PROFESSIONAL SERVICES AGREEMENT

BY AND BETWEEN

WILLIAMSON COUNTY, TEXAS

AND

FREESE AND NICHOLS, INC.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

PROFESSIONAL SERVICES AGREEMENT

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

This Professional Services Agreement (**the "Agreement"**) is made and entered into this day by and between Williamson County, Texas, a political subdivision of the State of Texas, (***the "County"***) and Freese and Nichols, Inc. (***the "Engineer"***).

WHEREAS, ***County*** plans to repair flood damage to the San Gabriel Ranch Road Dam, Berry Springs Park Dam and Twin Lakes Dam.

WHEREAS, ***County*** desires to obtain professional services for evaluation of damage and assessment of alternatives to repair the flood damage to the above said dams (***the "Project"***);

WHEREAS, ***Engineer*** has the professional ability and expertise to fulfill the requirements of the ***Project***, and to counsel ***County*** in the selection and analysis of cost-effective alternatives.

NOW, THEREFORE, ***County*** and ***Engineer*** agree to the performance of the professional services by ***Engineer*** and the payment for these services by ***County*** as set forth herein.

Section I
Employment of the Engineer

County agrees to employ ***Engineer*** and ***Engineer*** agrees to perform professional engineering services for the ***Project*** as stated in the Sections to follow. As a condition to employment, it is specifically agreed that any disputes arising hereunder shall be submitted to the County Judge or his designee and/or agent as designated ***County*** (***individually or collectively the "County Judge"***). The ***County Judge*** shall have complete authority for the purpose of resolving technical matters. In all other cases, the decision of the Williamson County Commissioners Court shall be final and binding, subject to any civil remedies otherwise deemed appropriate by the parties hereto.

Section II
Basic Services of the Engineer

A. In consideration of the compensation herein provided, ***Engineer*** shall perform professional engineering services for the ***Project***, which are acceptable to the ***County***, based on standard engineering practices and the scope of work described on the Exhibits attached to this Agreement. ***Engineer*** shall also serve as ***County's*** professional engineer in those phases of the ***Project*** to which this Agreement applies and will consult with and give advice to ***County*** during the performance of ***Engineer's*** services.

B. ***Engineer*** shall not commence work until ***Engineer*** has been thoroughly briefed on the scope of the ***Project*** and has been notified in writing by the ***County*** to proceed, as evidenced by a

Work Authorization substantially in the form of Attachment A to Exhibit I.

C. ***County*** shall provide ***Engineer*** with all existing plans, maps, studies, reports, field notes, statistics, computations, and other data in its possession relative to existing facilities and to this particular ***Project*** at no cost to ***Engineer***; however, any and all such information shall remain the property of ***County*** and shall be returned, if the ***County*** so instructs ***Engineer***.

D. ***Engineer*** shall perform the following Basic Scope of Services:

1. The basic Scope of Services shall generally consist of all elements of work, materials and equipment required for the development of the ***Project***, including any Public Hearings, satisfactory to the ***County*** and the County's Commissioners Court, in accordance with the requirements, policies, and general practices of Williamson County.

2. The following documents shall be used in the development of the ***Project***:

   a. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
   b. Texas Department of Transportation Construction Manual, latest edition
   c. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2004 (English units)
   d. National Environmental Policy Act (NEPA)
   e. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
   f. Americans with Disabilities Act (ADA) Regulations
   g. U.S. Army Corps Regulations
   h. International Building Code, current edition as updated;
   i. Williamson County Design Criteria & Project Development Manual, latest edition
   j. TxDOT Bridge Division Foundation Manual, latest edition

3. As part of the Scope of Services, ***Engineer*** shall submit its work products to ***County*** for review at regular intervals.

4. The detailed Scope of Services for the ***Project*** is set forth herein as Appendix A to this Agreement, and is expressly incorporated and made a part hereof.

Section III
Fee schedule

A. For and in consideration of the performance by ***Engineer*** of the work described in the Scope of Services, ***County*** shall pay and ***Engineer*** shall receive the fee set forth in Exhibit I. The fee is based upon the hourly rates set forth in Exhibit II. Exhibits I and II are attached hereto

and made a part hereof. Invoices shall be submitted by ***Engineer*** on a monthly basis and are due upon presentation of all items required hereunder, and shall be considered past due if not paid within thirty (30) calendar days of the due date.

B. For the performance of services not specifically described in the Scope of Services ***Engineer*** shall receive the additional services compensation described in Exhibit III, which is attached hereto and made a part hereof. In the event of any dispute over the classification of ***Engineer's*** services as basic or additional services under this agreement, the decision of the ***County Engineer*** shall be final and binding on ***Engineer***.

Section IV
Period of Service

A. ***Engineer*** shall perform the professional services described in Appendix A, the Scope of Services, in accordance with the Production Schedule attached hereto as Exhibit IV and made a part hereof.

B. This Agreement shall become effective upon the date approved by ***County*** and will remain in full force and effect for the period required for the design, construction contract award and construction of the ***Project***, including warranty periods and any extensions of time, unless terminated earlier as provided for herein. ***Engineer*** shall complete all design work as described in the Scope of Services within **340** calendar days from receipt by ***Engineer*** of ***County's*** written Work Authorization and in accordance with the production timeline included in the Scope of Services.

C. Neither ***Engineer*** nor ***County*** shall be responsible for delays caused by "Acts of God", non-county governmental processes, national emergency, or any other causes beyond ***Engineer's*** or ***County's*** reasonable control. Upon the discovery of such an event, ***Engineer*** shall notify ***County***, and attend a special meeting with the ***County Engineer*** to propose a program for a solution to the problem, and, if necessary, to establish an estimated period of time of suspension or extension of the work. A written request for an extension of time, when properly documented and justified by the circumstances, will be granted by the ***County***.

D. ***County*** may suspend the work at any time for any reason without terminating this Agreement by giving written Notice of Suspension and the work may be reinstated and this Agreement resumed in full force and effect within sixty (60) days of receipt by ***Engineer*** of written Notice of Reinstatement from ***County***. ***Engineer***, upon receipt of a Notice of Suspension shall follow the procedures described in the attached Exhibit V, which is attached hereto and made a part hereof. In the event such suspension of the ***Project*** or the ***Engineer's*** services hereunder extends for a period of ninety (90) days or more, consecutive or in the aggregate, ***Engineer*** may terminate this Agreement in writing and such termination shall be treated as a Notice of Termination as provided herein.

E. Either party may terminate this Agreement for the substantial failure of the other party to perform in accordance with the terms of this Agreement (the substantiality of such failure to

be based on standard engineering practices and the scope of work described on the Exhibits attached to this Agreement), through no material fault of the terminating party. ***County*** may unilaterally terminate this Agreement for reasons other than substantial failure by ***Engineer*** to perform by delivering a written Notice of Termination which shall take effect on the tenth day following **Engineer's** receipt of same. If mutually agreed upon, the obligation to provide services under this Agreement may be terminated without cause upon thirty (30) days written notice. ***Engineer*** shall follow the procedures specified in Exhibit V upon issuance or receipt of such notice. In the event of termination of this Agreement because of the substantial failure of ***Engineer*** to perform, ***County*** may prosecute the work to completion by contract or otherwise and, in such a case, ***Engineer*** shall be liable for any additional costs incurred by ***County***.

F. ***Engineer*** specifically acknowledges that ***County*** will sustain damages for each day beyond the required dates of completion of the Preliminary and Design Phases as defined in the Scope of Services that the work has not been accepted and approved. Because of the impracticality and extreme difficulty of fixing and ascertaining ***County's*** actual damages, ***Engineer*** agrees that One Hundred and No/100 Dollars ($100.00) per day shall be retained by ***County*** from any amounts due ***Engineer*** for every day that ***Engineer*** does not meet the production requirements set forth in Exhibit IV.

G. Periods of time (i) during which a Notice of Suspension is in effect, or (ii) during which a submitted and complete engineering work product is in technical review, as described in Section VI, or (iii) during which a delay directly related to matters described in section IV(C) above, shall not be taken into account in computing the amount of liquidated damages. In the event that an engineering work product received by ***County*** is found to be incomplete, as defined in SectionVI, Paragraph B, the period of time from the original submittal of the engineering work product to the receipt of subsequent submittal necessary to produce a completed submittal will be taken into account in computing the number of days and the amount of liquidated damages

H. All references to time in this Agreement shall be measured in calendar days unless otherwise specified.

Section V
Coordination with the County

A. The ***County Engineer*** will act on behalf of ***County*** with respect to the work to be performed under this Agreement. The ***County Engineer*** shall have complete authority to interpret and define ***County's*** policies and decisions with respect to ***Engineer's*** services. The ***County*** may designate representatives to transmit instructions and receive information.

B. ***Engineer*** shall not commence work on any phase of the ***Project*** until a thorough briefing on the scope of the ***Project*** is received and a written Work Authorization is issued by the ***County Judge*** in substantially the form of Attachment A to Exhibit I.

C. ***Engineer*** shall furnish all available data and reasonable assistance necessary for the development of applications or supporting documentation for any permits, grants, or planning advances as applicable to the professional services to be rendered pursuant to this Agreement, provided that ***Engineer*** shall not be obligated to develop additional data, appear at hearings, or prepare extensive reports, unless compensated for such work under other provisions of this Agreement.

D. ***Engineer*** shall have the responsibility at all times under the terms of this Agreement to advise ***County*** whether in ***Engineer's*** judgment it is feasible to proceed with the recommendations given any constraints affecting the ***Project***.

E. ***Engineer*** shall cooperate and coordinate with ***County's*** staff, and other engineers and contractors as reasonable and necessary and as required by the ***County***.

Section VI
Review of Work Product

A. ***Engineer's*** engineering work product will be reviewed by ***County*** under its applicable technical requirements and procedures.

B. Reports, plans, specifications, and supporting documents, (the "engineering work products"), shall be submitted to the ***County Engineer*** by ***Engineer*** on or before the dates specified in the Production Schedule set forth in Exhibit IV. Upon receipt of the engineering work products, the submission shall be checked for completion. "Completion" shall be defined as: all of the required items (as defined by the Scope of Services described herein) have been included in the engineering work products in compliance with the requirements of this Agreement. The completeness of any engineering work product submitted to ***County Engineer*** shall be determined by ***County Engineer*** within thirty (30) days of such submittal and ***County Engineer*** shall notify ***Engineer*** in writing within such 30-day period if such work product has been found to be incomplete.

C. If the submission is complete, ***County Engineer*** shall notify ***Engineer*** and ***County's*** technical review process will begin.

D. If the submission is incomplete, ***County Engineer*** shall notify ***Engineer***, who shall perform such professional services as are required to complete the work and resubmit it to ***County Engineer***. This process shall be repeated until a submission is complete.

E. ***County Engineer*** shall review the completed work for compliance with the scope of work. If necessary, the completed work shall be returned to ***Engineer***, who shall perform any required work and resubmit it to ***County Engineer***. This process shall be repeated until the work is accepted. "Acceptance" shall mean that in the ***County Engineer's*** opinion substantial compliance with the requirements of this Agreement has been achieved.

F. After acceptance, ***Engineer*** shall perform any required modifications, changes, alterations,

corrections, redesigns, and additional work necessary to receive final approval by the ***County Engineer***. "Approval" in this sense shall mean formal recognition that the work has been fully carried out.

G. After approval of final engineering work products, ***Engineer*** shall without additional compensation perform any work required as a result of ***Engineer's*** development of the products which is found to be in error or omission due to ***Engineer's*** negligence. However, any work required or occasioned for the convenience of ***County*** after approval of a final product shall be paid for as Additional Services.

H. In the event of any dispute over the classification of ***Engineer's*** work products as complete, accepted, or approved under this Agreement, the decision of the ***County Engineer*** shall be final and binding on ***Engineer,*** subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

Section VII
Revision to Work Product

Engineer shall make without expense to ***County*** such revisions to the work product as may be required to correct negligent errors or omissions so the work product meets the needs of ***County***, but after the approval of the work product any revisions, additions, or other modifications made at ***County's*** request which involve extra services and expenses to ***Engineer*** shall entitle ***Engineer*** to additional compensation for such extra services and expenses, provided however, that ***Engineer*** agrees to perform any necessary corrections to the work products, which are found to be in negligent error or omission as a result of the ***Engineer's*** development of the work product, at any time, without additional compensation. If it is necessary due to such error or omission by ***Engineer*** to revise the plans in order to make the ***Project*** constructible, ***Engineer*** shall do so without additional compensation. In the event of any dispute over the classification of ***Engineer's*** services as Basic or Additional Services under this Agreement, the decision of the ***County Engineer*** shall be final and binding on ***Engineer,*** subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

Section VIII
Engineer's Responsibility and Liability

A. ***Engineer*** covenants to undertake no task in which a professional license or certificate is required unless it or someone under his direction is appropriately licensed. In the event such licensed individual's license expires, is revoked, or is canceled, ***Engineer*** shall inform ***County*** of such event within five working days.

B. ***Engineer*** shall be responsible for conformance with applicable federal and state laws, county permitting requirements, and city ordinances currently in effect, except as otherwise directed by the ***County Engineer*** regarding county permitting or similar requirements properly waivable by the ***County Engineer***.

C. Acceptance and approval of the final plans by ***County Engineer*** shall not release ***Engineer*** of any responsibility or liability for the accuracy and competency of his designs, working drawings, specifications, or other documents or work performed under this Agreement. Neither acceptance nor approval by ***County Engineer*** shall be an assumption of responsibility or liability by ***County*** for any defect, error, or omission in the designs, working drawings, specifications, or other documents prepared by ***Engineer***.

