

EXHIBIT 3
EXHIBIT 5
ATTACHMENT A

Summary of Engineering Fees

BASIC SERVICES

Payment for engineering services described under Parts I, II and, III, shall be based on a **Lump Sum** basis in the following amounts:

Basic Services Task	Total Fee Amount
Part I - Preliminary Engineering Phase	\$19,983
Part II - Design Phase	\$88,496
Part III - Bidding Phase	\$11,095
Part IV - Construction Phase	\$15,040
Total Amount, Basic Services (Parts I-IV)	\$134,614

ADDITIONAL SERVICES

Compensation for the Additional Services described in Part IV shall be as follows:

Item A - Field Surveys: Shall be based on \$160.00 per 2-man crew hour, inclusive of all equipment rentals and software licensing; plus mileage charge at the IRS established rate.

Items B, E and F: Shall be billed at actual sub-consultant invoice times a multiplier of 1.15.

Items C and G: Shall be on the basis of salary cost times a multiplier of 2.45 for time expended on the task.

Item D and Project Expenses: Shall be at invoice cost times a multiplier of 1.15.

The overall amount for Additional Services will not exceed **\$94,878.00** in the following amounts per task:

Part V - Additional Service Task	Not to Exceed Amount
A. Design, Property and Construction Surveys	\$13,340
B. Geotechnical Evaluation and Report	\$15,000
C. Plat and Field Note Descriptions for Easements	\$13,778
D. Reproduction	\$1,500
E. Subsurface Utility Exploration (SUE)	\$47,500
F. Corrosion Protection Details and Tech Specs	\$2,600
G. Prepare KSC RR Permit	\$1,160
Total Amount, Additional Services (Part IV)	\$94,878

The maximum overall fee of **\$229,492** established herein shall not be exceeded without written authorization from the City, based on increased scope of services.

**EXHIBIT 5
ATTACHMENT B**

PROJECTED PLAN SHEETS

Sheet Description	No. of Sheets
COVER SHEET , LOCATION MAP AND SHEET INDEX	1
General and specific project notes sheets	1
COORDINATE CONTROL PLAN SHEET	1
Plan/Profile 20-INCH WATER MAIN DESIGN (1,900 L.F.)	6
Plan/Profile 16-INCH WATER MAIN DESIGN (900 L.F.)	3
Plan/Profile 20-INCH WATER MAIN DESIGN @ SCRIPTURE (500 L.F.)	2
WATER MAIN DETAILS AND SPECIAL DETAILS	3
TRAFFIC CONTROL PLANS (SH 380 at IH35 and Scripture at IH35)	6
EROSION CONTROL PLANS	4
Total Number of Sheets	27

