appropriate.

Test results from all samples involved in the ~~IA~~ **Quality Assurance** Program shall be documented and reported in the ~~appropriate district or~~ project files.

- Dispute Resolution System

- ♦ Testing disputes arising between the Construction Observer, or his/her designated agents, and the Contractor shall be resolved in a reliable, unbiased manner. The decision of the County, the Construction Observer, or their authorized representatives will be final.

Section 4. Materials Certification

The independent Assurance agency shall submit a "Certificate of Materials" to the Construction Observer indicating the conformity of tested materials to the approved plans and specifications including any exceptions, if applicable.

Section 5. Conflict of Interest

To avoid an appearance of a conflict of interest, sampling and testing of materials under the IA program shall be performed at a qualified laboratory other than the laboratory used for project testing by the Contractor.

Section 6. Sampling and Testing Personnel Qualification Program**Purpose**

This program provides uniform countywide procedures for sampling and testing personnel qualification to ensure that tests required by the specifications are performed according to the prescribed sampling and testing methods.

Sampling and Testing Personnel Qualification

Sampling and testing personnel will be qualified to perform tests for the acceptance of materials in the areas of Portland cement concrete, soils and aggregates and bituminous materials.

The test methods for which individuals can be qualified include, but are not limited to, the following. (* Denotes tests on which split or proficiency sample evaluations are required.)

Soils & Aggregates (100-E Series & 400-A Series)

Tex-101-E, Preparing Soil and Flexible Base Materials for Testing

Tex-102-E, Determining Slaking Time

Tex-103-E, Determining Moisture Content in Soil Materials

Tex-104-E, Determining Liquid Limit of Soils*

Tex-105-E, Determining Plastic Limit of Soils*

Tex-106-E, Calculating the Plasticity Index of Soils*

Tex-107-E, Determining the Bar Linear Shrinkage of Soils*

Tex-108-E, Determining the Specific Gravity of Soils

Tex-110-E, Particle Size Analysis of Soils*

Tex-111-E, Determining the Amount of Material in Soils Finer than 75 μ m (No.200) Sieve

Tex-113-E, Laboratory Compaction Characteristics and Moisture-Density Relationship of Base Materials

Tex-114-E, Laboratory Compaction Characteristics and Moisture-Density Relationship of Subgrade and Embankment Soils

Tex-115-E, Field Method for Determining In-Place Density of Soils and Base Materials

Tex-116-E, Ball Mill Method for Determining the Disintegration of Flexible Base Material

Tex-117-E, Triaxial Compression Tests for Disturbed Soils and Base Materials

Tex-120-E, Soil-Cement Testing

Tex-121-E, Soil-Lime Testing

Tex-126-E, Molding, Testing, and Evaluating Bituminous Black Base Materials*

Tex-127-E, Lime Fly-Ash Compressive Strength Test Methods

Tex-128-E, Determining Soil pH

Tex-129-E, Measuring the Resistivity of Soil Materials

Tex-140-E, Measuring Thickness of Pavement Layer

Tex-400-A, Sampling Stone, Gravel, Sand, and Mineral Aggregates

Tex-401-A, Sieve Analysis of Fine and Coarse Aggregate*

Tex-402-A, Fineness Modulus of Fine Aggregate

Tex-403-A, Saturated Surface Dry Specific Gravity and Absorption of Aggregates

Tex-404-A, Determining Unit Mass (Weight) of Aggregates

Tex-405-A, Determining Percent Solids and Voids in Concrete Aggregates

Tex-406-A, Material Finer Than 75 μ m (No. 200) Sieve in Mineral Aggregates (Decantation Test for Concrete Aggregates)

Tex-408-A, Organic Impurities in Fine Aggregate for Concrete

Tex-409-A, Free Moisture and Water Absorption in Aggregate for Concrete

Tex-409-A, Free Moisture and Water Absorption in Aggregate for Concrete

Tex-411-A, Soundness of Aggregate by Using Sodium Sulfate or Magnesium Sulfate

Tex-413-A, Determining Deleterious Materials in Mineral Aggregates

Tex-425-A, Determining Moisture Content in Fine Aggregate by the "Speedy" Moisture Method

Tex-460-A, Determining Crushed Face Particle Count

Bituminous (200-F Series)

Tex-200-F, Sieve Analysis of Fine and Coarse Aggregate*

Tex-201-F, Bulk Specific Gravity and Water Absorption of Aggregate

Tex-202-F, Apparent Specific Gravity of Material Finer than 180 μ m (No. 80) Sieve