D. **ENGINEER SHALL INDEMNIFY, PROTECT, AND SAVE HARMLESS COUNTY, ITS OFFICIALS AND EMPLOYEES AND ITS AGENTS AND AGENTS' EMPLOYEES FROM AND AGAINST ALL CLAIMS, SUITS, ACTIONS, LIABILITY, LOSS, DAMAGE, REASONABLE ATTORNEY'S FEES, COSTS, AND EXPENSES (INCLUDING, BUT NOT LIMITED TO EXPENSES RELATED TO EXPERT WITNESSES) OF ANY KIND WHATSOEVER, TO THE EXTENT ARISING FROM ANY NEGLIGENT ACT, ERROR OR OMISSION OF ENGINEER OR ANY OF ITS SUBCONTRACTORS IN CONNECTION WITH THE PERFORMANCE OF SERVICES UNDER THIS AGREEMENT; PROVIDED, HOWEVER, ENGINEER SHALL NOT BE RESPONSIBLE FOR THE NEGLIGENCE OF ANY OTHER PARTY, OTHER THAN ITS SUBCONTRACTORS.**

E. ***Engineer's*** opinions of probable ***Project*** cost or construction cost represent ***Engineer's*** professional judgment as a design professional familiar with the construction industry, but ***Engineer*** does not guarantee that proposals, bids, or the construction cost, itself, will not vary from ***Engineer's*** opinions of probable cost.

F. ***Engineer*** shall perform all services and responsibilities required of ***Engineer*** under this Agreement using at least that standard of care which a reasonably prudent engineer in Texas, who is licensed by the State Board of Engineers, or the State Board of Registered Professional Surveyors, as applicable, would use in similar circumstances.

G. ***Engineer*** represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for performance of the services required under this Agreement and that ***Engineer*** shall furnish and maintain, at its own expense, adequate and sufficient personnel and equipment, in the reasonable opinion of ***County***, to perform the services when and as required and without delays. It is understood that ***County*** will approve assignment and release of all key ***Engineer*** and professional personnel.

H. All employees of ***Engineer*** shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of ***Engineer***, who in the opinion of ***County*** is incompetent or whose conduct becomes detrimental to the work or coordination with ***County***, shall upon ***County's*** and/or ***County Engineer's*** request be immediately removed from association with the ***Project***.

I. ***Engineer*** shall furnish all equipment, transportation, supplies, and materials required for its operations under this Agreement.

J. ***Engineer*** shall place its Texas Professional Engineer's seal of endorsement on all documents and engineering data furnished to ***County***, as required by law.

K. ***Engineer*** is an independent contractor under this Agreement. Neither it, nor any officer, agent or employee of ***Engineer*** shall be classified as an employee of ***County***.

Section IX
Ownership of Documents

A. Any and all documents, including the original drawings, estimates, computer tapes, graphic files, tracings, calculations, analyses, reports, specifications, field notes, and data prepared by ***Engineer*** are the property of ***County*** and upon completion of the work or termination of this Agreement or as otherwise instructed by ***County*** and/or ***County Engineer,*** shall be delivered to ***County*** in an organized fashion with ***Engineer*** retaining a copy.

B. Any reuse by ***Engineer*** of any such documents described in subsection A above, without the specific written consent of ***County*** shall be at ***Engineer's*** sole risk and without liability or legal exposure to ***County***. Should ***Engineer*** be terminated, ***Engineer*** shall not be liable for ***County's*** use of partially completed designs, plans, or specifications on this ***Project*** or any other project, except to the extent such documents were deemed complete or otherwise "Accepted" or "Approved" as provided herein or represent completed work sealed by ***Engineer***, or Surveyor, as applicable, as specified by professional standards.

C. ***Engineer*** will not be responsible for any use or any modifications to the plans and documents described in Subsection A performed by any entity other than Williamson County, and ***County's*** respective engineers and contractors, without the specific written consent of ***Engineer***. Any modification as described in this paragraph shall be made in accordance with all applicable professional standards.

Section X
Maintenance of and Right of Access to Records

A. ***Engineer*** agrees to maintain appropriate accounting records of costs, expenses, and payrolls of employees working on the ***Project***, together with documentation of evaluations and study results for a period of three (3) years after final payment for completed services and all other pending matters concerning this Agreement have been closed.

B. ***Engineer*** further agrees that ***County*** or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of ***Engineer***, which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. ***Engineer*** agrees that ***County*** shall have access during normal working hours to all necessary ***Engineer*** facilities and shall be provided adequate and appropriate work space in order to conduct

audits in compliance with the provisions of this section. ***County*** shall give ***Engineer*** reasonable advance notice of intended audits.

C. ***Engineer*** further agrees to include in all its sub-consultant agreements hereunder a provision to the effect that the sub-consultant agrees that ***County*** shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers and records of such sub-consultant, involving transactions to the subcontract, and further, that ***County*** shall have access during normal working hours to all sub-consultant facilities, and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this section together with subsection (D) hereof. ***County*** shall give sub-consultant reasonable advance notice of intended audits.

D. ***Engineer*** and sub-consultant agree to photocopy such documents as may be requested by ***County***. ***County*** agrees to reimburse ***Engineer*** for the cost of copies at the rate published in the Texas Administrative Code in effect as of the time copying is performed.

Section XI
Miscellaneous

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

B. ***Venue and Governing Law.*** It is contemplated that this Agreement shall be performed in Williamson County, Texas, and the venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this Agreement shall lie exclusively in Williamson County, Texas. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas.

C. ***Equal Opportunity in Employment. Engineer*** agrees, during the performance of the services under this Agreement, to comply with the equal opportunity in employment provisions cited in Exhibit VI, which is attached hereto and made a part hereof.

D. ***Certificate of Engineer. Engineer*** certifies that neither ***Engineer*** nor any members of ***Engineer's*** firm has:

(1) Employed or retained for a commission, percentage, brokerage, contingency fee, or other consideration, any firm or person (other than a bona fide employee working

solely for ***Engineer***) to solicit or secure the work provided by the Agreement.

(2) Agreed, as an expressed or implied condition for obtaining this contract, to employ or retain the services of any firm or person other than in connection with carrying out the work to be performed under this Agreement.

(3) Paid or agreed to pay to any firm, organization, or person (other than bona fide employees working solely for ***Engineer***) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the work provided under this Agreement.

Engineer further agrees that this certification may be furnished to any local, state or federal governmental agencies in connection with this Agreement and for those portions of the ***Project*** involving participation of agency grant funds and is subject to all applicable state and federal, criminal and civil laws.

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

Engineer: Frees and Nichols, Inc.
10814 Jollyville Road
Building 4, Suite 100
Austin, Texas 78759

County: Williamson County Judge
Dan Gattis(or successor)
710 Main Street, Ste. 101
Georgetown, Texas 78626

With copy to: Joe M. England, P.E.
Williamson County Engineer
3151 S.E. Inner Loop, Suite B
Georgetown, Texas 78626

and to: Randy Bell
Director of Williamson County
Parks and Recreation
219 Perry Mayfield
Leander, TX 78641

F. ***Insurance Requirements.*** ***Engineer*** agrees during the performance of the services under this Agreement to comply with the INSURANCE REQUIREMENTS provisions described in Exhibit VII, which is attached hereto and made a part hereof.

G. ***Property Taxes.*** Notwithstanding anything to the contrary herein, to the extent ***County*** becomes aware that ***Engineer*** is delinquent in the payment of property taxes related to property located in Williamson County at the time of invoicing, ***Engineer*** hereby assigns any payments to be made for services rendered hereunder to the Williamson County Tax Assessor-Collector for the payment of said delinquent taxes. Notwithstanding the above, ***County*** shall not have an affirmative duty to determine if ***Engineer*** is delinquent in the payment of property taxes.

H. ***Successors and Assigns.*** This Agreement shall be binding upon and inure to the benefit of ***County*** and ***Engineer*** and their respective successors, executors, administrators, and assigns. Neither ***County*** nor ***Engineer*** may assign, sublet, or transfer his interest in or obligations under this Agreement without the written consent of the other party hereto.

I. ***Bidding Exemption.*** This Agreement is exempted from the bidding requirements of the County Purchasing Act pursuant to Section 262.024(a)(4) of the Local Government Code as this is a contract for professional services.

J. ***Taxpayer Identification.*** ***Engineer*** shall provide to ***County*** upon submittal of ***Engineer's*** initial invoice requesting payment Internal Revenue Form W-9 Request for Taxpayer Identification Number and Certification that is completed in compliance with the Internal Revenue Code, its rules and regulations.

K. ***Compliance with Laws.*** ***Engineer*** shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, the ***Engineer*** shall furnish the ***County*** with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

L. ***Reports of Accidents.*** Within 24 hours after ***Engineer*** becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the ***Engineer***), whether or not it results from or involves any action or failure to act by the ***Engineer*** or any employee or agent of the ***Engineer*** and which arises in any manner from the performance of this Agreement, the ***Engineer*** shall send a written report of such accident or other event to the ***County***, setting forth a full and concise statement of the facts pertaining thereto. The ***Engineer*** shall also immediately send the ***County*** a copy of any summons, subpoena, notice, or other documents served upon the ***Engineer***, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the

Engineer's performance of work under this Agreement.

M. ***Definition of Engineer.*** The term "***Engineer***" as used herein is defined as including Registered Professional Surveyors, as applicable to the work to be performed under this Agreement, and any reference to professional standards in regards to a Registered Professional Surveyor shall relate to those standards promulgated by the State Board of Registered Professional Surveyors.

N. ***Gender, Number and Headings.*** Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Agreement.

O. ***Incorporation of Exhibits and Attachments.*** All of the Exhibits and Attachments, and Appendices referred to in the Agreement are incorporated by reference as if set forth verbatim herein.

P. ***Entity Status.*** By my signature below, I certify that ***Engineer*** is a Texas corporation, duly authorized to transact and do business in the State of Texas.

Q. ***Construction.*** Each party hereto acknowledges that it and its counsel have reviewed this Agreement and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Agreement.

R. ***Independent Contractor Relationship.*** Both parties hereto, in the performance of this Agreement, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

S. ***No Waiver of Immunities.***_Nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to ***County***, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. ***County*** does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

T. ***Interest and Late Payments. County's*** payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. Invoices shall be paid by ***County*** within thirty (30) days from the date of the Williamson County Auditor's receipt of an invoice. Interest charges for any late payments shall be paid by ***County*** in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of ***County's*** fiscal year in which the payment

becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday. In the event that a discrepancy arises in relation to an invoice, such as an incorrect amount on an invoice or a lack of documentation that is required to be attached to an invoice to evidence the amount claimed to be due, ***County*** shall notify the party requesting payment of such an invoice of the discrepancy. Following ***County's*** notification of any discrepancy as to an invoice, the party requesting payment must resolve the discrepancy and resubmit a corrected or revised invoice, which includes all required support documentation, to the Williamson County Auditor. ***County*** shall pay the invoice within thirty (30) days from the date of the Williamson County Auditor's receipt of the corrected or revised invoice. ***County's*** payment of an invoice that contains a discrepancy shall not be considered late, nor shall any interest begin to accrue until the thirty-first (31st) day following the Williamson County Auditor's receipt of the corrected or revised invoice.

U. ***Texas Public Information Act.*** To the extent, if any, that any provision in this Agreement is in conflict with Tex. Gov't Code 552.001 *et seq.*, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that ***County***, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to ***County*** as to whether or not the same are available to the public. It is further understood that ***County's*** officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that ***County***, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to ***County*** by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

V. ***Acknowledgement.*** As a duly authorized representative of ***Engineer***, I acknowledge by my signature below that I have read and understand the above paragraphs and that ***Engineer*** has the obligation to ensure compliance with its provisions by itself and its employees, agents, and representatives.

W. ***Governing Terms and Conditions.*** If there is an irreconcilable conflict between the terms and conditions set forth in Sections I. through XI. of this Agreement and the terms and conditions set forth in any Exhibit, Appendix or Attachment to this Agreement, the terms and conditions set forth in Sections I. through XI. of this Agreement shall control over the terms and conditions set forth in any Exhibit, Appendix or Attachment to this Agreement.

X. ***Entire Agreement.*** This Agreement represents the entire and integrated Agreement between ***County*** and ***Engineer*** and supersedes all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both ***County*** and ***Engineer***. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT PURSUANT TO SUCH

EXPRESS AUTHORITY AS MAY BE GRANTED BY THE COUNTY COMMISSIONERS COURT.

EXECUTED this_____ day of _____, 20___.

THE ENGINEER:

FREESE AND NICHOLS, INC.

BY: _____

Printed Name: _____

Title: _____

WILLIAMSON COUNTY:

BY:_____

Dan A. Gattis,
Williamson County Judge

EXHIBIT I

COMPENSATION FOR PROFESSIONAL SERVICES

ACTUAL COST OF SERVICES METHOD

SECTION 1 - BASIS FOR COMPENSATION

1.1 The not-to-be-exceeded fee for the performance of the Scope of Services described in the Agreement shall be the sum of **$130,000.00**.

1.2 The basis of compensation for the services of principals and employees engaged in the performance of the work shall be the hourly rates set forth in attached Exhibit II.

1.3 ***Engineer*** shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Agreement at the ***Engineer's*** invoice cost.

SECTION 2 - NOT-TO-BE-EXCEEDED FEE

2.1 ***Engineer*** and ***County*** acknowledge the fact that the not-to-be-exceeded fee is the total estimated costs of services to be rendered under this Agreement. This not-to-be-exceeded fee is based upon the labor and non-labor costs set forth in Exhibit II to this Agreement and described above, estimated to be required in the performance of the various phases of work provided for under this Agreement. Should the actual costs of the services rendered under this Agreement be less than such estimated cost, then ***Engineer*** shall receive compensation for only those services actually rendered.

SECTION 3 – WORK AUTHORIZATIONS

3.1 ***County*** will prepare and issue Work Authorizations, in the form identified and attached hereto as Attachment A to authorize the ***Engineer*** to perform one or more tasks. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, and a fee amount agreed upon by the ***County*** and ***Engineer***. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the ***Engineer's*** responsibilities and obligations established in this Agreement. The executed Work Authorizations shall become part of this Agreement.

3.2 Work included in a Work Authorization shall not begin until ***County*** and ***Engineer*** have signed the Work Authorization. All work must be completed on or before the completion date specified in the Work Authorization. The ***Engineer*** shall promptly notify the ***County*** of any event which will affect completion of the Work Authorization, although such notification shall not relieve the ***Engineer*** from costs or liabilities resulting from delays in completion of the Work Authorization. Any changes in the Work Authorization shall be enacted by a written Supplemental Work Authorization before additional work may be performed or

additional costs incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization. The ***Engineer*** shall not perform any proposed work or incur any additional costs prior to the execution, by both parties, of a Supplemental Work Authorization.