EXHIBIT 5 ATTACHMENT C

ORGANIZATIONAL CHART

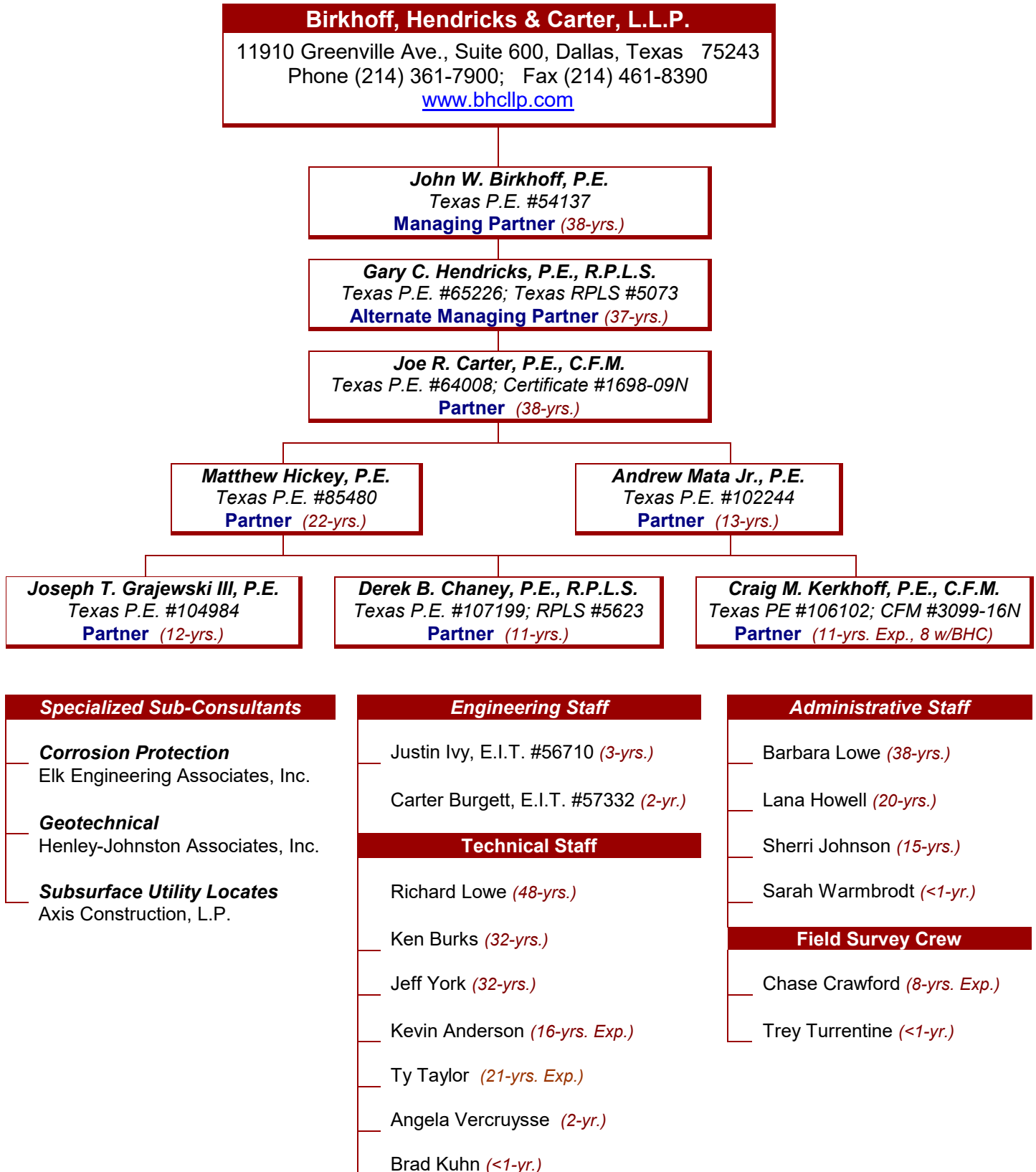


EXHIBIT 5

ATTACHMENT D

Estimate of Construction Cost

BIRKHOFF, HENDRICKS & CARTER, L.L.P.				Project No.	CntDev-DENTON
PROFESSIONAL ENGINEERS					
Client:	City of Denton			Date:	24-May-17
Project:	Project A: State Hwy 380 to IH 35 Transmission Line				
	Conceptual Plan Cost			By:	GCH
ENGINEER'S OPINION OF CONSTRUCTION COST					
Item No.	Description	Quantity	Unit	Price	Amount
General Project Description: 1) Approximately 900 linear feet of 16-inch water line (with a 400 linear foot bore under Interstate Highway 35 (IH 35)), from the southeast right-of-way corner clip of IH 35 and State Highway 380 (SH 380) to the southwest corner clip of IH 35 and SH 380. 2) Approximately 1,900 linear feet of 20-inch water line (with a 400 linear foot bore under IH 35, from the southeast right of way corner clip of IH 35 and SH 380 to a point near the intersection of the south right-of-way line of SH 380 and the east line of the KCS railroad.					
1	Furnish and Install 20-inch Water Line with Embedment by Open Cut	1,450	L.F.	\$ 150.00	\$ 217,500.00
2	Furnish and Install 20-inch Water Line with Conc. Encasement	50	L.F.	\$ 175.00	\$ 8,750.00
3	Furnish and Install 20-inch Water Line in 36-inch Steel Encasement Pipe By Boring (IH 35 Crossing)	400		\$ 525.00	\$ 210,000.00
4	Furnish and Install 16-inch Water Line with Embedment by Open Cut	500	L.F.	\$ 150.00	\$ 75,000.00
5	Furnish and Install 16-inch Water Line in 30-inch Steel Encasement Pipe By Boring (IH 35 Crossing)	400	L.F.	\$ 450.00	\$ 180,000.00
6	Connect to Existing 20-inch Water Line	2	Ea	\$ 4,500.00	\$ 9,000.00
7	Connect to Existing 16-inch or 12-inch Water Line	2	Ea	\$ 4,500.00	\$ 9,000.00
8	20-inch Butterfly Valve	3	Ea	\$ 18,000.00	\$ 54,000.00
9	16-inch Butterfly Valve	2	Ea	\$ 14,000.00	\$ 28,000.00
10	Remove and Replace Concrete Pavement	112	SY	\$ 60.00	\$ 6,720.00
11	Cathodic Protection Devices	1	LS	\$ 35,000.00	\$ 35,000.00
12	Re-establish Vegetation	10,833	S.Y.	\$ 4.50	\$ 48,750.00
13	Trench Safety System Design	1	LS	\$ 5,000.00	\$ 5,000.00
14	Trench Safety System Implementation	2,000	L.F.	\$ 5.00	\$ 10,000.00
15	Erosion Control Plan and Devices	1	LS	\$ 15,000.00	\$ 15,000.00
16	Traffic Control Measures	6	Mon	\$ 2,500.00	\$ 15,000.00
	Construction Subtotal				\$ 926,720.00
	Contingency	10%			\$ 92,672.00
	Construction Total:				\$ 1,019,392.00
				USE:	\$ 1,020,000.00

