

**CONTRACT DOCUMENTS  
AND  
CONSTRUCTION SPECIFICATIONS  
FOR  
MAIN STREET  
PAVING, WATER, SEWER, AND  
DRAINAGE IMPROVEMENTS  
(AMUNDSON DRIVE TO  
AMUNDSON ROAD)  
FOR THE  
CITY OF NORTH RICHLAND HILLS**



**MAY 2024**

**City of North Richland Hills  
Public Works Department**

**Project RFB 24-023**

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# **SECTION I**

## **NRH PURCHASING GUIDANCE**



**PURCHASING DEPARTMENT**

**REQUEST FOR BID**

**24-023 MAIN STREET PAVING,  
WATER, SEWER AND DRAINAGE  
IMPROVEMENTS (AMUNDSON  
DRIVE TO AMUNDSON ROAD)**

**BIDS DUE WEDNESDAY, JUNE 05, 2024**

**BY 2:00 P.M.**

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## INVITATION TO BID

The City of North Richland Hills is accepting sealed bids from all interested parties for:

- Bid Number: 24-023
- Bid Type: REQUEST FOR BID
- Bid Name: MAIN STREET PAVING, WATER, SEWER, AND DRAINAGE IMPROVEMENTS (AMUNDSON DRIVE TO AMUNDSON ROAD)
- Bid Due Date: Wednesday, June 05, 2024
- Bid Due Time: 2:00 P.M. Central Daylight Time
- Pre-Bid Conference: 10:00 A.M. Central Daylight Time, Tuesday May 21, 2024
- Location: Community Room, 4301 City Point Dr, North Richland Hills, TX 76180
- Deadline for questions:
  - Date: Friday, May 24, 2024
  - Time: 12:00 P.M. Central Daylight Time

DOCUMENTS MUST BE SUBMITTED ELECTRONICALLY VIA:

[www.publicpurchase.com](http://www.publicpurchase.com)

No oral explanation in regards to the meaning of the specifications will be made, and no oral instructions will be given after the pre-bid meeting and before the award of the contract. Requests from interested vendors for additional information or interpretation of the information included in the specifications should be directed in writing as a question related to this bid on Public Purchase and the question will be answered on Public Purchase. All addendums will also be posted to Public Purchase. It will be the vendor's responsibility to check all information related to this bid on Public Purchase before submitting a response.

**All bid responses must be turned in complete from cover page to end of Section 2 – pages in order. Should any page not be filled out (in Section 2 based on Qualification of Bidders), that page is still required to be a part of the bid response; however, Contractor to write “to be provided with Contract Documents if awarded to the construction contract.”**

The City of North Richland Hills reserves the right to reject in part or in whole all bids submitted, and to waive any technicalities for the best interest of the City of North Richland Hills.

## GENERAL CONDITIONS

In submitting this bid, the Bidder understands and agrees to be bound by the following terms and conditions. These terms and conditions shall become a part of the purchase order or contract and will consist of the invitation to bid, specifications, the responsive bid and the contract with attachments, together with any additional documents identified in the contract and any written change orders approved and signed by a city official with authority to do so. All shall have equal weight and be deemed a part of the entire contract. If there is a conflict between contract documents, the provision more favorable to the City shall prevail.

### 1. **BID TIME**

It shall be the responsibility of each Bidder to ensure his/her bid are submitted to the Public Purchase website on or before **2:00 P.M. Wednesday, June 05, 2024**. The official time shall be determined by the Public Purchase Website. The Public Purchase Website will NOT allow bid responses to be uploaded after the closing time.

All attached bid documents are to be returned completely filled out, totaled, and signed. The City of North Richland Hills will not accept any bid documents other than the attached.

### 2. **WITHDRAWING BIDS/PROPOSALS/QUOTES**

Bids may be withdrawn at any time prior to the official opening; request for non-consideration of bids must be made in writing to the Purchasing Manager and received prior to the time set for opening bids. The bidder warrants and guarantees that his/her bid has been carefully reviewed and checked and that it is in all things true and accurate and free of mistakes. Bidder agrees that a bid price may not be withdrawn or canceled by the bidder for a period of ninety (90) days following the date designated for the receipt of bids.

### 3. **IRREGULAR BIDS/PROPOSALS/QUOTES**

Bids will be considered irregular if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind. However, the City of North Richland Hills reserves the right to waive any irregularities and to make the award in the best interest of the City.

### 4. **REJECTION/DISQUALIFICATION**

Bidders will be disqualified and/or their bids rejected, among other reasons, for any of the specific reasons listed below:

- a) Bid received after the time set for receiving bids as stated in the advertisement;
- b) Reason for believing collusion exists among the Bidders;
- c) Bid containing unbalanced value of any item; bid offering used or reconditioned equipment;
- d) Where the bidder, sub-contractor or supplier is in litigation with the City of North Richland Hills or where such litigation is contemplated or imminent;
- e) Uncompleted work which in the judgment of the City will prevent or hinder the prompt completion of additional work, or having defaulted on a previous contract;
- f) Lack of competency as revealed by reference checks, financial statement, experience and equipment, questionnaires, or qualification statement;
- g) Bid containing special conditions, clauses, alterations, items not called for or irregularities of any kind, which in the Owner's opinion may disqualify the Bidder.

However, the City of North Richland Hills reserves the right to waive any irregularities and to make the award in the best interest of the City of North Richland Hills.

**5. BID EVALUATION**

Award of bid, if it be awarded, will be made to the lowest responsible bidder or may be awarded to the bidder that offers the goods and/or services at the *best value* for the City (Texas Local Government Code, 252.043). In determining the best value the City will consider the following:

- a) The purchase price; terms and discounts; delivery schedule;
- b) The reputation of the bidder and of the bidder's goods or services;
- c) The quality of the bidders' goods or services;
- d) The extent to which the bidder's goods or services meet the City specifications and needs;
- e) The bidder's past relationship with the City;
- f) Total long term cost to the city to acquire the bidder's goods or services;
- g) Any relevant criteria specifically listed in the specifications;
- h) Compliance with all State and local laws, General Conditions and Specifications;
- i) Results of testing, if required;
- j) Warranty and/or guarantee, maintenance requirements and performance data of the product requested;
- k) City's evaluation of the bidder's ability to perform to specifications.

**6. AWARD OF BID**

The bid award will be made within sixty (60) days after the opening of bids. No award will be made until after investigations are made as to the responsibilities of the best bidder.

The City of North Richland Hills reserves the right to award bids whole or in part when deemed to be in the best interest of the City. Bidder shall state on bid form if their bid is "all or none", otherwise it shall be considered as agreeing to this section.

Information contained in submitted bid documents shall not be available for inspection until after the award has been made by the City Council. Requests for this information must be submitted in writing.

**7. ASSIGNMENT**

The successful bidder may not assign his/her rights and duties under an award without the written consent of the North Richland Hills City Manager. Such consent shall not relieve the assignor of liability in the event of default by his assignee.

**8. SUBSTITUTIONS/EXCEPTIONS**

Exceptions/variations from the specifications may be acceptable provided such variations, in each instance, is noted and fully explained in writing and submitted with bid. NO substitutions or changes in the specifications shall be permitted after award of bid without prior written approval by the Purchasing Manager.

**9. DELIVERY/ACCEPTANCE**

The delivery date is an important factor of this bid and shall be considered during the evaluation process. The City considers delivery time the period elapsing from the time the order is placed until the City receives the order at the specified delivery location. All

material shall be delivered F.O.B. City of North Richland Hills to the address specified at the time of order. Acceptance by the City of North Richland Hills of any delivery shall not relieve the Contractor of any guarantee or warranty, expressed or implied, nor shall it be considered an acceptance of material not in accordance with the specifications thereby waiving the City of North Richland Hills right to request replacement of defective material or material not meeting specifications.

**10. NOTICE OF DELAYS**

Whenever the contractor encounters any difficulty which is delaying or threatens to delay timely performance, written notice shall immediately be given to the Purchasing Manager, stating all relevant information. Such notice shall not in any way be construed as a waiver by the City of any rights or remedies to which it is entitled by law. Delays in performance and/or completion may result in cancellation of agreement.

**11. SALES TAX**

The City of North Richland Hills is exempt from Federal Excise and State sales tax; therefore tax must not be added to bid.

**12. TIE BIDS**

In the event of a tie bid, State Law provides the bid or contract shall be awarded to the local bidder. In cases where a local bidder is not involved, tie bids shall be awarded by drawing lots at the City Council meeting, or as otherwise directed by the Mayor.

**13. BRAND NAME OR EQUAL**

If items are identified by a "brand name" description, such identification is intended to be descriptive, not restrictive, and is to indicate the quality and characteristics of products that will be satisfactory. As used in this clause, the term "brand name" includes identification of products by make and model.

Such products must be clearly identified in the bid as an equal product and published specifications of the equal products offered must be included with the bid reply.

Bids offering equal products will be considered for award if determined by the Purchasing Manager and the user department to be equal in all material respects to the brand name products referenced. The decision of acceptable "equal" items or variations in the specifications will solely be the City of North Richland Hills. Unless the bidder clearly indicates in his/her bid that he is offering an "equal" product, his bid shall be considered as offering the brand name product referenced in the invitation for bids.

**14. REFERENCES**

A minimum of three (3) references, preferably located within the Dallas/Fort Worth Metroplex, must be submitted with each bid. Company name, contact and phone number must be included with each reference.

**15. PROHIBITION AGAINST PERSONAL FINANCIAL INTEREST IN CONTRACTS**

No employee of the City of North Richland Hills shall have a direct or indirect financial interest in any proposed or existing contract, purchase, work, sale or service to or by the City (CMA-074, Standards of Conduct, Section IV).

**16. TERMINATION/NON PERFORMANCE**

Continuing non-performance of the vendor in terms of Specifications shall be a basis for the termination of the contract by the City. The City of North Richland Hills reserves the right to enforce the performance of this contract in any manner prescribed by law or deemed to be in the best interest of the City in the event of breach or default of this contract. The City reserves the right to terminate the contract immediately in the event the successful bidder fails to 1.) Meet delivery schedules or, 2.) Otherwise not perform in accordance with these specifications.

Breach of contract or default authorizes the City to award to another bidder, and/or purchase elsewhere and charge the full increase in cost and handling to the defaulting successful bidder.

The contract may be terminated by either party upon written thirty (30) days' notice prior to cancellation without cause.

**17. ATTORNEYS FEES**

Neither party to this contract shall be entitled to attorney fees for any matter arising under this contract, whether for additional work, breach of contract, or other claim for goods, services, or compensation. All claims for attorney's fees are hereby WAIVED.

**18. INDEMNITY**

**City shall not be liable or responsible for, and shall be saved and held harmless by Contractor from and against any and all suits, actions, losses, damages, claims, or liability of any character, type, or description, including claims for copyright and patent infringement, and including all expenses of litigation, court costs, and attorney's fees for injury or death to any person, or injury to any property, received or sustained by any person or persons or property, arising out of, or occasioned by, directly or indirectly, the performance of Contractor under this agreement, including claims and damages arising in part from the negligence of City, without; however, waiving any governmental immunity available to the CITY under Texas law and without waiving any defenses of the parties under Texas law. The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.**

**It is the expressed intent of the parties to this Agreement that the indemnity provided for in this section is an indemnity extended by Contractor to indemnify and protect City from the consequences of City's own negligence, provided, however, that the indemnity provided for in this section shall apply only when the negligent act of City is a contributory cause of the resultant injury, death, or damage, and shall have no application when the negligent act of City is the sole cause of the resultant injury, death, or damage, unmixed with the legal fault of another person or entity. Contractor further agrees to defend, at its own expense, and on behalf of City and in the name of City, any claim or litigation brought in connection with any such injury, death, or damage.**

**The Contractor will secure and maintain Contractual Liability insurance to cover this indemnification agreement that will be primary and noncontributory as to any insurance maintained by the City for its own benefit, including self-insurance.**

**19. PERFORMANCE AND PAYMENT BONDS**

In the event the total contract amount exceeds \$100,000, the Contractor shall be required to execute a performance bond in the amount of one hundred (100) percent of the total contract price; if the total contract amount exceeds \$50,000 the contractor shall be required to execute a payment bond in the amount of one hundred (100) percent of the total contract price, each in standard forms for this purpose, guaranteeing faithful performance of work and guaranteeing payment to all persons supply labor and materials or furnishing any equipment in the execution of the contract. It is agreed that this contract shall not be in effect until such performance and payment bonds are furnished and approved by the City of North Richland Hills. No exceptions to this provision allowed.

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

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and current copy of their power of attorney.

**20. INTERLOCAL AGREEMENT**

Successful bidder agrees to extend prices and terms to all entities who have entered into or will enter into joint purchasing interlocal cooperation agreements with the City of North Richland Hills.

Yes, we agree                       No, we do not agree

**21. ELECTRONIC PROCUREMENT**

The City of North Richland Hills has adopted policies and procedures complying with Local Government Code Section 252.0415, Section 271.906 and Section 2155.062. The City of North Richland Hills may receive submittals in electronic form in response to procurement requests. However, a bid that is submitted non-electronically by the due date and time will be accepted and then entered electronically by Purchasing after the bid opening.

**22. COMPLIANCE WITH SB 89:**

Vendor agrees per HB 89 of the 85th Texas Legislative Session, and in accordance with Chapter 2270 of the Texas Government Code, vendor has not and shall not boycott Israel at any time while providing products or services to the City of North Richland Hills.

Yes, we agree                       No, we do not agree

**23. COMPLIANCE WITH SB 252:**

Vendor agrees per SB 252 of the 85<sup>th</sup> Texas Legislative Session, and in accordance with Chapter 2252 of the Texas Government Code, vendor shall not do business with Iran, Sudan or a foreign terrorist organization while providing products or services to the City of North Richland Hills.

Yes, we agree                       No, we do not agree \*

\* By selecting no, vendor certifies that it is affirmatively excluded from the federal sanctions regime by the United States government and is not subject to the contract prohibition under Section 2252.154 of the Texas Government Code. Vendor shall provide sufficient documentation to the City of such exclusion prior to award of any contract for goods or services.

**24. ETHICS AND COMPLIANCE POLICY**

The City's Ethics and Compliance Policy can be found at The City of North Richland Hills Purchasing Division webpage - Or you may request a copy from the Purchasing Division. Acknowledgment - The City of North Richland Hills' Internal Ethics and Compliance Policy has been made available to me. I understand the expectations of ethical behavior and compliance with the law, and agree to adhere to the City's ethics policies.

<https://www.nrhtx.com/DocumentCenter/View/389/Code-of-Ethics---PDF?bidId>

I agree

I do not agree

**25. COMPLIANCE WITH CHAPTER 2274**

Pursuant to Chapter 2274, Texas Government Code, Prohibition on Contracts with Companies Boycotting Certain Energy Companies, as enacted by S.B. 13, 87th Legislature, the City of North Richland Hills is prohibited from using public funds to contract with a for-profit Company as defined by Government Code 809.01 who boycotts energy companies. If Seller has more than 10 employees and this Contract has a value of \$100,000 or more, by signing this agreement/contract, the Seller verifies that it does not discriminate against energy companies and will not discriminate during the term of the Contract. By submitting a bid response, Seller certifies compliance with these requirements.

**26. COMPLIANCE WITH CHAPTER 2274**

Pursuant to Chapter 2274, Texas Government Code, Prohibition on Contracts with Companies that Discriminate Against Firearm and Ammunition Industries, as enacted by S.B. 19, 87th Legislature, the City of North Richland Hills is prohibited from using public funds to contract with a for-profit Company as defined by Chapter 2274.001, who discriminates against firearm and ammunition industries. If Seller has at least 10 full-time employees and this Contract has a value of \$100,000 or more, by signing this agreement/contract, the Seller agrees that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the Agreement. By submitting a bid response, Seller certifies compliance with these requirements. This section does not apply if Seller is a sole-source provider.

**27. DEPARTMENT OF TRANSPORTATION (TXDOT) RELATED BIDS**

"The City of North Richland Hills, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated

against on the grounds of race, color, or national origin in consideration for an award.” Due care and diligence has been used in preparation of this information, and it is believed to be substantially correct. However, the responsibility for determining the full extent of the exposure and the verification of all information presented herein shall rest solely with the bidder. The City of North Richland Hills and its representatives will not be responsible for any errors or omissions in these specifications, nor for the failure on the part of the proposer to determine the full extent of the exposures.

## **MINIMUM INSURANCE REQUIREMENTS**

Contractors performing work on City property or public right-of-way for the City of North Richland Hills shall provide the City a certificate of insurance evidencing the coverages and coverage provisions identified herein. Contractors shall provide the City evidence that all subcontractors performing work on the project have the same types and amounts of coverages as required herein or that the subcontractors are included under the contractor's policy. The City, at its own discretion, may require a certified copy of the policy.

**All insurance companies and coverages must be authorized by the Texas Department of Insurance to transact business in the State of Texas and must be acceptable to the City of North Richland Hills.**

The following guidelines are designed to show the most common minimum insurance requirements for standard contracts and agreements with the City. Non-standard agreements may require additional coverage and/or higher limits. Coverage Amounts required for non-standard agreements to be determined by the department and the City Manager.

### **General Contracts for Services:**

Service work, and general maintenance agreements, etc.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Payment and Maintenance Bond (if applicable)

\*See Exhibit A for insurance language to include in general contracts for services\*

### **Professional Services:**

Consultants or other professionals including: accountants, attorneys, architects, engineers, medical professionals, medical services, etc.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Professional Liability or equivalent Errors & Omissions (appropriate to Contractor's profession)

\*See Exhibit B for insurance language to include in professional services contracts\*

### **Construction:**

Building contractors for construction projects.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Professional Liability (if applicable for design function)

- Builder’s Risk (required for new or existing property under construction)
- Payment and Maintenance Bond (if applicable)

\*See Exhibit C for insurance language to include in construction contracts\*

**Information Technology/Network Access Services:**

For the purchasing and installation of technology-related software and equipment or contracting services that support, maintain or interact with the CITY’S technology systems.

- Commercial General Liability
- Automobile Liability
- Workers’ Compensation & Employer’s Liability
- Professional Liability (if applicable)
- Cyber Liability

\*See Exhibit D for insurance language to include in IT/network access services agreements\*

**Standard Minimum Required Insurance Coverage**

<b>Insurance Type</b>	<b>Limit</b>	<b>Provision</b>
Commercial General Liability	\$1,000,000 Each Occurrence \$2,000,000 Aggregate	City to be listed as additional insured and provided 30-day notice of cancellation or material change in coverage
	For Construction Projects: \$2,000,000 Each Occurrence \$4,000,000 Aggregate	
Automobile Liability	\$1,000,000 Combined Single Limit	
Workers’ Compensation	Texas Statutory Requirements	Waiver of subrogation in favor of City
Employer’s Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit	
Professional Liability (or equivalent Errors & Omissions coverage appropriate to the Contractor’s profession)	\$1,000,000 Each Occurrence	
Builder’s Risk (required for new or existing property under construction)	100% Value	
Cyber Liability	\$1,000,000 Each Occurrence	
Payment/Maintenance Bonds	In accordance with Chapter 2253 of the Texas Government Code	

## **EXHIBIT A**

### **GENERAL CONTRACTS FOR SERVICES**

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants 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.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

Payment and Maintenance Bonds (if applicable): CONTRACTOR shall procure Payment and Maintenance Bonds as applicable and in accordance with Chapter 2253 of the Texas Government Code.

## **EXHIBIT B**

### **PROFESSIONAL SERVICES**

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants 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.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident
	\$500,000 disease - each employee
	\$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (Errors and Omissions)

CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, describe type of services, with a limit no less than \$1,000,000 per occurrence or claim.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

## **EXHIBIT C**

### **CONSTRUCTION**

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants 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.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident
	\$500,000 disease - each employee
	\$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$2,000,000 per occurrence and \$4,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (if contract involves design work)

CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, with a limit no less than \$1,000,000 per occurrence or claim

E. Builder's Risk

CONTRACTOR shall maintain Builder's Risk Insurance providing All-Risk (Special Perils) coverage in an amount equal to one hundred percent (100%) of the completed value of the project in question and no coinsurance penalty provisions. The policy shall list the CITY as loss payee as their interests may appear.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

Payment and Maintenance Bonds (if applicable): CONTRACTOR shall procure Payment and Maintenance Bonds as applicable and in accordance with Chapter 2253 of the Texas Government Code.

## **EXHIBIT D**

### **INFORMATION TECHNOLOGY/NETWORK ACCESS SERVICES**

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants 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.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (Errors and Omissions)

If appropriate for CONTRACTOR'S work, CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, with a limit no less than \$1,000,000 per occurrence or claim.

E. Cyber Liability

CONTRACTOR shall maintain cyber liability (or equivalent) insurance. Such insurance shall provide limits of no less than \$1,000,000 per occurrence. Coverage shall be sufficiently broad to respond to the duties and obligations as undertaken by the CONTRACTOR.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

**Other Insurance Requirements - To Be Included As Applicable**

**CONTRACTORS who serve or distribute liquor:**

Liquor Legal Liability - CONTRACTOR shall maintain Liquor Legal Liability coverage covering the selling, serving, or furnishing of any alcoholic beverage performed by CONTRACTOR, or on its behalf. Such insurance shall provide limits of no less than \$1,000,000.00 per occurrence.

**CONTRACTORS who hold long-term leases:**

Property Insurance – LESSEE shall maintain Property Insurance against all risks of loss to any improvements or betterments, at full replacement cost with no coinsurance penalty provision. The CITY shall be added as a Loss Payee to the policy as interests may appear.

**CONTRACTOR's whose work involves chemicals or otherwise has a pollution exposure:**

Contractors' Pollution Liability (or equivalent) – CONTRACTOR shall maintain Contractors' Pollution Liability with limits no less than \$1,000,000.00 per occurrence or claim and \$2,000,000 policy aggregate.

**CONTRACTORS who take possession of City or public vehicles (e.g., parking lots operators, auto repair shops):**

Garage Keepers Liability (or equivalent) – CONTRACTOR shall maintain Garage Keepers Liability or equivalent coverage for applicable property while in the CONTRACTOR'S care, custody or control. Coverage must include Comprehensive and Collision coverage. Such insurance shall provide limits equal to no less than the total value of CITY or public property in the CONTRACTOR'S care, custody and control at any one time.

**CONTRACTORS who own and operate unmanned aircraft (drones):**

UAS Liability (or equivalent) - CONTRACTOR shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damage to property which may arise from or in connection with the ownership, maintenance or use of Unmanned Aerial Systems (Drones). Coverage must include limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

**A PURCHASE ORDER WILL NOT BE ISSUED WITHOUT EVIDENCE OF INSURANCE.**

# NON-COLLUSION AFFIDAVIT OF BIDDER

State of \_\_\_\_\_ County of \_\_\_\_\_

\_\_\_\_\_ verifies that:  
(Name)

- (1) He/She is owner, partner, officer, representative, or agent of \_\_\_\_\_, has submitted the attached bid: (Company Name)
- (2) He/She is fully informed in respect to the preparation, contents and circumstances in regard to attached bid;
- (3) Neither said bidder nor any of its officers, partners, agents or employees has in any way colluded, conspired or agreed, directly or indirectly with any other bidder, firm or person to submit a collusive or sham bid in connection with attached bid and the price or prices quoted herein are fair and proper.

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
PRINTED NAME

Subscribed and sworn to before me this  
\_\_\_\_\_ Day of \_\_\_\_\_ 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC in and for  
\_\_\_\_\_ County, Texas.

My commission expires: \_\_\_\_\_

**THIS FORM MUST BE COMPLETED, NOTARIZED AND SUBMITTED WITH BID**

## BID CERTIFICATION

The Undersigned, in submitting this bid, represents and certifies:

- a. He/she is fully informed regarding the preparation, contents and circumstances of the attached bid;
- b. He/she proposes to furnish all equipment/service at the prices quoted herein and bid is in strict accordance with the conditions and specifications stated herein;
- c. There will be at no time a misunderstanding as to the intent of the specifications or conditions to be overcome or pleaded after the bids are opened;
- d. He/she is an equal opportunity employer, and will not discriminate with regard to race, color, national origin, age or sex in the performance of this contract.
- e. The undersigned hereby certifies that he/she has read, understands and agrees that acceptance by the City of North Richland Hills of the bidder's offer by issuance of a purchase order will create a binding contract. Further, he/she agrees to fully comply with documentary forms herewith made a part of this specific procurement.

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY, STATE & ZIP: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX \_\_\_\_\_

EMAIL: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

## COMPLIANCE WITH HOUSE BILL 1295

In 2015, the Texas Legislature adopted [House Bill 1295](#), which added section 2252.908 of the Government Code. The law states that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity.

The law applies only to a contract of a governmental entity that either (1) requires an action or vote by the governing body of the entity or agency before the contract may be signed or (2) has a value of at least \$1 million. The disclosure requirement applies to a contract entered into on or after January 1, 2016.

The Texas Ethics Commission has adopted rules necessary to implement the law, prescribed the disclosure of interested parties form, and posted a copy of the form on the commission's website.

### **Filing Process:**

The commission has made available on its website a new filing application that must be used to file Form 1295. A business entity must:

- 1) Use the application to enter the required information on Form 1295,
- 2) Print a copy of the completed form, which will include a certification of filing that will contain a unique certification number.
- 3) Contract Number should be the Bid/RFP Number and Bid Title.
- 4) Sign the printed copy of the form (an authorized agent of the business entity must sign),
- 5) Either include your personal information or have the form notarized,
- 6) File the completed Form 1295 with the certification of filing with the governmental body with which the business entity is entering into the contract.

The governmental entity must notify the commission, using the commission's filing application, of the receipt of the filed Form 1295 with the certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The commission will post the completed Form 1295 to its website within seven business days after receiving notice from the governmental entity.

Information regarding how to use the filing application may be found at [https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm).

**FOR DISADVANTAGED BUSINESS ENTERPRISES ONLY**

**Disadvantaged Business Enterprises (DBE) are encouraged to participate in the City of North Richland Hills bid process. Representatives from DBE Companies should identify themselves as such and submit a copy of their Certification.**

**The City of North Richland Hills recognizes the certifications of both the State of Texas Building and Procurement Commission HUB Program and the North Central Texas Regional Certification Agency. All companies seeking information concerning DBE certification are urged to contact:**

**Texas Building and Procurement Commission  
Statewide HUB Program  
1711 San Jacinto Blvd., Austin TX 78701-1416  
P O Box 13186, Austin, TX 78711-3186  
(512) 463-5872  
<http://www.window.state.tx.us/procurement/prog/hub/hub-certification/>**

**North Central Texas  
Regional Certification Agency  
624 Six Flags Drive, Suite 216  
Arlington, Texas 76011  
(817) 640-0606  
<http://www.nctrca.org/certification.html>**

**If your company is already certified, attach a copy of your certification to this form and return as part of your packet.**

**Company Names:** \_\_\_\_\_

**Representative:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Telephone No.** \_\_\_\_\_ **Fax No.** \_\_\_\_\_

**Email address:** \_\_\_\_\_

**INDICATE ALL THAT APPLY:**

- Minority-Owned Business Enterprise**
- Women-Owned Business Enterprise**
- Disadvantaged Business Enterprise**

## **CONFLICT OF INTEREST QUESTIONNAIRE**

Pursuant to Chapter 176 of the Texas Local Government Code, a person, or agent of a person, who contracts or seeks to contract for the sale or purchase of property, goods, or services with the City of North Richland Hills must file a completed conflict of interest questionnaire. The conflict of interest questionnaire must be filed with the City Secretary of the City of North Richland Hills no later than the seventh business day after the person or agent begins contract discussions or negotiations with the City of North Richland Hills or submits to the City of North Richland Hills an application, response to a request for proposal or bid, correspondence, or another writing related to a potential agreement with the City of North Richland Hills. An updated conflict of interest questionnaire must be filed in accordance with Chapter 176 of the Local Government Code. An offense under Chapter 176 is a Class C misdemeanor.