SECTION 4 - ADDITIONAL SERVICES

4.1 For additional services, compensation shall be negotiated in accordance with Exhibit III.

4.2 ***Engineer*** shall be compensated for extra services not included in the Scope of Services described in the Agreement on the basis specified in Exhibit III; however, ***Engineer*** shall not be compensated for work made necessary by ***Engineer's*** negligent errors or omissions.

4.3 The maximum amount payable under this Agreement without modification (the "***Compensation Cap***") is **$200,000.00**, provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the ***Compensation Cap***.

SECTION 5 – REQUIRED SUPPORTING DOCUMENTATION

5.1 Upon submittal of the initial invoice for service, ***Engineer*** shall provide ***County*** with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

5.2 All invoices submitted to ***County*** will be accompanied by an original, complete packet of supporting documentation. Invoices should detail hours worked by staff person, with a description of the work performed by individuals. Invoices should also contain a representation of the percentage of completion relative to that segment of the ***Project***.

5.3 For additional services performed pursuant to Section III B of this Agreement, a separate invoice or itemization of this work will be presented with the same requirements for supporting documentation as in Section 5.2 of this Exhibit.

5.4 Invoices requesting reimbursement for expenditures related to the ***Project*** (reimbursables) must be accompanied by copies of the provider's invoice which was previously paid by ***Engineer.***

TEMPLATE

ATTACHMENT A

WORK AUTHORIZATION NO. _____

This Work Authorization is made pursuant to the terms and conditions of the Agreement entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (***the "County"***) and Freese and Nichols, Inc. (***the "Engineer"***).

Part1. The ***Engineer*** will provide the following engineering services, which is further set out in the attached exhibits:

_____

_____

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the ***Engineer*** for the services established under this Work Authorization shall be made in accordance with the Agreement.

Part 4. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on _____, unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Agreement.

Part 6. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20__.

ENGINEER:
Freese and Nichols, Inc.

By:_____
Signature

_____
Printed Name

_____
Title

COUNTY:
Williamson County, Texas

By:_____
Signature

_____
Printed Name

_____
Title

TEMPLATE

LIST OF EXHIBITS

Exhibit A - Services to be Provided by County

Exhibit B - Services to be Provided by Engineer

Exhibit C - Work Schedule

Exhibit D - Fee Schedule

EXHIBIT II

HOURLY RATES
FREESE AND NICHOLS, INC.

Compensation to Freese and Nichols shall be based on the following Schedule of Charges:

Classification	**Rates**
Principal	$225
Senior Engineer VII (ENG VII)	$205
Senior Engineer VI (ENG VI)	$174
Project Engineer (ENG V)	$145
Graduate Engineer (ENG II)	$107
Designer	$121
GIS Analyst	$102
Administrative	$75
Rates for In-house services:	
PC CAD Stations	$10/hr
Plotting (Bond)	$2.50 per plot
Plotting (Other such as mylar)	$5.00 per plot
Color plotting	$5.75 per plot
Color copies and Printing	$0.50 per single side copy
Black and White Copies and Printing	$0.10 per single side copy
Binding	$5.75 per book

OTHER DIRECT EXPENSES:

Direct expenses are reimbursed at actual cost times a multiplier of 1.10 (Cost plus 10%). They include outside printing and reproduction expense, communication expense, and subsistence away from the FNI office and other miscellaneous expenses directly related to the work, including costs of laboratory analysis, test, and other work required to be done by independent persons other than staff members.

Travel/Transportation will be charged at current IRS allowable rate.

HOURLY RATES
BAKER-AICKLEN & ASSOCIATES, INC.

The following rates include company overhead and profit for services accomplished during regular working hours.

OFFICE PERSONNEL SERVICES

Classification	Rates
Sr. Project Manager	$185 per hour
Managing Planner	$160 per hour
Managing Landscape Architect	$160 per hour
Managing Surveyor/GIS	$160 per hour
Project Manager	$145 per hour
Sr. Landscape Architect	$145 per hour
Sr. Project Engineer/Surveyor/Planner	$140 per hour
Sr. Project Engineering/Surveying/Planning/GIS Coordinator	$135 per hour
Project Engineer/Surveyor/Planner	$125 per hour
Project Engineering/Surveying/Planning/GIS Coordinator	$120 per hour
Sr. Project Engineering/Surveying/Planning/GIS Designer	$115 per hour
Sr. Project Engineering/Surveying/Planning/GIS Associate	$110 per hour
Project Engineering/Surveying/Planning/GIS Designer	$105 per hour
Project Landscape Architect	$105 per hour
Engineering/Surveying/Planning/GIS Associate	$100 per hour
Engineering/Surveying/Planning/GIS Assistant	$95 per hour
Sr. Engineering/Surveying/GIS CAD Technician	$85 per hour
Engineering/Surveying/GIS CAD Technician	$75 per hour
CAD/GIS Computer Operator	$65 per hour
Administrative Assistant	$65 per hour
Expert Witness/Testimony/Deposition Services	Two Times Rate
Department Manager	$160 per hour
Branch Manager	$210 per hour*
Principal (as appropriate)	$230 per hour*

FIELD PARTY SERVICES	Rates
1-Man Field Party	$80 per hour
2-Man Field Party	$135 per hour
3-Man Field Party	$175 per hour
4-Man Field Party	$215 per hour

DIRECT EXPENSES

Transportation:

By Firm's Passenger Vehicles	Charged at current IRS allowable rate
By Firm's Survey Trucks (Notes 1, 2, & 3)	Charged at current IRS allowable rate

Direct Expense:

Reproduction & Printing by Firm,	Cost Plus 10%
Survey Stakes, Lathes, Iron Rods	Cost Plus 10%
Subsistence of out-of-city services, and other Direct Expense	Cost Plus 10%

* Not default rates. These rates are used as required in special situations only and with County notification.

NOTES:

1. Field Party rates include equipment, supplies and survey vehicles. Abnormal use of stakes, lathes, etc., used such as during the construction phase of a ***Project*** will be charged as indicated.
2. Field party time charge will be made for show-up time and return to office, resulting from inclement weather conditions, etc
3. Field Party stand-by time will be charged for at the above-shown appropriate rates.

EXHIBIT III

COMPENSATION FOR ADDITIONAL PROFESSIONAL SERVICES

1. The fees described in Exhibits I and II to this Agreement shall provide compensation to ***Engineer*** for the work described in the Basic Scope of Services of the Agreement.

2. For the performance of work not described in the Basic Scope of Services of the Agreement, ***County*** shall pay and ***Engineer*** shall receive, under a negotiated contract modification, compensation based upon the method and rates set forth in Exhibits I and II to the Agreement.

3. The performance of any additional services must be authorized in writing in advance by the ***County Judge***.

4. In the event of any dispute over the classification of ***Engineer's*** services as either basic or additional services, the decision of the ***County Engineer*** shall be final and binding.

EXHIBIT IV

PRODUCTION SCHEDULE

This Agreement shall become effective upon the date approved by ***County*** and will remain in full force and effect for the period required for the design, construction contract award and construction of the ***Project***, including warranty periods and any extensions of time, unless terminated earlier as provided for herein. ***Engineer*** shall complete all design work as described in the Scope of Services within the timeline and/or schedule provided in the Scope of Services.

The number of days expiring from the date of submittal to ***County*** of a complete work product to the date the review is finished and comments returned to ***Engineer*** shall not be included within the days allowed for completion.

EXHIBIT V

PROCEDURES FOR TERMINATION OR SUSPENSION

Procedures for ***Engineer*** to follow upon receipt of Notice of Termination:

1. Upon receipt of a Notice of Termination and prior to the effective date of the termination, ***Engineer*** shall, unless the Notice otherwise directs, immediately begin to phase out and discontinue all services in connection with the performance of this Agreement and shall proceed to promptly cancel all existing orders and contracts insofar as such orders and contracts are chargeable to this Agreement. Within thirty (30) days after receipt of the Notice of Termination, ***Engineer*** shall submit a statement, showing in detail the services performed under this Agreement prior to the effective date of termination.

2. Copies of all completed or partially completed designs, plans, and specifications prepared under this Agreement prior to the effective date of termination shall be delivered to ***County*** as a pre-condition to final payment.

3. Upon the above conditions being met, ***County*** shall pay ***Engineer*** for approved services actually performed under this Agreement, less previous payments.

4. Failure by ***Engineer*** to submit the required statement and to comply with the above stated conditions without good and reasonable cause shall constitute a waiver by ***Engineer*** of any and all rights or claims to collect the fee that ***Engineer*** may rightfully be entitled to for services performed under this Agreement.

Procedures for ***Engineer*** to follow upon receipt of Notice of Suspension:

1. Upon receipt of a Notice of Suspension and prior to the effective date of the suspension, ***Engineer*** shall, unless the Notice otherwise directs, immediately begin to phase-out and discontinue all services in connection with the performance of this Agreement and shall prepare a statement detailing the services performed under this Agreement prior to the effective date of suspension. Copies of all completed or partially completed designs, plans and specifications prepared under this Agreement prior to the effective date of suspension shall be prepared for possible delivery to ***County***, but shall be retained by ***Engineer*** unless requested by ***County***.

2. During the period of suspension, ***Engineer*** may submit the above-referenced statement to ***County*** for payment of the approved services actually performed under this Agreement, less previous payments.

Procedures for ***Engineer*** to follow upon exercise of right to terminate for substantial failure of ***County*** to perform:

1. In the event that ***Engineer*** exercises such right to terminate, within thirty (30) days after receipt by ***County*** of ***Engineer's*** Notice of Termination, ***Engineer*** shall submit a statement detailing the services performed under this Agreement prior to the effective date of termination.

2. Copies of all completed or partially completed reports, designs, plans, studies, specifications and other work product shall be delivered to ***County*** as a pre-condition to final payment. Upon the above conditions being met, ***County*** shall pay ***Engineer*** for approved services actually performed under this Agreement, less previous payments.

3. Failure by ***Engineer*** to submit the required statement and to comply with the above stated conditions without good and reasonable cause shall constitute a waiver by ***Engineer*** of any and all rights or claims to collect the fee that ***Engineer*** may rightfully be entitled to for services performed under this Agreement.

EXHIBIT VI

EQUAL OPPORTUNITY IN EMPLOYMENT

A. ***Engineer*** will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. ***Engineer*** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. ***Engineer*** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

B. ***Engineer*** will, in all solicitations or advertisements for employees placed by or on behalf of ***Engineer***, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

C. ***Engineer*** will send to the labor union representative or workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or worker's representatives of ***Engineer's*** obligations under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. ***Engineer*** will comply with the Regulations of the Department of Transportation (49 CFR 21 and 23 CFR 710.405) and all provisions of Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 (41 CFR 60) and of the rules, regulations and relevant order of the Secretary of Labor. In the event that federal financial assistance is provided for the ***Project***, ***Engineer*** shall comply with 49 CFR 26, TxDOT's Disadvantaged Business Enterprises Program and any Memorandum of Understanding between the ***County*** and TxDOT pertaining to such Disadvantaged Business Enterprise Program.

E. ***Engineer*** will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto; and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

F. In the event of ***Engineer's*** non-compliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and ***Engineer*** may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 (41 CFR 60) or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

G. ***Engineer*** will include the provisions of paragraph (A.) through (F.) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 or Executive Order 11246 of September

24, 1965, as amended by Executive Order 11375 (41 CFR 60), so that such provisions will be binding upon each subcontractor or vendor. ***Engineer*** will take such action with respect to any subcontractor purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for non-compliance: provided, however, that in the event ***Engineer*** becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by ***County*** or Federal Agency, ***Engineer*** may request ***County*** and United States to enter into such litigation to protect the interest of the United States.

EXHIBIT VII

INSURANCE REQUIREMENTS

During the life of this Agreement, ***Engineer*** agrees to provide and maintain the following insurance:

A. Worker's Compensation in accordance with statutory requirements.

B. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1.0 Million per occurrence and $2.0 Million in the aggregate, including coverage on same for independent subcontractor(s). WILLIAMSON COUNTY SHALL BE NAMED AS AN ADDITIONAL INSURED UNDER THIS COVERAGE.

C. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $1.0 Million per occurrence and $2.0 Million in the aggregate. ***Engineer*** shall require any subcontractor(s) to provide Automobile Liability Insurance in the same minimum amounts.

D. Professional Liability Errors and Omissions Insurance in the amount of $2.0 Million.

E. In the event ***Engineer*** is self-insured in connection with any or all of the above-required insurance policies, ***Engineer*** shall submit proof of such self-insurance and all financial statements as reasonably required by the ***County*** in order to determine the acceptability of such self-insurance.

Engineer shall not commence any field work under this Agreement until it has obtained all required insurance and such insurance or self-insurance has been approved by ***County***. ***Engineer*** shall not allow any subcontractor(s) to commence work to be performed in connection with this Agreement until all required insurance has been obtained and approved. Approval of the insurance by ***County*** shall not relieve or decrease the liability of ***Engineer*** hereunder.

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

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

APPENDIX A

SCOPE OF SERVICES

THE ATTACHED SCOPE OF SERVICES IS INTENDED TO BE CONSISTENT WITH THE WILLIAMSON COUNTY PROFESSIONAL SERVICES AGREEMENT. TO THE EXTENT THE SCOPE IS INCONSISTENT WITH THE PROFESSIONAL SERVICES AGREEMENT, THE PROFESSIONAL SERVICES AGREEMENT WILL SUPERSEDE THE SCOPE AND WILL BE CONTROLLING.

THE ENGINEER SHALL PROVIDE EXPERT TESTIMONY IN ANY ADMINISTRATIVE OR COURT PROCEEDINGS THROUGH AN APPROPRIATE ENGINEERING PROFESSIONAL TO BE DETERMINED BY COUNTY AS ADDITIONAL SERVICES AT THE RATE OF COMPENSATION SET FORTH IN EXHIBIT II.

EXCEPT AS PROVIDED FOR FEE SERVICES OR WORK-ORDER BASED SERVICES, THE ATTACHED SCOPE OF SERVICES SHALL INCLUDE A PRODUCTION SCHEDULE REFLECTING A TIMELINE FOR THE EXECUTION OF THE PROJECT.