BIRKHOFF, HENDRICKS & CARTER, L.L.P.				Project No.	CntDev-DENTON
PROFESSIONAL ENGINEERS					
Client:	City of Denton			Date:	24-May-17
Project:	Project B: Scripture Road to IH 35 Transmission Line				
	Conceptual Plan Cost			By:	GCH
ENGINEER'S OPINION OF CONSTRUCTION COST					
Item No.	Description	Quantity	Unit	Price	Amount
General Project Description: Approximately 370 linear feet of 20-inch water line by boring under IH 35, connecting to an existing 20-inch water line on the east side of IH 35 and an 8-inch water line(s) on the west side of IH 35.					
1	Furnish and Install 20-inch Water Line with Embedment by Open Cut	100	L.F	\$ 150.00	\$ 15,000.00
2	Furnish and Install 20-inch Water Line with Conc. Encasement	0	L.F.	\$ 175.00	\$ -
3	Furnish and Install 20-inch Water Line in 36-inch Steel Encasement Pipe By Boring (IH 35 Crossing)	400		\$ 550.00	\$ 220,000.00
4	Connect to Existing 20-inch Water Line	1	Ea	\$ 4,500.00	\$ 4,500.00
5	Connect to Existing 8-inch or 12-inch Water Line	2	Ea	\$ 3,500.00	\$ 7,000.00
6	20-inch Butterfly Valve	2	Ea	\$ 18,000.00	\$ 36,000.00
7	12-inch Gate Valve	2	Ea	\$ 9,500.00	\$ 19,000.00
8	Remove and Replace Concrete Pavement	112	SY	\$ 60.00	\$ 6,720.00
9	Cathodic Protection Devices	1	LS	\$ 35,000.00	\$ 35,000.00
10	Re-establish Vegetation	222	S.Y.	\$ 4.50	\$ 1,000.00
11	Trench Safety System Design	1	LS	\$ 5,000.00	\$ 5,000.00
12	Tranch Safety System Implementation	100	L.F.	\$ 5.00	\$ 500.00
13	Erosion Control Plan and Devices	1	LS	\$ 5,000.00	\$ 5,000.00
14	Traffic Control Measures	6	Mon	\$ 2,500.00	\$ 15,000.00
	Construction Subtotal				\$ 369,720.00
	Contingency	10%			\$ 36,972.00
	Construction Total:				\$ 406,692.00
	Project Total:				\$ 406,692.00
				USE:	\$ 410,000.00

EXHIBIT “5” ATTACHMENT E

SCOPE OF SERVICES AND DELIVERABLES

PROJECT A: State Highway 380 to IH 35 Transmission Line

General Project Description

This project includes:

- 1) Approximately 900 linear feet of 16-inch water line (with a 400 linear foot bore under Interstate Highway 35 (IH 35)), from the southeast right-of-way corner clip of IH 35 and State Highway 380 (SH 380) to the southwest corner clip of IH 35 and SH 380.

