AGREEMENT FOR ENGINEERING SERVICES
BETWEEN THE
CITY OF NORTH RICHLAND HILLS
AND
PACHECO KOCH CONSULTING ENGINEERS, LLC

I.

This Agreement is executed by and between the City of North Richland Hills, a municipal corporation located in Tarrant County, Texas, acting by and through Mark Hindman, its duly authorized City Manager (hereinafter called "CITY"), and **PACHECO KOCH CONSULTING ENGINEERS, LLC**, a Texas company, acting by and through **BRIAN D. O'NEILL, PE, CFM**; its duly authorized Principal (hereinafter called "ENGINEER").

WITNESSETH, that CITY desires professional engineering services in connection with the **IRON HORSE BOULEVARD WEST RECONSTRUCTION – BROWNING DRIVE TO RUFE SNOW DRIVE**

NOW, THEREFORE, CITY and ENGINEER, in consideration of the mutual covenants and agreements herein contained, do mutually agree as follows:

II. PROJECT

In this Agreement, the "PROJECT" means the engineering design of the **IRON HORSE BOULEVARD WEST RECONSTRUCTION – BROWNING DRIVE TO RUFE SNOW DRIVE** in accordance with the Public Works Design Manual, applicable CITY codes, regulations and standards.

III. BASIC AGREEMENT

ENGINEER is an independent contractor and undertakes and agrees to perform professional engineering services in connection with the PROJECT, as stated in the sections to follow. It is understood and agreed that ENGINEER is not and will not by virtue of this contract be deemed to be an agent or employee of CITY and that CITY will not be entitled to direct the performance by ENGINEER's employees or subcontractors of the tasks contemplated by this contract. All engineering services shall be performed with diligence and in accordance with professional standards customarily obtained for such services in the State of Texas. For rendering such services CITY agrees to pay ENGINEER as set forth in Section VIII: "Compensation" and Exhibit F: "Compensation".

IV. SCOPE OF ENGINEER'S SERVICES

ENGINEER shall render the professional services necessary for development of the PROJECT, in accordance with the schedule in Exhibit A: "Project Schedule" and as detailed in Exhibit B: "Basic Engineering Services", said exhibits being attached hereto and incorporated herein for all purposes. ENGINEER shall be responsible, to the level of competency presently maintained by other practicing professional engineers in the same type of work in the Dallas/Fort Worth Metroplex area, for professional and technical soundness, accuracy, and adequacy of all designs, drawings, specifications, and other work and materials furnished under this Agreement.

V. SPECIAL ENGINEERING SERVICES

The CITY will pay the ENGINEER for Special Engineering Services as indicated in Exhibit C: "Special Engineering Services", attached hereto and made a part of this Agreement.

VI. ADDITIONAL ENGINEERING SERVICES

Additional Engineering Services are defined in Exhibit D: "Additional Engineering Services", attached hereto and made a part of this Agreement. No Additional Engineering Services are authorized unless authorization for specified additional services are provided to ENGINEER by CITY in writing and approved by CITY.

VII. SCOPE OF CITY SERVICES

The City will furnish items and perform those services as identified in Exhibit E: "Services to be provided by the City", attached hereto and made a part of this Agreement.

VIII. COMPENSATION

A. In consideration of the services described herein, CITY shall pay and ENGINEER shall receive compensation in accordance with Exhibit F: "Compensation".

B. Total payments including without limitation reimbursable expenses, to ENGINEER by CITY for the services stated in Section IV and Section V above shall not exceed **THREE HUNDRED TWO THOUSAND TWO HUNDRED FORTY-ONE ($302,241.00)**.

C. CITY may authorize additional services to be provided by ENGINEER as mutually agreed upon by the parties. Any authorization for additional services shall be given to ENGINEER by CITY in writing and approved by CITY.

D. CITY and ENGINEER understand that the variables in ENGINEER's cost of performance may fluctuate. The parties agree that any fluctuation in ENGINEER's costs will in no way alter ENGINEER's obligations under this Agreement nor excuse performance or delay on ENGINEER's part.

IX. OWNERSHIP OF DOCUMENTS

All completed or partially completed evaluations, reports, surveys, designs, drawings and specifications prepared or developed by ENGINEER under this Agreement, including any original drawings, computer disks, mylars or blue lines, shall become the property of CITY when the Agreement is concluded or terminated, and may be used by CITY in any manner it desires; provided, however, that ENGINEER shall not be liable for the use of such drawings for any project other than the PROJECT described in this Agreement.