Upon ***County's*** written authorization to proceed, ***Engineer*** shall provide the following:

Project Management and Meetings

1. ***Engineer*** will monitor the budget and schedule for the ***Project*** and will provide monthly one-page summaries of the ***Project*** along with invoices for services completed. The one-page report will summarize services completed, upcoming effort, milestones, and items for discussing or needing input from the ***County***.

   A. Attend a kick-off meeting with the ***County*** to review the Scope of Services, schedule and required coordination; verify the ***County's*** requirements for the ***Project***; and review the available data.

   B. Conduct and attend two (2) ***Project*** meetings with the ***County*** to discuss design alternatives and final recommendations.

   C. Attend one Commissioner's Court meeting with the ***County*** to present the findings and recommendations to the Williamson County Commissioners Court.

Berry Springs Park Dam

It ***Engineer's*** understanding that the dam at Berry Springs Park was damaged by Tropical Storm Hermine in September 2010 and the ***County*** wants to examine alternate methods for repairing the dam. The damage consists of an existing limestone wall /weir that failed resulting in the loss of the lake. The repairs may include several maintenance items that will improve the hydraulic function of the dam while enhancing the pond and reducing future ***County*** maintenance needs.

Phase 1 – Dam Evaluation and Alternatives Analysis: ***Engineer*** will evaluate the dam and provide recommendations for repairs to the dam and pond area:

1. Data Collection: ***Engineer*** will collect and review existing available information related to the original dam construction, maintenance, and/or modifications. Data ***Engineer*** expects to gather includes any construction drawings, City of Georgetown two-foot contours and the Effective FEMA FIS model(s).
2. Field Reconnaissance: Make one site visit for the purposes of:
    A. Gathering information and confirming the existing conditions of the dam, pond, and contributing watershed; Coordinate and verify site surveys; assessing access and potential construction requirements with the City of Georgetown.
    B. Discussing and confirming existing and proposed operations, maintenance, and hydraulic controls with PARD staff such that they can be considered in the alternatives analysis.
3. Survey: Baker-Aicklen will provide and coordinate the following field design surveys:
    A. Survey shall be based on the following data requirements: Horizontal Datum: NAD 1983, Vertical Datum: NAVD 1988, Projection: State Plane Coordinate System, Texas Central, FIPS zone 4203, Units of Measure: US Survey Feet, Geodetic Reverence System Ellipsoid: GRS80, Grid to surface conversion factor: minimum 10 decimal points.
    B. Conduct a topographic survey of the ***Project*** site collecting data on the dam, downstream channel, spring and various pond outflow locations including:
        i. Two temporary benchmarks, spot elevations on the dam embankment, spot elevations at the spring, spot elevations at the spring outlet, overflow weir and culverts on the channel from the large spring.
        ii. Develop one-foot contours within the area proposed for a secondary spillway on the southeast end of the pond.
        iii. Copies of all field notes and sketches will be submitted in both hard copy and digital (AutoCAD) format.
4. Hydrologic and Hydraulic Analyses. ***Engineer*** will perform the following:
    A. Develop a hydrologic model of the watershed to determine the inflow to the dam and to assess existing hydrologic conditions in the watershed around the ***Project*** area. Modifications shall include:
        i. Determine storm event from Berry Creek that inundates the pond using the effective FIS.

ii. Delineate drainage areas specifically for determining the peak inflow to the dam and to the confluence with Berry Creek.

iii. Determine peak inflow to the dam for the storm event where Berry Creek inundates the pond. This will be the design storm for the dam.

iv. Evaluate capacity of existing pipe outlet and rock weir at the design storm event.

v. Determine required capacity of new auxiliary spillway on the southeast end of the dam in the event existing outlet/weir is insufficient.

5. Alternatives and Cost Estimate: ***Engineer*** will evaluate repair alternatives and provide cost estimates for the following conditions:

A. Rebuild rock weir with concrete wall with estimates for limestone or other decorative facing.

B. Rebuild rock weir with stacked limestone.

C. Country auxiliary spillway.

D. New slide gate at the overflow bridge.

E. Miscellaneous weirs inside the pond such as at the pedestrian bridge and spring outlet.

F. Provide schematic designs and cost estimates for each alternative.

G. Construct an earthen embankment or separation wall (just below normal pool elevation) near the fishing pier to allow continued use of that portion of the lake nearest the primary dam during periods of low flow.

Phase 2 - Construction Documents for Selected Alternative: Because the extent of the work to be completed is unknown at this time, and because some of the work may be done by ***County*** forces, ***Engineer*** recommends waiting to scope Phase 2. Once the ***County*** has reviewed the Phase 1 Evaluation, Alternatives, and selected elements to be included in a bid package, ***Engineer*** will work with the ***County*** to develop a detailed scope, schedule, and budget to complete Phase 2. If the ***County*** moves forward with construction documents, the anticipated scope of work would include development of construction contract documents, bid phase services, and construction phase services (if needed).

San Gabriel River Ranch Lake Dam

San Gabriel River Ranch Dam is listed in the TCEQ dam inventory and was damaged as a result of overtopping during the June 2007 floods. TCEQ has inspected the dam and requested the ***County*** develop a plan for needed repairs to meet TCEQ dam safety requirements. In addition, TCEQ has indicated that an emergency action plan (EAP) is required due to the existing "significant" hazard classification.

It is ***Engineer's*** understanding that the ***County*** desires to first verify the hazard classification to determine if the dam is properly classified. If it is determined to be a low hazard dam, the EAP will not be required and some, or all, of the requested repairs may not be required. To meet this need, ***Engineer*** recommends that Phase 1 of this ***Project*** address the hazard classification and TCEQ requirements. ***Engineer***'s Scope of Services for Phase 1 includes:

1. Field Reconnaissance: Make one (1) site visit for the purposes of gathering information, confirming the existing conditions of the dam, and coordinate and verify site surveys.
2. Survey: Baker-Aicklen will provide and coordinate the following field design surveys for the purpose of collecting minimum data required to perform the breach analysis:
    - A. Survey shall be based on the following data requirements: Horizontal Datum: NAD 1983, Vertical Datum: NAVD 1988, Projection: State Plane Coordinate System, Texas Central, FIPS zone 4203, Units of Measure: US Survey Feet, Geodetic Reverence System Ellipsoid: GRS80, Grid to surface conversion factor: minimum 10 decimal points.
    - B. Conduct a topographic survey of the ***Project*** site to collect data on the dam sufficient to complete the simplified breach analysis:
        - i. Two temporary benchmarks, culvert flowlines, longitudinal profile along the crest of the dam (roadway and berm), spot shots along the downstream toe of the dam to verify height of the dam.
        - ii. Copies of all field notes and sketches will be submitted in both hard copy and digital (AutoCAD) format.
3. Simplified Breach Analysis: ***Engineer*** will perform a simplified breach analysis, in accordance with the TCEQ Hydrologic and Hydraulic Guidelines for Dams in Texas, to determine the downstream areas at risk and to evaluate the hazard classification of the dam. The simplified breach methodology does not require hydrology.
    - A. Prepare a technical memorandum that documents the breach calculations, provides a downstream breach inundation map, and recommend a change in hazard classification (if appropriate).
    - B. Meet with TCEQ Dam Safety Team and the ***County*** to present findings and to discuss what the impact of a potential classification change means in terms of maintenance and improvements that will be required for the dam to comply with TCEQ dam safety regulations. If the dam is reclassified as a low hazard potential dam, an EAP will not be required; however, certain maintenance and repair items identified in the TCEQ inspection may still be necessary.

Phase 2 –Construction Contract Document Preparation, Emergency Action Plan: Because the need for and extent of the work to be completed is unknown at this time, and because the emergency action plan may not be required, ***Engineer*** recommends authorizing work on applicable portions of Phase 2 upon completion of the simplified breach analysis and meeting with the TCEQ Dam Safety Team.

1. Emergency Action Plan: If the hazard classification cannot be reduced and the dam is classified as a high or intermediate hazard dam based on the breach analysis, ***Engineer*** will develop an emergency action plan following TCEQ guidelines. The EAP will:
   - A. Identify downstream residents threatened by dam failure.
   - B. Meet with the ***County Engineer*** to discuss the results of the breach analysis and mapping and present the draft EAP for ***County*** review. ***County*** comments will be incorporated into the revised draft.
   - C. Submit the revised draft emergency action plan to TCEQ for review. TCEQ comments will be incorporated into the final emergency action plan.
   - D. At the request of the ***County***, ***Engineer*** will attend two (2) meeting with the Williamson County Office of Emergency Management (OEM), local emergency responders, etc. to discuss the EAP for the purposes of garnering input for the final EAP.
   - E. Incorporate comments from the OEM and local responders and provide the ***County*** with the final EAP for signature and implementation.

2. Design Survey: The additional survey scope will gather data necessary to perform final design for embankment repairs/ stabilization and to provide increased spillway capacity. Baker-Aicklen will provide and coordinate the following field design surveys:
   - A. Survey shall be based on the data requirements listed in Phase 1.
   - B. Conduct a detailed topographic survey of the ***Project*** site to collect data on the dam sufficient to complete the construction documents:
     - i. Topographic survey of the upstream slope, crest, downstream slope and spillway.
     - ii. Detailed survey of the existing outlet works.
     - iii. Develop 1-ft contours of the dam and spillway
     - iv. Copies of all field notes and sketches will be submitted in both hard copy and digital (AutoCAD) format.

3. Hydrologic Model: In order to provide adequate spillway capacity, ***Engineer*** will develop a HEC-HMS model to calculate the TCEQ required spillway capacity. The model will be used to size the low flow and emergency spillways. The modeling effort will include:
   - A. Delineation of drainage areas based on 2-ft topography.
   - B. Developing hydrologic parameters for the watershed representing inflow to the dam. Parameters will be developed for existing conditions and will include development of stage-storage-discharge, land use, curve numbers, and time of concentration.
   - C. Use the model to determine the design storm inflow (% of PMF), outflow, and stage based on the TCEQ hydrologic and Hydraulic Guidelines.
   - D. Modeling alternate spillway configurations and preparing a technical memorandum documenting the existing conditions, proposed improvements, and revised outflow and reservoir stages for submittal to TCEQ with the

construction documents.

4. Construction Documents: ***Engineer*** will develop final construction drawings, technical specifications, and construction cost estimate using ***Engineer***'s standard construction documents. The final design will include:

A. Clearing woody vegetation from slopes,

B. Repairing embankment slope damage and overtopping protection (if needed),

C. Provide increased spillway capacity and stabilize the outfall channel against scour (if needed).

D. Temporary erosion and sedimentation controls during construction.

E. Permanent vegetative protection on all soil areas disturbed by construction.

F. Address other maintenance concerns by TCEQ identified in the TCEQ 2009 inspection.

G. Develop Construction Documents.

i. ***Engineer*** will provide three copies of the construction drawings at 60% for review by the ***County***. This submittal will include copies of the hydrologic models and associated calculations for the increased spillway capacity. A list of special permitting requirements will be identified if applicable.

ii. Based on ***Engineer*** experience with similar dam rehabilitation projects we anticipate the ***Project*** will be performed under a USACE Nationwide permit and will not require State or Federal Permit submittal.

iii. ***Engineer*** will provide three copies of the plans and specifications at 90% completion for review and approval of the ***County***. Upon ***County*** approval the "issued for bid" documents will be prepared. ***Engineer*** will submit the construction documents and other documents required to the TCEQ for review and approval.

H. ***Engineer*** will prepare opinions of probable construction costs at the 60%, 90% and issued for bid milestones.

5. Bid assistance: ***Engineer*** will assist the ***County*** in advertisement of the ***Project*** and securing bids.

A. ***Engineer*** will provide twenty-five copies of the plans and specifications for distribution by the ***County*** to prospective bidders and plan rooms.

B. ***Engineer*** will respond to questions and interpret the bid documents. Addenda to the bid documents will be prepared and provided to the ***County*** for distribution to the plan holders.

C. Attend the pre-bid meeting and bid-opening.

Twin Lakes Dam

Twin Lakes Dam is listed in the TCEQ dam inventory and previous inspection reports have highlighted several maintenance items that the ***County*** has addressed. In addition, TCEQ has indicated that an emergency action plan (EAP) is required due to the existing "high" hazard classification and they have questioned if the dam meets the minimum required hydraulic capacity.

County desires ***Engineer*** to prepare an Emergency Action Plan for this dam and, while doing so, evaluate the hydraulic capacity of the dam to determine if any modifications to the principal or emergency spillways will be required to safely pass the 75% Probable Maximum Flood (PMF), the minimum requirement for existing high hazard dams.

1. Data Collection: ***Engineer*** has limited data for the existing facility. This task will be to collect and review available information necessary for the analysis and final design of the improvements including two-foot topography, GIS data sets, "As Built" drawings of YMCA facilities near dam parking area, restrooms, pavilion and water quality pond.
2. Field Reconnaissance: Make up to four (4) site visits for the purposes of: gathering information and confirming the existing conditions of the dam, coordinate and verify site surveys.
3. Survey: Baker-Aicklen will provide and coordinate the following field design surveys:
    A. Survey shall be based on the following data requirements: Horizontal Datum: NAD 1983, Vertical Datum: NAVD 1988, Projection: State Plane Coordinate System, Texas Central, FIPS zone 4203, Units of Measure: US Survey Feet, Geodetic Reverence System Ellipsoid: GRS80. Grid to surface conversion factor: minimum 10 decimal points.
    B. Conduct a topographic survey of the ***Project*** site collecting data on the dam, downstream channel, spring and various pond outflow locations including:
        i. Two temporary benchmarks, culvert flowlines, building and surface improvements.
        ii. Sufficient points to develop 1-foot contours of the embankment, principal spillway and emergency spillway including the water quality pond and parking a lot.
        iii. Copies of all field notes and sketches will be submitted in both hard copy and digital (AutoCAD) format.
4. Breach Analysis: ***Engineer*** will perform a breach analysis using unsteady flow modeling according to TCEQ requirements. We will use previously developed HEC-HMS and HEC-RAS models as the starting point for this task. Breach analysis will include:
    A. Modify the existing HEC-HMS model to incorporate the updated information (from task 3) for the dam and develop sub-basins specific to this ***Project*** area. This will include review and revision of the hydrologic model parameters necessary to model Twin Lake Dam in accordance with TCEQ guidelines.
    B. Verify the hydraulic capacity of the dam and determine if Twin Lakes Dam meets the required TCEQ minimum hydraulic capacity (75% PMF).
    C. Modify the existing HEC-RAS model to incorporate updated information (from task 3) for the dam and discharge rating curves for the dam using

existing conditions of the principal and emergency spillways. This will include review and revision of the hydraulic model parameters necessary to model Twin Lake Dam in accordance with TCEQ guidelines.