- 2) Approximately 1,900 linear feet of 20-inch water line (with a 400 linear foot bore under IH 35, from the southeast right of way corner clip of IH 35 and SH 380 to a point near the intersection of the south right-of-way line of SH 380 and the east line of the KCS railroad.

Other than the crossing of IH 35 right-of-way, it is expected both of these water lines will be installed in a 30-foot wide water line easement dedicated to the City of Denton

PROJECT B: Scripture Road to IH 35 Transmission Line

General Project Description

The Scripture Water Line Crossing at IH 35 project includes approximately 370 linear feet of 20-inch water line by boring under IH 35, connecting to an existing 20-inch water line on the east side of IH 35 and an 8-inch water line(s) on the west side of IH 35.

NOTE: Project A and B will be designed, bid and constructed as a single project. Separate quantities and bid tabulations will be prepared; however, this scope of services is prepared under the premise the two project will be administered as one.

A project location map is attached at the end of this Exhibit A, and shows the general location and conceptual route for both projects.

Part I: Preliminary Engineering Phase

- A. Attend a project initiation meeting with City staff to introduce active project team members, confirm project requirements, schedules and general information.

- B. Obtain record drawings from the City for water lines in the vicinity of the projects.

- C. Obtain snapshot of the City's water distribution master plan in the vicinity of the projects.
- D. Obtain right-of-way strip maps for SH 380 and IH 35 from the Texas Department of Transportation
- E. Obtain both existing and proposed development plans in the vicinity of and adjoining the project locations.
- F. Make a pre-design project site visit with the City's project representatives to determine special needs of the project and field survey requirements.
- G. Prepare and deliver four (4) sets of a preliminary engineering design report. Report to include:
 - 1. Water main route schematic, including property ownership; highway rights of ways, existing easements and existing utilities.
 - 2. Discussions of special project challenges including traffic control, coordination with construction by others, coordination with TxDOT, KCS Railroad Permit requirements and coordination; and water system connections coordination.
 - 3. Evaluate pipe material options and recommendations
 - 4. Analysis of corrosion control and protection; and requirements of cathodic protection if recommended. This service will be provided by our Corrosion Control sub-consultant.

Elk Engineering Associates, Inc.

TBPE Firm No. 3434

8950 Forum Way

Fort Worth, TX 76140

817.568.8585

An itemized scope of service for the corrosion protection analysis and recommendations is attached hereto as EXHIBIT D:

- 5. Develop a preliminary opinion of probable cost based on the conceptual layout.
 - 6. Identify land rights needed based on preliminary route.
 - 7. Develop a project schedule including design phase, land rights acquisition (by City), bidding phase and construction phase elements.
- H. Meet with the City to review preliminary engineering report findings and recommendation; project budgets and project schedule. At this meeting, confirm pipe materials, fittings, valves and fire hydrant requirements.

Part II: Design Phase Services

- A. Meet with the Texas Department of Transportation to present, discuss and receive input on the conceptual alignment and layout.
- B. Prepare construction plan cover sheet with location map and sheet index.
- C. Prepare City of Denton General Project Notes and Specific Project Notes sheet
- D. Prepare horizontal and vertical coordinate control plan sheet.
- E. Prepare Preliminary Traffic Control Plan and Construction Phasing Plan
- F. Set the horizontal and vertical alignment for proposed water lines.
- G. Preparation of construction plan-profile sheets at a scale of not less than 1" = 20'
- H. Prepare construction details.
- I. Provide preliminary plans to utility companies to confirm utility company facility located from field surveys
- J. Develop erosion control plan.
- K. Prepare preliminary bid schedule, specifications and contract documents using NCTCOG Standard Specifications as the base, including Special Conditions for the project requirements; and Technical Specifications as required.
- L. Submit four (4) sets of 60% preliminary plans (11-inch x 17-inch maximum sheet size) and specifications for City review.
- M. Attend a 60% review meeting with the City to discuss the City's comments.
- N. Revise and finalize 60% plan sheets and technical specifications, incorporating City comments.
- O. Prepare submittal for TxDOT permitting.
- P. Prepare final quantity take-off and formulate opinion of probable construction cost based on final plans.
- Q. Attend an intermediate project progress meeting between the 60% review meeting and the 90% submittal.
- R. Submit four (4) sets of 90% preliminary plans (11-inch x 17-inch maximum sheet size) and specifications for City review. Prepare final bid documents including bid proposal forms, construction contract documents, construction plans and technical specifications.
- S. Attend a 90% review meeting with the City to discuss the City's comments.