The Conflict of Interest Questionnaire is included as part of this document and can be found at:

<https://www.ethics.state.tx.us/data/forms/conflict/CIO.pdf>

**CONFLICT OF INTEREST QUESTIONNAIRE**  
**For vendor doing business with local governmental entity**

**FORM CIQ**

<p><b>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</b></p> <p>This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).</p> <p>By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.</p> <p>A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.</p>	<p><b>OFFICE USE ONLY</b></p> <hr/> <p>Date Received</p>
<p><b>1</b> Name of vendor who has a business relationship with local governmental entity.</p>	
<p><b>2</b> <input type="checkbox"/> Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)</p>	
<p><b>3</b> Name of local government officer about whom the information is being disclosed.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Name of Officer</p>	
<p><b>4</b> Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.</p> <p style="margin-left: 40px;">A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes      <input type="checkbox"/> No</p> <p style="margin-left: 40px;">B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes      <input type="checkbox"/> No</p>	
<p><b>5</b> Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.</p>	
<p><b>6</b> <input type="checkbox"/> Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).</p>	
<p><b>7</b></p> <p style="text-align: center;">_____ Signature of vendor doing business with the governmental entity</p> <p style="text-align: right;">_____ Date</p>	

**CONFLICT OF INTEREST QUESTIONNAIRE**  
**For vendor doing business with local governmental entity**

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

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

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

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

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

- \*\*\*  
(2) the vendor:
  - (A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that
    - (i) a contract between the local governmental entity and vendor has been executed;
    - or
    - (ii) the local governmental entity is considering entering into a contract with the vendor;
  - (B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:
    - (i) a contract between the local governmental entity and vendor has been executed; or
    - (ii) the local governmental entity is considering entering into a contract with the vendor.

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

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

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
  - (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
  - (3) has a family relationship with a local government officer of that local governmental entity.
- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:
  - (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
  - (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or
- (2) the date the vendor becomes aware:
  - (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
  - (B) that the vendor has given one or more gifts described by Subsection (a); or
  - (C) of a family relationship with a local government officer.

## CONTRACT CHANGES GRID

The Contractor has the obligation to review all documents that make up the contract documents in their entirety and include any objections or requests for modifications to the Terms and Conditions, or any of the Contract Documents, in the Contract Changes Grid included with the Notice to Bidders. No changes or modifications will be made to the contract documents unless such changes are set forth in the Contract Changes Grid, submitted to the City along with the Contractor’s proposal, and agreed to by the City.

### CONTRACT CHANGES GRID

Proposed Contractor/Bidder \_\_\_\_\_ (“Contractor” or “Bidder”), submits the following modifications to the City’s Standard \_\_\_\_\_ (“Agreement”) requesting changes to such provisions be accepted by the City and incorporated into the Agreement. Contractor understands and acknowledges that the City is under no obligation to accept the modification(s) proposed by Contractor; however, the City agrees to negotiate in good faith in consideration of Contractor’s request, subject to legal requirements, City policies and advice of the City Attorney.

Section / Page	Term, Condition or Specification	Exception/Proposed Modification	Disposition (For City of NRH Use Only)
			City Response: ____ Accepted  ____ Not Accepted  ____ Modified

## **CONFIDENTIALITY OF PROPRIETARY INFORMATION**

During the evaluation process of this RFB, to the extent permitted by law, the City of North Richland Hills will maintain all contents of the Proposers' responses and discussions related to the Proposers' proposals as confidential. The City will treat all proposals as confidential until negotiations are completed, the successful Proposer has been selected, and a contract has been awarded. During the evaluation process, the City intends to disseminate information submitted by all Proposers to selected staff, any consultants employed by the City, and the evaluation committee, as the City deems appropriate in its sole discretion. Such staff, consultants, and committee members shall maintain the Proposers' information as confidential to the extent permitted by law. All materials submitted in response to this RFP shall become the property of the City of North Richland Hills and will not be returned. After a Proposer is selected and the contract is awarded, all submissions shall be subject to release in accordance with Texas Government Code Chapter 552, the Texas Public Information Act (the "Act").

If a Proposer does not desire proprietary information in the proposal to be disclosed, it is required to identify all proprietary information in the proposal prior to submission of the proposal to the City. The identification shall be done by individually marking each page with the words "Proprietary Information" on which such proprietary information is found. If the Proposer fails to identify such information as proprietary, the Proposer agrees by submission of its proposal that those sections shall be deemed non-proprietary and made available to the public upon request as authorized by law upon completion of the RFP process and award of contract.

Proposers are advised that the City, to the extent permitted by law, will protect the confidentiality of their proposals. Proposers shall consider the implications of the Act, particularly after the RFP process has ceased and a contract has been awarded. If a public information request is made for a Proposer's response following award of a contract, proprietary information submitted in an RFP process may only be withheld from public disclosure pursuant to Section 552.1101 of the Act. A determination as to whether Section 552.1101 applies will not be decided by the City of North Richland Hills, but by the Office of the Attorney General of the State of Texas. In the event a request for public information is made, the City will notify the Proposer, and the Proposer is required to request an opinion as to the confidentiality and proprietary nature of the information from the Attorney General pursuant to Section 552.305 of the Act. The City is not authorized to make the request on the Proposer's behalf.

## **SPECIFICATIONS**

The Contractor shall refer to the following for additional project specifications and relevant details:

1. MAIN STREET (AMUNDON DRIVE TO AMUNDSON ROAD) CONTRACT
2. MAIN STREET (AMUNDON DRIVE TO AMUNDON ROAD) SIGNED/SEALED PLANS

# **SECTION II**

## **BIDDING DOCUMENTS**

## NOTICE TO BIDDERS

**UPLOADED BIDS** on forms prepared by the Engineer will be received by the office of the Purchasing Manager of the City of North Richland Hills until **2:00 p.m. on Wednesday, June 05, 2024** for furnishing all labor, material, equipment and the performance of all work required for:

### **MAIN STREET PAVING, WATER, SEWER AND DRAINAGE IMPROVEMENTS (AMUNDSON DRIVE TO AMUNDSON ROAD)**

**COMPLETED BID FORMS** DOCUMENTS MUST BE SUBMITTED ELECTRONICALLY VIA: [www.publicpurchase.com](http://www.publicpurchase.com) at which time and place the bids will be publicly opened, read aloud and retained by the Public Works Department for tabulation, checking and evaluation. The “as read” bid results will be posted on [www.publicpurchase.com](http://www.publicpurchase.com)

**COMPLETED BID FORMS** shall be accompanied by a Bid Guaranty consisting of either a cashier’s check or a Bid Bond on the form included or similar form of Surety Company (FACISIMILES WILL NOT BE CONSIDERED RESPONSIVE) made payable to The City of North Richland Hills, and in the amount of five percent (5%) of the total amount of the largest amount bid as a guarantee that if the bid is accepted, the bidder will execute the Contract and furnish the required Bonds, within the time-frame indicated in the Bid Form, to the City of North Richland Hills.

**BIDDERS** should carefully examine the plans, specifications and other documents; visit the site of the work; fully inform themselves as to all conditions and matters that can in any way affect the work or the costs thereof. Should a bidder find discrepancies or omissions from the plans, specifications or any other documents or should he/she be in doubt as to the meaning, he/she should at once notify the Purchasing Manager and obtain clarification prior to submitting any bid.

**PLANS AND SPECIFICATIONS** can be downloaded from *Public Purchase* (see below).

**A NON-MANDATORY PRE-BID CONFERENCE** will be held at **10:00 a.m. on Tuesday, May 21, 2024**, at **Community Room, 4301 City Point Dr, North Richland Hills, TX 76180**.

**PUBLIC PURCHASE:** Bidders are encouraged to register with the City of North Richland Hills Purchasing Manager, Scott Kendall, via email at [purchasing@nrhtx.com](mailto:purchasing@nrhtx.com). All Bidders who have registered with Public Purchase (<http://www.publicpurchase.com>) will receive automatic email notifications pertaining to this Bid, such as addendums and other related information released subsequent to the initial release of plans, specifications, bid forms, and contract documents. **It is the sole responsibility of the Bidder to register as a planholder with the City of North Richland Hills. Questions pertaining to this project should be submitted via Public Purchase where the bid is advertised.**

Minimum wage rates to all laborers and mechanics on the project must not be less than as provided in the Contract Documents and Wage Provisions must particularly comply with all other applicable wage laws of the State of Texas.

The right is reserved, as the interest of the City of North Richland Hills may require, to reject any and all bids, to waive any informality in the bids received, and to select a bid best suited to the City of North Richland Hills' best interest.

In case of ambiguity or lack of clearness in stating bid prices, the City of North Richland Hills reserves the right to adopt the most advantageous construction thereof, or to reject any or all bids. No bid may be withdrawn within sixty (60) days after the date on which bids are opened.

**SUMMARY OF WORK:** Main Street will be reconstructed from Amundson Drive to Amundson Road including concrete pavement, concrete sidewalk, drainage, water, and sewer improvements.

## **CITY OF NORTH RICHLAND HILLS**

Scott Kendall  
Purchasing Manager

### **ADVERTISEMENT DATES:**

- **May 10, 2024**
- **May 12, 2024**

## **SPECIAL INSTRUCTIONS TO BIDDERS**

### **1. BID SECURITY:**

A certified check or cashier's check or acceptable bidder's bond made payable to the City of North Richland Hills, Texas, in an amount of five percent (5%) of the bid submitted must accompany each bid as a guarantee that if awarded the contract, the bidder will promptly enter into a contract and execute such bonds as are required.

### **2. QUALIFICATION OF BIDDERS:**

No pre-qualification of bidders is required. However, in consideration of the bids, the City of North Richland Hills may require bidders to furnish a written experience record and a financial statement or the most recent audited financial statement of the firm. The City of North Richland Hills reserves the right to use these items of data to influence a decision as to the award of the contract. Bidders need not submit a statement of financial condition unless requested to do so by the City of North Richland Hills. Contractors are required to submit the Experience and Current Workload page shown on page II-9, showing that the following items will be met:

- At a minimum, the general contractor shall show minimum 3 projects in similar size and scope completed within the last 10 years and provide reference contact information.

### **3. CONFLICT OF INTEREST QUESTIONNAIRE:**

Bidders are required to complete the Conflict of Interest Questionnaire and to submit this completed form along with their bid form documents.

### **4. WAGE RATES:**

Attention is called to the fact that not less than the prevailing wage rates as hereinafter set forth in the Special Provisions of these Contract Documents, which are made a part hereof, must be paid on this project.

### **5. PRE-BID CONFERENCE:**

A non-mandatory pre-bid conference will be held at 10:00 A.M. Central Daylight Time Tuesday, May 21, 2024, at Community Room, 4301 City Point Dr, North Richland Hills, TX 76180.

6. BONDS:

A performance bond and a payment bond, each in the amount of not less than one hundred percent (100%) of the contract price, conditioned upon the faithful performance of the contract and upon payment of all persons supplying labor or furnishing materials, will be required on this project. Additionally, a two (2) year maintenance bond, in the amount of not less than twenty percent (20%) of the final contract price, will be required on this project.

7. POWER OF ATTORNEY:

Attorneys-in-Fact who sign bid bonds or contract bonds must file with each bond a certified and current copy of their power of attorney.

8. STANDARD SPECIFICATIONS:

All work required by this project shall be in accordance with the "Public Works Design Manual" adopted by the City of North Richland Hills and the "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition (November 2017), except as modified in the Contract Documents. Where a conflict exists between the "Public Works Design Manual" and the "Public Works Construction Standards - North Central Texas", the "Public Works Design Manual" shall govern. Copies of both of these standards are included in the Contract Documents by reference and are made a part thereof. Omission of any section from this project's Contract Documents does not mean that such section is not applicable to this project.

9. UNIT PRICE CONTRACT:

The contract for this project is a "Unit Price" Contract. As such, the City of North Richland Hills reserves the right to add and/or delete quantities to specific pay items. The City of North Richland Hills may further delete an entire unit price pay item if the City of North Richland Hills desires. The City of North Richland Hills reserves the right to increase or decrease the amount of work to be done by any amount not to be exceeded by twenty-five percent (25%) of the original contract amount. In the event the increase pertains to items not originally bid, the Contractor shall submit a bid in writing to the City of North Richland Hills for approval.

It is further agreed that lump sum prices may be increased to cover additional work ordered by the City of North Richland Hills but not shown on the plans or required by the specifications, in accordance with the provisions of the general conditions; similarly, lump sum prices may be decreased to cover deletion of work so ordered.

The City of North Richland Hills reserves the right to reject the Contractor's bid on such extra work and secure such work to be done other than by said Contractor.

10. MEASUREMENT AND PAYMENT:

The basis of payment for the pay items noted in the proceeding pages shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified and as shown in the project plans/drawings. Any item of work not specifically listed for payment but required by the project documents shall be considered an incidental item of the project and no specific payment will be made.

11. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT:

The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bond.

12. CONDITIONS OF WORK / OBLIGATION OF BIDDER:

Each bidder must inform himself/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation(s) to furnish all material, labor, equipment and incidentals necessary to carry out the provisions of this contract. Insofar as possible, the Contractor, in carrying out his/her work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor or City of North Richland Hills public employees.

At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or documents shall in no way relieve the bidder from any obligation in respect to his/her bid.

13. ADDENDA AND INTERPRETATIONS:

Bidders wanting further information, interpretation or clarification of the Contract Documents must make their request in writing to Scott Kendall, Purchasing Manager by **12:00pm (noon) CDT on Friday, May 24, 2024**. Answers to all such requests will be made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding.

Should a bidder find discrepancies in, or omission from the Contract Documents,

or should he/she be in doubt as to their meaning, he/she should at once notify Scott Kendall, Purchasing Manager in order that a written addendum may be sent to all bidders. Any addenda issued will be mailed or be delivered to each prospective bidder. The bid form as submitted by the bidder must be so constructed as to include any addenda issued by the City prior to 24 hours of the opening bids, with the appropriate recognition of addenda so noted in the bid form.

No interpretation of the meaning of plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation shall be in writing, addressed to Scott Kendall, Purchasing Manager or directly through Public Purchase and to be given consideration, must be received by **12:00PM (noon) on Friday, May 24, 2024**. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications and plans which, if issued, will be published on Public Purchase, not later than three (3) days prior to the date fixed for opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve the bidder from any obligation under his/her bid submitted. All addenda shall become part of the Contract Documents.

#### 14. LAWS AND REGULATIONS:

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

#### 15. SUBMITTALS:

Prior to any construction commencing on this project the Contractor shall submit the required submittals to the City Engineer and have his approval for all such submittals as required in the Technical Specifications.

## FINANCIAL STATEMENT

Condition of Bidder at close of Business month, \_\_\_\_\_, 20\_\_

	ASSETS	LIABILITIES
1. Cash on Hand	\$ _____	\$ _____
Cash in Bank	\$ _____	\$ _____
Cash Elsewhere	\$ _____	\$ _____
2. Accounts receivable from completed contracts (exclusive of claims not approved for payment)	\$ _____	\$ _____
3. Accounts receivable from other sources than above	\$ _____	\$ _____
4. Amounts earned on uncompleted contracts (not included in Item 3) (Contract price on completed portion of uncompleted contracts less total cost of completed portion)	\$ _____	\$ _____
5. Deposits for bids on other guarantees		\$ _____
6. Notes Receivable Past Due	\$ _____	
Due 90 days	\$ _____	
Due Later	\$ _____	
7. Interest Earned	\$ _____	
8. Real Estate, Business Property, present value	\$ _____	
Other property, present value	\$ _____	\$ _____
9. Stocks and Bonds, Listed on Exchange	\$ _____	\$ _____
Unlisted	\$ _____	\$ _____
10. Equipment, Machinery, Fixtures	\$ _____	\$ _____
Less Depreciation	\$ _____	\$ _____
11. Other Assets	\$ _____	
<b>TOTAL ASSETS</b>	<b>\$ _____</b>	<b>\$ _____</b>

## LIABILITIES AND NET WORTH

	ASSETS	LIABILITIES
1. Notes Payable to Banks Regular	\$ _____	
(For Certified Checks)	\$ _____	
Equipment Obligations	\$ _____	
Others	\$ _____	\$ _____
2. Accounts Payable Current	\$ _____	
Past Due	\$ _____	
3. Real Estate Mortgages	\$ _____	\$ _____
4. Other Liabilities		\$ _____
5. Reserves	\$ _____	
6. Capital Stock Paid Up		
Common	\$ _____	
Preferred	\$ _____	
7. Surplus	\$ _____	
<b>TOTAL LIABILITIES</b>	<b>\$ _____</b>	<b>\$ _____</b>

## EXPERIENCE RECORD

**List of Projects your Organization has successfully completed:**

Amount of Contract Award	Type of Work	Date Accepted	Name and Address of Owner

**List of Projects your Organization is now engaged in completing:**

Amount of Contract Award	Type of Work	Anticipated Date of Completion	Name and Address of Owner





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BASE BID						
SECTION I - GENERAL AND REMOVALS						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
1	TXDOT 500	MOBILIZATION	1	LS	\$	\$
		dollars and _____ cents per unit				
2	TXDOT 502	BARRICADES, SIGNS, AND TRAFFIC HANDLING	12	MO	\$	\$
		dollars and _____ cents per unit				
3A	TXDOT 508	CONSTRUCTING DETOURS	73	SY	\$	\$
		dollars and _____ cents per unit				
3B	TXDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR	500	SY	\$	\$
		dollars and _____ cents per unit				
4	CITY DETAIL	PROJECT SIGN	2	EA	\$	\$
		dollars and _____ cents per unit				
5	NCTCOG 203.1	GENERAL SITE PREPARATION	1	LS	\$	\$
		dollars and _____ cents per unit				
6	NCTCOG 203.1	REMOVE ASPHALT PAVEMENT	4772	SY	\$	\$
		dollars and _____ cents per unit				
7	NCTCOG 203.1	REMOVE CONCRETE CURB & GUTTER	2424	LF	\$	\$
		dollars and _____ cents per unit				
8	NCTCOG 203.1	REMOVE PAVERS (REMOVE AND SALVAGE)	7	SY	\$	\$
		dollars and _____ cents per unit				
9	NCTCOG 203.1	REMOVE CONCRETE SIDEWALK AND RAMPS	483	SY	\$	\$
		dollars and _____ cents per unit				
10	NCTCOG 203.1	REMOVE CONCRETE PAVEMENT	947	SY	\$	\$
		dollars and _____ cents per unit				
11	NCTCOG 701.2	REMOVE INLET	1	EA	\$	\$
		dollars and _____ cents per unit				
12	NCTCOG 701.2	REMOVE MANHOLE	2	EA	\$	\$
		dollars and _____ cents per unit				
13	NCTCOG 701.2	REMOVE CLEANOUT	2	EA	\$	\$
		dollars and _____ cents per unit				
14	NCTCOG 203.1	REMOVE BALLARD	1	EA	\$	\$
		dollars and _____ cents per unit				
15	NCTCOG 201.1	TREE PROTECTION (INSTALL/MAINTAIN/REMOVE)	15	EA	\$	\$
		dollars and _____ cents per unit				
16	NCTCOG 201.1	TREE INSTALL	10	EA	\$	\$
		dollars and _____ cents per unit				
<b>SUBTOTAL - SECTION I - GENERAL AND REMOVALS</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION II - PAVING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
17	TXDOT 110	EXCAVATION (ROADWAY)	789	CY	\$	\$
		dollars and _____ cents per unit				
18	TXDOT 132	EMBANKMENT	287	CY	\$	\$
		dollars and _____ cents per unit				
19	TXDOT 360	7" REINFORCED CONCRETE PAVEMENT W/ CURB	5705	SY	\$	\$
		dollars and _____ cents per unit				
20	TXDOT 260	8" LIME STABILIZED SUBGRADE	5995	SY	\$	\$
		dollars and _____ cents per unit				
21	TXDOT 260	HYDRATED LIME (48 LBS/SY)	143	TON	\$	\$
		dollars and _____ cents per unit				
22	TXDOT 360	REINFORCED STAMPED CONCRETE (CROSSWALK)	2144	SF	\$	\$
		dollars and _____ cents per unit				
22A	TXDOT 360	REINFORCED STAMPED CONCRETE (MEDIAN ISLANDS)	379	SF	\$	\$
		dollars and _____ cents per unit				
23	TXDOT 531	CONCRETE SIDEWALK (4" THICK)	8096	SF	\$	\$
		dollars and _____ cents per unit				
24	TXDOT 530	DRIVEWAY (CONCRETE) (6" THICK)	742	SF	\$	\$
		dollars and _____ cents per unit				
25	TXDOT 531	CURB RAMP (TY IV)	4	EA	\$	\$
		dollars and _____ cents per unit				
26	TXDOT 531	CURB RAMP (TY VI)	2	EA	\$	\$
		dollars and _____ cents per unit				
27	TXDOT 531	CURB RAMP (TY I)	2	EA	\$	\$
		dollars and _____ cents per unit				
28A	TXDOT 340	HMAC TYPE "D" SURFACE COURSE (ASPHALT TRANSITION)	122	SY	\$	\$
		dollars and _____ cents per unit				
28B	TXDOT 340	HMAC TYPE "B" (ASPHALT TRANSITION)	122	SY	\$	\$
		dollars and _____ cents per unit				
28C	TXDOT 529	6" CONCRETE CURB AND GUTTER	40	LF	\$	\$
		dollars and _____ cents per unit				
28D	CITY DETAIL	ASPHALT TRENCH REPAIR	2595	LF	\$	\$
		dollars and _____ cents per unit				
29	TXDOT 340	MAILBOX (REMOVE/MAINTAIN/RELOCATE)	4	EA	\$	\$
		dollars and _____ cents per unit				
<b>SUBTOTAL - SECTION II - PAVING</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>
SECTION III - STORM DRAIN						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
30	NCTCOG 501.6	18" RCP CLASS III	31	LF	\$	\$
		dollars and _____ cents per unit				
31	NCTCOG 501.6	24" RCP CLASS III	273	LF	\$	\$
		dollars and _____ cents per unit				
32	TXDOT 467	SLOPED HEADWALL	1	EA	\$	\$
		dollars and _____ cents per unit				
33	CITY DETAIL TXDOT 465	10" STANDARD CURB INLET	3	EA	\$	\$
		dollars and _____ cents per unit				
34	TXDOT DETAIL TXDOT 465	TRENCH EXCAVATION PROTECTION	304	LF	\$	\$
		dollars and _____ cents per unit				
35	TXDOT DETAIL TXDOT 465	DRY RIPRAP TYPE A	11	SY	\$	\$
		dollars and _____ cents per unit				
<b>SUBTOTAL - SECTION III - STORM DRAIN</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION IV - PAVEMENT MARKING AND SIGNING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
36	TXDOT 644	RELOCATE SALVAGED PANEL(S) ON NEW POST ASSEMBLY dollars and _____ cents per unit	11	EA	\$ _____	\$ _____
37	TXDOT 644	INSTALL SMALL SIGN AND NEW POST ASSEMBLY dollars and _____ cents per unit	1	EA	\$ _____	\$ _____
38	TXDOT 685	RELOCATE SOLAR POWERED FLASHING BEACON dollars and _____ cents per unit	1	EA	\$ _____	\$ _____
39	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE Y dollars and _____ cents per unit	470	EA	\$ _____	\$ _____
40	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE II-A-A dollars and _____ cents per unit	128	EA	\$ _____	\$ _____
41	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE I-C dollars and _____ cents per unit	58	EA	\$ _____	\$ _____
42	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 6" (SOLID) dollars and _____ cents per unit	478	LF	\$ _____	\$ _____
43	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 12" (SOLID) dollars and _____ cents per unit	495	LF	\$ _____	\$ _____
44	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (ARROW) dollars and _____ cents per unit	5	EA	\$ _____	\$ _____
45	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (WORD) dollars and _____ cents per unit	2	EA	\$ _____	\$ _____
46	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 24" (SOLID) dollars and _____ cents per unit	186	LF	\$ _____	\$ _____
47	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (RR XING) dollars and _____ cents per unit	1	EA	\$ _____	\$ _____
<b>SUBTOTAL - SECTION IV - PAVEMENT MARKING AND SIGNING</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$ _____</b>

SECTION V - WATER AND SEWER						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
48	NCTCOG 501.14	6" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	1136	LF	\$	\$
		dollars and cents per unit				
49	NCTCOG 501.14	8" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	244	LF	\$	\$
		dollars and cents per unit				
50	NCTCOG 501.14	12" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	13	LF	\$	\$
		dollars and cents per unit				
51	NCTCOG 501.14	16" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	115	LF	\$	\$
		dollars and cents per unit				
52	NCTCOG 502.6	6" RESILIENT SEATED GATE VALVE W/ BOX	5	EA	\$	\$
		dollars and cents per unit				
53	NCTCOG 502.6	8" RESILIENT SEATED GATE VALVE W/ BOX	2	EA	\$	\$
		dollars and cents per unit				
54	NCTCOG 502.6	12" RESILIENT SEATED GATE VALVE W/ BOX	1	EA	\$	\$
		dollars and cents per unit				
55	NCTCOG 502.6	16" RESILIENT SEATED GATE VALVE W/ BOX	1	EA	\$	\$
		dollars and cents per unit				
56	NCTCOG 502.5	DUCTILE IRON FITTINGS	2.25	TON	\$	\$
		dollars and cents per unit				
57	NCTCOG 502.10	CONNECT TO EXISTING WATERLINE	7	EA	\$	\$
		dollars and cents per unit				
58	NCTCOG 502.3	FIRE HYDRANT ASSEMBLY (INSTALL)	2	EA	\$	\$
		dollars and cents per unit				
59	NCTCOG 502.10	ADJUST WATER METER & SERVICE CONNECTION	12	EA	\$	\$
		dollars and cents per unit				
60	NCTCOG 701.2	ABANDON WATER LINE	1521	LF	\$	\$
		dollars and cents per unit				
61	NCTCOG 701.2	REMOVE GATE VALVE (SALVAGE)	8	EA	\$	\$
		dollars and cents per unit				
62	NCTCOG 701.2	REMOVE HYDRANT (SALVAGE)	2	EA	\$	\$
		dollars and cents per unit				
63	NCTCOG 501.17	6" SANI SEWER PVC SDR 35 (TRENCH)	1053	LF	\$	\$
		dollars and cents per unit				
64	NCTCOG 501.17	6" SANI SEWER PVC SDR 26 (TRENCH)	20	LF	\$	\$
		dollars and cents per unit				
65	NCTCOG 501.17	8" SANI SEWER PVC SDR 26 (TRENCH)	17	LF	\$	\$
		dollars and cents per unit				
66	NCTCOG 502.10	SANITARY SEWER SERVICE INSTALL	2	EA	\$	\$
		dollars and cents per unit				
67	NCTCOG 502.10	SANITARY SEWER SERVICE ADJUSTMENT	4	EA	\$	\$
		dollars and cents per unit				
68	NCTCOG 502.10	CONNECT TO EXISTING SEWER	2	EA	\$	\$
		dollars and cents per unit				
69	NCTCOG 502.1	MANHOLE (4' DIAMETER)	5	EA	\$	\$
		dollars and cents per unit				
70	NCTCOG 502.1	DROP MANHOLE (5' DIAMETER)	1	EA	\$	\$
		dollars and cents per unit				
71	NCTCOG 701.2	ABANDON SEWER LINE	1017	LF	\$	\$
		dollars and cents per unit				
72	TXDOT 401	CLSM ENCASEMENT	100	LF	\$	\$
		dollars and cents per unit				
73	TXDOT 402	TRENCH EXCAVATION PROTECTION	2598	LF	\$	\$
		dollars and cents per unit				
74	TXDOT 401	PRE-PROJECT CCTV INSPECTION	1017	LF	\$	\$
		dollars and cents per unit				
75	TXDOT 402	POST-PROJECT CCTV INSPECTION	1090	LF	\$	\$
		dollars and cents per unit				
<b>SUBTOTAL - SECTION V - WATER AND SEWER</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION VI - EROSION CONTROL						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
76	TXDOT 160	4" TOPSOIL dollars and _____ cents per unit	2918	SY	\$	\$
77	TXDOT 162	SODDING (BERMUDA) dollars and _____ cents per unit	2918	SY	\$	\$
78	TXDOT 506	SILT FENCE (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	1520	LF	\$	\$
79	TXDOT 506	ROCK FILTER DAM (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	15	LF	\$	\$
80	TXDOT 506	INLET PROTECTION (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	3	EA	\$	\$
<b>SUBTOTAL - SECTION VI - EROSION CONTROL</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>
SECTION VII - CONTINGENCY						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
81	PROJECT MANUAL	PROJECT CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 20,000.00	\$ 20,000.00
82	PROJECT MANUAL	UTILITY CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 15,000.00	\$ 15,000.00
83	PROJECT MANUAL	PAVEMENT CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL - SECTION VII - CONTINGENCY</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$ 50,000.00</b>
<b>TOTAL - BASE BID (SECTIONS I THROUGH VII)</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>
ALTERNATE BID #1						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
A-1	TXDOT 502	BARRICADES, SIGNS, AND TRAFFIC HANDLING dollars and _____ cents per unit	-4	MO	\$	\$
A-2	TXDOT 508	CONSTRUCTING DETOURS dollars and _____ cents per unit	-73	SY	\$	\$
A-3	TXDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR dollars and _____ cents per unit	-500	SY	\$	\$
<b>SUBTOTAL - ALTERNATE BID #1</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

**BID FORM**  
**FOR**  
**MAIN STREET PAVING, WATER, SEWER, AND**  
**DRAINAGE IMPROVEMENTS (AMUNDON DRIVE**  
**TO AMUNDSON ROAD)**

**FOR THE**  
**CITY OF NORTH RICHLAND HILLS, TEXAS**

**(THIS BID FORM MUST BE COMPLETED IN ITS ENTIRETY, SUBMITTED IN ITS ENTIRETY AND NOT REMOVED FROM THE CONTRACT DOCUMENTS)**

Bid Opening Date: 2:00PM (CDT), Wednesday, May 29, 2024

TO: City of North Richland Hills  
4301 City Point Drive  
North Richland Hills, Texas 76180

FOR: MAIN STREET PAVING, WATER, SEWER AND DRAINAGE  
IMPROVEMENTS (AMUNDSON DRIVE TO AMUNDSON ROAD)

Pursuant to the foregoing "Notice to Bidders", the undersigned bidder, having thoroughly examined the Contract Documents, the site of the project and understanding the amount of work to be done and the prevailing conditions, hereby proposes to fully complete all of the work and requirements as provided in the plans and Contract Documents and binds himself/herself upon acceptance of this bid form to execute a contract and furnish such bonds as required and proposes to complete the work within the time stated and for the following prices:

**BID SCHEDULE**

Total Amount Bid: Base Bid:

Section I – General and Removals	\$ _____
Section II – Paving	\$ _____
Section III – Storm Drain	\$ _____
Section IV – Pavement Marking and Signing	\$ _____
Section V – Water and Sewer	\$ _____
Section VI – Erosion Control	\$ _____
Section VII – Contingency	\$ <b>50,000</b> _____

\$ \_\_\_\_\_  
*(Total Amount Bid, Numerical Value)*

The undersigned bidder acknowledges receipt of the following Addenda: **(If none is received, then write NONE across the blanks.)**

Addendum No. 1 - Date Received \_\_\_\_\_

Addendum No. 2 - Date Received \_\_\_\_\_

Addendum No. 3 - Date Received \_\_\_\_\_

Addendum No. 4 - Date Received \_\_\_\_\_

The undersigned bidder agrees to execute and file with the Owner a contract and bonds on the forms provided within ten (10) days after written notification of award of the contract to him and to begin the work to be performed under the contract within ten (10) days after written authorization to begin the work (Work Order) and to complete the work in full within **240 Consecutive Calendar Days** after the date specified in the "Notice to Proceed". See contract for additional schedule / time requirements.