D. Develop breach inundation maps that show the aerial extent of the estimated breach flows and depth of flooding at road crossings in compliance with the TCEQ EAP Guidelines.

E. Prepare a hydrologic and hydraulic summary report describing the purpose, source(s) of data, special conditions, assumptions, modeling techniques, and results for submittal to TCEQ along with the EAP (required submittal).

5. Emergency Action Plan (EAP): ***Engineer*** will develop an emergency action plan following TCEQ guidelines. The EAP will:

A. Identify downstream residents threatened by dam failure,

B. Use TCEQ approved format that we used for Upper Brushy Creek W.C.I.D.

C. Meet with the ***County*** to discuss the results of the breach analysis and mapping and present the draft EAP for ***County*** review. ***County*** comments will be incorporated into the revised draft.

D. Submit the revised draft emergency action plan to TCEQ for review. TCEQ comments will be incorporated into the final emergency action plan.

i. It is our understanding that TCEQ has requested the ***County*** submits the draft EAP by December 31, 2011. ***Engineer*** will prepare a draft EAP for submittal based upon the existing, available data and simplified breach calculations.

ii. Upon completion of the survey and detailed models a revised draft will be submitted to the TCEQ.

E. At the request of the ***County***, ***Engineer*** will attend up to 3 meetings with the Williamson County Office of Emergency Management (OEM), local emergency responders, etc. to discuss the EAP for the purposes of garnering input for the final EAP.

F. Incorporate comments from the OEM and local responders and provide the ***County*** with the final EAP for signature and implementation.

DELIVERABLES

Berry Springs Dam

1. Survey: One (1) hard copy of the survey data including drawings and field notes and sketches. One (1) digital copy of the survey in DWG format on CD-ROM. The digital copy shall include all survey data collected in comma separated variable format. A text file shall be included with an index of all files on the CD-ROM and an explanation of all data fields within each file.
2. H/H Calculations and Models: Electronic and hard copies of the hydrologic and hydraulic analyses, including models, GIS data, and calculations for each design phase.
3. Preliminary Engineering Report: Two (2) draft copies of the report will be issued to the ***County*** for review. The final report will incorporate comments received from the ***County*** and ***Engineer*** will provide one (1) complete electronic version of the report, including figures, in PDF format and two (2) hard copies.

San Gabriel Ranch Dam

4. Survey: One (1) hard copy of the survey data including drawings and field notes and sketches. One (1) digital copy of the survey in DWG format on CD-ROM. The digital copy shall include all survey data collected in comma separated variable format. A text file shall be included with an index of all files on the CD-ROM and an explanation of all data fields within each file.
5. Simplified breach analysis with inundation map.
6. Letter Report to TCEQ documenting the simplified breach analysis and recommended hazard classification reduction (if appropriate).
7. Emergency Action Plan. ***Engineer*** will prepare the first draft for ***County*** review and comment. The revised draft will be submitted to TCEQ for review and comment. The final draft will incorporate TCEQ comments and will be used to coordinate with the OEM and local responders. Any changes requested by the ***County*** based on those meetings will be incorporated into the final EAP.
8. Construction documents to stabilize the embankment and provide adequate spillway capacity.

Twin Lakes Dam

9. Survey: One (1) hard copy of the survey data including drawings and field notes and sketches. One (1) digital copy of the survey in DWG format on CD-ROM. The digital copy shall include all survey data collected in comma separated variable format. A text file shall be included with an index of all files on the CD-ROM and an explanation of all data fields within each file.
10. Breach analysis with inundation maps.
11. Emergency Action Plan. ***Engineer*** will prepare the first draft for ***County*** review and comment. The revised draft will be submitted to TCEQ for review and comment. The final draft will incorporate TCEQ comments and will be used to coordinate with the OEM and local responders. Any changes requested by the ***County*** based on those meetings will be incorporated into the final EAP.

Designated Representatives:

Engineer and ***County*** designate the following representatives:

County's Designated Representative - Joe England, P.E., 3151 S. E. Inner Loop, Suite B, Georgetown, Texas 78626, (512) 943-3336, jengland@wilco.org.

Engineer Project Manager- Jay Scanlon, P.E., 10814 Jollyville Road, Suite 100, Austin, Texas 78759, (512) 617-3100, jws@freese.com

Engineer Accounting Contact- Susanne Dubois, 10814 Jollyville Road, Suite 100, Austin, Texas 78759, (512) 617-3100, srd@freese.com

Barry Springs Park Dam - Preliminary Engineering Report		Total
1	Project Management and Meetings	$ 2,300
2	Data Collection	$ 1,820
3	Field Reconnaissance	$ 3,374
4	Survey	$ 5,957
5	Hydrologic and Hydraulic Analyses	$ 3,049
6	Alternatives and Cost Estimate	$ 11,661
7	Report	$ 4,982
		$ 33,142

San Gabriel Road Dam - Phase 1 (Hazard Classifications)		Total
1	Project Management and Meetings	$ 2,120
2	Field Reconnaissance	$ 3,555
3	Survey	$ 2,167
4	Simplified Breach Analysis	$ 4,244
5	TCEQ Coordination	$ 1,306
		$ 13,391

San Gabriel Road Dam - Phase 2 (Emergency Action Plan, Hydrologic Modeling)		Total
1	Emergency Action Plan	$ 6,720
2	Hydrologic Model	$ 7,423
		$ 14,144

San Gabriel Road Dam - Phase 2 (Design Survey and Construction Documents)		Total
3	Design Survey	$ 5,814
4	Develop Construction Contract Documents	$ 26,463
5	Bid Phase	$ 1,525
		$ 33,802

Twin Lakes Dam - Emergency Action Plan		Total
1	Project Management and Meetings	$ 2,200
2	Data Collection	$ 1,895
3	Field Reconnaissance	$ 3,199
4	Survey	$ 7,145
5	Breach Analysis	$ 15,168
6	Emergency Action Plan	$ 6,006
		$ 35,612

$ 130,091

Attachment A.2

Williamson County
Berry Springs Park Dam Preliminary Engineering Report
Detailed Cost Breakdown

Project Fee Summary		
Total Basic	$	33,142
Total Special	$	-
Total Project	$	33,142

Basic Services

Task	Labor Task Description	ENG VI	ENG VII	ENG V	ENG V	ENG II	DESIGNER	GIS ANALYST	ADMIN	ADMIN	Total Hours	Total Labor	Total Subs / Expenses	Total Effort
	Hourly Bill Rate	$175.36	$208.49	$146.80	$144.95	$108.12	$122.20	$103.59	$77.38	$70.26				
1	**Project Management and Meetings**	5			4	4			2	2	17	$ 2,184	$ 116	$ 2,300
2	**Data Collection**	1			2	8		4			15	$ 1,745	$ 75	$ 1,820
3	**Field Reconnaissance**	4		4	8	8					24	$ 3,313	$ 61	$ 3,374
4	**Survey**			2			4				6	$ 782	$ 5,175	$ 5,957
5	**Hydrologic and Hydraulic Analyses**											$ -	$ -	$ -
	Delineate drainage areas				2	2					4	$ 506	$ 40	$ 546
	Develop Hydrologic Parameters (Tc, CN, Routing, SSD)				2	8		2			12	$ 1,362	$ 120	$ 1,482
	Determine peak inflow				1	4					5	$ 577	$ 50	$ 627
	Evaluate capactiy of existing pipe outlet and rock weir			1		2					3	$ 363	$ 30	$ 393
6	**Alternatives and Cost Estimate**	4	4	16	4	24	24	8			84	$ 10,821	$ 840	$ 11,661
7	**Report**	2		16		16					34	$ 4,429	$ 553	$ 4,982
												$ -	$ -	$ -
	Total Hours	**16**	**4**	**39**	**23**	**76**	**28**	**14**	**2**	**2**				
	Labor Effort	**$ 2,806**	**$ 834**	**$ 5,725**	**$ 3,334**	**$ 8,217**	**$ 3,422**	**$ 1,450**	**$ 155**	**$ 141**	**$ -**			
											Total Basic Services	**204.0**	**$ 26,083**	**$ 7,059**	**$ 33,142**

	EXPENSES	Misc.	Computer	B&W copies	Color copies	Miles	Plotter - bond	Plotter - color	Binding	Sub 1	Sub 2	Total Subs / Expenses
1	Project Management and Meetings		9			50						$ 115.53
2	Data Collection		8									$ 75.00
3	Field Reconnaissance					100						$ 61.05
4	Survey		6							4650		$ 5,175.00
5	**Hydrologic and Hydraulic Analyses**											$ -
	Delineate drainage areas		4									$ 40.00
	Develop Hydrologic Parameters (Tc, CN, Routing, SSD)		12									$ 120.00
	Determine peak inflow		5									$ 50.00
	Evaluate capactiy of existing pipe outlet and rock weir		3									$ 30.00
6	Alternatives and Cost Estimate		84									$ 840.00
7	Report		34	300	200		10	10				$ 552.50
												$ -
	Basic Services - Expense Totals	**$ -**	**$ 1,640**	**$ 30**	**$ 100**	**$ 92**	**$ 25**	**$ 58**	**$ -**	**$ 5,115**	**$ -**	**$ 7,059**

Attachment A.3

Williamson County
San Gabriel River Ranch Lake Dam
Detailed Cost Breakdown

Project Fee Summary		
Total Basic	$	13,391
Total Special	$	47,946
Total Project	$	61,337

Phase 1 - Simplified Breach and TCEQ Coordination

Task	Labor Task Description	ENG VI	ENG VII	ENG V	ENG V	ENG II	DESIGNER	GIS ANALYST	ADMIN	ADMIN	Total Hours	Total Labor	Total Subs / Expenses	Total Effort
	Hourly Bill Rate	$175.36	$208.49	$146.80	$144.95	$108.12	$122.20	$103.59	$77.38	$70.26				
1	**Project Management and Meetings**	4			4	4			2	2	16	$ 2,009	$ 111	$ 2,120
2	**Field Reconnaissance**	4		4	8	8					24	$ 3,313	$ 242	$ 3,555
3	**Survey**			2		2					4	$ 510	$ 1,657	$ 2,167
4	**Simplified Breach Analysis**	1			8	16		8			33	$ 3,894	$ 350	$ 4,244
5	**TCEQ Coordination**	4			4						8	$ 1,281	$ 24	$ 1,306
												$ -	$ -	$ -
												$ -	$ -	$ -
	Total Hours	13		6	24	30		8	2	2				
	Labor Effort	$ 2,280	$ -	$ 881	$ 3,479	$ 3,244	$ -	$ 829	$ 155	$ 141	$ -			
											Total Basic Services	85.0	$ 11,007	$ 2,384	$ 13,391

	EXPENSES	Misc.	Computer	B&W copies	Color copies	Miles	Plotter - bond	Plotter - color	Binding	Sub 1	Sub 2	Total Subs / Expenses
1	**Project Management and Meetings**		8			50						$ 110.53
2	**Field Reconnaissance**		12			200						$ 242.10
3	**Survey**		4							1470		$ 1,657.00
4	**Simplified Breach Analysis**		33	100	20							$ 350.00
5	**TCEQ Coordination**					40						$ 24.42
												$ -
												$ -
	Basic Services - Expense Totals	$ -	$ 570	$ 10	$ 10	$ 177	$ -	$ -	$ -	$ 1,617	$ -	$ 2,384

Phase 2 - Emergency Action Plan, Final Design and Construction Contract Documents

Task	Labor Task Description	ENG VI	ENG VII	ENG V	ENG V	ENG II	DESIGNER	GIS ANALYST	ADMIN	ADMIN	Total Hours	Total Labor	Total Subs / Expenses	Total Effort
	Hourly Bill Rate	$175.36	$208.49	$146.80	$144.95	$108.12	$122.20	$103.59	$77.38	$70.26				
1	**Emergency Action Plan**											$ -	$ -	$ -
	Draft EAP	2		8		8					18	$ 2,390	$ 205	$ 2,595
	Meetings	6		6						1	13	$ 2,003	$ 37	$ 2,040
	Revised Draft (TCEQ)	1		4		4					9	$ 1,195	$ 115	$ 1,310
	Final EAP (for distribution)	1		2		2					5	$ 685	$ 90	$ 775
2	**Design Survey**			2			4				6	$ 782	$ 5,032	$ 5,814
3	**Hydrologic Model**											$ -	$ -	$ -
	Delineate drainage areas				2	2					4	$ 506	$ 40	$ 546
	Develop Hydrologic Parameters (Tc, CN, Routing, SSD)				2	8		2			12	$ 1,362	$ 120	$ 1,482
	Determine peak inflow				1	4					5	$ 577	$ 50	$ 627
	Evaluate Hydraulic Capacity of the Existing Dam			1		2					3	$ 363	$ 30	$ 393
	Alternatives and Cost Estimate	2	2	8	2	8	8				30	$ 4,075	$ 300	$ 4,375
4	**Develop Construction Contract Documents**	2	16	40	2		120				180	$ 24,513	$ 1,950	$ 26,463
	Bid Phase Assistance	2		8							10	$ 1,525	$ -	$ 1,525
												$ -	$ -	$ -
												$ -	$ -	$ -
	Total Hours	16	18	79	9	38	132	2		1				
	Labor Effort	$ 2,806	$ 3,753	$ 11,597	$ 1,305	$ 4,109	$ 16,131	$ 207	$ -	$ 70	$ -			
											Total Special Services	295.00	$ 39,977	$ 7,969	$ 47,946