Tex-203-F, Sand Equivalent Test*

Tex-204-F, Design of Bituminous Mixtures

Tex-205-F, Laboratory Method of Mixing Bituminous Mixtures

Tex-206-F, Compacting Test Specimens of Bituminous Mixtures*

Tex-207-F, Determining Density of Compacted Bituminous Mixtures*

Tex-208-F, Test for Stabilometer Value of Bituminous Mixtures*

Tex-210-F, Determining Asphalt Content of Bituminous Mixtures by Extraction*

Tex-211-F, Recovery of Asphalt from Bituminous Mixtures by the Abson Process

Tex-212-F, Determining Moisture Content of Bituminous Mixtures

Tex-213-F, Determining Hydrocarbon-Volatile Content of Bituminous Mixtures

Tex-217-F, Determining Deleterious Material and Decantation Test for Coarse Aggregates

Tex-221-F, Sampling Aggregate for Bituminous Mixtures, Surface Treatments and Limestone Rock Asphalt

Tex-222-F, Sampling Bituminous Mixtures

Tex-224-F, Determining Flakiness Index

Tex-226-F, Indirect Tensile Strength Test

Tex-227-F, Theoretical Maximum Specific Gravity of Bituminous Mixtures*

Tex-228-F, Determining Asphalt Content of Bituminous Mixtures by the Nuclear Method*

Tex-229-F, Combined HMAC Cold-Belt Sampling and Testing Procedure

Tex-236-F, Determining Asphalt Content from Asphalt Paving Mixtures by the Ignition Method*

Concrete (400-A Series)

Tex-407-A, Sampling Freshly-Mixed Concrete

Tex-414-A, Air Content of Freshly Mixed Concrete by the Volumetric Method*

Tex-415-A, Slump of Portland Cement Concrete*

Tex-416-A, Air Content of Freshly Mixed Concrete by the Pressure Method*

Tex-417-A, Unit Weight, Yield, and Air Content (Gravimetric) of Concrete

Tex-418-A, Compressive Strength of Cylindrical Concrete Specimens*

Tex-419-A, Compressive Strength of Concrete Using Portions of Beams Broken in Flexure

Tex-424-A, Obtaining and Testing Drilled Cores of Concrete

Tex-436-A, Measuring Texture Depth by the Sand Patch Method

Tex-437-A, Test for Flow of Grout Mixtures (Flow Cone Method)

Tex-447-A, Making and Curing Concrete Test Specimens

Tex-448-A, Flexural Strength of Concrete Using Simple Beam Third-Point Loading*

Tex-450-A, Capping Cylindrical Concrete Specimens

Tex-460-A, Determining Crushed Face Particle Count

Asphalt (500-C Series)

Tex-502-C, Penetration of Bituminous Materials (refer to AASHTO T 49)

Tex-530-C, Effect of Water on Bituminous Paving Mixtures

Tex-531-C, Prediction of Moisture-Induced Damage to Bituminous Paving Materials Using Molded Specimens

Tex-1000-S, Operating Pavement Profilograph and Evaluating Profiles

~~There may be other tests, not listed above, that are routinely performed in specific geographical locations of the state for which applicable TxDOT districts may require qualification.~~

Who Must Be Qualified?

Any individual who performs tests on materials for acceptance must be qualified.

Qualification of Sampling and Testing Personnel

All sampling and testing personnel for approved laboratories shall be qualified to do the work in accordance with "Laboratory Qualification Program".

Each laboratory shall maintain a minimum of one (1) qualified individual for each test procedure performed.

Section 7. Laboratory Qualification Program

Purpose

This program provides uniform countywide procedures to ensure that laboratory facilities and equipment are adequate for the performance of required sampling and testing methods.

Laboratories

All laboratories that perform testing for Williamson County must be accredited under the AASHTO Laboratory Accreditation Program. These include, but are not limited to the following:

- *Area/project laboratories (includes field laboratories)*
- Commercial laboratories
- Contractor laboratories
- Vendor laboratories (material suppliers).

The most current AASHTO accredited laboratories in the State of Texas can be obtained at http://patapsco.nist.gov/aashto/amrl/services/aap_intro.htm. In addition, Appendix C includes a list of AASHTO accredited laboratories obtained at the time this document was prepared.

Laboratory Qualification Responsibility

The Construction Observer or his/her authorized representatives will be responsible to ensure all QA laboratories used for project and QA testing and sampling are qualified.

Qualification Process

The laboratory qualifying authority will:

- identify the scope of testing to be performed
- verify that manuals and/or test methods used to perform tests are available and up-to-date
- document that the laboratory has the required equipment to perform the tests
- check the calibration/verification records for each piece of equipment, to include:
 - ◆ description of equipment
 - ◆ identification of any traceable standard used
 - ◆ frequency of calibration
 - ◆ date of last calibration
 - ◆ date of next calibration
 - ◆ procedure used to calibrate equipment
 - ◆ procedure used to identify equipment not in compliance.