- T. Conduct quality assurance and quality control review of the construction plans and specifications prior to the 60%, 90% and Final submittal to the City.
- U. Submit final bid documents including bid proposal forms, construction plans, specifications, and contract documents to the City.

Part III: Bidding Phase Services

- A. Assist the City staff in advertising for bids. This will include e-mailing “Notice to Contractors” to contractors experienced in this type of construction.
- B. Provide two (2) sets of hard copy bidding documents to City of Denton and one (1) electronic file format set.
- C. Provide responses to routine questions by bidders; and prepare and publish written addenda as required.
- D. Attend and assist during opening of bids and provide bidding tally sheets.
- E. Complete tabulation of bids received.
- F. Provide bid tabulation, to City in PDF electronic file format.
- G. Obtain the following information from the lowest bidder:
 - 1. Past work history,
 - 2. Physical resources to produce the project.
 - 3. Formulate opinion from information received and provide the City at their request, prepare a written recommendation for award of a construction contract
- H. Facilitate processing and distribution of contract documents for Contractor and City execution.
- I. After award of contract, furnish ten sets of conformed plans and specifications to the City for construction use by the City and Contractor.

Part IV: Construction Phase Services

- A. Attend the Pre-Construction Conference, including preparing an agenda.
- B. Attend up to two (2) construction site visits with follow-up site visit memorandum outlining the engineers observations and suggested action items , if any.
- C. Review shop drawings and other submittal information which the Contractor submits. This review is for the benefit of the Owner and covers only general conformance with information given by the Contract Documents. The contractor is to review and stamp their approval on submittals prior to submitting to the Engineer. Review by the Engineer does not relieve the Contractor of any responsibilities, safety measures or the necessity to construct a complete and workable facility in accordance with the Contract Documents. Review of shop drawings will be completed by review of electronic PDF files provided by the Contractor.
- D. Accompany the City during their final inspection of the project.
- E. Recommendation to City for final acceptance of work based on the project final walk through and information provided by the City's on-site representative.
- F. Utilizing on-site representative and Contractor construction record information, consultant will prepare one set of 22"x 34"reproducible record drawings on mylar and one set of electronic image files in PDF file format.

Part V: Additional Services

- A. Survey for Design, Property and Construction (Performed in house)
 - 1. **Design Surveys** to include topography, utility markings, fences, trees 2-inch and larger diameter; establish control for project, setting temporary benchmarks.

As a part of our normal topographic and field survey activities, Quality Level B Subsurface Utility Designation will be performed using DIG-TESS services to field locations of underground utilities along the project route. The DIG-TESS locates will be field survey to confirm their location in relative to the proposed improvements.

2. **Property Surveys** including locating monuments (iron rods, right-of-way monuments, pipes, fence posts) as necessary to prepare easement exhibits and field notes.
3. **Construction Surveys** including re-establishing project control points prior to construction.

Recipients of professional land surveying services under this agreement may direct complaints regarding such services to the Texas Board of Professional Land Surveying, 12100 Park 35 Circle, Building A, Suite 156, MC 230, Austin, TX 78753, Phone (512) 239-5263, Fax (512) 239-5253.

B. Geotechnical Investigation and Report (Performed by Sub-Consultant)

Perform a geotechnical analysis of the proposed site utilizing a qualified geotechnical laboratory sub-consultant to determine subsurface conditions and soil design parameters. The geotechnical analysis shall include the following:

- Subsurface exploration, including bores at varied depths, as follows:
 - Four (4) each for Project A – IH35 and SH 380 Water Lines
 - Two (2) each for Project B – IH 35 at Scripture Street Water Line.
- Laboratory tests for classification purposes and strength characteristics.