	Expenses	Misc.	Computer	B&W copies	Color copies	Miles	Plotter - bond	Plotter - color	Binding	Sub 1	Sub 2	Total Subs / Expenses
1	**Emergency Action Plan**											$ -
	Draft EAP		18	150	20							$ 205.00
	Meetings					60						$ 36.63
	Revised Draft (TCEQ)		9	150	20							$ 115.00
	Final EAP (for distribution)		5	300	20							$ 90.00
2	**Design Survey**		6							4520		$ 5,032.00
3	**Hydrologic Model**											$ -
	Delineate drainage areas		4									$ 40.00
	Develop Hydrologic Parameters (Tc, CN, Routing, SSD)		12									$ 120.00
	Determine peak inflow		5									$ 50.00
	Evaluate Hydraulic Capacity of the Existing Dam		3									$ 30.00
	Alternatives and Cost Estimate		30									$ 300.00
4	**Develop Construction Contract Documents**		180				60					$ 1,950.00
	Bid Phase Assistance											$ -
												$ -
												$ -
	Total Special Services Expenses	$ -	$ 2,720	$ 60	$ 30	$ 37	$ 150	$ -	$ -	$ 4,972	$ -	$ 7,969

Attachment A.4

Williamson County
Twin Lakes Dam Emergency Action Plan
Detailed Cost Breakdown

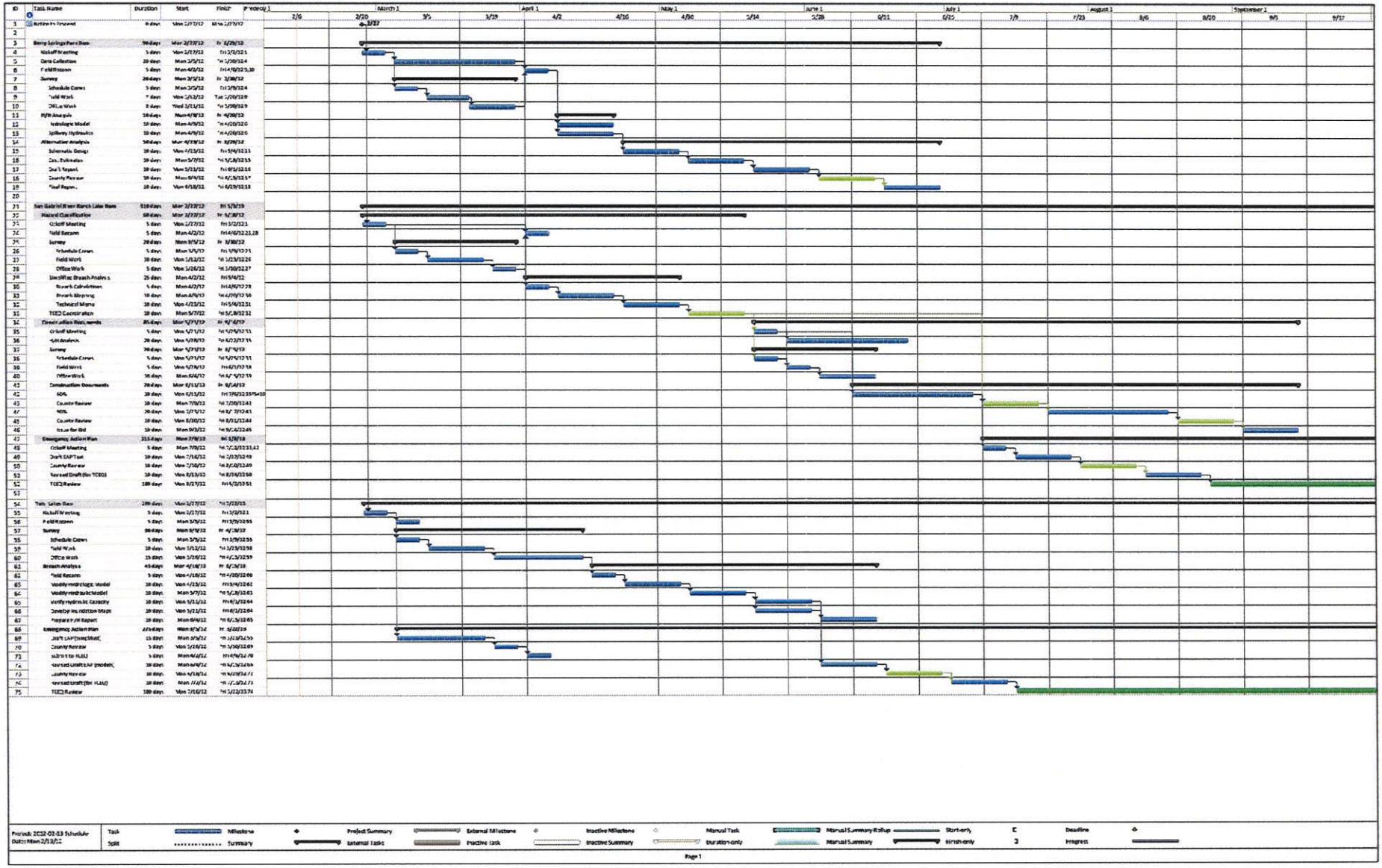
Project Fee Summary		
Total Basic	$	35,612
Total Special	$	-
Total Project	$	35,612

Basic Services

Task	Labor Task Description	ENG VI	ENG VII	ENG V	ENG V	ENG II	DESIGNER	GIS ANALYST	ADMIN	ADMIN	Total Hours	Total Labor	Total Subs / Expenses	Total Effort
	Hourly Bill Rate	$175.36	$208.49	$146.80	$144.95	$108.12	$122.20	$103.59	$77.38	$70.26				
1	**Project Management and Meetings**	4			4	4			2	2	16	$ 2,009	$ 191	$ 2,200
2	**Data Collection**	1			2	8		4			15	$ 1,745	$ 150	$ 1,895
3	**Field Reconnaissance**			6	6	12					24	$ 3,048	$ 151	$ 3,199
4	**Survey**			2			4				6	$ 782	$ 6,363	$ 7,145
5	**Breach Analysis**											$ -	$ -	$ -
	Modify existing HEC-HMS Model	1			2	12		2			17	$ 1,970	$ 170	$ 2,140
	Modify existing HEC-RAS Model	1			8	24					33	$ 3,930	$ 330	$ 4,260
	Verify hydraulic capacity				1	4					5	$ 577	$ 50	$ 627
	Develop breach inundation maps	2			2	8		16			28	$ 3,163	$ 280	$ 3,443
	Prepare H&H summary report	2			4	16		16			38	$ 4,318	$ 380	$ 4,698
6	**Emergency Action Plan**											$ -	$ -	$ -
	Draft EAP	2		8		8					18	$ 2,390	$ 205	$ 2,595
	Meetings	4		4							8	$ 1,289	$ 37	$ 1,325
	Revised Draft (TCEQ)	1		4		4					9	$ 1,195	$ 115	$ 1,310
	Final EAP (for distribution)	1		2		2					5	$ 685	$ 90	$ 775
												$ -	$ -	$ -
												$ -	$ -	$ -
	Total Hours	19		26	29	102	4	38	2	2				
	Labor Effort	$ 3,332	$ -	$ 3,817	$ 4,204	$ 11,029	$ 489	$ 3,936	$ 155	$ 141	$ -			
											Total Basic Services	222.0	$ 27,101	$ 8,511	$ 35,612

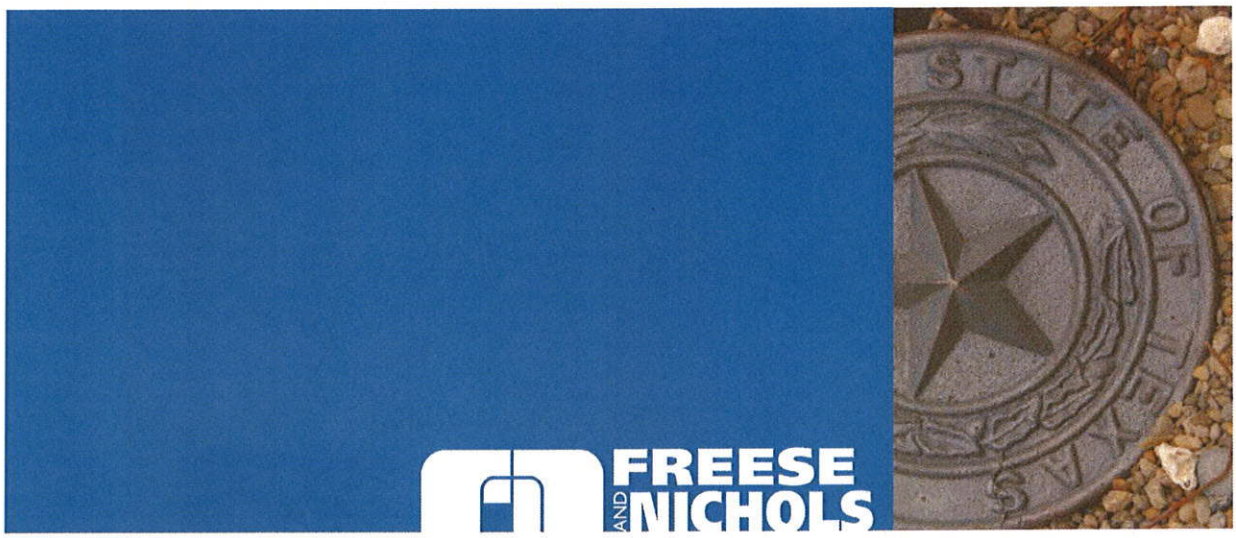
	EXPENSES	Misc.	Computer	B&W copies	Color copies	Miles	Plotter - bond	Plotter - color	Binding	Sub 1	Sub 2	Total Subs / Expenses
1	**Project Management and Meetings**		16			50						$ 190.53
2	**Data Collection**		15									$ 150.00
3	**Field Reconnaissance**		12			50						$ 150.53
4	**Survey**		6							5730		$ 6,363.00
5	**Breach Analysis**											$ -
	Modify existing HEC-HMS Model		17									$ 170.00
	Modify existing HEC-RAS Model		33									$ 330.00
	Verify hydraulic capacity		5									$ 50.00
	Develop breach inundation maps		28									$ 280.00
	Prepare H&H summary report		38									$ 380.00
6	**Emergency Action Plan**											$ -
	Draft EAP		18	150	20							$ 205.00
	Meetings					60						$ 36.63
	Revised Draft (TCEQ)		9	150	20							$ 115.00
	Final EAP (for distribution)		5	300	20							$ 90.00
												$ -
												$ -
	Basic Services - Expense Totals	$ -	$ 2,020	$ 60	$ 30	$ 98	$ -	$ -	$ -	$ 6,303	$ -	$ - $ - $ 8,511

Production Schedule



APPENDIX B

ENGINEER'S QUALIFICATIONS STATEMENT



FREESE AND NICHOLS

statement of qualifications

Williamson County

Evaluation of Damage to Three Dams/Embankments

June 23, 2011

Submitted by:
Freese and Nichols, Inc.
10814 Jollyville Road
Building 4, Suite 100
Austin, Texas 78759

John Wolfhope, P.E.
512-617-3100
jsw@freese.com

Williamson County - Evaluation of Damage to Three Dams/Embankments Team

Williamson County

Client Representative

Michael L. Nichols, P.E.

Project Manager

Jay Scanlon, P.E., CFM

Principal-in-Charge

John Wolfhope, P.E.

- ✓ Local team
- ✓ Key team members reside in Williamson County

Les Boyd, P.E.

Dustin Mortensen, P.E.

Victor Vasquez, P.E.

Luis Alday, P.E.

Kim Patak, P.E., CFM, CPESC

INSPECTIONS
Les Boyd, P.E.
Dustin Mortensen, P.E.

- Conduct visual inspections
- Prepare inspection reports
- Develop recommendations

SOLUTIONS
Victor Vasquez, P.E.
Les Boyd, P.E.
Dustin Mortensen, P.E.

- Identify and evaluate issues
- Develop alternatives
  - Spillway capacity improvements
  - Erosion and damage repairs
  - Retaining wall improvements
  - O&M practices
- Pepare cost estimates

EMERGENCY ACTION PLANS
Luis Alday, P.E.
Kim Patak, P.E., CFM, CPESC

- Twin Lakes/Buttercup Creek State Dam
  - Update Dam 6 EAP (H&H)
- San Gabriel River Ranch Dam
  - Simplified Breach Analysis
- Berry Spring Park Embankment
  - Simplified Breach Analysis

Jerome (Jay) Scanlon, III, P.E., CFM

PROJECT MANAGER

Jay Scanlon has served as Project Engineer/Manager for a number of large scale water resource design projects. His experience includes major dam rehabilitation and inspection projects, levee and channel design and improvement, design of storm water management facilities, including on-site and regional detention ponds, water quality controls and general site civil design. He has successfully worked with numerous clients, taking their projects from the conceptual planning stage through the design, permitting and construction phases. Some of his relevant experience includes:

- Regional Dam Design, Williamson County – Project Manager/Engineer for project which included water rights studies, preliminary hydrological and hydraulic analyses, preliminary dam design/reservoir modeling (feasibility study), cost estimates and an engineering report for a new county park.
- Dam Modernization Program, Upper Brushy Creek WCID – Program Manager for H/H studies breach analysis, EAP development, final design and construction phase services for the districts 21 high hazard dams. Project includes operation and maintenance of 21 monitoring sites and early warning system for the dams and development and maintenance of a public Web site.
- FY2000, FY2001, FY2005, FY2006 Dam Safety Inspections, TCEQ – Assistant Project/ Program Manger and Dam Inspection Professional. Assisted in scheduling, preparing and reviewing dam safety inspections and coordinating with the TCEQ for the 267 dam safety inspections in various locations across the state.
- Pond Dam Safety Program, City of Austin – Project Manager for the CIP Study for rehabilitation of 66 dams throughout the City. Currently providing general representation for construction of dam rehabilitation of two structures and developing construction documents for the next four structures to be modernized.
- Tom Miller Dam Modernization, Lower Colorado River Authority – Design Engineer and Discipline Leader for site civil and drainage design. Assisted in preparation of hydraulic calculations, prepared construction documents for drainage improvements, including a storm drain system, retaining wall, parking lot and new access driveway.
- Highland Lakes Dam Spillway Hoist Study, Lower Colorado River Authority – Design Engineer for investigating the primary and secondary mechanical/electrical systems at three dams (Buchanan Dam, Wirtz Dam, Tom Miller Dam) (six spillways) and made recommendations for additional hoist repair and replacement.
- Buchanan Dam Modernization Project, Lower Colorado River Authority – Project Engineer for overturning and sliding stability analysis, final design and construction of the repairs.
- Inks Dam Modernization Project, Lower Colorado River Authority – Project Engineer for overturning and sliding stability analysis, final design and construction of the repairs.
- Safety Inspection of Flint Dam, American Electric Power – Project Engineer, assisted with the site inspection and report preparation for the dam safety inspection.
- Lake Fork Dam Safety Inspection, Iron Bridge Dam Safety Inspection and Annual Gibbons Creek Dam Inspections; Sabine River Authority – Project Engineer, assisted with the site inspection and report preparation for the dam safety inspection.