Enclosed with this bid form is a certified check or cashier's check or bid bond payable to the City of North Richland Hills in the amount of five percent (5%) of the total bid, which is to become the property of the City of North Richland Hills, or the attached Bidder's Bond is to be forfeited in the event the contract and bond are not executed within the time set forth, as liquidated damages for delay and additional work caused thereby.

Respectfully Submitted,

**Signed:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Address:** \_\_\_\_\_

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

SEAL  
(If Bidder is a Corporation)

**Telephone:** \_\_\_\_\_

**Fax:** \_\_\_\_\_

Submitted by: \_\_\_\_\_  
an individual  
A partnership  
A corporation

Doing Business As: \_\_\_\_\_

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BASE BID						
SECTION I - GENERAL AND REMOVALS						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
1	TXDOT 500	MOBILIZATION	1	LS	\$	\$
		dollars and _____ cents per unit				
2	TXDOT 502	BARRICADES, SIGNS, AND TRAFFIC HANDLING	8	MO	\$	\$
		dollars and _____ cents per unit				
3A	TXDOT 508	CONSTRUCTING DETOURS	73	SY	\$	\$
		dollars and _____ cents per unit				
4	TXDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR	500	SY	\$	\$
		dollars and _____ cents per unit				
4	CITY DETAIL	PROJECT SIGN	2	EA	\$	\$
		dollars and _____ cents per unit				
5	NCTCOG 203.1	GENERAL SITE PREPARATION	1	LS	\$	\$
		dollars and _____ cents per unit				
6	NCTCOG 203.1	REMOVE ASPHALT PAVEMENT	4772	SY	\$	\$
		dollars and _____ cents per unit				
7	NCTCOG 203.1	REMOVE CONCRETE CURB & GUTTER	2424	LF	\$	\$
		dollars and _____ cents per unit				
8	NCTCOG 203.1	REMOVE PAVERS (REMOVE AND SALVAGE)	7	SY	\$	\$
		dollars and _____ cents per unit				
9	NCTCOG 203.1	REMOVE CONCRETE SIDEWALK AND RAMPS	483	SY	\$	\$
		dollars and _____ cents per unit				
10	NCTCOG 203.1	REMOVE CONCRETE PAVEMENT	947	SY	\$	\$
		dollars and _____ cents per unit				
11	NCTCOG 701.2	REMOVE INLET	1	EA	\$	\$
		dollars and _____ cents per unit				
12	NCTCOG 701.2	REMOVE MANHOLE	2	EA	\$	\$
		dollars and _____ cents per unit				
13	NCTCOG 701.2	REMOVE CLEANOUT	2	EA	\$	\$
		dollars and _____ cents per unit				
14	NCTCOG 203.1	REMOVE BALLARD	1	EA	\$	\$
		dollars and _____ cents per unit				
15	NCTCOG 201.1	TREE PROTECTION (INSTALL/MAINTAIN/REMOVE)	15	EA	\$	\$
		dollars and _____ cents per unit				
16	NCTCOG 201.1	TREE INSTALL	10	EA	\$	\$
		dollars and _____ cents per unit				
<b>SUBTOTAL - SECTION I - GENERAL AND REMOVALS</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION II - PAVING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
17	TXDOT 110	EXCAVATION (ROADWAY)	789	CY	\$	\$
		dollars and cents per unit				
18	TXDOT 132	EMBANKMENT	287	CY	\$	\$
		dollars and cents per unit				
19	TXDOT 360	7" REINFORCED CONCRETE PAVEMENT W/ CURB	5705	SY	\$	\$
		dollars and cents per unit				
20	TXDOT 260	8" LIME STABILIZED SUBGRADE	5995	SY	\$	\$
		dollars and cents per unit				
21	TXDOT 260	HYDRATED LIME (48 LBS/SY)	143	TON	\$	\$
		dollars and cents per unit				
22	TXDOT 360	STAMPED CONCRETE	2527	SF	\$	\$
		dollars and cents per unit				
23	TXDOT 531	CONCRETE SIDEWALK (4" THICK)	7934	SY	\$	\$
		dollars and cents per unit				
24	TXDOT 530	DRIVEWAY (CONCRETE) (6" THICK)	742	SY	\$	\$
		dollars and cents per unit				
25	TXDOT 531	CURB RAMP (TY IV)	4	EA	\$	\$
		dollars and cents per unit				
26	TXDOT 531	CURB RAMP (TY VI)	2	EA	\$	\$
		dollars and cents per unit				
27	TXDOT 531	CURB RAMP (TY I)	2	EA	\$	\$
		dollars and cents per unit				
28	TXDOT 340	ASPHALT TRANSITION	5	EA	\$	\$
		dollars and cents per unit				
29	TXDOT 340	MAILBOX (REMOVE/MAINTAIN/RELOCATE)	4	EA	\$	\$
		dollars and cents per unit				
<b>SUBTOTAL - SECTION II - PAVING</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>
SECTION III - STORM DRAIN						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
30	NCTCOG 501.6	18" RCP CLASS III	31	LF	\$	\$
		dollars and cents per unit				
31	NCTCOG 501.6	24" RCP CLASS III	273	LF	\$	\$
		dollars and cents per unit				
32	TXDOT 467	SLOPED HEADWALL	1	EA	\$	\$
		dollars and cents per unit				
33	CITY DETAIL TXDOT 465	10' STANDARD CURB INLET	3	EA	\$	\$
		dollars and cents per unit				
34	TXDOT DETAIL TXDOT 465	TRENCH EXCAVATION PROTECTION	304	LF	\$	\$
		dollars and cents per unit				
35	TXDOT DETAIL TXDOT 465	DRY RIPRAP TYPE A	11	SY	\$	\$
		dollars and cents per unit				
<b>SUBTOTAL - SECTION III - STORM DRAIN</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION IV - PAVEMENT MARKING AND SIGNING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
36	TXDOT 644	RELOCATE SALVAGED PANEL(S) ON NEW POST ASSEMBLY dollars and _____ cents per unit	11	EA	\$	\$
37	TXDOT 644	INSTALL SMALL SIGN AND NEW POST ASSEMBLY dollars and _____ cents per unit	1	EA	\$	\$
38	TXDOT 685	RELOCATE SOLAR POWERED FLASHING BEACON dollars and _____ cents per unit	1	EA	\$	\$
39	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE Y dollars and _____ cents per unit	470	EA	\$	\$
40	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE II-A-A dollars and _____ cents per unit	128	EA	\$	\$
41	TXDOT 672	REFLECTIVE PAVEMENT MARKER TYPE I-C dollars and _____ cents per unit	58	EA	\$	\$
42	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 6" (SOLID) dollars and _____ cents per unit	478	LF	\$	\$
43	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 12" (SOLID) dollars and _____ cents per unit	495	LF	\$	\$
44	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (ARROW) dollars and _____ cents per unit	5	EA	\$	\$
45	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (WORD) dollars and _____ cents per unit	2	EA	\$	\$
46	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) 24" (SOLID) dollars and _____ cents per unit	186	LF	\$	\$
47	TXDOT 666	REFLECTIVE PAVEMENT MARKING (W) (RR XING) dollars and _____ cents per unit	1	EA	\$	\$
<b>SUBTOTAL - SECTION IV - PAVEMENT MARKING AND SIGNING</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION V - WATER AND SEWER						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
48	NCTCOG 501.14	6" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	1136	LF	\$	\$
		dollars and cents per unit				
49	NCTCOG 501.14	8" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	244	LF	\$	\$
		dollars and cents per unit				
50	NCTCOG 501.14	12" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	13	LF	\$	\$
		dollars and cents per unit				
51	NCTCOG 501.14	16" AWWA C900 PVC DR18 WATER PIPE (OPEN CUT)	115	LF	\$	\$
		dollars and cents per unit				
52	NCTCOG 502.6	6" RESILIENT SEATED GATE VALVE W/ BOX	5	EA	\$	\$
		dollars and cents per unit				
53	NCTCOG 502.6	8" RESILIENT SEATED GATE VALVE W/ BOX	2	EA	\$	\$
		dollars and cents per unit				
54	NCTCOG 502.6	12" RESILIENT SEATED GATE VALVE W/ BOX	1	EA	\$	\$
		dollars and cents per unit				
55	NCTCOG 502.6	16" RESILIENT SEATED GATE VALVE W/ BOX	1	EA	\$	\$
		dollars and cents per unit				
56	NCTCOG 502.5	DUCTILE IRON FITTINGS	2.25	TON	\$	\$
		dollars and cents per unit				
57	NCTCOG 502.10	CONNECT TO EXISTING WATERLINE	7	EA	\$	\$
		dollars and cents per unit				
58	NCTCOG 502.3	FIRE HYDRANT ASSEMBLY (INSTALL)	2	EA	\$	\$
		dollars and cents per unit				
59	NCTCOG 502.10	ADJUST WATER METER & SERVICE CONNECTION	12	EA	\$	\$
		dollars and cents per unit				
60	NCTCOG 701.2	ABANDON WATER LINE	1521	LF	\$	\$
		dollars and cents per unit				
61	NCTCOG 701.2	REMOVE GATE VALVE (SALVAGE)	8	EA	\$	\$
		dollars and cents per unit				
62	NCTCOG 701.2	REMOVE HYDRANT (SALVAGE)	2	EA	\$	\$
		dollars and cents per unit				
63	NCTCOG 501.17	6" SANI SEWER PVC SDR 35 (TRENCH)	1053	LF	\$	\$
		dollars and cents per unit				
64	NCTCOG 501.17	6" SANI SEWER PVC SDR 26 (TRENCH)	20	LF	\$	\$
		dollars and cents per unit				
65	NCTCOG 501.17	8" SANI SEWER PVC SDR 26 (TRENCH)	17	LF	\$	\$
		dollars and cents per unit				
66	NCTCOG 502.10	SANITARY SEWER SERVICE INSTALL	2	EA	\$	\$
		dollars and cents per unit				
67	NCTCOG 502.10	SANITARY SEWER SERVICE ADJUSTMENT	4	EA	\$	\$
		dollars and cents per unit				
68	NCTCOG 502.10	CONNECT TO EXISTING SEWER	2	EA	\$	\$
		dollars and cents per unit				
69	NCTCOG 502.1	MANHOLE (4' DIAMETER)	5	EA	\$	\$
		dollars and cents per unit				
70	NCTCOG 502.1	DROP MANHOLE (5' DIAMETER)	1	EA	\$	\$
		dollars and cents per unit				
71	NCTCOG 701.2	ABANDON SEWER LINE	1017	LF	\$	\$
		dollars and cents per unit				
72	TXDOT 401	CLSM ENCASEMENT	100	LF	\$	\$
		dollars and cents per unit				
73	TXDOT 402	TRENCH EXCAVATION PROTECTION	2598	LF	\$	\$
		dollars and cents per unit				
74	TXDOT 401	PRE-PROJECT CCTV INSPECTION	1017	LF	\$	\$
		dollars and cents per unit				
75	TXDOT 402	POST-PROJECT CCTV INSPECTION	1090	LF	\$	\$
		dollars and cents per unit				
<b>SUBTOTAL - SECTION V - WATER AND SEWER</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$</b>

SECTION VI - EROSION CONTROL						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
76	TXDOT 160	4" TOPSOIL dollars and _____ cents per unit	2918	LS	\$ _____	\$ _____
77	TXDOT 162	SODDING (BERMUDA) dollars and _____ cents per unit	2918	LS	\$ _____	\$ _____
78	TXDOT 506	SILT FENCE (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	1520	CY	\$ _____	\$ _____
79	TXDOT 506	ROCK FILTER DAM (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	15	SY	\$ _____	\$ _____
80	TXDOT 506	INLET PROTECTION (INSTALL/MAINTAIN/REMOVE) dollars and _____ cents per unit	3	CY	\$ _____	\$ _____
<b>SUBTOTAL - SECTION VI - EROSION CONTROL</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$ _____</b>
SECTION VII - CONTINGENCY						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
81	PROJECT MANUAL	PROJECT CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 20,000.00	\$ 20,000.00
82	PROJECT MANUAL	UTILITY CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 15,000.00	\$ 15,000.00
83	PROJECT MANUAL	PAVEMENT CONTINGENCY AS DIRECTED BY OWNER dollars and _____ cents per unit	1	LS	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL - SECTION VII - CONTINGENCY</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$ 50,000.00</b>
<b>TOTAL - BASE BID (SECTIONS I THROUGH VII)</b>					<b>DOLLARS</b>	
					<b>CENTS</b>	<b>\$ _____</b>

## **SECTION III**

# **CONTRACTUAL DOCUMENTS**

# STANDARD FORM OF CONSTRUCTION AGREEMENT

THE STATE OF TEXAS       §  
  §  
COUNTY OF TARRANT     §

THIS AGREEMENT is entered into this the \_\_\_ day of \_\_\_\_\_, 20\_\_\_, by and between the CITY OF NORTH RICHLAND HILLLS, a municipal corporation, of the County of Tarrant and State of Texas, hereinafter called "OWNER" and \_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_ and State of \_\_\_\_\_ hereinafter called "CONTRACTOR."

OWNER and CONTRACTOR in consideration of the mutual covenants contained in this Agreement, agree as follows:

## ARTICLE 1. WORK.

CONTRACTOR covenants and agrees to perform the Work in every detail, in a good and first-class workmanlike manner as specified and indicated in the Contract Documents, of which are incorporated in this Agreement in their entirety as if they were herein set out at length written word for word. The CONTRACTOR shall furnish all labor, materials, tools and equipment required to perform and complete the Work in strict accordance with these Contract Documents. The Work is described as follows:

### MAIN STREET PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)

## ARTICLE 2. CONTRACT PRICE.

OWNER agrees to pay CONTRACTOR for completion of the Work in accordance with the Contract Documents, the price or prices shown in the bidder's proposal, which total the following amount:

\_\_\_\_\_ DOLLARS AND \_\_\_\_\_ CENTS (\$ \_\_\_\_\_ )  
("Contract Price").

## ARTICLE 3. CONTRACT TIME / TERMINATION / LIQUIDATED DAMAGES.

Unless otherwise stated in this agreement, **time shall be considered of the essence.**

- a. When **time is of** the essence, the CONTRACTOR shall be liable for failure to deliver or delay in delivery occasioned by and including without limitation strikes, lock-outs, inability of obtaining material or shopping space, breakdowns, delays of carriers or suppliers, and preexisting governmental acts and regulations of the Federal and State governments or any subdivision thereof, unless such governmental acts and regulations affecting delivery could not be found, recognized, or discovered by due diligence on the part of the CONTRACTOR prior to submission of his/her and City Council's acceptance thereof.
- b. When **time is not of** the essence, this agreement shall be inoperative during such period of time that aforesaid delivery or acceptance may be rendered impossible by reason of fire, strike, Acts of God, or government regulation. Provided, however, to the extent that the CONTRACTOR has any commercially reasonable alternative method of performing this contract by purchase on the market or otherwise, he/she shall not be freed of his/her obligation hereunder by this clause, even though the goods intended for this contract were destroyed or their delivery delayed because of any event described above.
- c. **As time is of the essence on this contract**, CONTRACTOR agrees to commence work under this contract within ten (10) days from the date specified in the "Notice to Proceed" and complete each phase of construction within the durations specified in the following table. The durations specified are consecutive calendar days and are subject to such extensions of time as are indicated in the Special Provisions. Each subsequent phase after Phase 1 (Phase 2, 3, & 4) shall start immediately following the previous phase. There shall be no stopping of work or delay of work between phases.

<b>Traffic Control Phase</b>	<b>Duration (Calendar Days) – Base Bid</b>	<b>Duration (Calendar Days) – Alt Bid #1</b>	<b>Anticipated Start Timeframe</b>
<b><u>Phase 1</u></b> <i>(Construct limits as shown in Phase 1 on the TCP plans)</i>	60 Days	40 Days	Within 10 days from date on "Notice to Proceed"
<b><u>Phase 2</u></b> <i>(Construct limits as shown Phase 2 on the TCP plans)</i>	120 Days	80 Days	Immediately after Phase 1 is complete
<b><u>Phase 3</u></b> <i>(Construct limits as shown in Phase 3 on the TCP Plans)</i>	120 Days	80 Days	Immediately after Phase 2 is Complete
<b><u>Phase 4</u></b> <i>(Construct limits as shown in Phase 4 on the TCP Plans)</i>	60 Days	40 Days	Immediately after Phase 3 is Complete
<b><u>Final Acceptance</u></b>	Base Bid within 360 days (240 with Alternate Bids) from date on "Notice to Proceed"		

Any modifications to the durations provided for each phase of construction must be agreed upon in writing by the CONTRACTOR and the OWNER. Additionally, CONTRACTOR agrees to totally complete work within 360 consecutive calendar days (240 days with Alternate Bids) after the date specified in the "Notice to Proceed," subject to such extensions of time as are indicated in the Special Provisions.

- d. Milestones included in this contract are as follows:
- 1) **Completion of Traffic Control Phase 1 per the Traffic Control Plan** provided in the Construction Drawings within 60 calendar days (40 with alternate bids) and starting within 10 days from the date on the "Notice to Proceed" (subject to such extensions of time as are indicated in the Special Provisions). For purposes of this section, to considered completed, all construction activities included in the Sequence of Construction provided in the Construction Drawings must:
    - a. be in place;
    - b. be functional;
    - c. all temporary and permanent water and sewer connections and appurtenances shall be operational as determined by the OWNER;
    - d. all storm drain pipes, inlets, and structures within Phase 1 must be completed and operational as determined by the OWNER;
    - e. outfall storm drain connection must be complete as determined by the OWNER;

- f. all temporary surfaces must be smooth and traversable by property owners;
- g. all proposed pavement within Phase 1 shall be paved and traversable, AND;
- h. all erosion control devices shall be inspected, repaired, and/or modified as needed.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 1 to the OWNER's satisfaction.

**2) Completion of Traffic Control Phase 2 per the Traffic Control Plan** provided in the Construction Drawings within 120 calendar days (80 with alternate bids) starting from the completion of Traffic Control Phase 1 (subject to such extensions of time as are indicated in the Special Provisions).

- a. be in place;
- b. be functional;
- c. all temporary and permanent water and sewer connections and appurtenances shall be operational as determined by the OWNER;
- d. all storm drain pipes, inlets, and structures within Phase 2 must be completed and operational as determined by the OWNER;
- e. all temporary surfaces must be smooth and traversable by property owners;
- f. all proposed pavement within Phase 2 shall be paved and traversable, AND;
- g. all erosion control devices shall be inspected, repaired, and/or modified as needed.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 2 to the OWNER's satisfaction.

**3) Completion of Traffic Control Phase 3 per the Traffic Control Plan** provided in the Construction Drawings within 120 calendar days (80 with alternate bids) starting from the completion of Traffic Control Phase 2 (subject to such extensions of time as are indicated in the Special Provisions).

- a. be in place;
- b. be functional;
- c. all temporary and permanent water and sewer connections and appurtenances shall be operational as determined by the OWNER;
- d. all storm drain pipes, inlets, and structures within Phase 3 must be completed and operational as determined by the OWNER;

- e. all proposed pavement within Phase 3 shall be paved and traversable, AND;
- f. all erosion control and traffic control devices shall be removed and the site is cleaned.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 3 to the OWNER's satisfaction.

**4) Completion of Traffic Control Phase 4 per the Traffic Control Plan** provided in the Construction Drawings within 60 calendar days (40 with alternate bids) starting from the completion of Traffic Control Phase 3 (subject to such extensions of time as are indicated in the Special Provisions).

- a. be in place;
- b. be functional;
- c. all temporary and permanent water and sewer connections and appurtenances shall be operational as determined by the OWNER;
- d. all storm drain pipes, inlets, and structures within Phase 4 must be completed and operational as determined by the OWNER;
- e. all proposed pavement within Phase 4 shall be paved and traversable, AND;
- f. all erosion control and traffic control devices shall be removed and the site is cleaned.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 4 to the OWNER's satisfaction.

Calendar Days is defined as any day of the week or month; no days being excepted, such as, Saturdays, Sundays, holidays and inclement weather days. Counting of contract time will only be stopped when the Owner issues a written notice stating this fact, or when the project is noted as substantially complete by written notice from the Owner. OWNER shall determine when such action is necessary.

Extensions of time due to weather delays shall be determined in accordance with the following formula:

$$E = R - P \text{ where } R \text{ is greater than or equal to } P, \text{ and}$$

E = Extra Precipitation Days

P = Average Precipitation Days

R = Total Precipitation Days

Average Precipitation Days (P) is defined as a day of rain, sleet, hail, snow or any combination thereof, and shall be based upon the average precipitation for each month of the year as defined in the Local Climatological Data summaries issued by the National Climatic Data Center in Asheville, North Carolina, and for this contract shall be as follows:

Average Precipitation

Month	Jan	Feb	Mar	Apr	May	June
Number of Days	6	6	7	7	8	6
Month	July	Aug	Sept	Oct	Nov	Dec
Number of Days	4	4	6	6	6	6

Partial months shall be prorated uniformly for the entire month and the sum of all the months used will be rounded to the nearest whole number. This number shall be P.

Total Precipitation Days (R) is defined as a day of rain, sleet, hail, snow or any combination thereof, if determined by the Owner's Project Representative that the Contractor's construction cannot progress substantially due to precipitation and thus be put in the Daily Inspection Logs as a precipitation day. The sum of all precipitation says shall be R.

The total number of Extra Precipitation Days (E) shall be granted to the Contractor as extension of time due to weather delays, and no additional time due to drying time for saturated soil will be allowed. This contract time is both multi-tiered and cumulative.

e. **Liquidated Damages.** The CONTRACTOR further agrees to pay the following as liquidated damages:

- (1) \$550 per Calendar Day for any unfinished work beyond **360** consecutive calendar days (240 with alternate bids) after the "Notice to Proceed" issuance date. This rate shall continue until such time that the Project is complete and accepted by the OWNER
- (2) It is understood between the parties hereto that these sums shall be treated as liquidated damages and not as a penalty, and the OWNER may withhold from the CONTRACTOR's compensation such sums as liquidated

damages.

The parties consider the CONTRACTOR's failure to complete performance of the entire contract within the 360<sup>th</sup> calendar day (240<sup>th</sup> with alternate bids) after the "Phase I Notice to Proceed" date a substantial breach of this agreement, and the amount of liquidated damages set forth herein is a reasonable and fair estimate of just compensation for CONTRACTOR's failure to timely perform the contract.

If there is any conflict between any provision of this Article 3, and any other Provision in this agreement, or in any attachment hereto or any other Contract Document, this Article 3 shall control.

#### **ARTICLE 4. PARTIAL PAYMENT.**

OWNER shall make payments to the CONTRACTOR in the following manner. On or about the first of each month, the OWNER, or the OWNER's Authorized Representative, will make accurate estimates of the value, based on contract prices, of the work done and materials incorporated in the work and of materials suitably stored at the site during the preceding calendar month. The CONTRACTOR shall furnish to the OWNER, or the OWNER's Representative, such detailed information as the OWNER may request to aid OWNER as a guide in the preparation of the monthly estimate.

Within the following thirty (30) days, OWNER shall make partial payments to the CONTRACTOR for work performed during the preceding calendar month as estimated by the OWNER or OWNER's Representative. Ten percent (10%) of each estimate shall be retained by the OWNER until final completion and acceptance of all work covered by the Contract for contracts less than four hundred thousand dollars (\$ 400,000). Five percent (5%) of each estimate shall be retained by the OWNER until final completion and acceptance of all work covered by the Contract for contracts greater than four hundred thousand dollars (\$ 400,000). Upon completion and acceptance of all work in compliance with the Contract, the OWNER shall, within thirty (30) days, pay the CONTRACTOR the balance due under the terms and conditions of the Contract.

It is understood that the monthly estimates shall be approximate only, and all monthly estimates and partial payments shall be subject to correction in the estimate rendered following the discovery of an error in any previous estimate, and such estimate shall not in any respect be taken as an admission of the OWNER of the amount of work done or of its quality or sufficiency nor as an acceptance of the work or the release of the CONTRACTOR of any of its responsibility under the Contract.