A geotechnical report will be furnished by the geotechnical engineering sub-consultant to present the results of the field and laboratory data, as well as analyses and recommendations. The data contained in the geotechnical report will be made available to contractors during the bidding process for information purposes.

EXPECTED GEOTECHINCAL SUB-CONSULTANT:

Henley Johnston & Associates, Inc.
TBPE Firm No. 1238
235 Morgan Ave.
Dallas, Texas 75203-1025
214.941.3808

C. Field Note Descriptions and Exhibits for Easements (Performed in house)

Preparation of Field Note Descriptions and Exhibit for expected permanent water line easements, and temporary construction easements required for the project. Up to five (5) easement descriptions are included for the purpose of establishing a budget for this additional service.

D. Reproduction

Printing of preliminary engineering report, preliminary plans and specifications for City review. Printing of final plans and specifications for distribution to prospective bidders and successful contractor for construction use.

E. Subsurface Utility Exploration(SUE) – Level A (Performed with a Sub-contractor)

Project A – State Highway 380 to IH 35 Transmission Line

If the project requirements dictate, SUE Quality Level A will be performed to locate the true location and depth of the existing 16-inch and 20-inch water line at each connection point and the limits and depths of one end each of the two (2) existing 36-inch diameter encasement pipes on the Quick Trip property. At total of five (5) Level A field locates are expected under this scope of service.

Project B – Scripture Road to IH 35 Transmission Line

If the project requirements dictate, SUE Quality Level A will be performed to locate the true location and depth of the existing 8-inch, 10-inch -inch and 20-inch water line at each connection point;. At total of two (2) Level A field locates are expected under this scope of service.

EXPECTED CONTRACTING SERVICE FOR FIELD LOCATES:

Axis Construction, LP
1331 Maxwell Road
Haslet, TX 76052

F. Corrosion Protection Design Details and Specifications (Performed by Elk Engineering Associates Inc.)

Prepare Corrosion Protection Detail and Technical Specifications, if project requirements dictate. See scope of services attached hereto in Exhibit D.

G. KCS Railroad Permit

Prepare, coordinate and submit the KSC Railroad permit, if the project requirements dictate. Railroad permit fees, insurance and licenses cost, if any, shall be the responsibility of the City of Denton.

Part VI: Terms and Conditions For Electronic File Transfers

Electronic files are transmitted on the terms and conditions below:

By opening, accessing, copying or otherwise using the transmitted electronic files, these terms and conditions are accepted by the user.

- A. The electronic files are compatible with the following software packages operating on a PC using Windows operating systems:
- AutoCAD 2013 • WaterCAD V8XM • Innovyze H₂O NET or InfoSewer
 - MS Word 2010, or
 - MS Excel 2010
 - Adobe Acrobat (PDF)
- B. Birkhoff, Hendricks & Carter, L.L.P. does not make any warranty as to the compatibility of these files beyond the specified release of the above stated software.
- C. Because data stored on electronic media can deteriorate undetected or be modified, Birkhoff, Hendricks & Carter, L.L.P. will not be held liable for completeness or correctness of electronic media.
- D. The electronic files are instruments of our service. Where there is a conflict between the hard copy drawings and the electronic files, Birkhoff, Hendricks & Carter, L.L.P.'s hard copy file will govern in all cases.
- E. Electronic files may only be modified in accordance with the Texas Engineering Practice Act for modifying another Engineer's design.