In addition, all equipment may be subjected to calibration verification or other inspection by the qualifying authority.

Calibration Standards and Frequencies for Laboratory Equipment

The standards for calibration and the frequencies for laboratory equipment calibrations shall be in accordance with appropriate testing equipment measures as indicated in the Texas Department of Transportation Manual of Testing Procedures. 100-E (Soils), 200-F (Bituminous), and 400-A (Concrete) series of TxDOT's *Manual of Testing Procedures*.

Frequency for Laboratory Qualification

Laboratories shall be qualified at an interval not to exceed six (6) months, or as directed by the Construction Observer. Calibration/verification is required whenever the laboratory or equipment is moved.

Non-Compliance

A laboratory that does not meet the above requirements is subject to disqualification. Any equipment in a qualified laboratory failing to meet specified equipment requirements for a specific test method shall not be used for that test method.

Documentation

The Construction Observer will be responsible for verifying that laboratories are qualified to perform material testing. Documentation will be required to be kept by the qualified laboratory and ~~district laboratory~~. Calibration records will be maintained for three (3) years, unless directed otherwise by the Construction Observer.

Dispute Resolution

The qualifying authority will have the final decision regarding all disputes of the laboratory qualification and calibration of testing equipment.

Section 8. Acceptable Tolerance Limits for Independent Assurance

The following tables indicate the acceptable tolerance limits for the specified material.

Embankment

Embankment		
Procedure	Texas Test Method	Tolerance
In-place Density	" <u>Tex-115-E</u> , Field Method for Determining In-Place Density of Soils and Base Materials"	± 2.5% Field Density

Untreated & Treated Sub-base and Base Courses

Untreated & Treated Sub-base and Base Courses		
Procedure	Texas Test Method	Tolerance
In-place Density	" <u>Tex-115-E</u> , Field Method for Determining In-Place Density of Soils and Base Materials"	± 2.5% Field Density
Gradation:	" <u>Tex-110-E</u> , Particle Size Analysis of Soils"	-
> No. 4 ≤ No. 4	-	± 5% ± 3%
Liquid Limit	" <u>Tex-104-E</u> , Determining Liquid Limit of Soils"	15% of the mean*
Plasticity Index	" <u>Tex-106-E</u> , Calculating the Plasticity Index of Soils"	20% of the mean*

Asphalt Stabilized Base

Asphalt Stabilized Base		
Procedure	Texas Test Method	Tolerance
Gradation:	" <u>Tex-200-F</u> , Sieve Analysis of Fine and Coarse Aggregates"	-
> No. 4 ≤ No. 4	-	± 5% ± 3%
Liquid Limit	" <u>Tex-104-E</u> , Determining Liquid Limit of Soils"	15% of the mean*
Plasticity Index	" <u>Tex-106-E</u> , Calculating the Plasticity Index of Soils"	20% of the mean*
Percent Asphalt	" <u>Tex-210-F</u> , Determining Asphalt Content of Bituminous Mixtures by Extraction"	± 0.3%
-	" <u>Tex-228-F</u> , Determining Asphalt Content of Bituminous Mixtures by the Nuclear Method"	± 0.3%

-	"Tex-126-E, Molding, Testing, and Evaluating Bituminous Black Base Materials"	± 0.3%
-	"Tex-229-F, Combined HMAC Cold-belt Sampling and Testing Procedure"	± 0.3%
-	"Tex-236-F, Determining Asphalt Content from Asphalt Paving Mixtures by the Ignition Method"	± 0.3%
In-place Density (Cores)	"Tex-207-F, Determining Density of Compacted Bituminous Mixtures"	± 1% Field Density

Surface Treatment Aggregates

Surface Treatment Aggregates		
Procedure	Texas Test Method	Tolerance
Gradation:	"Tex-200-F, Sieve Analysis of Fine and Coarse Aggregates"	-
> No. 4 ≤ No. 4	-	± 5% ± 3%

Portland Cement Concrete Coarse Aggregate

Portland Cement Concrete Coarse Aggregate		
Procedure	Texas Test Method	Tolerance
Gradation:	"Tex-401-A, Sieve Analysis of Fine and Coarse Aggregate"	-
> No. 4 ≤ No. 4	-	± 5% ± 3%

Portland Cement Concrete Fine Aggregate

Portland Cement Concrete Fine Aggregate		
Procedure	Texas Test Method	Tolerance
Gradation (3/8" through No. 200)	"Tex-401-A, Sieve Analysis of Fine and Coarse Aggregate"	± 3%
Sand Equivalent	"Tex-203-F, Sand Equivalent Test"	± 10