X. INDEMNITY

ENGINEER AND ITS SUBCONSULTANTS SHALL INDEMNIFY AND HOLD CITY AND ALL OF ITS OFFICERS, AGENTS, SERVANTS, AND EMPLOYEES HARMLESS FROM ANY LOSS, DAMAGE, LIABILITY OR EXPENSES, ON ACCOUNT OF DAMAGE TO PROPERTY AND INJURIES, INCLUDING DEATH, TO ANY AND ALL PERSONS, INCLUDING BUT NOT LIMITED TO OFFICERS, AGENTS OR EMPLOYEES OF ENGINEER OR ITS SUBCONSULTANTS, AND ALL OTHER PERSONS PERFORMING ANY PART OF THE WORK AND IMPROVEMENTS, WHICH MAY ARISE OUT OF ANY NEGLIGENT ACT, ERROR, OR OMISSION IN THE PERFORMANCE OF ENGINEER'S PROFESSIONAL SERVICES OR IN THE PREPARATION OF EVALUATIONS, REPORTS, SURVEYS, DESIGNS, WORKING DRAWINGS, SPECIFICATIONS AND OTHER ENGINEERING DOCUMENTS INCORPORATED INTO ANY IMPROVEMENTS CONSTRUCTED IN ACCORDANCE THEREWITH; ENGINEER SHALL DEFEND AT ITS OWN EXPENSE ANY SUITS OR OTHER PROCEEDINGS BROUGHT AGAINST CITY AND ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES OR ANY OF THEM ON ACCOUNT OF THE FOREGOING DESCRIBED NEGLIGENT ACTS, ERRORS OR OMISSIONS, AND SHALL PAY ALL EXPENSES AND SATISFY ALL JUDGMENTS WHICH MAYBE INCURRED BY OR RENDERED AGAINST CITY, ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES OR ANY OF THEM, IN CONNECTION WITH THE FOREGOING DESCRIBED NEGLIGENT ACTS, ERRORS, OR OMISSIONS; PROVIDED AND EXCEPT HOWEVER, THAT THIS INDEMNIFICATION PROVISION SHALL NOT BE CONSTRUED AS REQUIRING ENGINEER TO INDEMNIFY OR HOLD CITY OR ANY OF ITS OFFICERS, AGENTS, SERVANTS OR EMPLOYEES HARMLESS FROM ANY LOSS, DAMAGES, LIABILITY OR EXPENSE, ON ACCOUNT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS CAUSED BY DEFECTS OR DEFICIENCIES IN DESIGN CRITERIA AND INFORMATION FURNISHED TO ENGINEER BY CITY, OR ANY SIGNIFICANT DEVIATION IN CONSTRUCTION FROM ENGINEER'S DESIGNS, WORKING DRAWINGS, SPECIFICATIONS OR OTHER ENGINEERING DOCUMENTS.

Approval by CITY of contract documents shall not constitute or be deemed to be a release of the responsibility and liability of ENGINEER, its officers, agents, employees and subconsultants, for the accuracy and competency of the services performed under this Agreement, including but not limited to evaluations, reports, surveys, designs, working drawings and specifications, and other engineering documents. Approval by CITY shall not be deemed to be an assumption of such responsibility and liability by CITY for any error, omission, defect, deficiency or negligence in the performance of ENGINEER's professional services or in the preparation of the evaluations, reports, surveys, designs, working drawings and specifications or other engineering documents by ENGINEER, its officers, agents, employees and subconsultants, it being the intent of the parties that approval by CITY signifies CITY's approval of only the general design concept of the improvements to be constructed.

XI. INSURANCE

For the duration of this Agreement, ENGINEER shall maintain the following minimum public liability and property damage insurance which shall protect ENGINEER, its subcontractors, its subconsultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement. ENGINEER shall provide a Certificate of Insurance verifying that the following minimum limits of coverage are provided:

A. Worker's Compensation Insurance:

Statutory requirements	($ 300,000 minimum)

B. Comprehensive General Liability and Bodily Injury:

Bodily Injury	$ 500,000 per person, or
	$ 1,000,000 per occurrence; and
Property Damage	$ 100,000 each occurrence; or
Combined Single Limit	$ 1,000,000 aggregate

C. Comprehensive Automobile Liability:

Bodily Injury	$ 500,000 per person, or
	$ 1,000,000 per occurrence; and
Property Damage	$ 100,000 each occurrence; or
Combined Single Limit	$ 1,000,000 aggregate

D. Professional Liability:

Errors and Omissions	$ 1,000,000

The Certificate of Insurance shall contain a provision that such insurance cannot be canceled or modified without thirty (30) days prior written notice to CITY.

XII. ARBITRATION

No arbitration arising out of or relating to this Agreement shall occur without both parties' written approval.