#### **ARTICLE 5. DISCRIMINATION.**

The CONTRACTOR agrees, in connection with the performance of work under this contract as follows:

- a. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, sex, religion, national origin or ancestry. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruiting or recruitment, advertising, layoff, termination, rates of pay or other forms of compensation and selection for training, including apprenticeship.
- b. The CONTRACTOR agrees to include this non-discrimination clause in any subcontracts connected with the performance of this agreement.
- c. In the event of the CONTRACTOR's non-compliance with the above non-discrimination clause, the contract may be canceled or terminated by the OWNER. The CONTRACTOR may be declared by the OWNER to be ineligible for future contracts with the OWNER, until satisfactory proof of intent to comply shall be made by the CONTRACTOR.
- d. The OWNER shall be provided a list of subcontractors who are to be paid \$10,000 or more. The CONTRACTOR must ensure that such subcontractors meet the requirements as outlined in Title VI of the Civil Rights Act of 1964 (42 USC 2000d et seq), execute required assurances and provide the OWNER a copy of the signed assurance of all such subcontractors prior to final payment. In the event of a claim of \$10,000 or more against the CONTRACTOR by a subcontractor under this section, no further payment shall be processed unless and until each required subcontractor assurance is provided the OWNER.

#### **ARTICLE 6. ENTIRE CONTRACT.**

This Contract and Agreement contains the entire understanding and agreement of the parties upon the subject matter hereof. There is no agreement, oral or otherwise, which is not set forth in writing as part of this Agreement or the Contract Documents.

#### **ARTICLE 7. MODIFICATION.**

This contract cannot be modified except by a writing signed by both parties.

#### **ARTICLE 8. VARIABLES IN COST.**

The parties hereto assume and understand that the variables in the CONTRACTOR's cost of performance may fluctuate; consequently, the parties hereto agree that any fluctuations in the CONTRACTOR's costs will in no way alter the CONTRACTOR's obligations under this contract nor excuse nonperformance

or delay on his/her part.

**ARTICLE 10. VENUE.**

This contract shall be governed by the laws of the State of Texas. Venue for any court proceedings shall be in Tarrant County, Texas.

**ARTICLE 11. CONTRACT DOCUMENTS.**

Documents Listed. The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR for the performance of and payment for the Work, consist of the following:

- (1) This Agreement
- (2) Addendum(s)
- (3) "Notice to Bidders" advertisement
- (4) Bidder's Proposal
- (5) Special Instruction to Bidders
- (6) Performance, Payment and Maintenance Bonds
- (7) Certification of Insurance
- (8) Notice to Proceed
- (9) Technical Specifications
- (10) City of North Richland Hills' Public Works Design Manual
- (11) Special Provisions
- (12) General Provisions
- (13) Project Construction Plans/Drawings
- (14) Special Material and/or Equipment Specifications
- (15) Special Material and/or Equipment Drawings
- (16) "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, Adopted November 2017
- (17) TxDOT Standard Specifications for Construction and Maintenance of Highways, Street, and Bridges (TxDOT Specifications)
- (18) North Central Texas Council of Government references

**ARTICLE 11. DEFAULT**

OWNER may declare CONTRACTOR in default of this Contract in the event Contractor fails to comply with the terms and conditions set forth in this Contract or any of the Contract Documents.

**ARTICLE 12. SUBCONTRACTORS**

Any subcontractor who furnishes labor or materials to fulfill an obligation to CONTRACTOR under this Contract or who performs all or part of the work required by this Contract, must comply with all notice and filing requirements of Texas Property Code, Chapter 53 in order to perfect a mechanic's, contractor's or

materialman's lien. If a subcontractor complies with Chapter 53 of the Texas Property Code, Owner shall be authorized to withhold payment from the CONTRACTOR for payment of the claim. Owner shall release any such payment to the CONTRACTOR upon written notice and sufficient documentation to Owner from subcontractor that the claim has been paid or otherwise settled.

IN TESTIMONY WHEREOF, the CITY OF NORTH RICHLAND HILLS has caused this instrument to be signed in its corporate name, and on its behalf by the Mayor or City Manager, duly authorized to execute this instrument by action of the City Council and \_\_\_\_\_ a corporation, partnership, individual  
(Name of Contractor) ("X" out the inappropriate wording)  
acting by and through its duly authorized officials, thereby binding themselves for the faithful and full performance of the terms and provisions of this Agreement.

**CITY OF NORTH RICHLAND HILLS:**

**CONTRACTOR:**

By: \_\_\_\_\_  
Paulette Hartman  
City Manager  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**ATTEST:**

**ATTEST:**

By: \_\_\_\_\_  
Alicia Richardson  
City Secretary/Chief Governance Officer

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**APPROVED TO FORM AND LEGALITY:**

By: \_\_\_\_\_  
Cara White, Interim City Attorney  
By: \_\_\_\_\_  
Thomas McMillian, Assistant City Attorney

Bond No. \_\_\_\_\_

**PERFORMANCE BOND**

STATE OF TEXAS §

**KNOW ALL MEN BY THESE PRESENTS:**

COUNTY OF TARRANT §

THAT \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety"), a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto THE CITY OF NORTH RICHLAND HILLS (hereinafter referred to as "Owner") in the penal sum \_\_\_\_\_ DOLLARS AND \_\_\_\_\_ CENTS (\$XXX,XXX.00) [not less than 100% of the approximate total amount of the contract as evidenced in the bid proposal] in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written Contract with the Owner, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of:

**MAIN STREET ROAD PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)**

Dated as of \_\_\_\_\_, 20\_\_

**NOW, THEREFORE,** the condition of this obligation is such, that if the said Principal fully and faithfully executes the work and performance of the Contract in accordance with the plans, specifications and Contract Documents, including any extensions thereof which may be granted with our without notice to Surety, during the original term thereof, and during the life of any guaranty required under the Contract, and according to the true intent and meaning of said Contract and the plans and specifications hereto annexed, if the Principal shall repair and/or replace all defects due to faulty materials or workmanship that appear within a period of two years from the date of final completion and final acceptance of the work by owner; and if the Principal shall fully indemnify and save harmless the Owner from all costs and damages which Owner may suffer by reason of failure to so perform herein and shall fully reimburse and repay Owner all outlay and expense which the Owner may incur in making good any default or deficiency, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said contractor shall fail to do so, it is agreed that the Owner may do said work and supply such materials and charge the same against said contractor and Surety on this obligation.

In the event that the Principal is declared in default under the said Contract by Owner, the Surety will within fifteen (15) days of Owner's declaration of such default take all action necessary to take over the project from Contractor and assume completion of said Contract. The Surety shall become entitled to the payment of the balance of the Contract Price upon the Surety's faithful performance of its obligations under this bond.

The Surety agrees to pay to Owner, upon demand, all loss and expense, including reasonable attorney's fees, incurred by Owner by reason of or on account of any breach of this obligation by the Surety.

Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

**PROVIDED, HOWEVER,** that this Bond is executed pursuant to the provisions of Texas Government Code, Chapter 2253, as amended, and Article 7.19-1 of the Insurance Code, as amended, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any Change Order or supplemental agreement with increases the Contract price with or without notice to the Surety, but in no event shall a Change Order or supplemental agreement which reduces the Contract price decrease the penal sum of this Bond. And further that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

Surety agrees that this Bond provides for the repairs and/or replacement of all defects due to faulty materials and workmanship that appear within a period of two (2) years from the date of completion and acceptance of the improvement by the Owner.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF,** the said Principal and Surety have signed and sealed this instrument on this the \_\_\_ day of \_\_\_\_\_, 20\_\_.

_____ <i>(Company Name of Principal)</i>	_____ <i>(Company Name of Surety)</i>
_____ <i>(Signature)</i>	_____ <i>(Signature)</i>
_____ <i>(Printed Name)</i>	_____ <i>(Printed Name)</i>
_____ <i>(Title)</i>	_____ <i>(Title)</i>
_____ <i>(Address Line 1)</i>	_____ <i>(Address Line 1)</i>
_____ <i>(Address Line 2)</i>	_____ <i>(Address Line 2)</i>
_____ <i>(City, State and Zip Code)</i>	_____ <i>(City, State and Zip Code)</i>
_____ <i>(Witness)</i>	_____ <i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

_____ <i>(Name)</i>	
_____ <i>(Address Line 1)</i>	
_____ <i>(Address Line 2)</i>	
_____ <i>(City, State and Zip Code)</i>	
_____ <i>(Telephone Number)</i>	_____ <i>(Fax Number)</i>

Bond No. \_\_\_\_\_

**PAYMENT BOND**

**STATE OF TEXAS           §  
  §   **KNOW ALL MEN BY THESE PRESENTS:**  
COUNTY OF TARRANT §**

**THAT** \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety"), a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto THE CITY OF NORTH RICHLAND HILLS (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum DOLLARS AND \_\_\_\_\_ CENTS (\$XXX,XXX.00) [not less than 100% of the approximate total amount of the Contract as evidenced in the bid proposal] in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written Contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of:

**MAIN STREET ROAD PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)**

**Dated as of \_\_\_\_\_, 20\_\_\_\_**

**NOW, THEREFORE,** the condition of this obligation is such, that the Bond guarantees the full and proper protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract and for the use of each claimant, and that conversely should the Principal faithfully perform said Contract and in all respects duly and faithfully observe and perform all and singular the covenants, conditions, and agreements in and by said Contract, agreed to by the Principal, and according to the true intent and meaning of said Contract and the claims and specifications hereto annexed, and any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modification to Surety being hereby waived, then this obligation shall be void; otherwise, to remain in full force and effect. Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

**PROVIDED, HOWEVER,** that this Bond is executed pursuant to the provisions of Texas Government Code, Chapter 2253, as amended, and Article 7.19-1 of the Insurance Code, as amended, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any Change Order or supplemental agreement with increases to the Contract price with or without notice to the Surety and that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument on this the \_\_\_ day of \_\_\_\_\_, 20\_\_.

_____ <i>(Company Name of Principal)</i>	_____ <i>(Company Name of Surety)</i>
_____ <i>(Signature)</i>	_____ <i>(Signature)</i>
_____ <i>(Printed Name)</i>	_____ <i>(Printed Name)</i>
_____ <i>(Title)</i>	_____ <i>(Title)</i>
_____ <i>(Address Line 1)</i>	_____ <i>(Address Line 1)</i>
_____ <i>(Address Line 2)</i>	_____ <i>(Address Line 2)</i>
_____ <i>(City, State and Zip Code)</i>	_____ <i>(City, State and Zip Code)</i>
_____ <i>(Witness)</i>	_____ <i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

_____ <i>(Name)</i>	
_____ <i>(Address Line 1)</i>	
_____ <i>(Address Line 2)</i>	
_____ <i>(City, State and Zip Code)</i>	
_____ <i>(Telephone Number)</i>	_____ <i>(Fax Number)</i>

Bond No. \_\_\_\_\_

**MAINTENANCE BOND**

**STATE OF TEXAS**                    §  
   § **KNOW ALL MEN BY THESE PRESENTS:**  
**COUNTY OF TARRANT**         §

**THAT** \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety"), a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto THE CITY OF NORTH RICHLAND HILLS (hereinafter referred to as "Owner") in the penal sum of DOLLARS AND /100 CENTS (\$ \_\_\_\_\_) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written Contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of:

**MAIN STREET ROAD PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)**

**Dated as of \_\_\_\_\_, 20\_\_**

The maintenance under this Bond contemplates the complete restoration of the work to a functional use if that should be necessary. It is the intended purpose of this bond to require the correction of all defective conditions resulting from materials furnished or work and labor performed by the Contractor under the Contract; and in case the Contractor or Surety shall fail or refuse to commence and actively pursue such corrections within ten (10) days after written notification has been furnished to them by the Owner, it is agreed that the Owner may do the work and supply such materials and the Contractor and Surety shall be liable for the payment of all costs thereby incurred, jointly and severally.

It is further understood and agreed that the obligation under this bond shall be a continuing one against the Contractor and Surety, and that successive recoveries may be had hereon for successive breaches until the full amount shall have been exhausted. It is further understood that the obligation to maintain the work shall continue throughout the maintenance period, and the same shall not be changed, diminished, or in any manner affected from any cause during that time.

**NOW, THEREFORE,** the condition of this obligation is such, that the Bond guarantees the full and proper maintenance and repair of the work herein contracted to be done and performed for a period of two (2) years from the date of acceptance and Principal will do all necessary backfilling that may arise on account of sunken conditions in ditches, or otherwise, and do and perform all necessary work and repair any defective condition growing out of or arising from the improper laying or construction of same, or on account of any breaking of same caused by said Contractor in construction of same, or account of any defect arising in any of said work laid or constructed by said Contractor or on account of improper excavation or backfilling, it being understood that the purpose of this section is to cover all defective conditions arising by reason of defective materials, work or labor performed by said Contractor, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said Contractor shall fail to do so, it is agreed that the Owner may do said work and supply such materials and charge the same against said Contractor and Surety on this obligation. Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

The Owner shall be entitled to its reasonable attorneys' fees and costs in any legal proceeding to enforce the Owner's rights under this bond.

**PROVIDED, HOWEVER,** that said Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any Change Order or supplemental agreement with increases the Contract price with or without notice to the Surety and that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF,** the said Principal and Surety have signed and sealed this instrument on this the \_\_\_ day of \_\_\_\_\_, 20\_\_.

_____ <i>(Company Name of Principal)</i>	_____ <i>(Company Name of Surety)</i>
_____ <i>(Signature)</i>	_____ <i>(Signature)</i>
_____ <i>(Printed Name)</i>	_____ <i>(Printed Name)</i>
_____ <i>(Title)</i>	_____ <i>(Title)</i>
_____ <i>(Address Line 1)</i>	_____ <i>(Address Line 1)</i>
_____ <i>(Address Line 2)</i>	_____ <i>(Address Line 2)</i>
_____ <i>(City, State and Zip Code)</i>	_____ <i>(City, State and Zip Code)</i>
_____ <i>(Witness)</i>	_____ <i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

---

*(Name)*

---

*(Address Line 1)*

---

*(Address Line 2)*

---

*(City, State and Zip Code)*

---

*(Telephone Number)*

---

*(Fax Number)*

NOTE: Date of Maintenance Bond must not be prior to date of Contract.  
Power of Attorney must be attached.  
Amount and Term of Maintenance Bond shall be as stated in the  
"Special Conditions".

**CONTRACTOR'S RELEASE TO CITY**

TO: CITY OF NORTH RICHLAND HILLS

RE: **MAIN STREET ROAD PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)**

This is to certify that \_\_\_\_\_, by acceptance  
*(NAME OF CONTRACTOR)*  
of this final payment, hereby releases the OWNER, the City of North Richland Hills, from all claims and all liabilities of the City of North Richland Hills for all things done or furnished in connection with work on this project and further releases the City of North Richland Hills from any and all liabilities arising from any act of the OWNER or his/her agent arising in connection with this project. This release in no way operates to release the CONTRACTOR or his/her Surety from any obligations under this contract or the bond tendered pursuant thereto.

\_\_\_\_\_  
*(NAME OF CORPORATION)*

\_\_\_\_\_  
*(AUTHORIZED AGENT)*

**CORPORATION ACKNOWLEDGMENT**

**STATE OF TEXAS**           §  
  §  
**COUNTY OF** \_\_\_\_\_ §

BEFORE ME, the undersigned authority in and for Tarrant County, Texas, on this day personally appeared \_\_\_\_\_ known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that he/she is the \_\_\_\_\_ of the said \_\_\_\_\_, a corporation, and that he/she is authorized by said corporation to execute the foregoing instrument as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

**CONTRACTOR'S RELEASE TO CITY *(Continued)***

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the \_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
*(Notary Public in and for the State of Texas)*

\_\_\_\_\_  
*(Type or Print Notary's Name)*

My Commission Expires: \_\_\_\_\_

**CONTRACTOR'S AFFIDAVIT OF FINAL PAYMENT**

**STATE OF TEXAS            §**  
**§**  
**COUNTY OF TARRANT    §**

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_, (hereinafter referred to as "Affiant"), who,

*(NAME)*

after being by me duly sworn, deposes and says that he/she is the \_\_\_\_\_ *(TITLE)*  
\_\_\_\_\_ of \_\_\_\_\_ (a  
*(NAME OF COMPANY)*

corporation, partnership, trade name) of \_\_\_\_\_ County, State of  
*("X" OUT THE INCORRECT)*

  Texas   (hereinafter referred to as "Contractor"), which said Contractor was awarded the contract dated the \_\_\_\_\_ day of \_\_\_\_\_, 2020, for the construction of the **MAIN STREET ROAD PROJECT (AMUNDSON DRIVE TO AMUNDSON ROAD)** (hereinafter referred to as the "Work"), for a total consideration of \_\_\_\_\_ and XX/100 Dollars (\$ XXX,XXX.00 ) to be paid to the said Contractor (the "Contract"), and that Affiant has full power of authority to make this affidavit.

That THE CITY OF NORTH RICHLAND HILLS, (hereinafter referred to as "Owner"), has approved the final estimate on said Work, and that the said Contractor has fully satisfied and paid any and all claims that may be covered by Texas Government Code, Chapter 2253, as amended, or any other applicable statutes or charter provisions, and that all just bills for labor and materials have been paid and discharged by said Contractor insofar as they pertain to the Work in question.

That in addition to any funds which may have been previously paid by the Owner, the Contractor hereby accepts the amount of and \_\_\_/100 Dollars (\$\_\_\_\_\_) as **FULL AND FINAL PAYMENT** under the aforementioned Contract resulting in a total revised contract amount Of and \_\_\_/100 Dollars ( \$ \_\_\_\_\_), and hereby waives and releases any right Affiant and/or the Contractor may have to pursue claims of any nature against the Owner arising out of or in any manner connected with the performance of the Work and/or the Contract, including but not limited to claims of third parties that supplied material and/or labor for the Work for or through the Contractor (hereinafter referred to as "Subcontractors"), as well as claims for delay, additional compensation or for recovery of liquidated damages which may have been withheld by the Owner. The Contractor shall defend, hold harmless and indemnify the Owner from any such claims of such Subcontractors. The Contractor further releases the Owner from any claim or liability arising from any act of negligence of the Owner related to or connected with the Contract. This affidavit is given pursuant to the final payment provisions of the Contract, and shall not be deemed to alter or modify the terms and provisions of said Contract.

This affidavit is made in compliance with the law and in compliance especially with Chapter 2253 of the Texas Government Code, as amended, and that the undersigned, upon his/her oath, states that the facts indicated in the above instrument of writing are true and correct and that he/she is not incapacitated an any way from making this affidavit.

WITNESS my hand this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Affiant)

\_\_\_\_\_  
(Printed Name)

SUBSCRIBED AND SWORN TO BEFORE ME, this the \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
(Notary Public in and for the State of Texas)

\_\_\_\_\_  
(Type or Print Notary's Name)

My Commission Expires: \_\_\_\_\_

# **SECTION IV**

# **TECHNICAL SPECIFICATIONS**

## **TECHNICAL SPECIFICATIONS**

*For this contract, the Site Protection & Preparation (Division 200), Roadway Construction (Division 300), Roadway Maintenance & Rehabilitation (Division 400), Underground Construction & Appurtenances (Division 500), Conduit and Appurtenance Rehabilitation (Division 600), Structures (Division 700) and Miscellaneous Construction & Materials (Division 800) of the “Public Works Construction Standards – North Central Texas” adopted by the North Central Texas Council of Governments (NCTCOG), November 2017 Edition, with all amendments thereto, shall govern and shall constitute as the Technical Specifications except as herein amended, modified or supplemented. Omission of any section from the Project’s Contract Documents does not mean that such section is not applicable to this Project. The NCTCOG Technical Specifications will be referred to as the Technical Specifications (TS) and will not be physically bound with the other contract documents. Copies may be obtained from the North Central Texas Council of Governments.*

### **EXPLANATION OF BID ITEMS**

In this section, NCTCOG Items refer to “Public Works Construction Standards - North Central Texas” adopted by the North Central Texas Council of Governments (NCTCOG), November 2017 Edition. TxDOT Standard Specification Item refers to Texas Department of Transportation’s “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges” 2014.

### **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

#### **12.1.00 GENERAL**

##### **12.1.01 DESCRIPTION**

This section covers the requirements for submittal data for equipment and material items to be furnished on this project.

#### **12.2.00 MATERIAL**

##### **12.2.01 GENERAL EXECUTION**

The CONTRACTOR shall submit to the Engineer, with such promptness as to cause no delay in his/her own work or in that of any other CONTRACTOR, five (5) copies of all shop drawings, manufacturer's catalog sheets, brochures, performance charts, diagrams, schedules and other standard descriptive data required for the work. The Engineer shall review these submittals with reasonable promptness, making any necessary corrections. If the submittals

indicate variances from the requirements of the contract, the CONTRACTOR shall make specific mention of such variation in his/her letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment. Otherwise, the CONTRACTOR shall not be relieved of the responsibility of executing the work in compliance with the contract even though the submittals have been reviewed.

#### **12.2.02 FORM OF SUBMITTALS**

The submittals shall be numbered consecutively and shall present the following data as applicable:

- A. Name of project
- B. Date of submittal
- C. References to applicable section(s) of the specifications
- D. Applicable standards
- E. Identification of revisions on re-submittals
- F. Kinds of materials and finishes
- G. All working and erection dimensions and clearances
- H. All arrangement and section views
- I. Connections between functional parts

The Engineer may decline to consider any submittal that does not contain complete data on the work and full information on related matters.

#### **12.2.03 SUBMITTAL PROCEDURE**

The procedure for review of submittals shall be as follows:

- A. **The CONTRACTOR shall submit three (3) copies of the submittal to the Engineer for his/her approval.** The submittal shall be accompanied by a letter of transmittal containing the following:
  - 1. Name of the project
  - 2. Name of the CONTRACTOR
  - 3. Name of the submittal
  - 4. References to applicable section(s) of the specifications
  - 5. Other pertinent information as indicated in Section 12.2.02: "Form of Submittals"
- B. When the submittal is satisfactory to the Engineer, all three (3) copies will be stamped and/or marked "Approved" or "Approved as Noted", be dated, receive the signature of the Engineer and two (2) copies will be returned to the CONTRACTOR by separate letter.

- C. Should a submittal be unsatisfactory to the Engineer, he/she will stamp and/or mark thereon "Revise and Resubmit" or "Rejected" and will send two (2) copies to the CONTRACTOR with necessary corrections and changes indicated. The CONTRACTOR must make such corrections and/or changes and submit at least three (3) copies of the re-submittal for approval to the Engineer. The CONTRACTOR shall review and resubmit as required by the Engineer until his/her approval is obtained.
- D. The CONTRACTOR shall allow sufficient time for preliminary review, corrections, resubmission and final review of all submittals. The CONTRACTOR shall allow not less than fourteen (14) days for each review. Submittals critical to the progress of the project, when requested in writing by the CONTRACTOR, will be given priority review.

#### **12.2.04 LIST OF REQUIRED SUBMITTALS**

- A. List of all subcontractors
- B. Project Construction Schedule
- C. Pipe manufacturer certification that the pipe meets specifications.
- D. Proposed Concrete Mix Designs, including the documentation of all proposed concrete admixtures.
- E. Stormwater Pollution Prevention Plan
- F. Construction signing and traffic control plan. Contractor may use the provided traffic control plans for intersection signing. Contractor to provide construction signing and traffic control plan for portions of roadway where detailed traffic control has not been provided. Construction signing and traffic control plan must be in accordance with TMUTCD and be signed by a licensed professional engineering in the state of Texas.
- G. Trench Safety Plan
- I. Proposed Concrete Placement Machine Information (slip-form required)

### **12.3.00 CONSTRUCTION**

N/A

### **12.4.00 MEASUREMENT AND PAYMENT**

Any and all Work called for in the Contract Documents or which is required for the proper construction of items called for in the Contract Documents is to be performed by CONTRACTOR unless specifically noted otherwise. The cost of all work for which there is no separate pay item in the proposal shall be included in the price for a related pay item such that work called for or required by the Contract Documents will be constructed for the Contract Price.

The following descriptions are intended to clarify the nature of the work required for this project, the provisions of the standard technical specifications shall apply, except as otherwise noted herein.

#### **BID ITEM N/A: CONSTRUCTION STAKING**

The provisions of Item 105.4 of the COG Specifications are hereby revised to state that Construction Stakes shall be provided by the CONTRACTOR. There shall be no separate pay provided for Construction Staking. Construction Staking shall be considered subsidiary to Mobilization.

#### **BID ITEM 1: MOBILIZATION**

The work under this item shall include establishment of facilities on the project site and the movement of personnel, construction equipment and supplies to the project site or to the vicinity of the project site in order to enable the CONTRACTOR to begin work on the contract. The cost of all bonds and insurance for the project will also be considered part of this specification. Construction Staking is also considered subsidiary to Mobilization.

Mobilization will be measured as a lump sum item as the work progresses. Partial payments for mobilization shall be paid for at the Total Unit Price as shown in the bid proposal with the regular monthly estimates as follows: The adjusted contract amount for construction items as used below is defined as the total contract amount less the lump sum for Mobilization.

- a. When 1% and less than 5% of the adjusted contract amount for construction items is completed, 50% of the mobilization lump sum bid will be paid.
- b. When 5% and less than 10% of the adjusted contract amount for construction items is completed, 75% of the mobilization lump sum bid

will be paid. Previous payments under this section will be deducted from this amount.

- c. When 10% or more of the adjusted contract amount for construction items is completed, 95% of the mobilization lump sum bid will be paid. Previous payments under this section will be deducted from this amount.
- d. Payment for the remainder of the lump sum bid for “Mobilization” will be made on the final estimate.

**BID ITEM 2: BARRICADES, SIGNS, AND TRAFFIC HANDLING**

This item shall include the furnishing and installing traffic control devices in accordance with the Traffic Control Plan in the Plans. Traffic control shall comply with the Texas Manual of Uniform Traffic Control Devices, Item 502 of the TxDOT Specifications, and City Specifications. All traffic control items required to implement the Traffic Control Plan shall be subsidiary to this item. This shall include, but is not limited to, barrels, barricades, panels, signs, removal of existing pavement markings, installation of and removal of temporary pavement markings, concrete traffic barrier, signal modifications, and temporary water/sewer connections.

The standard details shall be considered the minimum requirements necessary to construct the project. Additional measures may be needed to address local traffic control issues and additional sequencing not covered.

Prior to construction, the CONTRACTOR will be required to submit a detailed construction sequencing and temporary traffic control plan to address all portions of roadway traffic control not covered by the construction plans. The CONTRACTOR shall also submit a signal modification plan.

A schedule shall also be submitted to address times of completion of each stage of the construction sequence and projected dates of road closings, detours, and utility interruptions. The CONTRACTOR shall update this schedule on a monthly basis.

The CONTRACTOR shall follow the sequence of construction provided in these plans. Any deviations from the plans must be submitted in writing to the CITY for approval. Proper notification must be given to all affected property owners at least 48 hours in advance of all construction operations. No street shall be closed except upon written authority from the OWNER.

Access to adjacent properties must be maintained except for short periods of time when construction actually blocks the driveway. The CONTRACTOR shall place gravel or take other means to insure all-weather access to properties after working hours and during weekends and holidays. All driveways shall be constructed in 2 phases. See Traffic Control Plan. This item shall also include providing temporary

all-weather access to local residences and temporary mailboxes at each driveway location if needed.

All signal modifications shall be performed in accordance with the approved submittal and shall be subsidiary to this item.

The amount bid for this item shall be paid over the duration of the project with the amount paid on each monthly progress estimate determined by the percent complete on all other bid items.

MEASUREMENT AND PAYMENT: The monthly unit price shall include, but not be limited to all labor, equipment, and materials necessary to implement, maintain, move and remove traffic control devices during all phases of construction.

### **BID ITEM 3A: CONSTRUCTING DETOURS**

This item shall include the furnishing and installing temporary pavement, which includes base and surface in accordance with Item 508 of the TxDOT Specifications. Details of the temporary pavement is found in the plans. This should be utilized for temporary asphalt pavement used as a temporary driving surface on Main Street.

MEASUREMENT AND PAYMENT: Measurement will be paid for by square yard of pavement area, and payment is in accordance with Item 508 of the TxDOT Specifications.