Portland Cement Concrete Complete Mixture

Portland Cement Concrete Complete Mixture		
Procedure	Texas Test Method	Tolerance
Flexural Strength Compressive	1. "Tex-448-A, Flexural Strength of Concrete Using Simple Beam Third-Point Loading" 2. "Tex-418-A, Compressive Strength of Cylindrical Concrete Specimens"	20% of the mean*

Slump	"Tex-415-A, Slump of Portland Cement Concrete"	± 1.0"
Entrained Air	3. "Tex-414-A, Air Content of Freshly Mixed Concrete by the Volumetric Method" 4. "Tex-416-A, Air Content of Freshly Mixed Concrete by the Pressure Method"	± 1%

Asphaltic Concrete Coarse Aggregate

Asphaltic Concrete Coarse Aggregate		
Procedure	Texas Test Method	Tolerance
Gradation:	"Tex-200-F, Sieve Analysis of Fine and Coarse Aggregates"	-
> No. 10 ≤ No. 10	-	± 5% ± 3%
Deleterious Material	"Tex-217-F, Determining Deleterious Material and Decantation Test for Coarse Aggregates"	± 0.3 %
Decantation	"Tex-217-F, Determining Deleterious Material and Decantation Test for Coarse Aggregates"	20% of the mean*

Asphaltic Concrete Fine Aggregate

Asphaltic Concrete Fine Aggregate		
Procedure	Texas Test Method	Tolerance
Gradation (No. 10 through No. 200)	"Tex-200-F, Sieve Analysis of Fine and Coarse Aggregates"	± 3%
Bar Linear Shrinkage	"Tex-107-E, Determining the Bar Linear Shrinkage of Materials"	± 2

Asphaltic Concrete Combined Aggregate

Asphaltic Concrete Combined Aggregate		
Procedure	Texas Test Method	Tolerance
Gradation:	"Tex-200-F, Sieve Analysis of Fine and Coarse Aggregates"	-
> 5/8" 5/8" through No. 200 Passing No. 200	-	± 5% ± 3% ± 1.5%
Sand Equivalent	"Tex-203-E, Sand Equivalent Test"	± 10

Asphaltic Concrete Complete Mixture

Asphaltic Concrete Complete Mixture		
Procedure	Texas Test Method	Tolerance
Asphalt Content	"Tex-210-F, Determining Asphalt Content of Bituminous Mixtures by Extraction"	± 0.3%
-	"Tex-228-F, Determining Asphalt Content of Bituminous Mixtures by the Nuclear Method"	± 0.3%
-	"Tex-229-F, Combined HMAC Cold-belt Sampling and Testing Procedure"	± 0.3%
-	"Tex-236-F, Determining Asphalt Content from Asphalt Paving Mixtures by the Ignition Method"	± 0.3%
Maximum Theoretical Specific Gravity	"Tex-227-F, Theoretical Maximum Specific Gravity of Bituminous Mixtures"	± 0.020
Laboratory Molded Density	"Tex-207-F, Determining Density of Compacted Bituminous Mixtures"	± 1.0%
Laboratory Molded Bulk Specific Gravity	"Tex-207-F, Determining Density of Compacted Bituminous Mixtures"	± 0.020
Stability	"Tex-208-F, Test for Stabilometer Value of Bituminous Mixtures"	5 points
Moisture	"Tex-212-F, Determining Moisture Content of Bituminous Mixtures"	± 0.2 mL
In-place Air Voids (Core)	"Tex-207-F, Determining Density of Compacted Bituminous Mixtures"	± 1.0%

NOTE: The above tolerances are to be used when comparison of test results is by split samples. A tolerance of plus or minus two (2) standard deviations shall be used when comparison of test results is by proficiency samples.

*The difference between compared test results shall not exceed the indicated percentage of the mean of the compared test results - the mean being the average of the two test results.

EXAMPLE: Plasticity Index	
Job Control test value	18
IA Test value	22
Mean	20
20% difference	4

Both values are within 20% of the mean.

AGENDA ITEM 33

Consider drawing members for the Grievance Committee.

Moved: **Judge Doerfler**

Seconded: **Commissioner Hays**

Motion: To notify the following persons to request that they serve on the Salary Grievance Committee:

James Rollins Burns, Jr., Austin

Dean Rumel, Coupland

Vote: 4 - 0

< Attachment >

(16) Dean Rumel 856-2839 318 Windy Lane - Coupland - 78615

(16) JAMES ROLLINS BURNS JR. 7004 DALLAS DRIVE AUSTIN, TX 490-0462

6-11-02
Grievance committee

approved 6-11-02
John C. Doerfler