XIII. TERMINATION AND SUSPENSION

A. CITY may terminate this Agreement at any time for convenience or for any cause by a notice in writing to ENGINEER. Either CITY or ENGINEER may terminate this Agreement in the event the other party fails to perform in accordance with the provisions of this Agreement. Upon receipt of such notice, ENGINEER shall immediately discontinue all services and work and the placing of all orders or the entering into contracts for supplies, assistance, facilities, and materials, in connection with the performance of this Agreement and shall proceed to cancel promptly all existing contracts insofar as they are chargeable to this Agreement.

B. If CITY terminates this Agreement under the foregoing Paragraph A, CITY shall pay ENGINEER a reasonable amount for services performed prior to such termination, which payment shall be based upon the payroll cost of employees engaged on the work by ENGINEER up to the date of termination of this Agreement and for subcontract and reproduction in accordance with the method of compensation stated in Section VIII: "Compensation" hereof. In the event of termination, the amount paid shall not exceed the amount appropriate for the percentage of work completed.

XIV. SUCCESSORS AND ASSIGNS

CITY and ENGINEER each bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Agreement; except as above, neither CITY nor ENGINEER shall assign, sublet or transfer its interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of CITY.

XV. AUTHORIZATION, PROGRESS, AND COMPLETION

CITY and ENGINEER agree that the PROJECT is planned to be completed in accordance with the Exhibit A: "Project Schedule" which is attached hereto and made a part hereof. ENGINEER shall employ manpower and other resources and use professional skill and diligence to meet the schedule; however, ENGINEER shall not be responsible for schedule delays resulting from conditions beyond ENGINEER's control. With mutual agreement, CITY

and ENGINEER may modify the Project Schedule during the course of the PROJECT and if such modifications affect ENGINEER's compensation, it shall be modified accordingly, subject to City Council approval.

For Additional Engineering Services, the authorization by CITY shall be in writing and shall include the definition of the services to be provided, the schedule for commencing and completing the services and the basis for compensation as agreed upon by CITY and ENGINEER.

It is understood that this Agreement contemplates the full and complete Engineering services for this PROJECT including any and all services necessary to complete the work as outlined in Exhibit B: "Basic Engineering Services". Nothing contained herein shall be construed as authorizing additional fees for services to provide complete services necessary for the successful completion of this PROJECT.

XVI. SUBCONTRACTS

ENGINEER shall be entitled, only if approved by CITY, to subcontract a portion of the services to be performed by ENGINEER under this Agreement.

XVII. RIGHT TO AUDIT

ENGINEER agrees that CITY 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 directly pertinent books, design calculations, quantity take-offs, documents, papers and records of ENGINEER involving transactions relating to this Agreement. ENGINEER agrees that CITY 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. CITY shall give ENGINEER reasonable advance notice of intended audits.

ENGINEER further agrees to include in all its subconsultant agreements hereunder a provision to the effect that the subconsultant agrees that CITY 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, design calculations, quantity take-offs, documents, papers and records of such subconsultant, involving transactions to the subcontract, and further, that CITY shall have access during normal working hours to all subconsultant facilities, and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this article. CITY shall give subconsultant reasonable advance notice of intended audits.

XVIII. EXHIBITS

Both parties agree to the following exhibits and as such, the following exhibits are made a part of this Agreement:

Exhibit "A"	Project Schedule
Exhibit "B"	Basic Engineering Services
Exhibit "C"	Special Engineering Services
Exhibit "D"	Additional Engineering Services
Exhibit "E"	Services to be provided by the City
Exhibit "F"	Compensation
Exhibit "G"	Form 1295

XIX. MISCELLANEOUS

A. Authorization to Proceed. Signing this Agreement shall be construed as authorization by CITY for ENGINEER to proceed with the work, unless otherwise provided for in the authorization.

B. Legal Expenses. In the event legal action is brought by CITY or ENGINEER against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions of this Agreement, the prevailing party in any litigation between the parties to this agreement shall be entitled to reasonable attorney fees.

C. Notices. Any notice or correspondence required under this Agreement shall be sent by certified mail, return receipt requested, or by personal delivery and shall be effective upon receipt, if addressed to the party receiving the notice or correspondence at the following address:

If to ENGINEER:
Pacheco Koch Consulting Engineers, LLC
C/O General Counsel
12701 Whitewater Drive, Suite 300
Minnetonka, Minnesota 55343

If to CITY:
City of North Richland Hills
Attn: City Staff
Public Works & Engineering Department
4301 City Point Drive
North Richland Hills, Texas 76180

With Copies to the City Manager and City Attorney at the same address.