### **BID ITEM 3B: FLEXIBLE PAVEMENT STRUCTURE REPAIR**

This item is provided for the repair of existing asphalt by removing existing pavement and furnishing and installing temporary pavement in accordance with Item 351 of the TxDOT Specifications and Temporary Pavement detail in plans. Contractor is to monitor existing pavement for failure or damage during construction. If failure of existing pavement is identified, contractor is to notify city and perform repair. This item should be used as directed by City to maintain drivable surface during construction.

MEASUREMENT AND PAYMENT: Measurement will be paid for by square yard of pavement area, and payment is in accordance with Item 351 of the TxDOT Specifications.

### **BID ITEM 4: PROJECT SIGN**

The provisions of Item 107.20 of the NCTCOG Specifications and City Specifications shall govern for the erection of project signs.

The CONTRACTOR shall install two (2) Project Signs on Main Street. The exact locations shall be approved by the OWNER prior to installation.

These signs shall be in accordance with Figure 2M (R 07-01-2009) of the City of North Richland Hills' Public Works Design Manual. These signs shall be installed within 15 calendar days from the date the OWNER awards the contract and shall remain in place during the entire construction period. These Signs shall be removed within 15 calendar days after the OWNER's acceptance of the project improvements. The CONTRACTOR shall maintain the signs for the duration of the construction. The Project Signs shall be measured and paid for at the bid price "per each".

Sign Data:

Project Name: Main Street Improvements

Project - \$: To Be Determined After Contract Award

Projected Completion: To Be Determined After Contract Award

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each project sign furnished.

#### **BID ITEM 5: GENERAL SITE PREPARATION**

General Site Preparation shall be in accordance with 203.1 of the NCTCOG Specifications. This pay item will include removal of improvements or obstructions not specifically provided for in other pay items of the Bid Proposal which includes but is not limited to removing gravel, riprap, trees, stumps (all sizes), landscaping, planter boxes, shrubbery, plantings, fences, brick columns, irrigation, and other items located within the right-of-way.

In addition, the work will consist of trimming, if required, removal of above ground foliage and tree formations, and complete removal of all root systems below grade. Any backfill necessary after stump removal is subsidiary to this bid item.

Pavements and sidewalks shall be patched if necessary to allow for vehicular and pedestrian traffic. All excavated areas shall be backfilled and compacted to prevent additional damage to pavement or other structures. Any damage to yard areas shall be restored at no additional pay, including planters and landscape edging and irrigation systems.

Irrigation systems that extend into the ROW shall be capped at the property line prior to pavement removal, leaving the system operable on the resident's property. Systems shall be restored to working order within the ROW once the paving work is complete. This Item includes all safety measures and additional traffic control as needed to complete work associated with site preparation beyond what is shown in the traffic control plan.

All trees and plant materials shall be properly disposed of offsite. Only trees, landscaping and plantings located within the right-of-way and designated for removal on the plans shall be removed. All other trees and landscaping shall be protected from damage as shown in the plan details.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price of Lump Sum.

**BID ITEM 6 – 10: REMOVAL ITEMS**

Pavement removal covered by this specification shall be only where designated on the Construction Plans or upon specific direction from the Owner's Project Representative.

The CONTRACTOR shall make every effort to remove pavement along existing joints. The CONTRACTOR shall saw cut at no extra cost full-depth at the existing joint or along straight, neat lines to remove the area of pavement specified in the Construction Plans. If the adjacent pavement is damaged during the removal process, the CONTRACTOR shall be responsible to saw cut the damaged portion of the pavement until a clean edge is achieved at no cost to the OWNER. The CONTRACTOR will not be compensated for the additional pavement removal or replacement if the damage was caused by the CONTRACTOR during the removal process. If the pavement is in poor condition prior to the CONTRACTOR beginning the removal process, the CONTRACTOR shall coordinate with the Owner's Project Representative to determine the limits of the concrete removal. In this case, the CONTRACTOR shall be compensated for the removal and replacement of the additional pavement; however, the CONTRACTOR will only be paid for the original length saw cut detailed in the construction plans.

The CONTRACTOR shall exercise appropriate care not to damage other improvements in the process, and the CONTRACTOR shall be responsible for correction of any such damage caused during the removal process. All material removed shall become the property of the CONTRACTOR and be disposed in accordance with local, state and federal guidelines unless otherwise shown on plans. Item 203.1 of the NCTCOG Specifications shall govern the removal of existing concrete and asphalt.

MEASUREMENT AND PAYMENT: Refer to the Unit Price Bid Form. Removal of any concrete or asphalt shall include the cost of saw cutting.

**BID ITEM 11 – 14: REMOVAL ITEMS (STRUCTURES)**

Remove existing storm inlets, sewer manholes, cleanouts, and sidewalk bollard in accordance with NCTCOG Specification 701.2 and the Plans.

MEASUREMENT AND PAYMENT: Refer to the Unit Price Bid Form.

**BID ITEM 15 – 16: TREE PROTECTION AND REPLACEMENT**

Install tree protection fencing in accordance with NCTCOG Specification 201.1 and the Plans. All tree protection shall be installed, maintained, and removed following construction activities.

All trees shown to be replaced shall be replaced in kind to species of tree prior to construction. Trees that are selected for replacement shall consist of 3” caliper Cedar Elms and be approved by the OWNER prior to planting.

MEASUREMENT AND PAYMENT: Refer to the Unit Price Bid Form.

**BID ITEM 17: EXCAVATION**

Excavation shall consist of all the required excavation within the project limits as shown on the Plans, the removal, proper utilization or disposal of all excavated material, and the shaping and finishing of all earthwork in conformity with the lines and grades as shown on the Plans or as established by the OWNER. Any usable material from excavation shall be compacted in the areas of the project limits needing fill, and the required compaction testing of this excess material shall be included in this bid item and be completed in accordance with City standards. Excavation (Roadway) and Excavation (Channel) shall comply with TxDOT Specification 110.

MEASUREMENT AND PAYMENT: Unclassified Street Excavation shall be measured and paid for by the cubic yard for excavation from its original position, and shall include all materials excavated without regard to the materials encountered. **There shall be no compensation for any quantities in addition to what is provided in the Bid documents unless the lines and grades are changed by the Engineer.**

**BID ITEM 18: EMBANKMENT**

Embank materials in accordance with TxDOT Specification 132. This item shall consist of the work, labor, and materials necessary for furnishing and placing embankment, including the bermed areas.

MEASUREMENT AND PAYMENT: Payment shall be on a cubic yard basis.

**BID ITEM 19: 7” REINFORCED CONCRETE PAVING**

Reinforced concrete paving shall be constructed with 3,600 psi Class “C” Portland Cement Concrete and shall be furnished and placed in accordance with the details provided in the Plans and TxDOT Specification Item 360. Admixtures shall otherwise adhere to the applicable provisions of TxDOT Specification Item 360. Fly ash will not be approved as an admixture. Reinforcement shall be in accordance with the Plans and City Standard Details. This item shall include all necessary materials, labor, tools and incidentals required to construct 7” thick

reinforced concrete paving on Main Street in conformance with the lines and grades shown on the Plans.

### CONCRETE QUALITY AND WORKMANSHIP

The finished concrete pavement construction under these specifications is expected to meet certain quality standards for surface of the concrete including the durability, texture, riding surface and appearance.

For this project, the main lane pavement shall be slip-form machine placed concrete with a broom finish in accordance with the specifications below. The contractor shall complete the first 12 concrete panels in the presence of the City Inspector. The quality of the broom finish shall be acceptable to the City Inspector prior to proceeding with additional panels.

The surface must be durable, firm, dense and well bonded to the aggregate to maintain an appearance and texture that is satisfactory to the Owner. Concrete pavement having a poor surface that has spalled (exposed aggregate) due to poor quality paste, high water-cement ratio, over-vibration, improper curing, extreme weather or any other reason, or does not have a satisfactory riding surface shall be removed and replaced at the Contractor's expense. It is extremely important that the pavement have a good riding surface, free from undulations and rough joints. The City Engineer shall determine the acceptability of the pavement.

#### Broom Finish

If the surface texture is to be a broom finish, it shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping in the direction of vehicular travel. The broom operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16-inch in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be the quality, size, and construction and shall be operated to produce a surface finish meeting the approval of the Owner. Subject to the approval of the Owner, the Contractor may be permitted to substitute mechanical brooming in lieu of the manual brooming as herein described.

#### Hand Finishing

Hand finishing of concrete pavement will be permitted in areas where it is not practical or possible to construct with finishing machines. These areas include, but are not limited to, intersections, left turn lanes, crossovers, transition areas

and where the pavement width is not uniform. In hand finished areas, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section. After completion of a strike-off, consolidation and transverse screeding; a hand-operated longitudinal float shall be operated to test and level the surface to the required grade.

Workmen shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and-screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length of the float and the operation repeated. Other operations and surface tests shall be as required for machine finishing.

#### Edging at Forms and Joints

After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined and continuous radius shall be produced and a smooth, dense, mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use.

At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the edge shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

All joints shall be tested with a straightedge before the concrete has set, and correction shall be made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square yard, complete in place and include all concrete, monolithic curb, reinforcing steel, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals. Measurement and payment by the square yard for concrete pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

**BID ITEM 20: 8" LIME STABILIZED SUBGRADE (48LB/SY)**

This item provides for the treating of the subgrade by pulverizing, addition of lime in slurry form, mixing and compacting the mixed material to the required density in conformity with the typical section, lines and grades as shown in the Plans or as established by the Owner's Project Representative. The Contractor will not be required to expose the secondary subgrade except in unstable areas. Lime subgrade stabilization shall be furnished in accordance with TxDOT Specification 260.

Once the final subgrade elevations are achieved during construction and all utilities are in place, the subgrade shall be sampled to determine the required lime application rate at a cost subsidiary to this bid item. Any offsite fill brought in for use on the project is subject to geotechnical evaluation to determine lime application rate at a cost subsidiary to this bid item.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each square yard of subgrade thickness as specified in the construction plans from a point 12" behind the backs of the proposed curbs or edges of proposed HMAC transition pavement

**BID ITEM 21: HYDRATED LIME**

Hydrated lime for subgrade stabilization shall be furnished in accordance with TxDOT Specification 260.

MEASUREMENT AND PAYMENT: Lime will be measured by the ton and paid for at the price bid per ton after its incorporation into the subgrade. The actual amount of lime ordered by the Owner's Project Representative for stabilization and incorporation into the project will be paid for at the price bid per ton. Quantities were computed based on 48 pounds per square yard for an 8-inch depth. This should result in a minimum of 8% hydrated lime used to modify the subgrade soils.

**BID ITEM 22: REINFORCED STAMPED CONCRETE (CROSSWALK)**

Stamped concrete shall be furnished and placed in accordance with Bid Item 19. Concrete to be mixed with integral color and stamped with pattern approved by owner.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square foot, complete in place and include all concrete, monolithic curb, reinforcing steel, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals. Measurement and payment by the square yard for concrete pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

**BID ITEM 22A: REINFORCED STAMPED CONCRETE (MEDIAN ISLANDS)**

Stamped concrete shall be furnished and placed in accordance with Bid Item 19. Concrete to be mixed with integral color and stamped with pattern approved by owner.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square foot, complete in place and include all concrete, monolithic curb, reinforcing steel, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals. Measurement and payment by the square yard for concrete pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

**BID ITEM 23: CONCRETE SIDEWALK (4" THICK)**

Four inch (4") thick reinforced concrete sidewalk, including reinforcing steel, shall be constructed in accordance with the width and details shown on the Plans and TxDOT Specification Items 360 and 531. Reinforced concrete paving shall be constructed in accordance with TxDOT Specification Items 360 and 531 with the appropriate strength. One (1") inch thick layer of cushion sand under the sidewalk is subsidiary to the unit price of the sidewalk. This bid item includes the sidewalk 'lead walk' in front of the townhomes on Main Street with a sidewalk lug detail as shown in the Plans.

Sidewalk widths vary and shall be installed per the Plans. Expansion joint material and elastomeric filler shall be placed along the full length of the sidewalk between the back of curb and sidewalk (for areas where sidewalk is adjacent to back of curb), and shall be included in the unit price for the sidewalk. Sidewalks located adjacent to the back of curb shall have a sidewalk lug installed per Figure 11P-3 on the Plans. This is subsidiary to sidewalk installation.

The Contractor shall be responsible to ensure all sidewalk construction is in accordance with the Americans with Disabilities Act (ADA) and Texas Accessibility Standards (TAS). Any portions of sidewalks which are constructed and do not

meet the requirements of ADA and TAS will be required to be removed and replaced at the Contractor's Expense.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square foot including excavation, concrete, reinforcing steel, cushion sand, joint sealer, expansion joint material and elastomeric filler complete in place.

**BID ITEM 24: CONCRETE 6" DRIVEWAY**

Construct 6" Concrete Driveway in accordance with TxDOT Specification 530 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square foot.

**BID ITEM 25 – 27 CURB RAMPS**

This item shall govern the installation of Curb Ramps in accordance with the details provided in the Plans and TxDOT Specification Item 531.

Concrete for curb ramps shall be constructed with 3,000 psi Class "A" Portland Cement Concrete with 5 sacks of cement per cubic yard, with a maximum slump of 5 inches. Rebar shall be #3 bars spaced at 18" o.c.e.w. Concrete shall meet the requirements of Item 303.

The Contractor shall be responsible to ensure all barrier free ramp construction is in accordance with the Americans with Disabilities Act (ADA) and Texas Accessibility Standards (TAS). Any portions of the barrier free ramp which are constructed and do not meet the requirements of ADA and TAS will be required to be removed and replaced at the Contractor's Expense.

Per Texas Accessibility Standards Technical Memorandum TM 08-01 Issues: June 30, 2008, "The ONLY surface texture TDLR is currently aware of that meets the intent of both the Texas Accessibility Standards and the currently enforceable federal Americans with Disabilities Act Accessibility Guidelines are detectable warnings (aka truncated domes) meeting the technical specifications of TAS 4.29.2." Truncated dome surface shall be provided by using precast detectable warning plates or approved equal in a color approved by the City representative. Truncated dome pavers will not be allowed.

"In accordance with Administrative Rules 68.102 and TAS 2.2, the Department is allowing the detectable warning surface to be a minimum of 24" in depth (in the direction of pedestrian travel) in lieu of the full depth of the curb ramp. The deviation from this particular technical requirement does not require a variance. The truncated domes must still extend the full width of the curb ramp (or landing as applicable at parallel curb ramps) and comply with TAS 4.29.2."

MEASUREMENT AND PAYMENT: Payment for this item shall be on a “per-each” basis furnished and installed and shall include all concrete, reinforcement, formwork, truncated domes, monolithic curb, labor, materials, and incidentals necessary to complete the work per provided details.

**BID ITEM 28A: HMAC TYPE “D” SURFACE COURSE (ASHPALT TRANSITION)**

Asphaltic concrete shall meet the requirements for Type “D” from TxDOT Specification 340. A tack coat shall be applied prior to placing the surface course. Tack coat is considered subsidiary to the asphalt item. Asphalt Transition Pavement shall consist of minimum 2” of TY D Asphalt Surface Course across asphalt replacement and pavement terminus as shown in plans. The asphalt transition is to be placed over lime treated subgrade in accordance with Bid Item 20.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square yard, complete in place. Measurement and payment by the square yard for asphalt pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

**BID ITEM 28B: HMAC TYPE “B” (ASHPALT TRANSITION)**

Asphaltic concrete shall meet the requirements for Type “B” of TxDOT Specification 340. A prime coat shall be applied to the prepared subgrade before placing the first lift and tack coats shall be applied between subsequent lifts. Prime coats and tack coats are considered subsidiary to the asphalt item. Asphalt Transition Pavement shall consist of maximum 2” TY B Asphalt lifts. The asphalt transition is to be placed over lime treated subgrade in accordance with Bid Item 20.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square yard, complete in place. Measurement and payment by the square yard for asphalt pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for extra thickness of asphalt pavement placed per terminus detail.

**BID ITEM 28C: 6" CONCRETE CURB & GUTTER (ASPHALT TRANSITION)**

6" Concrete Curb & Gutter shall meet the requirements in accordance with TxDOT Specification 529 and the city detail for residential asphalt streets shown in plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

**BID ITEM 28D: ASPHALT TRENCH REPAIR**

Asphalt Trench Repair shall meet the requirements in accordance with city detail for repair of asphalt pavement after installation of underground utilities. Asphalt Trench Repair is an item added as needed to maintain safe traffic operations during construction.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

**BID ITEM 29: MAILBOX**

This item shall be used for the remove, salvage, and replacement of existing standard pole (or non-masonry) mailboxes. Contractor is responsible for coordinating with postal office for mailbox identification and access. Standard pole (or non-masonry) mailboxes are to be replaced in locations specified or as directed by the Engineer and as per USPS guidelines. Damaged mailboxes will be replaced at the Contractor's expense. Mailboxes shall be replaced in kind.

Temporary mailboxes are required and considered subsidiary to this item and no additional pay will be made to remove, adjust and re-install. Any damage to the mailbox or its support is required to be fixed to provide a mailbox and/or support equal to or better than the original mailbox and/or support, at no additional cost to the City.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each and shall be total compensation for furnishing all materials, tools, equipment, labor, and any other incidentals necessary to complete this work. Work shall be in accordance with TxDOT Item 560 "Mailbox Assemblies."

**BID ITEM 30 – 31: REINFORCED CONCRETE PIPE STORM DRAIN (VARIOUS SIZES)**

Storm drain line shall be furnished and installed in accordance with Items 501.6, 504 and 508 of the COG Specifications and City Specifications. All Storm drain pipe shall be ASTM C-76, Class III Reinforced Concrete Pipe or as noted in the plans. Pipe collars shall be installed at all pipe size changes, grade changes, and connections to existing storm drain lines at no additional cost. All proposed storm drain fittings and connections shall be pre-fabricated. Field connections can be

used for connections to existing lines only. All storm connections to existing and proposed storm infrastructure, including but not limited to, junction boxes, pipe, box culverts, and inlets is considered subsidiary to storm pipe. There will be no separate pay for connections.

The cost of trench excavation, embedment, and backfill is incidental to this bid item. All ditch lines shall be mechanically tamped with the cost incidental to this bid item. Backfill should be placed in 6"-8" loose lifts (12" maximum) and shall be compacted to 95% of the maximum dry density as defined by ASTM D-698 (Standard Proctor) procedures under existing and proposed pavement, and to 90% Standard Procedures elsewhere. Densities shall be taken every one (1) lift at staggered hundred foot increments and is considered subsidiary to this item.

Pipe joints shall be sealed at equal or no extra pay. The item shall include plugs, cutting and plugging existing lines, and connections to adjacent structures necessary for completed installation. If working in paved street and driveway areas open to traffic, the contractor shall provide for a temporary 3-inch hot mix asphalt surface material pavement Type "B" of the TxDOT Standard Specifications for Construction Highways, Streets, and Bridge, latest edition to be placed over the ditch area until the final improvements are made. This work shall be incidental to General Site Preparation.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot and shall include all excavation, embedment, backfill, fittings and pipe collars.

**BID ITEM 32: SLOPED HEADWALL**

Construct Sloped Headwall in accordance with the Plans and TxDOT Specification 467. Sloped headwall shall be cast-in-place. Concrete for storm drain headwalls shall be Class "C" with a minimum of 5 sacks per cubic yard cement content and a 3,600 psi minimum compressive strength when tested at 28 days. Steel pipe runners are not required.

MEASUREMENT AND PAYMENT: Payment for shall be on a "per each" basis and shall include excavation, backfill, form work, concrete, reinforcing steel, and labor to perform the work.

**BID ITEM 33: STANDARD 10' STORM INLET**

Storm drain inlets shall be constructed in accordance with City Standard Details and TxDOT Specification 465.

Where applicable, the depth shall be adjusted per the Plan elevations at no additional cost.

All inlets shall be cast-in-place. Concrete for inlet shall be Class "C" with a minimum 5 sacks per cubic yard of cement content and a 3,000 psi compressive strength when tested at 28 days.

MEASUREMENT AND PAYMENT: Payment for Standard Curb Inlets shall be on a "per each" basis and shall include excavation, backfill, form work, concrete, reinforcing steel, ring and lid, and labor to perform the work. Existing curb removal and replacement where applicable is incidental to this bid item.

**BID ITEM 34: TRENCH EXCAVATION PROTECTION**

The provisions of Item 107.20.3 of the COG Specifications shall govern for "Trench Safety". A trench safety plan shall be submitted for approval as required under "**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**" of these technical specifications. All trenches must be backfilled at the end of the workday. No open trenches will be allowed outside of working hours. The cost of dewatering, if necessary, shall be incidental to this Bid Item.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

**BID ITEM 35: DRY RIPRAP TYPE A**

The provisions of Item 803.3 of the COG Specifications shall govern for installation of stone riprap.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square yard.

**BID ITEM 36: RELOCATE SALVAGED PANEL(S) ON NEW POST ASSEMBLY**

For locations shown on the Plans, install the salvaged sign panels on a new post. Sign posts shall be in accordance with TxDOT Specification 636 and 644 and TxDOT Details. Refer to the Plans for the location of sign panels to be salvaged and installed on a new post.

Signage shall be installed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest revision. The City of North Richland Hills reserves the salvage rights on surplus/replaced signage. New Street signs will be provided by the CONTRACTOR to be mounted and installed by the CONTRACTOR.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per each sign post installed. Mounting all salvaged sign shown on each sign post is subsidiary to the post. Any repairs necessary due to damage caused while installing signs and sign panels be subsidiary to this bid item.

**BID ITEM 37: INSTALL SMALL SIGN AND NEW POST ASSEMBLY**

For locations shown on the Plans, install the proposed sign panel(s) and post. Sign posts shall be in accordance with TxDOT Specification 636 and 644 and TxDOT Details. Refer to the Plans for proposed sign locations.

Signage shall be installed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest revision. The City of North Richland Hills reserves the salvage rights on surplus/replaced signage. New Street signs will be provided by the CONTRACTOR to be mounted and installed by the CONTRACTOR.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per each sign post installed. Any repairs necessary due to damage caused while installing signs and sign panels be subsidiary to this bid item.

**BID ITEM 38: RELOCATE SOLAR POWERED FLASHING BEACON**

For location shown on the Plans, salvage components and relocate the proposed solar powered flashing beacon. Relocation of flashing beacon shall be in accordance with TxDOT Specification 685 and TxDOT Details. Refer to the Plans for proposed relocation location.

Signage shall be installed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest revision. The City of North Richland Hills reserves the salvage rights on surplus/replaced signage. New Street signs will be provided by the CONTRACTOR to be mounted and installed by the CONTRACTOR.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per each relocation. Any repairs necessary due to damage caused while installing signs and sign panels be subsidiary to this bid item.

**BID ITEM 39: REMOVE SIGN & ASSEMBLY**

For locations shown on the Plans, remove the existing sign panels, clean and salvage panels and dispose of the existing sign post. Refer to the Plans for the location of sign panels to be salvaged and installed on a new post.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per each sign post removed. Salvaging and cleaning all sign panels on the existing post and disposing of the existing post is subsidiary to the existing post.

**BID ITEMS 40 – 47: PAVEMENT MARKINGS**

Pavement markings shall be performed in accordance with TxDOT Standard Specifications and the Manufacturer recommendations. This item shall consist of the work, labor, materials, and equipment necessary to install pavement markings as shown on the Plans in accordance with the Texas Department of Transportation Items 666, 672 and 678. All work, labor, materials, and equipment required for

surface preparation, installation of pavement markings, and pavement marking sealant shall be subsidiary to each pavement marking bid item placed. Each pavement marking shall be thermoplastic.

MEASUREMENT AND PAYMENT: Refer to Bid Unit Price Form

**BID ITEM 48 – 51: PVC DR18 WATER PIPE (VARIOUS SIZES)**

Install water pipe in accordance with NCTCOG Specification 501.14 and the Plans. All mains installed by direct bury shall be laid with #14 AWG tracer wire with blue 30 mil HDPE coating. All mains installed by directional boring shall include #12 AWG copper clad steel wire.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot and shall include excavation, backfill, labor, materials, and incidentals necessary to complete the work.

**BID ITEM 52 - 55: RESILIENT SEATED GATE VALVE W/BOX (VARIOUS SIZES)**

Install Resilient Seated Gate Valve w/Box in accordance with NCTCOG Specification 502.6 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each.

**BID ITEM 56: DUCTILE IRON FITTINGS**

Install Ductile Iron Fittings in accordance with NCTCOG Specification 502.5 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per ton.

**BID ITEM 57: CONNECTION TO EXISTING WATER LINE**

Connect proposed water line to existing water line in accordance with NCTCOG Specification 502.10 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each and shall include excavation, backfill, labor, materials, and incidentals necessary to complete the work.

**BID ITEM 58: FIRE HYDRANT ASSEMBLY**

Install Fire Hydrant Assembly in accordance with NCTCOG Specification 502.3 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each.

**BID ITEM 59: ADJUST WATER METER AND INSTALL SERVICE CONNECTION (SHORT AND LONG)**

Adjust water meter and install water service connections in accordance with NCTCOG Specification 502.10 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each.

**BID ITEM 60: ABANDON WATER LINE**

Abandon existing water line in accordance with NCTCOG Specification 701.2 and the city detail shown in Plans (Figure 9W).

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear feet.

**BID ITEM 61 AND 62: REMOVE WATER VALVE AND HYDRANTS**

Remove and salvage water valve and fire hydrant in accordance with NCTCOG Specification 701.2 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each.

**BID ITEM 63 – 65: PVC SDR SANITARY PIPE (OPEN CUT)(VARIOUS SIZE AND TYPE)**

Install sanitary pipe in accordance with NCTCOG Specification 501.17 and the Plans.

All ditch lines shall be mechanically tamped with the cost incidental to this bid item. Backfill shall be placed in 6"-8" loose lifts (12" maximum) and shall be compacted to 95% of the maximum dry density as defined by ASTM D698 (Standard Proctor) procedures under existing and proposed pavement, and to 90% Standard Proctor procedures elsewhere. Densities shall be taken every one (1) lift at staggered hundred feet increments.

The cost of cutting, plugging, and abandoning existing sanitary sewer lines is incidental to the unit cost of pipe. The ends of all abandoned lines shall be plugged with an adequate quantity of concrete to form a tight closure.

Install clay dams or trench dams as required downstream of all storm drain crossings, or when groundwater is detected during manhole installation. The dam shall be located upstream of the manhole, downstream from the storm drain crossing, and just upstream of sanitary sewer manholes located near street low points. Clay dams or trench dams shall be considered subsidiary to this item.

All sanitary sewer lines shall be installed with a trace wire.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot and shall include excavation, embedment, backfill, tracer wire, testing, materials, equipment, labor, tools and incidentals necessary to complete work.

**BID ITEM 66 & 67: SANITARY SEWER SERVICE (SHORT AND LONG)**

Install sanitary sewer services or adjust sanitary sewer service to connect to existing in accordance with NCTCOG Specification 502.10 and the Plans. Any damage to existing cleanouts shall be replaced at no additional pay.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each.

**BID ITEM 68: CONNECTION TO EXISTING SANITARY SEWER LINE**

Connect proposed sanitary sewer line to existing line in accordance with NCTCOG Specification 502.10 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each and shall include all required excavation, removal, backfill, labor, materials, equipment, and appurtenances to make the connection.

**BID ITEM 69 and 70: STANDARD AND DROP SANITARY SEWER MANHOLE (VARIOUS SIZES)**

Standard and Internal Drop sanitary sewer manholes must be furnished and installed in accordance with Items 502.1 of the NCTCOG Specifications and Plans. This item includes the excavation, forming, reinforcing steel, concrete, and any other materials or labor necessary to install the manhole up to 5 feet deep and connect the pipes as detailed on the plans. This item includes the materials and labor required to grout the floor of the manhole so all sewage inside the manhole drains to the outflow pipe and the manhole does not retain sewage. The manhole shall be capable of supporting an HS20 direct vehicle load or greater. Where there is a conflict between the proposed manhole and an existing utility to be abandoned or removed the removal of the existing utility shall be considered subsidiary to the installation of the proposed manhole. The unit price bid includes all compensation due for this item.