EXPERIENCE
20 years

EDUCATION
B.S., Civil Engineering, University of Texas, San Antonio

REGISTRATIONS
Professional Engineer, Texas #82077

Certified Floodplain Manager #0511-03N

AFFILIATIONS
American Society of Civil Engineers

Society of American Military Engineers

Consulting Engineers Council of Texas

Association of State Dam Safety Officials

U.S. Society on Dams

- Lake Lytle Dam Investigation – Project Engineer, assisted with the site inspection and report preparation for the dam safety inspection.
- Spring Lake Dam Repair, Texas State University System – Project Manager and Resident Representative during design, providing preparation of plans and specifications and construction of the repairs to the 150-year old dam.
- Upper Walnut Creek Regional Detention Pond, City of Austin – Project Manager and Project Engineer for the study, design, plans and specifications and general representation for the 5,000-foot long embankment dam to provide erosion and flood control on Walnut Creek.
- Wells Branch Regional Detention Pond, City of Austin – Project Manager and Project Engineer for the study, design, plans and specifications and general representation for the 1,500-foot long, 35-foot tall concrete dam to provide erosion and flood control on Wells Branch Tributary to Walnut Creek.
- Inspection of Kerrville Dam, City of Kerrville – Assisted with the site inspection and report preparation for the dam safety inspection.
- Emergency Action Plan for 21 Dams, Upper Brushy Creek WCID. – Project Manager for the preparation of emergency action plans and breach analysis for 21 dams.
- Emergency Action Plan for six Dams, Guadalupe-Blanco River Authority – Project Manager for the preparation of emergency action plans and breach analysis for 6 dams.
- Emergency Action Plan for two Dams, CPS Energy – Project Manager for the preparation of emergency action plans and breach analysis for 2 dams.
- Emergency Action Plan for three Dams, City of San Antonio – Project Engineer for the preparation of emergency action plans and breach analysis for three dams.

John Wolfhope, P.E.

PRINCIPAL-IN-CHARGE; QUALITY CONTROL

Mr. Wolfhope is the Central Division Manager and a Principal of the Firm. He specializes in the engineering and construction of public infrastructure projects including dams, hydraulic structures, and water supply systems. He is proficient in the design, rehabilitation, stabilization and replacement of dams, including gated spillways, gravity dams, flat slab and buttress spillways, multiple arch dams and labyrinth spillways. He has broad experience in dam assessments including siting studies, dam safety inspections, structural assessments, geotechnical investigations, physical and numerical hydraulic modeling, risk assessments, emergency action planning, and security assessments. In addition to his technical engineering background, he has a solid background in project planning, contract negotiations, team building, value engineering, constructability review, construction administration and process improvement. He has authored more than 35 papers and presentations on dams and dam engineering and frequently speaks or moderates technical sessions at conferences and workshops. He was Project Manager for the Lake Brazos Dam Replacement Project, which received the U.S. Society on Dams 2008 Award of Excellence in the Constructed Project. His work also has been recognized through awards that include the Texas Section ASCE Outstanding Civil Engineering Achievement Award, Texas Chapter of APWA Public Works Project of the Year, Texas Council of Engineering Companies Gold Medal for Engineering Excellence, and USACE Safe Contractor of the Year. He serves as the Private Sector Representative on FEMA's National Dam Safety Review Board and is a member of the National Dam Safety Program Strategic Planning Steering Committee. Some of his relevant experience includes:

- Lake Brazos Dam Replacement Project, City of Waco – Project Manager for replacement of 700-foot-long, concrete gated run-off river dam with 25-cycle labyrinth weir dam. Project included in-depth geotechnical exploration and testing program, river basin mapping, hydraulic and hydro-dynamic modeling, finite-element modeling of foundation and structure, and hydraulic modeling program. Project delivery systems and value engineering reduced the project budget by over half of previous USACE estimates, cut over two years off the project completion schedule, and minimized environmental impacts. Project involved staged construction of foundation systems and concrete structures to allow passage of river flows while maintaining reservoir at normal pool throughout construction.
- Tom Miller Dam Modernization Project, City of Austin – Project Manager for program to modernize 105-year-old hydropower dam. Project included stabilization of concrete overflow spillway, powerhouse stabilization, and structural strengthening of gated, flat-slab and buttress spillway. Project included detailed geotechnical investigation program, geologic mapping, destructive and non-destructive structural testing program, three-dimensional finite element analyses, modeling of crack propagation, hydraulic model studies, and construction of access roads and modernization improvements within environmentally sensitive endangered species habitat.
- Inks Dam Modernization Project, Burnet County – Lead Engineer for in-depth geotechnical investigation program, hydraulic analyses, and design for modernization of 1800-feet long concrete hydropower dam. Project involved demolition, stabilization, and replacement of concrete spillway while maintaining the pool at normal operating elevation. Project included boring outlet service line through existing dam and construction of raw water pipeline to USFWS fish hatchery.

EXPERIENCE
20 years

EDUCATION
B.S., University of Pittsburgh

M.S., Civil Engineering, University of Texas

REGISTRATIONS
Professional Engineer, Texas #82128

AFFILIATIONS
National Dam Safety Program - Strategic Planning Steering Committee

National Dam Safety Review Board

United States Society On Dams, Board of Directors, Technical Committee Chairman

American Society of Civil Engineers

National Research Program for Rock Anchors in Dams, Co-Principal Research Director

Association of State Dam Safety Officials

- Buchanan Dam Modernization Project, City of Buchanan – Engineer for in-depth geotechnical investigation program, hydraulic analyses and modernization of four-mile-long concrete gravity and arch hydropower dam. Project Manager for construction phase including modernization improvements and integrated dam safety instrumentation system.
- Wirtz Dam Modernization Project, City of Marble Falls – Lead Engineer for geotechnical explorations, materials testing, hydraulic analyses, and modernization of spillway structures. Lead the development and interpretation of physical and numerical models of hydraulic and structural performance. Assisted with constuction phase though preparing construction documents and managing testing program.
- Wirtz Dam Emergency Repairs and Apron Slab, City of Marble Falls – Lead Engineer for construction documents for emergency repairs to the spillway foundation and the construction of apron to prevent scour development. Project involved hydraulic model studies and scour analyses to assess erodability. Managed design and construction of integrated dam safety instrumentation system for the monitoring of structural movements and foundation pressures.
- Wesley Seale Dam Gates and Spillway Rehabilitation, City of Corpus Christi – Engineer for the stabilization of the spillway structures for large high-hazard Ambursen Dam. Project included physical hydraulic modeling of spillways and outlet works. Designed and managed construction of integrated dam safety instrumentation system for remotely monitoring spillway movement and foundation pressures. Led the development of Water Operations Center for the video surveillance and access security at three dams and two water supply pump stations. Designed and commissioned instrumentation system for dam safety monitoring and remote control of 27 spillway gates.
- Choke Canyon Dam Repairs and Site Improvements, City of Corpus Christi – Project Manager for rehabilitation and upgrades to spillway and inlet/outlet works at three-mile long large high-hazard dam on the Frio River. Project included hydraulic model studies of spillway performance to eliminate downstream scour, foundation and structural concrete erosion. Coordinated review and approval of analyses, design, and construction packages with the United States Bureau of Reclamation.
- Olmos Dam Stabilization, Bexar County – Principal-In-Charge on the geotechnical investigation, post-tensioned anchor evaluation, and stability analysis for 80-year-old flood control dam.
- City Lake Dam Improvements, City of Temple – Project Manager for the inspection, evaluation and rehabilitation of 90-year-old concrete dam on the Leon River. Project included hydraulic modeling, analysis of foundation erodability, scour analysis, spillway rehabilitation, and undermining repairs.
- Lake Jim Thornton Dam Rehabilitation, City of Temple – Principal-In-Charge for the rehabilitation of large high-hazard earthen embankment dam. Project included repair of upstream scour and erosion damage and stability improvements to downstream embankment slopes.
- Mansfield Dam Comprehensive Facility Review – Principle-In-Charge for comprehensive review of dam, including review of previous inspections and providing recommendations for capital improvements and operations and maintenance program.
- Dam Safety Inspections FY 2000, 2001, 2004, 2005; Texas Commission on Environmental Quality – Lead inspections of significant and high-hazard dams as part of 100 dams per year inspected by Freese and Nichols for state dam safety office. Warren D. Samuelson, Dam Safety Program Coordinator, Texas Commission on Environmental Quality.

Les Boyd, P.E.

DAM SAFETY INSPECTIONS AND REPAIR SOLUTIONS

An Associate of the firm, Les Boyd is FNI's most experienced construction manager for dams and reservoirs. He has nearly 40 years of dam and reservoir design and construction experience and serves as Central Division technical leader for constructability reviews and construction services. Mr. Boyd lead the rehabilitation of Morris Sheppard Dam (the tallest flat slab and buttress dam in the United States). Some of his relevant project experience includes:

- Upper Brushy Creek Water Control and Improvement District, Texas – Manager of resident engineering serves for the construction of modernization improvements to twenty high-hazard NRCS dams.
- Dam Modernization Program, LCRA – Lead Engineer and Resident Construction Representative for the rehabilitation of four of the highland Lakes Dams, including Wirtz Dam, Buchanan Dam, Inks Dam and Tom Miller Dam.
- Murphy Dam Repairs, City of Taylor – Structural Engineer for repairs to a multiple arch dam. Project included evaluation of the dam, replacement of training walls, and grouting of voids beneath the buttresses and apron slab.
- Lake Brazos Dam Replacement Project, City of Waco – Structural Engineer for award-winning replacement of 700-foot-long concrete gated run-off river dam with 25 cycle labyrinth weir dam.
- Spillway Gate Rehabilitation, Wesley E. Seale Dam, City of Corpus Christi – Lead Engineer for rehabilitation of 60 spillway gates for slab and buttress spillways.
- Forest Grove Dam, City of Athens – Resident engineer for dam project including construction of earthen embankment, concrete spillway and gates. Total construction contract was $4 million.
- Morris Sheppard Dam, Brazos River Authority – Resident Engineer for Morris Sheppard Dam. Project included three separate contracts for construction of an emergency spillway, modifications to spillway, ballast additions to the dam, rehabilitation of spillway bear trap gates and electrical system. Supervised inspection team members and geotechnical subconsultants. Also supervised construction activities on a daily basis and coordinated with the FERC and Texas Water Commission employees during site visits. Total construction contracts were $14 million.
- Gilboa Dam $18-Million Emergency Stabilization (New York), Dvirka and Bartilucci – Assistant Resident Representative for emergency dam stabilization
- Bayor Loco Dam, City of Nacogdoches – Resident Engineer for four separate construction contracts totaling $7 million. Responsibilities included construction supervision of Bayor Loco Dam, an earthen embankment dam with a concrete morning glory spillway. Project included 30-inch treated water transmission line, 10 mgd water treatment plant and 3-mg ground storage tank. Supervised inspection team members and geotechnical subconsultants. Also supervised construction activities on a daily basis and coordinated with the Texas Water Commission employees during site visits.
- Olmos Dam Stabilization, Bexar County – Lead Engineer for design and construction of 80-year-old flood control dam.
- Guadalupe Valley Hydroelectric System Dam Inspections, Guadalupe-Blanco River Authority – Provided engineering support for repairs and improvements to six hydro-electric dams.

EXPERIENCE
38 years

EDUCATION
M.S., Civil Engineering, Vanderbilt University

B.S., Civil Engineering, University of Texas at Arlington

REGISTRATIONS
Registered Professional Engineer, Texas #39453

AFFILIATIONS
American Concrete Institute

American Society of Civil Engineers

Association of State Dam Safety Officials

Victor M. Vasquez, P.E.

REPAIR SOLUTIONS

EXPERIENCE
13 years

EDUCATION
M.S.E., Civil Engineering / Geotechnical Engineering, University of Texas

B.S.E., Civil Engineering, University of Texas

REGISTRATIONS
Professional Engineer, Texas #93564

AFFILIATIONS
American Society of Civil Engineers

An Associate of the firm, Mr. Vasquez serves as the Central Division Water Resources Group Manager. His experience includes the design, rehabilitation, expansion and replacement of dams and hydraulic structures. He has served as the lead resident construction engineer for award-winning dam rehabilitation projects and has considerable experience leading dam inspections involving structural assessment, hydraulic analysis, geotechnical investigation programs and foundation scour analysis. Some of his relevant project experience includes:

- City Lake Dam Improvements, City of Temple – Lead Engineer for the inspection, evaluation and rehabilitation of 90-year-old concrete dam on the Leon River. Project included hydraulic modeling, analysis of foundation erodability, scour analysis, spillway rehabilitation, and undermining repairs. Led construction document production for dam rehabilitation bid package. Resident Engineer for construction phase.
- Lake Jim Thornton Dam Rehabilitation, City of Temple – Project Manager for the rehabilitation of large high-hazard earthen embankment dam. Project included repair of upstream scour and erosion damage and stability improvements to downstream embankment slopes.
- Rehabilitation of Flood Prevention Dam 9, Upper Brushy Creek Water Control and Improvement District – Project Engineer for modification to dam to prevent overtopping. Led the construction document development for bid packages to raise the dam. Resident Engineer for construction phase.
- Lake Brazos Dam Replacement Project, City of Waco – Lead Engineer and Resident Engineer for replacement of 700-feet long gated concrete run-of-river dam with 25 cycle labyrinth spillway dam. Managed the construction document development for bid packages. Project included in-depth geotechnical exploration and testing program, river basin mapping, hydraulic and hydro-dynamic modeling, finite-element modeling of foundation and structure, and hydraulic modeling program. Project delivery systems and value engineering reduced the project budget by half of previous USACE estimates, cut over two years off the project completion schedule, and minimized environmental impacts. Coordinated permitting through USACE, project stakeholders, and resource agencies. Project involved staged construction of foundation systems and concrete structures to allow passage of river flows while maintaining reservoir at normal pool throughout construction.
- Olmos Dam Rehabilitation, Bexar County – Project Engineer on the geotechnical investigation, post-tensioned anchor evaluation, and stability analysis for 80-year-old flood control dam. Served as Project Manager during construction of modernization improvements.
- Dam Safety Inspections FY 2000, 2001, 2004, 2005; Texas Commission on Environmental Quality – Lead inspections of significant and high-hazard dams as part of 100 dams per year inspected by Freese and Nichols for state dam safety office. Warren D. Samuelson, Dam Safety Program Coordinator, Texas Commission on Environmental Quality
- Buchanan Dam Spillway Gate Improvement Program, Lower Colorado River Authority – Lead Engineer for the optimization studies and rehabilitation program to improve the operation of 37 radial gates for 5-mile long large high-hazard hydropower dam. Program included hydraulic modeling and structural analysis of spillway gates and design of spillway dewatering systems.