D. Independent Contractor. ENGINEER shall perform services hereunder as an independent contractor, and not as an officer, agent, servant or employee of the CITY and ENGINEER shall have the exclusive right to control services performed hereunder by ENGINEER, and all persons performing same, and shall be responsible for the negligent acts and omissions of its officers, agents, employees, and subconsultants. Nothing herewith shall be construed as creating a partnership or joint venture between CITY and ENGINEER, its officers, agents, employees and subconsultants; and the doctrine of respondent superior has no application as between CITY and ENGINEER.

E. Venue. This Agreement shall be governed by the laws of the State of Texas, and venue in any proceeding relating to this Agreement shall be in Tarrant County, Texas.

F. Entire Agreement. This Agreement represents the entire agreement between CITY and ENGINEER and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both CITY and ENGINEER.

G. Severability. If any provision in this Agreement shall be held illegal by a valid final judgment of a court of competent jurisdiction, the remaining provisions shall remain valid and enforceable.

H. Disclosure. By signature of this Agreement, ENGINEER warrants to CITY that it has made full disclosure in writing of any existing conflicts of interest or potential conflicts of interest, including but not limited to personal financial interests, direct or indirect, in property abutting the PROJECT and business relationships with abutting property owners. ENGINEER further warrants that it will make disclosure in writing of any conflicts of interest which develop subsequent to the signing of this Agreement and prior to final payment under this Agreement.

This Agreement is executed in two (2) counterparts.

IN TESTIMONY WHEREOF, the parties hereto have executed this Agreement this the _____ day of _____, 2022.

CITY OF NORTH RICHLAND HILLS

(CITY)

By: _____
Mark Hindman, City Manager

Date: _____

ATTEST:

_____
Alicia Richardson, City Secretary

APPROVED TO FORM AND LEGALITY:

_____
Maleshia B. McGinnis, City Attorney

CITY SEAL

PACHECO KOCH CONSULTING ENGINEERS, LLC
(ENGINEER)

By: _____
Brian D. O'Neill, P.E., CFM Director, Public Infrastructure

Date: _____

ATTEST:

_____
Notary Public in and for the State of Texas

_____
Allie Elizabeth Wood

My Commission Expires:

_____

CORPORATE SEAL

EXHIBIT A

PROJECT SCHEDULE
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

PROJECT SCHEDULE

The Scope of Services for this PROJECT is based on the following schedule:

Activity	Due Date
Notice To Proceed from City	**April 4, 2022**
Topographic Survey	**May 16, 2022**
Submit Preliminary 60% Plans	**June 30, 2022**
Receive City Review Comments	**July 22, 2022**
Submit 95% Plans	**September 2, 2022**
Receive Final City Review Comments	**September 23, 2022**
Submit Final Plans for Bid	**October 7, 2022**
Advertise for Construction Bids	**November 7, 2022**
Open Construction Bids	**November 21, 2022**
Begin Construction	**January 10, 2023**

Note: Due dates shown are submittal dates of task activities listed.

EXHIBIT B

BASIC ENGINEERING SERVICES
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

The scope of work for BASIC Engineering Services involves Preliminary and Final Design, Project Plans, Specifications and Estimates on Iron Horse Boulevard West. The project consists of roadway reconstruction of Iron Horse Boulevard West from Browning Drive to Rufe Snow Drive. The roadway reconstruction is anticipated to be reconstruction of the existing street and not roadway expansion. The section is anticipated to include 4 11' lanes with a 14' median. Pedestrian facilities are anticipated along this corridor and will be constructed on both sides of the roadway. The project terminus points are approximately at the curb returns to Browning Drive and at the concrete portion of Iron Horse as it approaches Rufe Snow Drive. Pedestrian facilities would continue to the intersection. The total roadway length is approximately 2,200 linear feet. (PROJECT)

I. PROJECT MANAGEMENT

Manage the Team:

- Lead, manage and direct design team activities
- Ensure quality control is practiced in performance of the work
- Communicate internally among team members
- Allocate team resources

Communications and Reporting:

- Attend a pre-design project kickoff meeting with CITY staff to confirm and clarify scope, understand CITY objectives, and ensure economical and functional designs that meet CITY requirements.
- Conduct review meetings with the CITY at the end of each study/design phase.
- Prepare and submit monthly invoices in the format acceptable to the CITY.
- Prepare and submit monthly progress reports.
- Prepare and submit baseline Project Schedule initially and Project Schedule updates.
- Coordinate with other agencies and entities as necessary for the design of the proposed infrastructure and provide and obtain information needed to prepare the design.
- With respect to coordination with permitting authorities, ENGINEER shall communicate with permitting authorities such that their regulatory requirements are appropriately reflected in the designs.
- Meet with City engineering staff and obtain any additional design criteria, available GIS information, pertinent utility plans, street plans, plats and

right-of-way maps, existing easement information, previous studies prepared by others, as-built plans for portions of surrounding infrastructure, historical drainage complaints and other information available for the project area.