Vacuum testing of manholes shall be done in accordance with NCTCOG Specification 502.1 and the Plans. Vacuum testing shall be considered subsidiary to this item.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each and shall include excavation, materials, backfill, manhole tie-ins and vacuum testing.

**BID ITEM 71: ABANDON SEWER LINE**

Abandon existing sewer line in accordance with NCTCOG Specification 701.2 and the city detail (Figure 5S) shown in Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear feet.

**BID ITEM 72: CLSM ENCASEMENT**

Install Controlled Low Strength Material (CLSM) Encasement in accordance with TxDOT Specification 401 and the Plans. CLSM backfill shall be utilized in place of “pea gravel or #10 chat” and installed to the same limits as shown in city backfill details.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

**BID ITEM 73: TRENCH SAFETY**

The provisions of TxDOT Specification 401 shall govern for “Trench Safety”. A trench safety plan shall be submitted for approval as required under “**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**” of these technical specifications. All trenches must be backfilled at the end of the workday. No open trenches will be allowed outside of working hours. The cost of dewatering, if necessary, shall be incidental to this Bid Item.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

**BID ITEM 74 and 75: PRE- AND POST-CCTV INSPECTION**

Pre-construction television inspection shall be performed on existing sanitary sewer lines in accordance with Items 507.5.2 and 507.2 of the NCTCOG Specifications. Cleaning and bypass pumping can be performed as necessary to allow the television inspection and is considered incidental to this item. The CONTRACTOR shall furnish to the city a color videotape of all television inspections.

Post-construction television inspection shall be performed on all sanitary sewer lines in accordance with Item 507.5.2 of the NCTCOG Specifications prior to acceptance. The CONTRACTOR shall employ a firm qualified in the type of work to make the television inspections. The City’s inspector shall be present during the television inspection. The CONTRACTOR shall furnish to the City a color videotape of all television inspections.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot of pipe actually inspected. Cleaning shall be considered subsidiary to this item.



## **BID ITEM 76 AND 77: FURNISHING AND PLACING TOPSOIL AND BLOCK SODDING**

Topsoil and Sod shall be installed per TxDOT Specification Items 160 and 162. The type of sod placed shall match the type of grass in the adjacent lawn area. A 4-inch layer of topsoil, furnished in accordance with Item 162, shall be placed on all areas to be sodded. Suitable on-site topsoil may be utilized, or topsoil shall be imported to achieve 4-inches. Fertilizer shall be furnished in accordance with Item 166 and applied at time of initial sodding only. Fertilizer shall be considered subsidiary to Block Sod placement. Watering during construction will be considered subsidiary to block sodding and will be done in accordance with Item 168. Watering shall be done until accepted by the owner and the City.

The topsoil shall be uniformly distributed on the designated area(s) and it shall be a minimum of 4 inches (75 mm) deep after firming. Spreading shall be performed in such a manner that sod installation can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proposed for turfgrass sod installation.

After the topsoil has been spread and the final grade approved, it shall be cleared of all grade stakes, surface trash or other objects that would hinder installation and/or maintenance of turfgrass sod and other plantings. Paved areas over which hauling operations are conducted shall be kept clean and any soil which may be brought upon the surfacing shall be promptly removed. The wheels of all vehicles shall be kept clean to avoid tracking soil on the surfacing of roads, walks or other paved areas.

The first row of turfgrass sod shall be laid in a straight line, with subsequent rows placed parallel to and tightly against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to insure that the pieces are not stretched or overlapped and that all joints are butted tightly to prevent voids that would cause air drying of the roots.

The installation contractor shall water the turfgrass sod immediately after transplanting to prevent drying. As sodding is completed in any one section, the entire area shall be lightly rolled. It shall then be thoroughly watered to a depth sufficient to ensure the underside of the new sod pad and soil immediately below the pad are thoroughly wet. The general contractor shall be responsible for having adequate water available at the site prior to and during installation.

The general contractor shall supply adequate water to the site. The single-most important factor in the successful rooting of newly installed turfgrass sod is adequate, regular watering. Watering should begin immediately after installation. The amount of water required will vary depending upon season, weather,

temperature, wind, slope and turfgrass variety. The general contractor shall designate the party responsible to ensure adequate water supply and application.

MEASUREMENT AND PAYMENT: Topsoil shall be measured per square yard. Block sodding shall be measured and paid per square yard of block sod installed. Both items include all labor, equipment and materials necessary to complete the work including preparation of topsoil, watering, fertilizing and maintenance until accepted by the property owner and the City. The cost of fertilizer and watering is incidental to the unit price of sodding.

**BID ITEM 78 - 80: SWPPP PLAN AND EROSION CONTROL ITEMS**

It will be the responsibility of the CONTRACTOR to develop a SWPPP. The CONTRACTOR shall submit the plan to the OWNER in accordance with NCTCOG Specification 202. Once the SWPPP is deemed acceptable by the OWNER, the CONTRACTOR shall obtain a National Pollutant Discharge Elimination System (NPDES) permit. The SWPPP is to be kept on the construction site and implemented throughout the construction duration.

This item shall govern the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Texas Commission on Environmental Quality's (TCEQ) Texas Pollution Discharge Elimination System (TPDES) General Permit Number TXR150000. Implementation of the SWPPP, installation of erosion control devices, maintenance of such devices, removal of the devices after completion of the project and vegetation has been re-established in all disturbed areas, and all required documentation, and any required application fees as outlined in the TPDES General Permit TXR150000 shall be included in the price of this item. The Contractor shall submit to the City a copy of TPDES documents, as appropriate, prior to commencing construction. See NCTCOG Item 202 for erosion control devices.

Cost for furnishing and installing any and all BMP's specified in the SWPPP including, but not limited to, silt fence, inlet protection, rock berms, curlex and stabilized construction entrances shall be subsidiary to this bid item.

If the OWNER or Owner's Representative including the Engineer or City Inspector deems the SWPPP devices deficient, CONTRACTOR will make necessary adjustments to adhere to the SWPPP plan at CONTRACTOR'S expense. No additional payment will be made for repair to erosions control devices.

MEASUREMENT AND PAYMENT: Silt fence is measured per linear foot. Rock filter dam is measured per linear foot. Inlet protection is measured per each. All of these items include installing, maintaining, and removing all necessary erosion control items and the preparation of the SWPPP and its implementation, including any site postings from the beginning of the construction through final acceptance and establishment of grass coverage.

**BID ITEM 81: PROJECT CONTINGENCY AS DIRECTED BY OWNER**

Project Contingency is provided to be used at the discretion of the OWNER for any unforeseen items. Any work performed without prior authorization from the OWNER shall not be paid under this item. The CONTRACTOR shall include this amount within their bid and understand the intent is not to utilize this item. A maximum contingency amount of \$20,000 is provided for this item. At the completion of the work, funds not utilized in this item shall be removed from the Contract. This pay item can also be used to supplement other pay items that were overrun and deemed necessary for this project success.

MEASUREMENT AND PAYMENT: Payment for contingency work shall be made by the lump sum price agreed on in writing by the OWNER and the CONTRACTOR before said work is commenced. The Work is subject to all other conditions of the contract. The CONTRACTOR will only charge the fraction of the allowance that yields the agreed upon price which will be considered payment in full for all labor, materials, tools, equipment, and incidentals.

**BID ITEM 82: UTILITY CONTINGENCY AS DIRECTED BY OWNER**

Utility Contingency is provided to be used at the discretion of the OWNER for unforeseen utility related items. Any work performed without prior authorization from the OWNER shall not be paid under this item. The CONTRACTOR shall include this amount within their bid and understand the intent is not to utilize this item. A maximum contingency amount of \$15,000 is provided for this item. At the completion of the work, funds not utilized in this item shall be removed from the Contract. This pay item can also be used to supplement other pay items that were overrun and deemed necessary for this project success.

MEASUREMENT AND PAYMENT: Payment for contingency work shall be made by the lump sum price agreed on in writing by the OWNER and the CONTRACTOR before said work is commenced. The Work is subject to all other conditions of the contract. The CONTRACTOR will only charge the fraction of the allowance that yields the agreed upon price which will be considered payment in full for all labor, materials, tools, equipment, and incidentals.

**BID ITEM 83: PAVEMENT CONTINGENCY AS DIRECTED BY OWNER**

Pavement Contingency is provided to be used at the discretion of the OWNER for unforeseen utility related items. Any work performed without prior authorization from the OWNER shall not be paid under this item. The CONTRACTOR shall include this amount within their bid and understand the intent is not to utilize this item. A maximum contingency amount of \$15,000 is provided for this item. At the

completion of the work, funds not utilized in this item shall be removed from the Contract. This pay item can also be used to supplement other pay items that were overrun and deemed necessary for this project success.

**MEASUREMENT AND PAYMENT:** Payment for contingency work shall be made by the lump sum price agreed on in writing by the OWNER and the CONTRACTOR before said work is commenced. The Work is subject to all other conditions of the contract. The CONTRACTOR will only charge the fraction of the allowance that yields the agreed upon price which will be considered payment in full for all labor, materials, tools, equipment, and incidentals.

# **SECTION V**

## **SPECIAL PROVISIONS**

# SPECIAL PROVISIONS

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## **SPECIAL PROVISIONS**

### **SP-1: GENERAL**

For this contract, the General Provisions (Division 100) of the "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, adopted in November 2017, with all amendments thereto, shall govern and shall constitute as the Special Provisions except as herein amended, modified or supplemented. Omission of any section from this Project's Contract Documents does not mean that such section is not applicable to this Project. The NCTCOG General Provisions will be referred to as the General Provisions (GP) and will not be physically bound with the other contract documents. Copies may be obtained from the North Central Texas Council of Governments.

The following Special Provisions shall take precedence over all other contract conditions, specifications and agreements.

### **SP-2: PROJECT DESCRIPTION**

The work associated with this Project includes, but is not limited to, the following tasks:

1. Construction Staking
2. Traffic and Erosion Control
3. Roadway Grading
4. Concrete and Asphalt Paving
5. Driveway Reconstruction
6. Storm Drain Improvements
7. Water Improvements
8. City Utility Adjustments
9. Pavement Marking and Signage

### **SP-3: DEFINITIONS**

Modify GP Item 101.1 Definitions as follows:

The word "City" or "OWNER" in these documents shall be understood as referring to:

The City of North Richland Hills, Texas  
4301 City Point Drive  
North Richland Hills, Texas 76180

The word "Engineer" in these documents shall be understood as referring to a professional engineer employed by the City of North Richland Hills.

The word "Inspector" in these documents shall be understood as referring to the technical construction inspector within the OWNER's Public Works Department.

The word "OWNER's Representative" in these documents shall be understood as referring to the OWNER's Director of Public Works, Public Works Technical Construction Inspector(s), Engineer of the OWNER, or such other Engineer or Supervisor as may be authorized by the OWNER to act in any particular position.

Any reference to "Special Conditions" or "Supplemental Special Conditions" shall be understood as referring to these Special Provisions.

**SP-4: INFORMATION CONCERNING CONDITIONS**

Add the following to GP Item 102.3. Examination of Plans, Specifications and Site of the Work:

Prospective bidders shall make a careful examination of the entire site of the project and shall make such explorations as may be necessary to determine the subsoil and water conditions to be encountered; improvements and obstructions which may be encountered, especially those to be protected; methods of providing ingress and egress to private as well as public property; methods of handling traffic during construction and maintenance of the entire project as well as any section thereof; protection of all existing structures both above and below ground; and how the plans fit the proposed project and especially if any discrepancies exist.

The accuracy of the information furnished by the Engineer or the plans and specifications as to underground structures and surface structures, foundation conditions, character of soil, position and quality of ground and subsoil water, etc., are not guaranteed by the OWNER.

Subsurface exploration, to ascertain the nature of the soils at the project site, including the amount of rock, if any, is to be the responsibility of any and all prospective bidders. Whether prospective bidders perform this subsurface exploration jointly or independently, it shall be left to the discretion of such prospective bidders. Subsurface exploration shall not be attempted without the approval of the Engineer.

**SP-5: ADDENDA**

Bidders wanting further information, interpretation or clarification of the Contract Documents must make their request in writing to the Engineer **at least seven (7) days prior to the Bid Opening**. Answers to all such requests will be made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding.

Should a bidder find discrepancies in, or omission from the Contract Documents, or should he/she be in doubt as to their meaning, he/she should at once notify the Engineer in order that a written addendum may be sent to all bidders. Any addenda issued will be mailed or be delivered to each prospective bidder who has requested and received a bid packet. The bid proposal as submitted by the bidder must be so constructed as to include any addenda issued by the Engineer prior to 24 hours of the bid opening, with the appropriate recognition of addenda so noted in the bid proposal.

**SP-6: PROPOSED GUARANTY**

Modify GP Item 102.5. Proposal Guaranty to include:

The five percent (5%) proposal guaranty shall be five percent (5%) of the largest possible total for the bid submitted.

**SP-7: FILING OF PROPOSAL**

Add the following to GP Item 102.6. Filing of Proposals:

Bids, affidavits and proposed construction schedules must be submitted in sealed envelopes within the time limit for receiving proposals, as stated in the "NOTICE TO BIDDERS", which envelopes bear a legible notation, "PROPOSAL", and the name of the project. The original copy shall be filed with the City of North Richland Hills in the office of the City Secretary at City Hall.

**SP-8: REJECTION OF PROPOSALS**

Add the following reasons to GP Item 102.11. Rejection of Proposals:

- (7) Proposals that are incomplete insofar as the required signatures, proposal guaranty, or containing any material irregularities.

**SP-9: DISQUALIFICATION OF BIDDERS**

Add the following reason to GP Item 102.12. Disqualification of Bidders:

- (9) where more than one proposal for an individual firm, partnership, or corporation is filed under the same or different names and where such proposals are not identical in every respect.

**SP-10: QUALIFICATION TO PERFORM**

The OWNER may make such investigations as he/she deems necessary to determine the bidder's ability to perform the work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted fails to satisfy the OWNER that such bidder can properly carry out the obligations of the contract and to complete the work contemplated therein.

**SP-11: AWARD OF CONTRACT**

Add the following to GP Item 103.2. Award of Contract and Commencement of Work:

The award, if made, shall be on the basis of the lowest acceptable bid submitted by a qualified responsible bidder, as determined by the OWNER, within 60 days after the opening of proposals. In determining the lowest acceptable bid, the OWNER will consider all relative factors such as: efficiency of a single contractor in the project area, increase in public safety due to a single contractor's operations, length of construction, coordination of construction activities, previous experience the OWNER may have had with the bidder, effects on area traffic due to construction detours and efficient use of City funds. The right is reserved, as the interest of the OWNER may require, to reject any and all bids and to waive any formality in bids received. It is the intention of the OWNER to award a single contract for this work.

**SP-12: BONDS - AMOUNT AND TERMS**

In addition to GP Item 103.3. Surety Bonds, add the following:

With the execution and delivery of the contract, the CONTRACTOR shall furnish and file with the City in the amount herein required, the following surety bonds:

- (1) A good and sufficient Performance Bond in an amount equal to one hundred percent (100%) of the total awarded contract price, guaranteeing the full and faithful execution of the work and performance

of the contract and for the protection of the City against any improper execution of the work or the use of inferior materials.

- (2) A good and sufficient Payment Bond in an amount equal to one hundred percent (100%) of the total awarded contract price, guaranteeing payment for all labor, materials and equipment used in the construction of the project.
- (3) A good and sufficient Maintenance Bond in an amount equal to twenty percent (20%) of the final contract price, guaranteeing the maintenance in good condition of such project for a period of two (2) years from and after the time of its completion and acceptance by the City.

General conditions for bonds are as follows:

1. The surety on each bond must be a responsible surety company which is licensed and qualified to do business in the State of Texas (surplus lines carriers are not acceptable) and satisfactory to the City. No surety will be accepted who is in default or delinquent on any bond or who is interested in any litigation against the City. Should any surety on the contract be determined unsatisfactory at any time by the City, notice will be given to the CONTRACTOR to the effect, and the CONTRACTOR shall forthwith substitute a new Surety or Sureties satisfactory to the City. (Texas Lloyd's Plan carriers are not acceptable.) No payment will be made under the contract until the new Surety or Sureties, as required, have qualified and have been accepted by the City. The contract shall not be operative nor shall any payments be due until approval of the bonds has been made by the City.
2. The surety company should be listed in the current circular of the "Federal Register - Department of the Treasury - Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsurance Companies".
3. The surety shall/must have an underwriting limitation (as shown in the Federal Register) to cover 110% of the project cost. Exceptions to a requirement may be made in unusual circumstances, subject to approval by the Office of Risk Management and the City Attorney's Office.
4. All bonds shall be made on forms furnished by the City and shall conform to the requirements as set forth herein.
5. Each Bond shall be executed by the CONTRACTOR and the Surety. The name and residence of each individual party to the bond shall be

inserted in the body thereof, and each such party shall sign the bond with his/her usual signature on the line opposite the scroll seal, and if signed in the States of Main, Massachusetts, or New Hampshire, an adhesive seal shall be fixed opposite the signature.

6. If the principals are partners, their individual names will appear in the body of the bond or on proceeding pages to be included with said bond with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.
7. The signature of a witness shall appear in the appropriate place, attesting the signature of each individual party to the bond.
8. The principal or surety shall be a corporate surety; the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond or on proceeding pages to be included with said bond, and said instrument shall be executed and attested under the corporate seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.
9. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary according to the form attached hereto. In lieu of such certificate, records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.
10. The date of any bond must not be prior to the date of the contract in connection with which it is given.

**SP-13: INSURANCE REQUIREMENTS**

In addition to the provisions of GP Item 103.4. Insurance, add the following:

Workmen's Compensation Insurance: Statutory requirements as specified by the Workmen's Compensation Law of the State of Texas and adopted by the Texas Workers' Compensation Commission per Title 28, TAC §110.110.  
Workers' Compensation Insurance Coverage:

A. Definitions:

- (1) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission or a coverage agreement (TWCC-81, TWCC-82,

TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project for the duration of the project.

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

- (8) Project - Includes the provision of all services related to a building or construction contract for a governmental entity.
- B. The CONTRACTOR shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the CONTRACTOR providing services on the project for the duration of the project.
- C. The CONTRACTOR must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- D. If the coverage period shown on the CONTRACTOR's current certificate of coverage ends during the duration of the project the CONTRACTOR must prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- E. The CONTRACTOR shall obtain from each person providing services on the project and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
  - (2) no later than seven days after receipt by the CONTRACTOR, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- F. The CONTRACTOR shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. The CONTRACTOR shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the CONTRACTOR knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- H. The CONTRACTOR shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

- I. The CONTRACTOR shall contractually require each person with whom it contracts to provide services on a project, to:
  - (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;
  - (2) provide to the CONTRACTOR, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
  - (3) provide the CONTRACTOR, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (4) obtain from each other person with whom it contracts, and provide to the CONTRACTOR:
    - (a) a certificate of coverage, prior to the other person beginning work on the project; and
    - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
  - (6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
  - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

- J. By signing this contract or providing or causing to be provided a certificate of coverage, the CONTRACTOR is representing to the governmental entity that all employees of the CONTRACTOR who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. The CONTRACTOR's failure to comply with any of these provisions is a breach of contract by the CONTRACTOR which entitles the governmental entity to declare the contract void if the CONTRACTOR does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

In accordance with statutory requirements, the CONTRACTOR shall:

- (1) provide coverage for its employees providing services on the project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
- (2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;
- (3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the CONTRACTOR's current certificate of coverage ends during the duration of the project;
- (4) obtain from each person providing services on the project, and provide to the governmental entity:
  - (A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

- (B) no later than seven (7) days after receipt by the contract, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;
- (7) post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text in Figure 1 provided by the commission on the sample notice, without any additional words or changes:

Figure 1:

#### REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee"

"Call the Texas Workers' Compensation Commission at (512) 440-3789 to receive information on the legal requirement for

coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

In GP Item 103.4.1.2. Commercial General Liability, change the respective limits as follows:

Contractor's General Liability and Property Damage Insurance:

Bodily Injury (or Death)     \$ 600,000 each occurrence

Property Damage                 \$ 600,000 each occurrence

**SP-14: POLICY ENDORSEMENTS AND SPECIAL CONDITIONS**

In addition to the provisions of GP Item 103.4.5. Policy Endorsements and Special Conditions, add the following:

- (a) CONTRACTOR will not be issued a Work Order to commence work on this Contract until he/she has obtained all the insurance required under this section and such insurance has been approved by the OWNER or his representative.
- (b) CONTRACTOR shall procure and shall maintain during the life of this Contract, insurance coverage as herein specified, and in case of any work sublet, shall require any subcontractor in like manner to secure and maintain such minimum limits of insurance coverage, also.
- (c) The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of policies. Such certificates shall contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered except after thirty (30) days written notice has been received by the OWNER."

**SP-15: ORDER OF WORK**

Add the following to GP Item 103.6. Notice to Proceed and Commencement of Work:

The CONTRACTOR shall be fully responsible for proper coordination for the relocation of utilities (i.e. power poles, electrical lines, gas lines, telephone lines, television (TV) cable lines, buried cables, etc.) public and private unless otherwise noted on the plans/drawings.

## **SP-16: PRIORITY OF CONTRACT DOCUMENTS**

Delete GP Item 105.1.1. Priority of Contract Documents and substitute the following:

In case of conflict between contract documents, priority of interpretation shall be in the following order:

- (1) This Agreement
- (2) Addendum(s)
- (3) "Notice to Bidders" advertisement
- (4) Bidder's Proposal
- (5) Special Instruction to Bidders
- (6) Performance, Payment and Maintenance Bonds
- (7) Certification of Insurance
- (8) Notice to Proceed
- (9) Technical Specifications
- (10) City of North Richland Hills' Public Works Design Manual
- (11) Special Provisions
- (12) General Provisions
- (13) Special Specifications
- (14) Project Construction Plans/Drawings
- (15) Special Material and/or Equipment Specifications
- (16) Special Material and/or Equipment Drawings
- (17) "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, Adopted November 2017
- (18) TxDOT Standard Specifications for Construction and Maintenance of Highways, Street, and Bridges (TxDOT Specifications)
- (19) North Central Texas Council of Government references

## **SP-17: WARRANTY**

In GP Item 105.2.2. Special Warranty, change all references from one year to two (2) years and add the following:

Notwithstanding any certificate which may have been given by the Engineer, if any materials, equipment or any workmanship which does not comply with the requirements of this contract shall be discovered within two (2) years after completion of construction of the project, and acceptance by the OWNER, the CONTRACTOR shall replace such defective materials or equipment, or remedy any such defective workmanship within ten (10) days after notice in writing of the existence thereof shall have been given by the OWNER or City Engineer. In the event of failure of the CONTRACTOR to replace any such defective materials or equipment or to remedy defective workmanship as herein

provided, the OWNER may replace such defective materials or equipment or remedy such workmanship as the case may be and in such event the CONTRACTOR shall pay to the OWNER the cost and expense thereof.

**SP-18: LINES AND GRADES**

Add the following to GP Item 105.4. Construction Stakes:

The CONTRACTOR is responsible to provide all construction staking under this contract.

All work under this contract shall be constructed in accordance with the lines and grades shown on the plans/drawings. The full responsibility for the holding to alignment and grade shall rest upon the CONTRACTOR.

The CONTRACTOR shall protect all property corner markers, and when any such markers or monuments are in danger of being disturbed, they shall be properly referenced and if disturbed shall be reset at the expense of the CONTRACTOR.

**SP-19: INSPECTION AND TESTING**

Add the following to GP Item 106.5. Samples and Tests of Materials:

The CONTRACTOR shall be responsible for paying for all testing and testing related items (acquiring specimens, proper specimen control, etc.) on this Project.

During the progress of the work, all materials, equipment and workmanship shall be subjected to such inspections and tests as will assure conformance with the contract requirements.

The CONTRACTOR shall furnish at his/her expense all necessary specimens and samples for testing.

Sampling and testing of all materials or construction methods shall be performed by a commercial laboratory, approved by the City Engineer, and permitted with the City of North Richland Hills' Public Works Department.

When the CONTRACTOR's materials, construction items or products incorporated in the project fail to satisfy the minimum requirements of the initial test and he/she has to bear the cost of any retesting, he/she shall be responsible for any and all cost associated with such retesting. If in this situation, the CONTRACTOR utilizes the same testing laboratory as the OWNER, the CONTRACTOR shall pay said testing laboratory in full or the

testing laboratory shall be able to gain recourse through the CONTRACTOR's Payment Bond.

In the event a conflict arises concerning the interpretation of A.S.T.M., A.C.I., A.W.W.A., etc., specifications/standards, the City Engineer shall make his/her determination of the interpretation and his/her determination shall be final.

**SP-20: INDEMNIFICATION**

The CONTRACTOR shall familiarize himself/herself with GP Item 107.3. Indemnification and GP Item 107.20.3.2. Indemnification. Additionally, the following shall be added to both Indemnification items:

This agreement, however, does not waive any governmental immunity available to the OWNER under Texas law and nor any defenses of the parties under Texas law. The provisions of this paragraph are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

**SP-21: SALES TAX**

Add the following to GP Item 107.15. State and Local Sales and Use Taxes:

The OWNER qualifies for exemption from state and local sales and use taxes, pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise and Use Tax Act, as amended. Therefore, the OWNER shall not be liable for, or pay the CONTRACTOR's cost of such sales and use taxes which would otherwise be payable in connection with the performance of this contract.

**SP-22: TRAFFIC CONTROL**

Add the following to GP Item 107.20.2. Protection of Persons and Property:

The CONTRACTOR shall not remove any regulatory sign, instructional sign, street name sign, or other sign which has been erected by the City. If it is determined that a sign must be removed to permit required construction, the CONTRACTOR shall contact the City to remove the sign. In the case of regulatory signs, the CONTRACTOR must replace the permanent sign with a temporary sign meeting the requirements of the above referenced manual and such temporary sign must be installed prior to the removal of the permanent sign. If the temporary sign is not installed correctly or if it does not meet the required specifications, the permanent sign shall be left in place until the temporary sign requirements are met. When construction work is completed to the extent that the permanent sign can be reinstalled, the CONTRACTOR

shall again contact the City to reinstall the permanent sign and shall leave his temporary sign in place until such installation is completed.

The CONTRACTOR shall prosecute his traffic control work in such a manner as to create a minimum of interruption to traffic and pedestrian facilities and to the flow of vehicular and pedestrian traffic within the project area.

Access to adjacent property shall be maintained at all times unless otherwise approved by the OWNER.

**SP-23: TRENCH SAFETY**

Add the following paragraph to GP Item 107.20.3. Trench Safety:

Per Chapter 756, Texas Health & Safety Code, it shall be the responsibility of the CONTRACTOR to provide and maintain a viable trench safety system at all times during construction activities. The CONTRACTOR is directed to become knowledgeable and familiar with the standards as set forth by the Occupational Safety and Health Administration for trench safety that will be in effect during the period of construction of the project and the CONTRACTOR is responsible for conforming to such regulations as prescribed by Occupational Safety and Health Administration standards.

**SP-24: WORK-SITE AREA AND CLEAN-UP**

Add the following to GP Item 107.22. Working Area:

During construction the CONTRACTOR shall at all times keep the job site free from waste, debris and rubbish, and shall maintain a daily routine of clean-up.

The working operations of the CONTRACTOR shall at all times be conducted so as to create a minimum of inconvenience to the OWNER or to the public. Stringing of pipe, stockpiling of materials, etc., will be allowed only where no inconvenience is caused and only in amounts that can be readily used by the CONTRACTOR.

All trees, stumps, slashings, brush or other debris to be removed from the site, shall be disposed of in a manner consistent with Local Ordinances and all State Regulations. Burning of trash, etc., will only be permitted where allowed by Local Ordinances and State Pollution Regulations.

All excavated earth in excess of that required for project embankments and/or backfilling shall be removed from the job site and disposed of in a satisfactory manner. Disposal of excess material into area creeks and drainageways will not be allowed.