Part VI: Exclusions

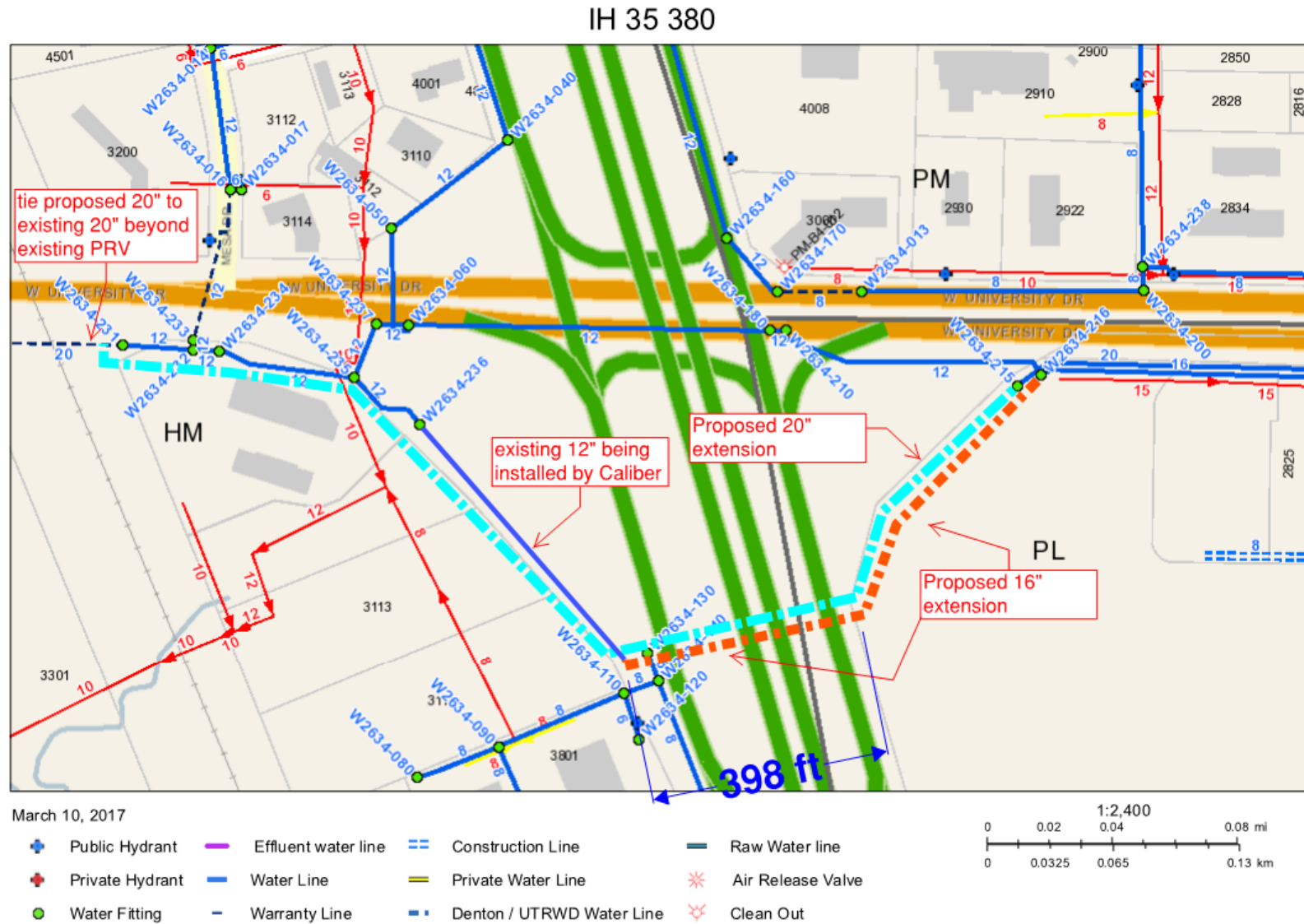
The intent of this scope of services is to include only the services specifically listed herein and none others. Services specifically excluded from this scope of services include, but are not necessarily limited to the following:

- A. "Certification" that work is in accordance with plans and specifications.
- B. Consulting services by others not included in Scope of Services.
- C. Contractor's means and methods.
- D. Environmental cleanup.
- E. Environmental impact statements and assessments.
- F. Easement acquisition.
- G. Fees for permits.
- H. Fees for publically advertising the construction project.
- I. Fiduciary responsibility to the Client.
- J. Legal services in connection with easements and easement acquisition.

- K. On-site construction safety precautions, programs and responsibility (Contractor's responsibility).
- L. Phasing of Contractor's work.
- M. Quality control and testing services during construction.
- N. Revisions and/or change orders as a result of revisions after completion of original design (unless to correct error on plans).
- O. Services in connection with condemnation hearings.
- P. Recording of easement documents.
- Q. Title searches.
- R. Trench safety designs.

Project Location Maps

Project A: State Highway 380 to IH 35 Transmission Lines



Project B: Scripture Road to IH 35 Transmission Line scripture