II. PRELIMINARY DESIGN (60% SUBMITTAL)

- Prepare preliminary construction plans. Prepare the following sheets at the engineering scale indicated:
  - Cover Sheet
  - General Notes
  - Quantity Sheet
  - Project Layout & Control Sheet
  - Typical Sections
  - Roadway plan and profile sheets.
    Scale 1" = 20' Horizontal; 1" = 2' Vertical
  - Roadway Cross Sections
    Scale 1" = 20' Horizontal; 1" = 4' Vertical
  - Drainage Area Map
  - Drainage plan and profile sheets.
    Scale 1" = 20' Horizontal; 1" = 2' Vertical
  - Pavement Marking Plan
  - Construction Sequencing Plan
  - Erosion Control Plans
  - Tree Protection and Mitigation Plans
  - Detail sheets

  Information required can be combined on sheets if the information can be clearly shown and is approved by OWNER's project manager.

- Assemble OWNER standard construction contract documents and modify special technical specifications, if needed, for the project (if any).

- Prepare an estimate of construction quantities and develop the preliminary opinion of probable construction costs.

- Submit two (2) full sized 22"x34" sets of preliminary 60% plans, one (1) set of preliminary construction contract documents, special conditions and preliminary opinion of probable construction costs to the OWNER for review. One (1) set of half size (11"x17") plans will be submitted with the 60% plan submittal.

III. FINAL DESIGN (90% & 100% SUBMITTALS)

- Revise preliminary plans incorporating comments from the OWNER.

- Submit two (2) full sized 22”x34” sets of 90% plans, one (1) set of 90% construction contract documents and 90% opinion of probable construction costs for OWNER review. One (1) set of half size (11”x17”) plans will be submitted with the 90% plan submittal.

- Incorporate final OWNER review comments into the plans and construction contract documents to finalize construction plans for proposed improvements.

- Finalize construction contract documents including OWNER standard specifications, special technical specifications and special conditions (if any).

- Estimate of final construction quantities and final opinions of construction cost.

- Submit (1) sealed (100%) set of final plans and construction documents.

IV. DIRECT EXPENSES

Included in this item are usual and customary expenses normally incurred during performance of the services described. These expenses could include courier delivery charges, copies of existing engineering plans and/or maps, printing and reproduction (either in-house or by reproduction company) and mileage.

EXHIBIT C

SPECIAL ENGINEERING SERVICES
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

The scope of work for SPECIAL Engineering Services involves Topographic Survey for Design and Geotechnical Investigation.

I. FIELD SURVEY

1. Establish Survey Control

   Establish survey control along each street or intersecting streets as necessary. These control points will be established based on and tied to established OWNER horizontal and vertical control points. The horizontal control for each street in the PROJECT will be established on the State Plane Coordinate System (NAD'83 Surface Coordinates) from OWNER monumentation. Control points will be established using 5/8" iron rods, 18" long. These control points will be established using GPS and conventional surveying methods.

2. Benchmark Loop

   A benchmark circuit will be established, based on the vertical control points provided. These benchmarks will be located outside of the construction limits and put in such a place so that they may be easily found for future use. Benchmarks will be located at about 1,000' intervals and will be referenced. Benchmarks shall be looped in accordance with good surveying practice prior to field surveys. All control leveling work will be performed using appropriate modified second order procedures with closed loops into the PROJECT vertical control.

3. Existing Streets, Driveways and Right-of-Way

   Existing streets, driveways and right-of-way will be profiled and cross-sectioned at 50' intervals and to a point at least 20' outside of the Right-of-Way line. Low points, high points and other unique features will be noted. Pavement surfacing will be determined by visual inspection only. Intersecting streets will be profiled and cross-sectioned to a point at least 50' beyond the roadway being replaced.

4. Existing Drainage Channels and Drainage Area Verification

Existing drainage channels and swales will be profiled and cross sectioned within the immediate vicinity of the PROJECT, 100' upstream and downstream. Low points, high points and any other unique features will be noted. Additional surveying may be necessary to verify the limits of drainage areas.