- Tom Miller Dam Modernization Project, City of Austin – Project Engineer for program to modernize 105-year old hydropower dam. Project included stabilization of 500-feet long concrete overflow spillway, powerhouse stabilization, and structural strengthening of 500-feet long gated flat-slab and buttress spillway. Managed detail geotechnical investigation program, geologic mapping, destructive and non-destructive structural testing program, three-dimensional finite element analyses, modeling of crack propagation, and hydraulic model studies. Project included construction of access roads and modernization improvements within environmentally sensitive endangered species habitat. Led the construction document production for bid packages. Provided assistant resident engineering services during construction phases.
- Inks Dam Modernization Project, Lower Colorado River Authority – Engineer for in-depth geotechnical investigation program, hydraulic analyses, and design for modernization of 1800-feet long concrete hydropower dam. Project involved demolition, stabilization, and replacement of concrete spillway while maintaining the pool at normal operating elevation. Project included boring outlet service line through existing dam and construction of raw water pipeline to USFWS fish hatchery.
- Wesley Seale Dam Gates and Spillway Rehabilitation, City of Corpus Christi – Engineer for the stabilization of the spillway structures. Led document production for construction of integrated dam safety instrumentation system for remotely monitoring spillway movement and foundation pressures.
- Mansfield Dam Comprehensive Facility Review – Project Manager for comprehensive review of dam, including review of previous inspections and providing recommendations for capital improvements and operations and maintenance program.

Dustin Mortensen, P.E.

DAM SAFETY INSPECTIONS AND REPAIR SOLUTIONS

Dustin Mortensen is a Water Resources Project Manager specializing in the design, rehabilitation and inspections of dams. He has been the Project Manager for six emergency action plans and assisted with 22 additional emergency action plans in the past year alone. His experience includes evaluation and improvements to numerous dams including spillway capacity improvements, embankment stabilization and scour damage repairs. Some of his relevant experience includes:

- Dam Safety Inspections, Texas Commission on Environmental Quality – Assisted in conducting and preparing 220 dam safety inspections across the state.
- Upper Brushy Creek WCID Dam Modernization Program – Assisting with hydrologic and hydraulic model preparation, developing plans and specifications for dam improvement projects, and assisting with general representation during construction.
- Guadalupe Valley Hydroelectric System Dam Inspections, Guadalupe-Blanco River Authority – Project Engineer for inspection of six dams on the Guadalupe River. Provided recommendations for capital improvements and operation and maintenance program for the dams.
- Dam Inventory Project, City of Austin – Project Engineer in the evaluation of 66 high-hazard dams. Performing dam safety inspections, developing hydrologic models for the urban contributing watersheds and evaluating the structures discharge capacities. Evaluations were used to develop rehabilitation alternatives and a prioritized capital improvement program to begin final design and construction.
- Lake Brazos Dam Rehabilitation, City of Waco – Project Engineer in the development of construction plans and specifications for the design of a new labyrinth weir spillway to replace the old hydraulic-gated spillway.
- Choke Canyon Dam Improvements, Three Rivers, City of Corpus Christi – Project Engineer in the evaluation and design of site improvements and outlet works repairs to improve hydraulic performance for the 142-foot tall, 18,500-foot long dam. Design responsibilities included investigating cavitation damage to the service spillway conduit and erosion in spillway outlet works. Developed construction plans and specifications for a deflector to prevent recirculating pattern of flow which was damaging the conduit as well as structural repairs to the stilling basin concrete.
- Mansfield Dam Comprehensive Facility Review – Conducted comprehensive review of dam, including review of previous inspections and providing recommendations for capital improvements and operations and maintenance program.
- Lake Jim Thornton Dam Rehabilitation, City of Temple – Designed repairs to upstream scour damage and provided construction representation for large high-hazard earthen embankment dam.
- La Salada Dam – Modeled water availability for a proposed reservoir. Performed hydrologic and hydraulic model development to determine preliminary PMF and spillway size.
- Emergency Action Plan for Jim Thornton Dam, City of Temple – Project Manager and Lead Engineer for the preparation of emergency action plan.
- Emergency Action Plans for Longhorn and Decker Dam, Austin Energy – Project Manager for the preparation of emergency action plans for two dams.
- Inspection and comprehensive review of Longhorn Dam, Austin Energy – Project Manager and Lead Engineer for the inspection and evaluation of existing dam.

EXPERIENCE
7 years

EDUCATION
M.S., Hydraulics, Utah State University

B.S., Civil Engineering, Utah State University

REGISTRATIONS
Professional Engineer, Texas #100000

AFFILIATIONS
United States Society on Dams

- Emergency Action Plan for Upper and Lower George Ross Lake Dams, Circle D Civic Association – Project Manager and Lead Engineer for the preparation of emergency action plans for two dams.
- Emergency Action Plan for Shadow Dance Ranch Lake Dam – Project Manager and Lead Engineer for the preparation of emergency action plan.
- Emergency Action Plan for 21 Dams, Upper Brushy Creek WCID – Project Engineer for the preparation of emergency action plans for 21 dams.
- Emergency Action Plan for Voss Lake Dam – Project Manager and Lead Engineer for the preparation of emergency action plan.

Kimberly Patak, P.E., CFM, CPESC

EMERGENCY ACTION PLANS

EXPERIENCE
12 years

EDUCATION
B.S., Civil Engineering, University of Texas

REGISTRATIONS
Professional Engineer Texas #97367

Certified Floodplain Manager, Texas #0650-04N

Certified Professional in Erosion and Sediment Control, #6016

Ms. Patak serves as Project Manager/Engineer on a variety of water resources and municipal storm water projects. She has experience with small- and large-scale hydrologic and hydraulic analyses for open- and closed-channel systems. Her background includes dam stabilization and modernization projects, breach analyses, floodplain studies, and culvert and bridge analyses. Her computer software experience includes HEC-RAS (steady and unsteady flow regimes), HEC-HMS, ArcGIS, GEO-RAS, GEO-HMS, HEC-2, HEC-1, SITES, TR-20, HMR-52, EPA SWMM, InfoWorks, Culvert Master, StormCad, Flowmaster and AutoCad. Some of her relevant experience includes:

- Dam Modernization Program, Upper Brushy Creek Water Control Improvement District – Evaluation of 23 high-hazard and low-hazard sites within the Upper Brushy Creek watershed. Conducted hydrologic and hydraulic analyses using SITES and HEC-HMS to evaluate existing and proposed dam configurations to meet state criteria. Performing breach analyses of each structure using HEC-RAS unsteady flow for use in 21 emergency action plans.
- Brushy Creek Watershed Study, Natural Resources Conservation Service – Completed hydraulic and hydrologic analyses for SCS Sites #7 and 13a using SITES. The analyses were used to prepare recommendations for upgrading the dams to meet NRCS and state dam safety criteria.
- Lake Brazos Dam Modification, City of Waco – Project Engineer in the preliminary and final design analyses of the Lake Brazos Dam modifications. Developed calibrated hydraulic models upstream and downstream of the dam to evaluate the impact of the proposed dam to the floodplain.
- Pond Dam Safety Mitigation Program, City of Austin – Project Engineer in the evaluation of 66 potentially high-hazard dams. Performed breach analyses of each dam using the state's simplified breach methodology.
- Great Northern Dam Modernization, City of Austin – Served as Project Engineer to prepare final construction documents to meet State dam safety criteria. Served as a general representative for the modernization of the dam.
- Comburg and Tech Ridge Dam Modernizations, City of Austin – Serving as the Project Manager and technical lead for the development of construction documents to modernize two dams. The modernization includes miscellaneous repairs to the dams and the placement of turf reinforcement matting to protect the dams against overtopping.
- Upper Walnut Creek Regional Erosion/Flood Control Facility, City of Austin – Served as Project Engineer to prepare final design drawings of the 4,500-foot earthen embankment with a concrete spillway. Served as a general representative for the construction of the pond. Prepared LOMR for FEMA to reflect as-built conditions.
- Reilly Wet Pond Conversion, City of Austin – Currently serving as Design Engineer to convert a portion of an existing off-channel detention facility into a water quality wet pond. A major component in the design is to not affect the flood storage capacity in the facility. Also serving as the technical reviewer of the hydrologic and hydraulic modeling.
- Lower Bois d'Arc Creek Reservoir Planning and Preliminary Design, North Texas Municipal Water District – Served as Project Engineer in assisting with in-stream flow study and assessment of the watershed. Completed field investigations to identify channel stability throughout the watershed upstream of the proposed dam.

- Nolan Creek Site Restoration, Fort Hood Directorate of Public Works – Design Engineer on the channel restoration of Nolan Creek in Fort Hood, Texas. The design included the restoration of 1,000 linear feet of creek using natural design measures and improvements to existing infrastructure tying into the creek.
- Floyd Branch Storm Water CIP, City of Richardson – Served as a Project Engineer in the development of Floyd Branch Storm Water Capital Improvement Plan. Evaluated the existing hydrologic and hydraulic conditions of Floyd Branch and the existing storm sewer system of the Floyd Branch Watershed. Developed proposed design alternatives to improve the drainage facilities and creek crossings in the watershed.
- Olmos Dam Rehabilitation, Bexar County – Hydraulics Technical Lead on the breach analysis of Olmos Dam in the San Antonio River watershed. Reviewed the hydrologic and hydraulic models and prepared the breach inundation maps.
- Dam Breach Analyses and EAPs for Two Dams, CPS Energy – Project Engineer for developing the PMF and performing a dam breach analysis on two dams using HEC-RAS Unsteady Flow Regime. EAPs for the dams were prepared, including breach inundation maps.
- Emergency Action Plan for six Dams, Guadalupe-Blanco River Authority – Project Engineer for the preparation of emergency action plans and breach analysis for six dams.

Luis Alday, P.E.

EMERGENCY ACTION PLANS

Mr. Alday is a Senior Project Engineer specializing in water resources management and hydrology and hydraulics. Mr. Alday's experience includes project management, technical support, civil and environmental engineering design and H&H evaluations for dams and flood control structures. He also has supervised project teams with up to 30 individuals on complex public infrastructure projects. Some of his relevant experience includes:

- Dam Modernization Program, Upper Brushy Creek Water Control and Improvement District (WCID) – Engineer for ongoing contract with the WCID. Currently performing H&H analyses using SITES and HEC-HMS to evaluate existing and proposed dam configurations to meet state dam safety criteria. Performing breach analyses of each structure using HEC-RAS Unsteady Flow Regime for use in emergency action plans. Reviewing local developments design analyses to evaluate their impact to the dams.
- Breach Modeling and Emergency Action Plans (EAP) for Three Dams, City of San Antonio – Project Engineer for developing the Probable Maximum Flood (PMF) and performing a dam breach analysis using HEC-RAS Unsteady Flow Regime.
- Dam Breach Analyses and EAPs for Two Dams, CPS Energy – Project Engineer for developing the PMF and performing a dam breach analysis on two dams using HEC-RAS Unsteady Flow Regime. EAPs for the dams were prepared, including breach inundation maps.
- Emergency Action Plan for six Dams, Guadalupe-Blanco River Authority – Project engineer for the preparation of emergency action plans and breach analysis for six dams.
- South Nolan Creek at Stallion Drive, City of Killeen – Engineer for a proposed detention facility along South Nolan Creek to alleviate flooding along neighborhood streets and property. Stream stabilization along the Creek was also studied to alleviate existing erosion problems. Alternatives for the channel improvements were limited to, and within, the existing drainage easements. FNI developed two design alternatives and performed hydraulic modeling to convene the project goals of having the improvements within the existing drainage easements and reflect the City's integrated approach of implementing a linear park along the creek.
- CP-6 Detention Pond Project (Resolution Copper Mining), Superior, Arizona – Performed hydrologic and hydraulic modeling and prepared construction plans. The town of Superior received severe flooding because of new developed areas at Resolution Copper Mining, resulting in property damage. A new detention basin was designed to capture and store excessive storm water runoff for a period of no more than 24 hours following a 100-year, 24-hour storm event. The constructed detention basin drastically decreases, and, in many cases, eliminates residential and business flooding. The detention basin was designed in such way that the Arizona Department of ADEQ did not consider it as a dam. The hydrologic analysis included a characterization of the present and future watershed, including watershed delineation, drainage area, hydraulic flow path, SCS soil surveys, sedimentation rate, and land use analysis. Erosion protection was designed for channels and culvert outlets. (Prior to joining FNI)
- Detention Facility at Groundhog Mine Project (Chino Mines Company), New Mexico – Performed hydrologic analysis, surface water control design and preparation of construction plans at the Groundhog Mine site. The purpose of the hydrologic analysis and surface water control design was to provide containment of storm water runoff and contingency containment for potential pipeline failures at the Groundhog Mine site. Tasks included runoff calculations and hydraulic design of channels, culverts, and pond. Construction plans were prepared. (Prior to joining FNI)

EXPERIENCE
10 years

EDUCATION
M.S., Civil Engineering, University of Arizona

B.S., Civil Engineering, Universidad Catolica de Cordoba

REGISTRATIONS
Professional Engineer, Texas #104522