Any trees or other landscape features scarred or damaged by the CONTRACTOR's operations shall be restored or replaced at the CONTRACTOR's expense. Trimming or pruning to facilitate the work will be permitted only by experienced workmen in an approved manner. Pruned limbs of one inch (1") diameter or larger, shall be thoroughly treated as soon as possible with a tree wound dressing.

The CONTRACTOR shall take all precautions required to prevent soil erosion during construction. If, in the opinion of the City Engineer, excessive erosion occurs, the CONTRACTOR shall take immediate measure to prevent further erosion and restore the disturbed surface with topsoil at completion of the work.

All property along and adjacent to the CONTRACTOR's operations including lawns, yards, shrubs, trees, etc., shall be preserved or restored after completion of the work, to a condition equal to or better than existed prior to start of work.

Upon completion of the work as a whole and prior to final acceptance, the CONTRACTOR shall clean and remove from the site all surplus and discarded materials, temporary structures and all debris. He/She shall leave the site in a neat and orderly condition with an appearance satisfactory to the City Engineer and OWNER. Method and location of disposal or surplus and waste materials shall be satisfactory to the City Engineer.

The CONTRACTOR shall then thoroughly clean all equipment and materials installed by him/her and shall present for final inspection materials and equipment in a clean, bright and new condition.

No extra payment will be made for any of this type of work required on the project.

**SP-25: EXISTING STRUCTURES, FACILITIES AND IMPROVEMENTS**

Add the following to GP Item 107.24. Existing Structures, Facilities and Appurtenances:

The CONTRACTOR's attention is directed to the necessity of taking adequate measures to protect all existing structures, facilities, improvements and utilities, including sprinkler systems, encountered.

The plans show the locations of most known surface and subsurface structures. However, the OWNER assumes no responsibility for failure to show any or all of these structures on the plans or in their exact location. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work, or for increasing the pay quantities in any manner,

unless the obstruction encountered is such as to necessitate substantial changes in the lines or grades, or requires the building of special works not provided for in the Contract Documents.

Any non-City utilities (cable, electric, gas, telephone, etc.) damaged by the CONTRACTOR shall be the responsibility of the CONTRACTOR for relocation and/or repair as well as the costs associated with the relocation and/or repair of utilities. Any City utilities (sanitary sewer main and water distribution main) damaged by the non-negligent acts of the CONTRACTOR will not be the responsibility of the CONTRACTOR for repair. Any delays associated with the relocation and/or repair of utilities shall not be basis for a claim for extra pay.

In the progress of the work, the CONTRACTOR may have to relocate certain existing utility service lines. All relocation, repairs and replacement work shall be done at the expense of the CONTRACTOR to the satisfaction of the OWNER, except those for which specific pay items appear in the Bid Proposal.

Any utilities damaged during construction work shall be immediately repaired at the CONTRACTOR's expense.

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

**SP-26: PROSECUTION OF CONSTRUCTION**

Add the following to GP Item 108.2. Prosecution of the Work:

The CONTRACTOR will, unless otherwise approved by the City Engineer, prosecute the construction of this project during normal working hours as defined below:

- (a) Normal Work Day shall mean the normal eight (8) hour working day between the hours of 8:00am and 5:00pm
- (b) Normal Work Week shall mean the forty (40) hour work week encompassing the five (5) eight-hour days, Monday through Friday.

- (c) Holidays to be observed and to be included into the normal work week will be:

New Years Day	January 1 <sup>st</sup>
Martin Luther King Day	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4 <sup>th</sup>
Labor Day	First Monday in September
Thanksgiving Holiday	Fourth Thursday in November and the following Friday
Christmas Holiday	December 24 <sup>th</sup> & December 25 <sup>th</sup>

Any of the above dates falling on a Sunday shall be observed on the following Monday.

- (d) All work contemplated to be done which will not be in accordance with the normal hours will require prior approval from the City Engineer. The CONTRACTOR shall request permission by the City Engineer 72 hours in advance of the time he/she intends to work.

Work which is of necessity performed at times other than normal working hours will not require prior approval unless construction scheduling can be arranged to prevent such conflict of time requirements.

All work performed other than the normal working hours, whether scheduled or required, will in no way increase the cost to the OWNER for the performance of such work. The CONTRACTOR shall pay the OWNER for inspection services, city administrative fees, etc. when work has been approved to be performed on Weekends, Holidays and outside any normal working hours. These services shall be charged at the rate of \$75.00 per hour and shall include a four (4) hour minimum charge.

- (e) Calendar Days is defined as any day of the week or month; no days being excepted, such as, Saturdays, Sundays, holidays and inclement weather days. Counting of contract time will only be stopped when the Owner issues a written notice stating this fact, or when the project is noted as substantially complete by written notice from the Owner. The Owner shall determine when such action is necessary.

Extensions of time due to weather delays shall be determined in accordance with the following formula:

$E = R - P$  where P is greater than or equal to R, and

E = Extra Precipitation Days  
P = Average Precipitation Days  
R = Total Precipitation Days

Average Precipitation Days (P) is defined as a day of rain, sleet, hail, snow or any combination thereof, and shall be based upon the average precipitation for each month of the year as defined in the Local Climatological Data summaries issued by the National Climatic Data Center in Asheville, North Carolina, and for this contract shall be as follows:

Average Precipitation

Month No. of Days	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
	6	6	7	7	8	6	4	4	6	6	6	6

Partial months shall be prorated uniformly for the entire month and the sum of all the months used will be rounded to the nearest whole number. This number shall be P.

Total Precipitation Days (R) is defined as a day of rain, sleet, hail, snow or any combination thereof, if determined by the Owner's Project Representative that the Contractor's construction cannot progress substantially due to precipitation and thus be put in the Daily Inspection Logs as a precipitation day. The sum of all precipitation says shall be R.

The total number of Extra Precipitation Days (E) shall be granted to the Contractor as extension of time due to weather delays, and no additional time due to drying time for saturated soil will be allowed.

**SP-27: LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE ON TIME**

Delete the Table [Schedule 108.8.1.(a) Liquidated Damages] within GP Item 108.8.1. Liquidated Damages for Failure to Complete on Time and substitute the following:

The contract time for the entire project is based on the four project phases as shown in plans. The contract time for Phase I from the "Notice to Proceed" issuance date through completion of Phase 1 is 60 consecutive calendar days (40 calendar days with alternate bids). The contract time for Phase 2 from the

end of Phase 1 through final completion of Phase 2 is 120 consecutive calendar days (80 calendar days with alternate bids). The contract time for Phase 3 from the end of Phase 2 through final completion of Phase 3 is 120 consecutive calendar days (80 calendar days with alternate bids). The contract time for Phase 4 from the end of Phase 3 through final completion of Phase 4 is 60 consecutive calendar days (40 calendar days with alternate bids). For additional information, refer to Article 3 of the Standard Form of Construction Agreement.

Liquidated damages will be assessed at the rate of **\$550** per consecutive calendar day for any unfinished work beyond the 360<sup>th</sup> calendar day (240 with alternate bids) after the "Phase I Notice to Proceed" issuance date. This rate shall continue until such time that the Project is complete and accepted by the OWNER.

#### **SP-28: OCCUPATIONAL SAFETY AND HEALTH ACT**

All work performed under this contract shall meet the requirements of the Occupational Safety and Health Act. It is the responsibility of the CONTRACTOR to familiarize himself/herself with the latest provisions of regulations published by the Occupational Safety and Health Administration in the Federal Register and to perform all of his/her responsibilities thereunder.

The CONTRACTOR shall comply with the provisions of the Occupational Safety and Health Act and the standards and regulations issued thereunder and warrant that all work, materials and products furnished under this contract will conform to and comply with said standards and regulations which are in existence on the date of this contract. The CONTRACTOR further agrees to indemnify, defend, and hold harmless the OWNER for all damages suffered by the OWNER as a result of the CONTRACTOR's failure to comply with the Act and the Standards issued thereunder and for the failure of any material and/or equipment furnished under this contract to so comply.

The CONTRACTOR shall also comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., if not in conflict with those of the Occupational Safety and Health Act and shall maintain an accurate record of all cases of death, occupational disease and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment or work under the contract.

The CONTRACTOR alone shall be responsible for the safety, efficiency and adequacy of his/her equipment and employees and for any damage which may result from their failure or their improper construction, maintenance or operation.

**SP-29: EASEMENTS/RIGHTS-OF-WAY**

Without cost to the CONTRACTOR, the OWNER will provide the necessary easements or rights-of-way required for the project. However, the CONTRACTOR may desire additional temporary easements for the duration of the work for his/her construction, storage or access. All such temporary easements shall be obtained by the CONTRACTOR at no additional cost to the contract or the OWNER.

Unless specifically provided otherwise, the CONTRACTOR, as part of his/her work, shall clear all easements or rights-of-way of all obstructions to the work. On conclusion of his/her operations, he/she shall replace, repair or restore any improvements which may have been removed or damaged, as directed by the City Engineer.

**SP-30: RIGHT OF ENTRY**

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

**SP-31: AUTHORITY AND DUTIES OF INSPECTOR**

Inspectors, designated by and acting under the direction of the OWNER, shall have the authority to inspect all work done and all materials furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication or manufacture of the materials to be used. He/She is authorized to call to the attention of the CONTRACTOR any failure of the work or materials to conform to the plans, specifications and contract documents. He/She shall have the authority to reject materials or suspend the work until any situation at issue can be referred to and decided by the OWNER.

The Inspector is not authorized to revoke, alter or waive any requirements of the plans and specifications. He/She shall in no case act as foreman or perform other duties for the CONTRACTOR, interfere with the management of the work by the latter. Any advice which the Inspector may give the CONTRACTOR shall otherwise not be construed as binding the City Engineer in any way, or releasing the CONTRACTOR from fulfilling all of the terms of the Contract.

If the CONTRACTOR refuses to suspend operations on verbal order of the Inspector, a written order will be presented to the CONTRACTOR by the Inspector giving the reason for suspension of work. After placing the order in the hand of the "man-in-charge", the Inspector shall immediately leave the job. Work performed during the absence of the Inspector will not be accepted nor paid for, and shall be removed and replaced.

Notwithstanding any other provision of this agreement or any other Contract Documents, the Inspector shall not be in any way responsible or liable for any act, errors, omissions or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR's or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

**SP-32: OWNER-ENGINEER RELATIONSHIP**

The Engineer will be the OWNER's representative during construction. The duties, responsibilities and limitations of authority of the Engineer as the OWNER's Representative during construction are as set forth in the Contract Documents and shall not be extended or limited without written consent of the OWNER and Engineer. The Engineer will advise and consult with the OWNER, and all of OWNER's instructions to the CONTRACTOR shall be issued through the Engineer.

**SP-33: PROFESSIONAL INSPECTION BY ENGINEER**

The Engineer shall make periodic visits to the Site to familiarize himself/herself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the Engineer shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith.

Notwithstanding any other provision of this agreement or any other Contract Documents, the Engineer shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR's or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

**SP-34: COPIES OF PLANS AND SPECIFICATIONS FURNISHED**

Four (4) sets of plans and specifications (not including the General Provisions) shall be furnished to the CONTRACTOR at no charge for construction purposes. Additional sets may be obtained from the Engineer at **\$ 50.00 per set**.

**SP-35: VERIFICATION OF MEASUREMENTS**

Before ordering any material or doing any work, the CONTRACTOR shall verify all measurements involved and shall be responsible for the correctness of these measurements. No extra charge or compensation will be allowed because of differences between actual dimensions and the dimensions shown on the drawings; any difference which may be found shall be called to the attention of the Engineer for consideration before proceeding with the work.

**SP-36: PAY ITEMS - INCIDENTAL CONSTRUCTION**

The CONTRACTOR shall be paid only for those items which are listed in the proposal or which are added to the job through a change order. All construction or removal considerations which are not listed as a separate pay item shall be considered as incidental construction. Cost for these items shall be considered in the most appropriate item listed in the schedule(s) of pay items.

**SP-37: OMISSIONS**

- (a) In the event that the specifications inadvertently omit some of the usual and customary work, auxiliary equipment or material required for the satisfactory installation and operation of all work, equipment or material, the CONTRACTOR shall provide these items as directed by the Engineer at his/her own expense. The CONTRACTOR will be assumed to be an experienced and qualified CONTRACTOR in this type of work, and to have studied the purpose of operation of the equipment and the results to be obtained, and is to furnish equipment suitable for the work to be done.
- (b) In the event that the specifications inadvertently fail to contain a specification for work to be done and material to be furnished, then the Standard Current Specification or Requirements of the A.W.W.A., A.S.T.M., A.S.C.E., A.S.E.E., A.S.M.E., N.B.F.U., N.E.C., N.E.M.A., O.S.H.A., NCTCOG "Standard Specifications for Public Works Construction" or TxDOT "Standard Specifications for Construction of Highways, Streets and Bridges" shall apply. Should the above specifications not apply, then the work done, equipment or material furnished shall be as directed by the Engineer.

**SP-38: MINIMUM WAGE RATES**

For the work required of this project, the CONTRACTOR and all sub-contractors shall pay his/her employees the prevailing wage rates in accordance with the Texas Government Code, Chapter 2258. The prevailing wage rates determined applicable for this project are the current prevailing wage rate schedules of the United States Department of Labor adopted in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a, et. seq.) and its subsequent amendments. These

prevailing wage rates can be obtained from the following web page: [www.access.gpo.gov/davisbacon/tx.html](http://www.access.gpo.gov/davisbacon/tx.html) (Tarrant County).

A CONTRACTOR or sub-contractor who does not pay his/her employees in accordance with these prevailing wages shall pay \$ 60.00 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in these prevailing wage rates to the CITY.

**SP-39: LOSSES FROM NATURAL CAUSES**

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

**SP-40: EXPLOSIVES, BLASTING, ETC.**

Neither explosives nor blasting shall be allowed or used on this project.

**SP-41: WORK WITH OWN FORCES**

The CONTRACTOR shall perform with his own forces work of a value of not less than fifty percent (50%) of the contract amount.

**SP-42: PROJECT NAME CONSTRUCTION SIGNS**

The CONTRACTOR shall install two (2) Project Name Construction Signs on Main Street. One sign shall be at or near the intersection of Amundson Drive and Main Street and one sign shall be at or near the intersection of Amundson Road and Main Street. The exact locations shall be approved by the OWNER prior to installation.

These signs shall be in general accordance with Figure 2M (R 07-01-2009) of the City of North Richland Hills' Public Works Design Manual, but the sign verbiage must be approved by the OWNER prior to fabrication. These signs shall be installed within 15 calendar days from the date the OWNER awards the contract and shall remain in place during the entire construction period. These Signs shall be removed within 15 calendar days after the OWNER's acceptance of the project improvements.

Sign Data:  
Project Name: **Main Street**  
Projected Completion: *To Be Determined After Contract Award*

**SP-43: WATER FOR CONSTRUCTION**

The CONTRACTOR shall make the necessary arrangements for securing and transporting all water required in the construction, including water required for mixing of concrete, sprinkling, testing, flushing or jetting.

The CONTRACTOR may remit the City a deposit for a fire hydrant water meter; additionally, the CONTRACTOR will be billed for the water used on the construction of this contract and measured by such fire hydrant meter. Additionally, the cost of any temporary pipe line, metering or other equipment which may be necessary to make use of such fire hydrant water meter and water, shall be considered as incidental to the work and payment therefore shall be included in the various bid items of the proposal. If the CONTRACTOR chooses to use such fire hydrant water meter, he/she shall assume full responsibility for it and return it in the same or similar condition as received otherwise the CONTRACTOR will not be returned his/her deposit.

**SP-44: OWNER'S RIGHT TO SUSPEND WORK AND ANNUL CONTRACT**

Delete GP Item 108.9.(2) and replace it with the following:

- (2) failure of the CONTRACTOR to make the progress set out in the Progress Schedule;

**SP-45: OWNERSHIP OF DRAWINGS**

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

**SP-46: ADEQUACY OF DESIGN**

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



# **SECTION VI**

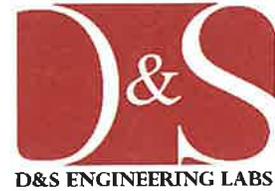
# **GEOTECHNICAL REPORT**

# Geotechnical Engineering Report

## NRH Main Street Improvements North Richland Hills, Texas

May 12, 2023





May 12, 2023

Peloton Land Solutions  
Attn: Ryan Sextro, P.E.  
9800 Hillwood Parkway, Suite 250  
Fort Worth, Texas 76117  
Phone: 817.562.3350  
Email: ryan.sextro@pelotonland.com

**GEOTECHNICAL INVESTIGATION  
D&S ENGINEERING #G23-2035  
NRH MAIN STREET PAVEMENT IMPROVEMENTS  
NORTH RICHLAND HILLS, TEXAS**

Mr. Sextro,

As requested, D&S Engineering Labs, LLC has completed the Geotechnical Investigation for the above referenced project. This investigation was conducted in accordance with Proposal No. GP23-2035 dated February 8, 2023. Authorization to proceed was received on March 30, 2023.

We appreciate the opportunity to provide professional geotechnical engineering services to you. We are available to discuss any questions which may arise regarding this report. Please do not hesitate to call when we can provide any additional services.

Sincerely,

D&S Engineering Labs, LLC

A handwritten signature in blue ink that reads 'Dalton Hubbard'.

Dalton Hubbard, P.E.  
Geotechnical Engineer



Ibrahim A. Baayeh, P.E.  
Director of Geotechnical Engineering

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**APPENDIX A – BORING LOGS AND SUPPORTING DATA**  
**APPENDIX B – GENERAL DESCRIPTION OF PROCEDURES**

**GEOTECHNICAL INVESTIGATION  
NRH MAIN STREET PAVEMENT IMPROVEMENTS  
NORTH RICHLAND HILLS, TEXAS**

**1.0 PROJECT DESCRIPTION**

This report presents the results of the geotechnical investigation for the proposed Main Street Pavement Improvements in North Richland Hills, Texas.

The project corridor encompasses a total of approximately 1,320 linear feet of roadway starting at the intersection of Amundson Dr. and ending at Amundson Rd. We understand the reconstruction will include replacement of the existing asphalt paving.

One option for the rigid pavement is to provide Reclaimed Asphalt Pavement (RAP) beneath a surface layer of concrete or asphalt, as applicable. The reclaimed material should be a uniform mixture of pulverized existing asphalt surfacing and underlying base, where it is present, and be treated with cement to provide the new pavement subgrade within the roadway. A second option for the subgrade is to provide a layer of lime treatment or aggregate base. We anticipate that the new pavement grades will be within 12 inches of existing grades.

**2.0 PURPOSE AND SCOPE**

The purpose of this investigation was to:

- Identify the subsurface stratigraphy present at the site.
- Evaluate the physical and engineering properties of the subsurface soil for use in geotechnical analyses.
- Provide geotechnical recommendations for use in the design and construction of the new pavements.

The scope of this investigation consisted of:

- Drilling and sampling a total of three (3) borings advanced across Main Street to depths of about 15 feet.
- Laboratory testing of selected soil samples obtained during field investigation.
- Preparation of a Geotechnical Report that includes the following:
  - Evaluation of Potential Vertical Movement (PVM)
  - Recommendations for pavements, and pavement subgrade preparation

### 3.0 FIELD AND LABORATORY INVESTIGATION

#### 3.1 General

The borings were advanced utilizing truck-mounted drilling equipment outfitted with continuous hollow stem augers. Undisturbed samples of cohesive soils were obtained using 3-inch diameter tube samplers, which were advanced into the soils in 1- to 2-foot increments by a continuous thrust of a hydraulic ram located on the drilling equipment. After sample extrusion, a hand penetrometer measurement was performed on each cohesive soil sample to provide an estimate of soil stiffness.

Subsurface materials were also tested and sampled in general accordance with the Standard Penetration Test (ASTM D1586). During this test, disturbed samples of subsurface material is recovered using a nominal 2-inch O.D. split-barrel sampler. The sampler is driven into the soil strata with an automatic hammer utilizing the energy equivalent of a 140-pound hammer falling freely from a height of 30 inches and striking an anvil located at the top of the drill string. The number of blows required to advance the sampler in three consecutive 6-inch increments is recorded, and the number of blows required for the final 12 inches is noted as the "N"-value. The test is terminated at the first occurrence of either of the following: 1) when the sampler has advanced a total of 18 inches; 2) When the sampler has advanced less than one complete 6-inch increment after 50 blows of the hammer; 3) when the total number of blows reaches 100; or 4) if there is no advancement of the sampler in any 10-blow interval.

Soil materials were intermittently tested in-situ using cone penetration tests in order to determine their resistance to penetration. For this test, a 3-inch diameter steel cone is driven by the energy of a 170-pound hammer falling freely from a height of 24 inches and striking an anvil located at the top of the drill string. Depending on the resistance of the soil and bedrock materials, either the number of blows of the hammer required to provide 12 inches of penetration is recorded (as two increments of 6 inches each), or the inches of penetration of the cone resulting from 100 blows of the hammer are recorded (as two increments of 50 blows each).

All samples obtained were extruded in the field, placed in plastic bags to minimize changes in the natural moisture condition, labeled according to the appropriate boring number and depth, and placed in protective cardboard boxes for transportation to the laboratory. The approximate locations of the borings performed at the site are shown on the boring location plan that is included in Appendix A. The specific depths, thicknesses and descriptions of the strata encountered are presented on the individual Boring Log illustrations, which are also included in Appendix A. The elevations noted on the boring logs were interpolated from the NCTCOG website ([dfwmaps.com](http://dfwmaps.com)), which provides spot elevation estimates and contours in 2-foot intervals. Strata boundaries shown on the boring logs are approximate.

### 3.2 Laboratory Testing

Laboratory tests were performed to identify the relevant engineering characteristics of the subsurface materials encountered and to provide data for developing engineering design parameters. The subsurface materials recovered during the field exploration were initially logged by the drill crew, then were described by a Geotechnical Engineer in the laboratory. These descriptions were later refined by a Geotechnical Engineer based on results of the laboratory tests performed. All recovered soil samples were classified and described in part using the Unified Soil Classification System (USCS) and other accepted procedures. Bedrock strata were described using standard geologic nomenclature.

In order to determine soil characteristics and to aid in classifying the soils, index property and classification testing was performed on selected soil samples as requested by the Geotechnical Engineer. These index property and classification tests were performed in general accordance with the following ASTM testing standards:

- Moisture Content ASTM D2216
- Atterberg Limits ASTM D4318
- Percent of Particles Finer than the No. 200 Sieve ASTM D1140

Additional tests were performed to aid in evaluating volume change and chemical characteristics which consisted of the following:

- Overburden Swell Testing ASTM D4546
- Soluble Sulfates TEX-145-E

The results of these tests are presented at the corresponding sample depths on the appropriate Boring Log illustrations. The index property and classification testing procedures are described in more detail in Appendix B.

#### 3.2.1 Overburden Swell Tests

Selected samples of the near-surface soil were subjected to overburden swell testing. For this test, a sample is placed in a consolidometer and subjected to the estimated overburden pressure. The sample is then inundated with water and is allowed to swell. The moisture content of the sample is determined both before and after completion of the test. Test results are recorded, including the percent swell and the initial and final moisture contents.

#### 3.2.2 Soluble Sulfates

Sulfate tests were performed on samples obtained from the field investigation, the results of which are provided in Appendix A (Boring Logs and Supporting Data). Subgrade materials in some areas of Texas have experienced sulfate-induced heave after treatment with calcium-based additives such as lime. In

general, a sulfate level less than 3,000 ppm is considered to have an acceptably low potential for sulfate induced heaving. The results of the sulfate tests performed on representative near-surface soil samples from test borings in this study indicate values about 140 to 1,240 ppm, and thus should be considered to pose a minimal risk of sulfate-induced heaving after lime treatment.

## 4.0 SITE CONDITIONS

### 4.1 Stratigraphy

Based upon a review of the recovered samples, as well as the Geologic Atlas of Texas, Sherman Sheet, this site is characterized by soil and bedrock strata associated with the Woodbine formation. The Woodbine Formation is considered to have formed in a deltaic depositional environment, and as a result, it is highly variable in composition, both laterally and vertically.

The borings were advanced through the existing asphalt pavement, which was measured to be around 5 inches thick.

Beneath the asphalt pavement within Borings P1 and P3, fill materials consisting of clayey sand material were encountered. The fill materials encountered were generally loose in condition, various shades of brown, red and tan in color, and contained varying amounts of iron oxide stains and asphalt fragments. The fill materials extended to depths of about 2 to 4 feet below current grades.

Beneath the fill materials in Borings P1 and P3, and beneath the asphalt in Boring P2, fat and lean clay soils were observed. The clay soils were generally soft to hard in stiffness, various shades of brown and gray in color, and contained varying amounts of iron oxide stains. The clay materials within these borings extended to depths of about 5 to 10 feet below current grades.

Below the clay soils, clayey sand soils were present. The clayey sand soils were generally loose to dense in condition, various shades of brown, tan and gray in color, and contained varying amounts of ferrous nodules and ironstone fragments.

Although not encountered, dense and irregular shaped masses of very hard non-calcareous concretions are known to occur at random in three dimensions throughout the Woodbine Formation. Where the very hard materials are encountered, coring equipment is often needed during pier drilling to penetrate these very hard materials. Though not encountered during this study, prudence would suggest preparation for these materials when planning excavations into the Woodbine bedrock strata (deep foundations, utility lines, etc.)

## **4.2 Groundwater**

Groundwater seepage was observed within Borings P1 and P2 at depths of about 10 to 15 feet during drilling and was measured at depths of about 15 feet upon completion of drilling. Within Boring P3, groundwater seepage was not observed during drilling or upon completion of drilling activities. Groundwater is often contained within the joints, fractures and other rock mass defects present in bedrock strata. When intercepted, these defects can produce appreciable amounts of water for a period of time, especially if those defects are extensive and well inter-connected. Groundwater levels may be anticipated to fluctuate with seasonal and annual variations in rainfall, and also may vary as a result of development and landscape irrigation.

## **5.0 ENGINEERING ANALYSIS**

### **5.1 Estimated Potential Vertical Movement (PVM)**

Potential Vertical Movement (PVM) was evaluated utilizing different methods for predicting movement, as described in Appendix B, and based on our experience and professional opinion.

At the time of our field investigation, the overburden soils were generally found to be dry to average in moisture condition. Based upon the results of our analysis, the site is estimated to possess a PVM ranging from about 2 to 3 inches at the soil moisture conditions existing at the time of the field investigation. If the near surface soils are allowed to dry appreciably to significant depth prior to or during construction, the potential for post-construction vertical movement may increase. Please note that dry, average, and wet are relative terms based on moisture content and plasticity.

## **6.0 PAVEMENT RECOMMENDATIONS**

### **6.1 General**

The pavement design recommendations provided herein are derived from the subgrade information that was obtained from our geotechnical investigation, design assumptions based on project information, our experience with similar projects in this area, and on the guidelines and recommendations of the American Concrete Pavement Association (ACPA) and the city of North Richland Hills. It is ultimately the responsibility of the Civil Engineer of Record and/or other design professionals who are responsible for pavement design to seal the final pavement design and associated specifications for this project.

### **6.2 Behavior Characteristics of Expansive Soils beneath Pavement**

Near-surface soils at this site are considered to have significant potential for volume change with changes in soil moisture content. The moisture content can be stabilized to some degree in these soils by covering them with an impermeable surface, such

as pavement. However, if moisture is introduced as a result of surface water percolation or poor drainage, the soils can heave and/or soften, causing distress to pavements in contact with the soil in the form of cracks.

The edges of pavement are particularly prone to moisture variations, and so these areas therefore often experience the most distress. When cracks appear on the surface of the pavement, these openings can allow moisture to enter the pavement subgrade, which can lead to further weakening of the pavement section as well as accelerated failure of the pavement surface.

In order to minimize the potential impacts of expansive soil on paved areas and to improve the long-term performance of the pavement, we have the following recommendations:

- Subgrade treatments should be extended beyond the back of curbs or edges of pavements.
- Avoid long areas of low-sloping roadway and adjust adjacent slopes to provide maximum drainage away from pavement edges.