5. Existing Underground and/or Overhead Utilities

   Utility OWNER's will be contacted, on an as-needed basis, and requested to assist in locating existing utilities identified for the PROJECT. Above ground features of existing utilities within the proposed Right-of-Way for the limits of the PROJECT will be field located, including elevations of sanitary and storm sewer manhole flowlines and water/gas valve stems. The location of utilities between above ground features will be determined from visual inspection, utility records, and/or from locations determined by the respective utility companies. The utilities will be tied to the PROJECT control points and depths determined in sufficient detail to identify potential conflicts with proposed construction. The excavation and other costs required to expose or probe the underground utilities will be the responsibility of others.

6. Right-of-Way

   Right-of-Way lines along the PROJECT will be located. This information will be included on the PROJECT's plan sheets.

7. Existing Storm Sewers and Culverts

   The size of existing culverts will be measured and tied along with existing headwalls, channels and aprons. The size, length, and flowline elevation of existing storm sewers will be surveyed. Drainage areas contributing to the PROJECT or conveying water from the PROJECT will be determined through field investigations and available topographic mapping.

8. Temporary Signs, Traffic Control, Flags, Safety Equipment, Etc.

   The Surveyor will exercise care in completing this surveying assignment by using traffic control devices, flags and safety equipment when necessary.

II. GEOTECHNICAL INVESTIGATION

- Through a qualified subcontractor, CONSULTANT shall:
  - Perform soil investigations, including field and laboratory tests, borings, related engineering analysis and recommendations for determining soil conditions will be made.
  - Field and laboratory analysis will be made at reasonable intervals along the project alignment.
  - A pavement section design will be prepared based on the results.
  - Recommendations regarding design of trench safety and below ground structure, and suitability of pipe materials and construction technologies will be prepared based on the results.

EXHIBIT D

ADDITIONAL ENGINEERING SERVICES
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

1. Subsurface Utility Engineering:

CONSULTANT will provide Subsurface Utility Engineering (S.U.E.) Services through the use of a qualified sub-consultant. The S.U.E. will be performed to ASCE standard guidelines (ASCE 38-02). The deliverables for this project will be electronic files only in AutoCAD format. All Right-of-Entry Coordination is to be provided by OWNER. Non-Routing Traffic Control Measures are not included in the scope of services. As described in the publication, four levels have been established to describe the quality of utility location and attribute information used on plans. The four quality levels are as follows:

- Quality Level D (QL"D") – Information derived from existing utility records;
- Quality Level C (QL"C") – QL"D" information supplemented with information obtained by surveying visible above-ground utility features such as valves, hydrants, meters, manhole covers, etc.
- Quality Level B (QL"B") – Two-dimensional (x, y) information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as "designating" this quality level provides the horizontal position of subsurface utilities within approximately one foot.
- Quality Level A (QL"A") – Three dimensional (x, y, z) utility information obtained utilizing non-destructive vacuum excavation equipment to expose utilities at critical points which are then tied down by surveying. Also known as "locating", this quality level provides precise horizontal and vertical positioning of utilities within approximately 0.05 feet.

2. Illumination Conduit Design

Roadway Illumination Design (ONCOR Maintained)

a. A site visit will include pictures of the area identify any adjacent lighting systems and verify utility locations.
b. Data Collection:
    i. Base files will be collected from the OWNER showing roadway geometry, existing and future utility locations, right of way, and sidewalk locations.
c. The CONSULTANT will coordinate with the utility company to determine where electrical services will be located as well as obtaining all standards for the design which may include foundation, conduit, and ground boxes.

d. The CONSULTANT will prepare a 90% design package containing the following sheets for inclusion in the illumination design package:
    i. Illumination Layout Sheets including existing utilities (utility poles, storm drains, fire hydrants, etc.), illumination pole foundation locations, conduit, and ground boxes. All foundations will be spaced based upon OWNER standard spacing.
    ii. Maintaining agency/TxDOT/ONCOR Standard Sheets.
    iii. The design package will be submitted in PDF format.
e. The CONSULTANT will incorporate comments from the 90% plans and prepare a 95% design package.
f. The CONSULTANT will incorporate comments from the 95% plans and prepare a signed and sealed design package.
g. The CONSULTANT will be available to review up to two roadway lighting submittals from the contractor.

3. TDLR/RAS Review

a. The CONSULTANT will coordinate and provide plans to a Registered Accessibility Specialist (RAS). The plans will be reviewed in accordance with Texas Accessibility Standards (TAS). The RAS will follow up after construction is complete to provide an inspection and complete TDLR forms.

4. Bid Phase Services

CONSULTANT will support the bid phase of the project as follows.

a. Bid Advertisement:
- CONSULTANT shall prepare and submit to OWNER a draft Bid Advertisement for publishing by the OWNER.

b. Bidder Assistance:
- The CONSULTANT will develop and implement procedures for receiving and answering bidders' questions and requests for additional information. The procedures shall include a log of all significant bidders' questions and requests, and the response thereto. The CONSULTANT will provide technical interpretation of the contract bid documents and will prepare proposed responses to all bidders' questions and requests, in the form of addenda.
- Attend the prebid conference in support of the OWNER.
- Attend the bid opening in support of the OWNER.

c. Bid Analysis and Recommendation of Award:
- The CONSULTANT will tabulate and review all bids received for the construction project, assist the OWNER in evaluating bids, and recommend award of the contract.
- The CONSULTANT will assist the OWNER in determining the qualifications and acceptability of prospective contractors, subcontractors, and suppliers.
- The CONSULTANT shall make a recommendation of award to the OWNER.

d. Conformed Construction Documents:

- Upon award of a contract by the OWNER, the CONSULTANT shall assist with the execution, assembly and distribution of the construction contract documents for the Project.

5. Construction Administration

a. Preconstruction Conference:
   - The CONSULTANT shall attend the preconstruction conference.

b. Site Visits:
   - The CONSULTANT shall visit the project site at appropriate intervals as construction proceeds to observe and report on progress. It is estimated that three (3) visits during construction will be made by the CONSULTANT.

c. Shop Drawing and Lab Report Review
   - The CONSULTANT shall review shop and erection drawings submitted by the contractor for compliance with design concepts. The CONSULTANT shall review laboratory, shop, and mill test reports on materials and equipment.

d. Instructions to Contractor
   - The Engineer shall provide necessary interpretations and clarifications of contract documents, review change orders and make recommendations as to the acceptability of the work, at the request of the OWNER.

5. Final Inspection
   - The Engineer shall attend final inspection of the Project with representatives of the OWNER and the construction contractor.

6. Record Drawings:
   - Prepare construction “Record Drawings” based upon mark-ups and information provided by the construction contractor(s). Submit one (1) set of the record drawings (with “record drawing stamp” bearing the signature of the Engineer and the date) to the OWNER on a CD-ROM disk or flash drive containing scanned 22”x34” black and white PDF images.

6. Temporary Signal Design

a. Attend one (1) pre-design kickoff meeting with OWNER to discuss key signal design requirements. A site visit will be performed to verify roadway and utility information provided by the CLIENT as base files. Information verified will include lane configurations, utility locations and existing signal equipment.

b. Prepare 60% temporary signal design plans:
   i. Develop plan sheets for a temporary signal design based on survey and proposed pavement base files.

ii. The 60% temporary signal design plans will detail utilizing existing equipment where possible as well as the location of poles and foundations, signal cabinet, power source, signal heads, vehicle detection, and pedestrian accommodations.
iii. Prepare the following plan sheets:
1. General notes
2. Summary of estimated quantities
3. Existing conditions and removals plan sheet
4. Temporary Signal Design plan sheet
5. Temporary Signal design summary tables and charts
6. CITY and/or TxDOT standard detail sheets
7. Bid documents (provided upon request for additional fee)
8. Prepare an estimate of construction quantities and develop the preliminary opinion of probable construction costs.

c. Prepare 90% temporary signal design plans:
i. Revise 60% plans, incorporating comments from the OWNER.
ii. Prepare 90% plans
iii. Bid documents (provided upon request for additional fee)
iv. Prepare an estimate of construction quantities and develop the preliminary opinion of probable construction costs.

d. Prepare 100% temporary signal design plans:
i. Revise 90% plans, incorporating comments from the OWNER.
ii. Provide 100% signed and sealed plans.
iii. Bid documents (provided upon request for additional fee)
iv. Prepare estimates of final construction quantities and final opinions of construction cost.

e. Once approved, submit:
i. A PDF copy of the bid documents
ii. An electronic copy of the signed and sealed 100% plans in PDF format

7. ROW Document Preparation (Per Parcel)(If Requested)

a. The CONSULTANT shall prepare the right-of-way and easement exhibits necessary for the selected alternative.

8. Easement Document Preparation (Per Parcel)(If Requested)

a. The CONSULTANT shall prepare the right-of-way and easement exhibits necessary for the selected alternative.

EXHIBIT E

SERVICES TO BE PROVIDED BY THE CITY
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

The CITY will provide the following services to the ENGINEER in the performance of the PROJECT upon request:

I. Provide any existing data the CITY has on file concerning the PROJECT, if available.

II. Provide any available As-Built plans for existing streets and drainage facilities, if available.

III. Provide any available As-Built plans for existing water and sanitary sewer mains, if available.

IV. Assist the ENGINEER, as necessary, in obtaining any required data and information from TxDOT and/or other local utility companies.

V. Provide standard details and specifications in digital format.

VI. Assist the ENGINEER by requiring appropriate utility companies to expose underground utilities within the Right-Of-Way, when required.

VII. Give prompt written notice to ENGINEER whenever CITY observes or otherwise becomes aware of any development that affects the scope or timing of the ENGINEER's services.

EXHIBIT F

COMPENSATION
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

I. COMPENSATION

For and in consideration of the services to be rendered by the ENGINEER, the CITY shall pay, and the ENGINEER shall receive the compensation hereinafter set forth for the Design and Construction Phases of the work and additionally for Special Engineering Services and/or Additional Engineering Services that are in addition to the Basic Engineering Services. All remittances by CITY of such compensation shall either be mailed or delivered to the ENGINEER's home office as identified in the work authorization.

A. Compensation for the Basic Engineering Services shall be completed for a lump sum not to exceed fee of **$194,271.00**.

B. Compensation for Special Engineering Services not covered by the Basic Engineering Services provided herein above shall be as follows:

Design Surveys: Lump Sum Fee of **$32,400.00**
Geotechnical Engineering: Lump Sum Fee of **$9,000**

C. Compensation for Additional Engineering Services not covered by Basic Engineering Services or Special Engineering Services provided herein shall be as follows:

Subsurface Utility Engineering: Maximum not to exceed Fee of **$12,850.00**
Illumination Design: Maximum not to exceed Fee of **$6,500.00**
TDLR Permitting: Maximum not to exceed Fee of **$2,500.00**
Bidding Phase Assistance: Maximum not to exceed Fee of **$3,580.00**
Construction Phase Assistance: Maximum not to exceed Fee of **$18,140.00**
Temporary Signal Design: Maximum not to exceed Fee of **$12,000.00**
ROW Document Preparation: **2** Parcels at **$3,000.00** each for a maximum not to exceed Fee of **$6,000.00**
Easement Document Preparation: **2** Parcels at **$2,500.00** each for a maximum not to exceed Fee of **$5,000.00**

For all direct non-labor and/or subcontract expense, including mileage, travel and living expenses at invoice or internal office cost times a multiplier of **1.1**.

Payments to the ENGINEER for authorized Additional Engineering Services will be due monthly, upon presentation of monthly statement by the ENGINEER for such services.

II. AUDIT AND SCOPE CHANGE

Cost budgets are set forth above and are subject to the audit provisions of this Agreement, Section XVII: “Right to Audit”. It is also understood that the cost budgets are based upon ENGINEER's best estimate of work and level of effort required for the proposed scope of services. As the PROJECT progresses, it is possible that the level of effort and/or scope may differ up or down from that assumed. If there are no scope changes, the ENGINEER shall receive the full amount of lump sum and unit price fees, regardless of the cost. If at any time it appears that the cost budget may be exceeded, the ENGINEER shall notify the CITY as soon as possible in writing.

If there is a scope change, the ENGINEER shall notify the CITY as soon as possible in writing and shall include a revised scope of services, estimated cost, revised fee schedule, and a revised time of completion. Upon negotiation and agreement via a signed amendment by both parties, the cost budget, fee schedule, and total budget will be adjusted accordingly.

CITY shall not be obligated to reimburse the ENGINEER for costs incurred in excess of the cost budget. The ENGINEER shall not be obligated to perform on any change in scope of work or otherwise incur costs unless and until the CITY has notified the ENGINEER in writing that the total budget for Engineering Services has been increased and shall have specified in such notice a revised total budget which shall thereupon constitute a total budget for Engineering Services for performance under this Agreement.

A detailed scope of work, total budget, and schedule will be prepared by the ENGINEER and executed by the CITY if the ENGINEER is authorized to perform any Additional Engineering Service(s).

III. PAYMENT

Payments to the ENGINEER will be made as follows:

A. Invoice and Time of Payment

Monthly invoices will be issued by the ENGINEER for all work performed under this Agreement. Invoices are due and payable on receipt. Invoices will be prepared in a format approved by the CITY prior to submission of the first monthly invoice. Once approved, the CITY agrees not to require changes in the invoice format, but reserves the right to audit. Monthly payment of the fee will be in proportion to the percent completion of the total work (as indicated in Exhibit B: “Basic Engineering Services”).

Upon completion of services enumerated in Exhibit B: "Scope of Basic Engineering Services", the final payment of any balance will be due upon receipt of the final invoice.

EXHIBIT G

FORM 1295
FOR
IRON HORSE BOULEVARD WEST RECONSTRUCTION
BROWNING DRIVE TO RUFE SNOW DRIVE

[Form 1295 is submitted as the following page]