### **6.3 Subgrade Strength Characteristics**

The anticipated subgrade soils in the proposed paving areas will generally consist of fat clay soils. We recommend that a California Bearing Ratio (CBR) value of 3 be used for the on-site fat clay soils in the design with a corresponding resilient modulus of 4,100 psi. For lime treated, we recommend using a resilient modulus of 20,000 psi. For compacted cement treated RAP, we recommend using a resilient modulus of 30,000 psi and a layer coefficient of 0.2.

### **6.4 Pavement Subgrade Preparation Recommendations**

The anticipated subgrade soils will be generally clay soils in the proposed paving areas which have poor subgrade characteristics and can become soft and pump with an increase in moisture content. A commonly used method to improve the strength properties of the subgrade soils, provide a working platform, reduce PVM and provide a uniform subgrade is to place a layer of compacted aggregate base, or treat with lime or provide cement treated RAP. To that end, we have the following recommendations.

#### **6.4.1 Soil Preparation for New Pavements**

- Strip the site of all existing pavements, and remove any remaining organic or deleterious material under the planned paved areas. Typically, 6 to 12 inches is sufficient for this purpose.
- Perform any cut operations as needed. We anticipate that excavation of overburden soils can be accomplished with conventional earthwork equipment and methods.

- After stripping and performing necessary cuts, the exposed subgrade should be proof rolled. Proof rolling should consist of rolling the entire pavement subgrade in mutually perpendicular directions with a heavily-loaded, tandem-axle dump truck weighing at least 25 tons or other approved equipment capable of applying similar loading conditions. Any soft, wet or weak soils that are observed to rut or pump excessively during proof rolling should be removed and replaced with well-compacted, on-site clayey material as outlined below. The proof rolling operation should be performed under the observation of a qualified geotechnical engineer.
- After proof rolling, all exposed surfaces should be scarified and reworked to a depth of 12 inches. The soils should then be recompacted to a minimum of 95 percent of the maximum dry density obtained in accordance with ASTM D698 (standard Proctor), and to a moisture content that is at or above the material's optimum moisture content, as determined by the same test.
- In areas to receive fill, fill may be derived from on-site or may be imported. The fill should be placed in maximum 6-inch compacted lifts, compacted to at least 95 percent of the maximum dry density, as determined by ASTM D698 (standard Proctor), and placed at a moisture content that is at least the optimum moisture content, as determined by the same test ( $\geq +0\%$ ). Fill materials may be derived from on-site or may be imported as long as the materials are essentially free of organic materials and particles in excess of 4-inches their maximum direction. Fill materials should have no less than 35 percent material passing a No. 200 mesh sieve and a Plasticity Index of no more than 30.
- Water required to bring the fill material to the proper moisture content should be applied evenly through each layer. Any layers that become significantly altered by weather conditions should be reprocessed in order to meet recommended requirements. On hot or windy days, the use of water spraying methods may be required in order to keep each lift moist prior to placement of the subsequent lift. Furthermore, the subsurface soils should be kept moist prior to placing the pavement by water sprinkling or spraying methods.
- Fill materials should be placed on a properly prepared subgrade as outlined above. The combined excavation, placement, and spreading operation should be performed in such a manner as to obtain blending of the material, and to assure that, once compacted, the materials, will have the most practicable degree of compaction and stability. Materials obtained on-site must be mixed and not segregated.

- Soil imported from off-site sources should be tested for compliance with the recommendations herein and approved by the project geotechnical engineer prior to being used as fill. Imported materials should consist of lean clays (maximum Plasticity Index of 30) that are essentially free of organic materials and particles larger than 4 inches in their maximum dimension.
- Field density and moisture content testing should be performed at the rate of one (1) test every 150 linear feet.

#### **6.4.2 Recycling Existing Pavement Section (Cement Treated RAP)**

- We recommend that the existing asphalt pavements and base materials, where encountered, be replaced on top of the completed subgrade and mixed and pulverized, with an estimated five (5) percent cement by dry weight measure (about 36 pounds of cement per square yard of treated area for an assumed unit weight of about 100 lbs/cf). The recycled asphalt blend should be mixed with aggregate base at a rate of no more than 50% asphalt for a total thickness of about 8 inches. The actual percentage to be used should be sufficient to achieve a 7-day cured unconfined compressive strength of 100 pounds per square inch.
- Cement should be applied such that mixing operations can be completed during the same working day.
- The cement may be placed by the slurry method (meaning that the cement should be mixed with water in trucks or in tanks and applied as a thin water suspension or slurry).
- After mixing, the RAP-cement mixture should be tested for sufficient pulverization and mixing in accordance with TxDOT Item 275. The material shall meet the following requirements when tested dry by laboratory sieves:
  - Minimum passing 1¾" sieve: 100%
  - Minimum passing ¾" sieve: 85%
  - Minimum passing No. 4 sieve: 60%
- After sufficiently re-mixed, the RAP and cement mixture should be compacted to a minimum of 98% of Standard Proctor (ASTM D698) and to a moisture content that is within two percent of optimum moisture (+/-2%), as determined by the same test. Compaction should be completed within 2 hours after the application of water to the mixture of soil and cement.

- Cure for at least 3 days by “sprinkling” as described in TxDOT Item 204.
- In order to reduce the potential for reflective cracking up through the asphalt pavement, the cement treated subgrade should be rolled with a vibratory roller 1 to 2 days after final compaction to create a network of hairline cracks (microcracking). Cure for at least 2 days by “sprinkling” as described in TxDOT Item 204 after completion of microcracking.
- Field density testing should be performed within all paving areas at the rate of one field density test for each 100 linear feet. These tests are necessary to determine if the recommended moisture and compaction requirements have been attained.

### 6.4.3 Lime Treatment

The subgrade soils may be treated with lime in accordance with the following recommendations prior to placing the pavements.

- After completion of proof rolling and proper placement of any grade raise fills, mix lime slurry into the prepared subgrade soil after scarifying to a depth of at least 8 inches to achieve a treated subgrade with a minimum of 7 percent lime by dry weight measure (about 42 pounds of lime per square yard of treated area for an assumed unit weight of about 100 lbs/cf). The hydrated lime should be applied only in an area where the initial mixing operations can be completed the same working day. The area of lime treated subgrade should extend 2 feet where space allows (minimum of 1 foot) beyond the back of roadway curbs or edges.
- The material and hydrated lime should be thoroughly mixed to obtain a homogeneous, friable mixture free of clods or lumps larger than about the size of a golf ball. After initial mixing, roll the mixed material with a suitable type and size of equipment to somewhat “seal-in” moisture and to minimize moisture loss. The rolled subgrade should be left to cure for one to four days. During the curing period, the material should be kept moist. To that end, in no case should the subgrade surface be allowed to dry for more than 12 hours between instances of surface moistening/wetting.
- After the curing period, the subgrade should be thoroughly re-mixed to a depth of 8 inches until the following gradational characteristics are achieved (after the removal of non-slaking particles such as concrete and/or asphalt fragments):
  - Minimum passing 1-3/4-inch sieve = 100%

- Minimum passing no. 4 sieve = 60%
- After achieving the required gradation, the treated soil-lime mixture should then be immediately compacted to at least 95 percent of the maximum dry density, as determined by ASTM D698 (standard Proctor), and placed at a moisture content that is above the optimum moisture content, as determined by the same test.
- Each lift of fill should be tested for moisture content and degree of compaction by a testing laboratory at a minimum rate of one test per 100 linear feet per lift within roadways and drives. D&S would be pleased to provide these services in support of this project.

#### **6.4.4 Aggregate Base**

As an alternative to lime treatment, aggregate base should be placed over the prepared subgrade in accordance with the following recommendations prior to placing the pavement.

- After proof rolling, and prior to the placement of aggregate base, the exposed subgrade beneath pavement areas should be scarified and reworked to a depth of 12 inches, moisture added or removed as required, and the subgrade soils recompacted to a minimum of 95 percent of the maximum dry density of the materials obtained in accordance with ASTM D698 (standard Proctor test) and that is at least two percentage points above the material's optimum moisture content, as determined by the same test ( $\geq +2\%$ ). The rework and aggregate base should extend to at least 18-inches beyond the back of curbs, edges of roadways or adjacent sidewalks.
- Aggregate base should be TxDOT Type A or D and meeting the gradation, durability, and plasticity requirements of TxDOT Item 247 Grade 1-2 or better (2014). Aggregate base material should be uniformly compacted to a minimum of 95% of the maximum standard Proctor dry density (ASTM D698) and placed at a moisture content that is sufficient to achieve density.
- In order to improve the performance of the pavements in areas of particularly heavy construction activity, the thickness of base may be increased to eight or more inches (maximum 4-inch compacted lifts). The compaction in such areas should be increased to at least 98%. Consideration may be given to use of a triaxial geogrid beneath the base if further pavement performance increase is desired.
- Field density and moisture content testing should be performed at the rate of one (1) test every 100 linear feet in drive lanes.

## 6.5 Pavement Design and Recommendations

Specific axle loading and traffic volume characteristics have not been provided at this time. For the purposes of this design, we have used NCTCOG and TxDOT data to determine Average Daily Traffic (ADT) of the road. After reviewing available traffic counts for Main Street, the ADT ranged from about 3,368 (2008) and 3,435 (2009) vehicles per day. As there is close agreement with ADTs along the roadway, we have concentrated our pavement recommendations based on an ADT of 3,800 which translates to a traffic loading of 835,890 Equivalent Single Axle Loads (ESAL's) over an assumed design life of 20 years, or 1,320,511 Equivalent Single Axle Loads (ESAL's) over an assumed design life of 30 years.

The following assumptions have been made in the calculation of traffic loading:

- Design Life: 20 years and 30 years
- Average Daily Traffic (ADT): 3,800
- Equivalent Single Axle Loads (ESAL's): 835,890 (20 yrs) and 1,320,511 (30 yrs)
- Directional Distribution Factor: 50%
- Design Lane Distribution Factor: 100%
- Growth Rate: 1.0%
- Percent Trucks: 3.2%
- Truck Factor (ESALs/Truck): 1.7

In the determination of the thickness of concrete pavement section, we used WinPAS 12 software and the following assumptions were made. Considering that Ridgecrest Road is a minor arterial roadway with some commercial access, we have assumed a reliability factor of 90%. If a higher value of reliability is required, the required overall section will increase. Please contact this office if significant deviations from the assumptions above are anticipated.

- Reliability: 90%
- Overall Standard Deviation: 0.35
- Subgrade Resilient Modulus: 3,120 psi
- Drainage Coefficient: 1.0
- Initial Serviceability: 4.5
- Terminal Serviceability: 2.25

Minimizing subgrade saturation is an important factor in maintaining subgrade strength. Water should not be allowed to pond on or adjacent to the pavement that could saturate the pavement and lead to premature pavement deterioration. We recommend that all pavement surfaces are sloped to provide rapid surface drainage. Positive surface drainage away from the edge of the paved areas should be

maintained. Reinforced concrete pavement should conform to current TXDOT or NCTCOG standards.

## **6.6 Rigid Pavement**

We recommend that Portland Cement Concrete Pavement for this site with a design life of 20 years have a minimum thickness of 6 inches over 8-inches of lime treated subgrade (or 8-inches of aggregate base), and that for a design life of 30 years the Portland Cement Concrete Pavement thickness should increase to 7 inches with similar thicknesses of subgrade modification. Actual traffic loading, frequency and intensity may require an increase in these minimum recommendations and the design specification for the district should be followed.

- Recommended minimum design compressive strength: 3,600 psi with nominal aggregate size no greater than 1 inch.
- 15 to 20 percent fly ash may be used with the approval of the Civil Engineer of record.
- Curing compound should be applied within one hour of finishing operations.

### **6.6.1 Pavement Joints and Cutting**

The performance of concrete pavement depends to a large degree on the design, construction, and long-term maintenance of concrete joints. The following recommendations and observations are offered for consideration by the Civil Engineer and/or pavement Designer-of-Record.

The concrete pavements should have adequately spaced contraction joints to control shrinkage cracking. Past experience indicates that reinforced concrete pavements with sealed contraction joints on a 12 to 15-foot spacing, cut to a depth of one-quarter to one-third of the pavement thickness, have generally exhibited less uncontrolled post-construction cracking than pavements with wider spacing. The contraction joint pattern should divide the pavement into panels that are approximately square where the panel length should not exceed 25 percent more than the panel width. Saw cut, post placement formed contraction joints should be saw cut as soon as the concrete can support the saw cutting equipment and personnel and before shrinkage cracks appear, on the order of 4 to 6 hours after concrete placement.

Isolation joints should be used wherever the pavement will abut a structural element subject to a different magnitude of movement, e.g., light poles, retaining walls, existing pavement, stairways, entryway piers, building walls, or manholes.

In order to minimize the potential differential movement across the pavement areas, all joints including contraction, isolation and construction joints should

be sealed to minimize the potential for infiltration of surface water. Rubberized asphalt, silicone or other suitable flexible sealant may be used to seal the joints. Maintenance should include periodic inspection of these joints and the joints resealed as necessary.

### **6.6.2 Pavement Reinforcing Steel**

We recommend that a minimum of 0.1 percent of steel be used for all concrete pavements. For an 8-inch thick concrete pavement section, this reinforcement ratio is approximately equivalent to No. 4 bars spaced at 18-inches on-center each way. Reinforcement requirements may increase depending on specific traffic loading and design life parameters.

## **6.7 Flexible Pavement Design and Recommendations**

For this project, hot mix asphaltic concrete (HMAC) pavement should conform to current TxDOT or NCTCOG standards.

### **6.7.1 Full Depth HMAC**

Based on our experience, engineering judgment regarding the site conditions and soil types present, and a design life of 20 years full-depth HMAC should consist of at least 2 inches of Type C or D surface course over 4 inches of Type B base course as specified by TxDOT or the minimums required by the City/County if more stringent. For a design life of 30 years, the minimum Type B base course should increase to 5 inches. The full-depth asphalt should be placed over a minimum of 8 inches of lime treated subgrade or aggregate base.

Pavements should include a regular maintenance schedule to identify and seal cracks that may develop in the pavement surface to prevent water passing through the asphalt to the base or subgrade materials.

### **6.7.2 HMAC Installation and Testing**

The following is recommended for HMAC:

- HMAC should be placed and compacted to contain between 5 and 9 percent of air voids.
- The target density for asphalt lifts should be 91 to 95 percent of the Maximum Theoretical Specific Gravity as determined by laboratory testing.

The following tests should be performed:

- In place field density tests to establish a rolling pattern.
- One extraction and gradation test per day's HMAC placement.

- Two cores to verify thickness and density per 5,000 square feet in pavement areas.

## 6.8 Summary of Pavement Section Options

Tables 1 and 2 below summarize the pavement options outlined in the previous sections of this report for both rigid and flexible pavement sections respectively.

**Table 1. Rigid Pavement Section Options**

Options	Design Life	Concrete (Inch)	Sub-Grade Treatment		
			Lime Treated (Inch)	Cement Treated RAP (Inch)	Aggregate Base (Inch)
Option 1	20-Year Life	6	8	-	-
Option 2	20-Year Life	6	-	8	-
Option 3	20-Year Life	6	-	-	8
Option 4	30-Year Life	7	8	-	-
Option 5	30-Year Life	7	-	8	-
Option 6	30-Year Life	7	-	-	8

**Table 2. Flexible Pavement Section Options**

Options	Design Life	Asphalt		Sub-Grade Treatment		
		Surface Course Type D (Inch)	Base Course Type B (Inch)	Lime Treated (Inch)	Cement Treated RAP (Inch)	Aggregate Base (Inch)
Option 1	20-Year Life	2	4	8	-	-
Option 2	20-Year Life	2	4	-	8	-
Option 3	20-Year Life	2	4	-	-	8
Option 4	30-Year Life	2	5	8	-	-
Option 5	30-Year Life	2	5	-	8	-
Option 6	30-Year Life	2	5	-	-	8

## 7.0 OTHER CONSTRUCTION

### 7.1 Utility and Service Lines

Backfill for utility lines should consist of on-site material and should be placed in accordance with the following recommendations. The on-site fill soil should be placed in maximum 8-inch compacted lifts, be compacted to a minimum of 95 percent of the

maximum dry density, as determined by ASTM D698 (standard Proctor), and placed at a moisture content that is at least two percentage points above the optimum, as determined by that same test ( $\geq +2\%$ ). It is not uncommon to realize some settlement along the trench backfill. We also recommend that the utility trenches be visually inspected during the excavation process to ensure that undesirable fill that was not detected by the test borings does not exist at the site. This office should be notified immediately if any such fill is detected.

Utility excavations should be sloped so that water within excavations will flow to a low point away from the active construction where it can be removed before backfilling. Compaction of bedding material should not be water-jetted. Compacted backfill above the utilities should be on-site clays to limit the percolation of surface water. Utility trenches extending under structures should include fat clay or concrete cut-off collars at the perimeter/edge to prevent the transmission of water along trench lines.

## **7.2 Surface Drainage**

Proper drainage is critical to the performance and condition of the building foundation, pavements, and flatwork. Positive surface drainage should be provided that directs surface water away from the building, pavements, and flatwork. We recommend that the exterior grades slope away from foundations at the rate of five (5) percent in the first ten (10) feet away in accordance with IBC Chapter 18 requirements. The slopes should direct water away from structures and flatwork, and these grades should be maintained throughout construction and the life of the structure.

The potential for moisture-induced distress can be positively addressed by constructing continuous exterior flatwork that extends to the building line. Where this occurs, the joints created at the interface of the flatwork and building line should be sealed with a flexible joint sealer to prevent the infiltration of water. Open cracks that may develop in the flatwork should also be sealed. The joint and any cracks that develop should be resealed as they become apparent and should be part of a periodic inspection and maintenance program.

However, we understand that sidewalks are not always practical or desired around the full perimeters of some facilities. Where landscaping will be present adjacent to building perimeters, diligent post-construction maintenance should be employed to prevent excessive wetting or drying of those adjacent soils.

## **7.3 Site Grading**

Expansive clay cut and fill slopes should be gentle and preferably should not exceed 4 horizontals to 1 vertical (4H: 1V).

Excess water ponding on and beside roadways can cause unacceptable heave of these structures. To reduce this potential heave, good surface drainage should be established. In addition, final grades in the vicinity pavements should provide for positive drainage away from these elements.

## 7.4 Excavations

Excavations greater than 4 feet in height/depth should be in accordance with OSHA 29CFR 1926, Subpart P. Temporary construction slopes should incorporate excavation protection systems or should be sloped back. Where the excavation does not extend close to building lines, these areas may be laid back. Where space allows, temporary slopes should be sloped at 1.5 horizontal to 1 vertical (1.5H: 1V) or flatter.

Where excavation slopes greater than four (4) feet in height cannot be laid back, these areas will require installation of a temporary retention system or shoring to protect the existing construction, restrain the subsurface soils and maintain the integrity of the excavation. We recommend that monitoring points be established around the retention system and that these locations be monitored during and after the excavation activities to confirm the integrity of the retention system.

The slopes and temporary retention system should be verified by and designed by the contractor's engineer and should not be surcharged by traffic, construction equipment, or permanent structures. The slopes and temporary retention system should be adequately maintained and periodically inspected to ensure the safety of the excavation and surrounding property.

## 8.0 LIMITATIONS

The professional geotechnical engineering services performed for this project, the findings obtained, and the recommendations prepared were accomplished in accordance with currently accepted geotechnical engineering principles and practices.

Variations in the subsurface conditions are noted at the specific boring locations for this study. As such, all users of this report should be aware that differences in depths and thicknesses of strata encountered can vary between the boring locations. Statements in the report as to subsurface conditions across the site are extrapolated from the data obtained at the specific boring locations. The number and spacing of the exploration borings were chosen to obtain geotechnical information for the design and construction of site pavements and retaining walls. If there are any conditions differing significantly from those described herein, D&S should be notified to re-evaluate the recommendations contained in this report.

Recommendations contained herein are not considered applicable for an indefinite period of time. Our office must be contacted to re-evaluate the contents of this report if construction does not begin within a one-year period after completion of this report.

The scope of services provided herein does not include an environmental assessment of the site or investigation for the presence or absence of hazardous materials in the soil, surface water, or groundwater.

All contractors referring to this geotechnical report should draw their own conclusions regarding excavations, construction, etc. for bidding purposes. D&S is not responsible for

conclusions, opinions or recommendations made by others based on these data. The report is intended to guide preparation of project specifications and should not be used as a substitute for the project specifications.

Recommendations provided in this report are based on our understanding of information provided by the Client to us regarding the scope of work for this project. If the Client notes any differences, our office should be contacted immediately since this may materially alter the recommendations.

**APPENDIX A - BORING LOGS AND SUPPORTING DATA**



\*\*BORING LOCATIONS ARE INTENDED FOR GRAPHICAL REFERENCE ONLY\*\*



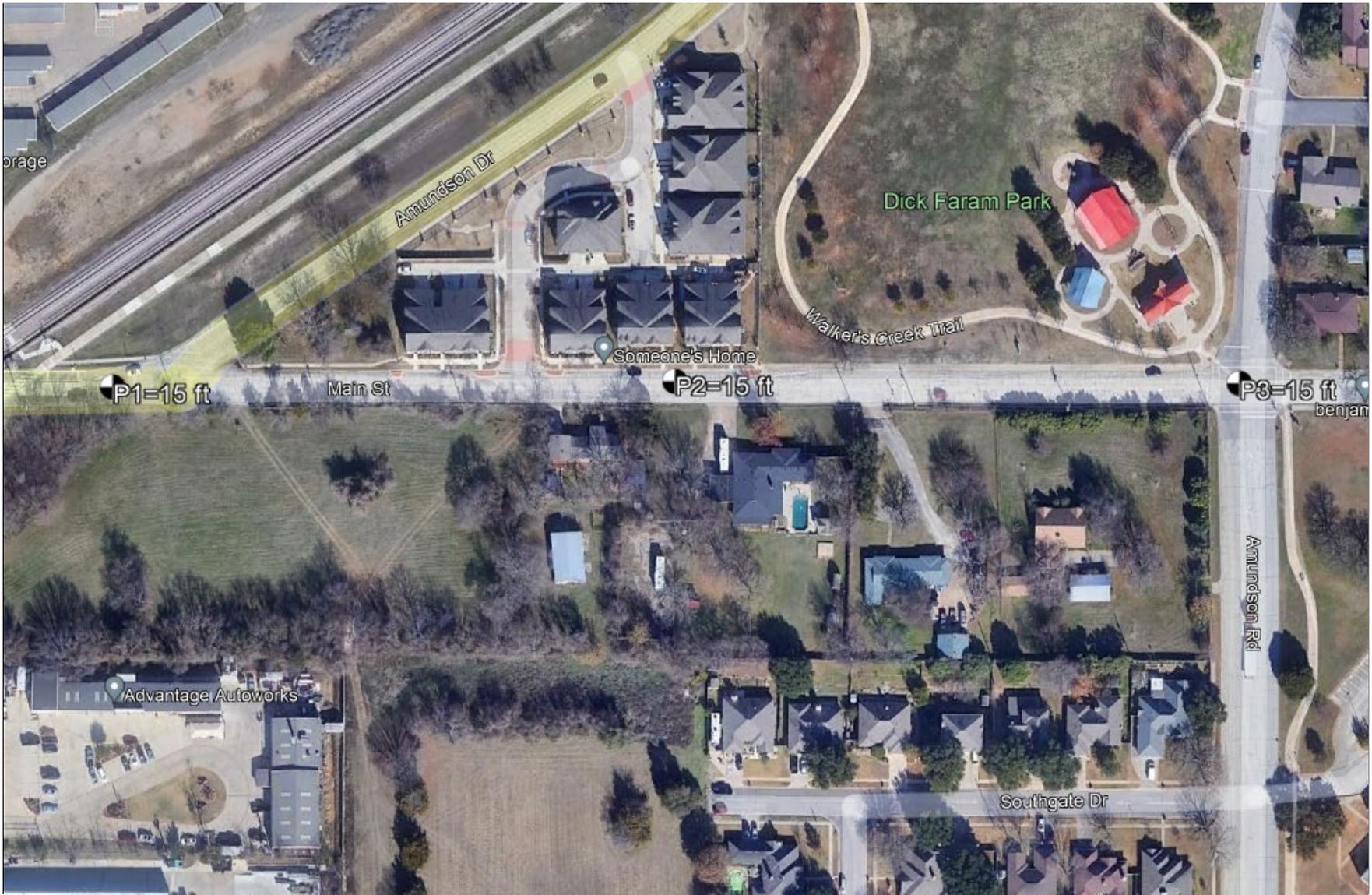
NORTH RICHLAND HILLS

PLAN OF BORINGS  
**NRH MAIN STREET IMPROVEMENTS**

TEXAS

SHEET NO.  
**G1**

DATE DRILLED  
 April 17, 2023



\*\*BORING LOCATIONS ARE INTENDED FOR GRAPHICAL REFERENCE ONLY\*\*



NORTH RICHLAND HILLS

PLAN OF BORINGS  
**NRH MAIN STREET IMPROVEMENTS**

TEXAS

SHEET NO.  
**G2**

DATE DRILLED  
 April 17, 2023

## LITHOLOGIC SYMBOLS

ARTIFICIAL		Asphalt
		Aggregate Base
		Concrete
		Fill

SOIL		CH: High Plasticity Clay
		CL: Low Plasticity Clay
		GP: Poorly-graded Gravel
		GW: Well-graded Gravel
		SC: Clayey Sand
		SP: Poorly-graded Sand
	SW: Well-graded Sand	

ROCK		Limestone
		Mudstone
		Shale
		Sandstone
		Weathered Limestone
		Weathered Shale
		Weathered Sandstone

## CONSISTENCY OF SOILS

CONSISTENCY: FINE GRAINED SOILS		
Consistency	SPT (blowcounts)	PP (tsf)
Very Soft	0 - 2	< 0.25
Soft	3 - 4	0.25 - 0.5
Medium Stiff	5 - 8	0.5 - 1.0
Stiff	9 - 15	1.0 - 2.0
Very Stiff	16 - 30	2.0 - 4.0
Hard	> 30	> 4.0

## CONDITION OF SOILS

CONDITION: COARSE GRAINED SOILS			
Condition	SPT (blowcounts)	TCP (values)	Relative Density (%)
Very Loose	0 - 4	< 8	0 - 15
Loose	5 - 10	8 - 20	15 - 35
Medium Dense	11 - 30	20 - 80	35 - 65
Dense	31 - 50	80 - 5 in./100	65 - 85
Very Dense	> 50	0 in. - 5 in./100	85 - 100

## SECONDARY COMPONENTS

QUANTITY DESCRIPTORS	
Trace	< 5% of sample
Few	5% to 10%
Little	10% to 25%
Some	25% to 35%
With	> 35%

## RELATIVE HARDNESS OF ROCK MASS

Designation	Description
Very Soft	Can be carved with a knife. Can be excavated readily with point of pick. Pieces 1" or more in thickness can be broken by finger pressure. Readily scratched with fingernail.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows with the pick point. Small, thin pieces can be broken by finger pressure.
Medium Hard	Can be grooved or gouged 1/4" deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1" maximum size by hard blows with the point of a pick.
Moderately Hard	Can be scratched with knife or pick. Gouges or grooves 1/4" deep can be excavated by hard blow of the point of a pick. Hand specimens can be detached by a moderate blow.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach a hand specimen.
Very Hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows from a hammer or pick.

## WEATHERING OF ROCK MASS

Designation	Description
Fresh	No visible sign of weathering
Slightly weathered	Penetrative weathering on open discontinuity surfaces, but only slight weathering of rock material
Moderately weathered	Weathering extends throughout rock mass, but the rock material is not friable
Highly weathered	Weathering extends throughout rock mass, and the rock material is partly friable
Completely weathered	Rock is wholly decomposed and in a friable condition but the rock texture and structure are preserved
Residual Soil	A soil material with the original texture, structure, and mineralogy of the rock completely destroyed

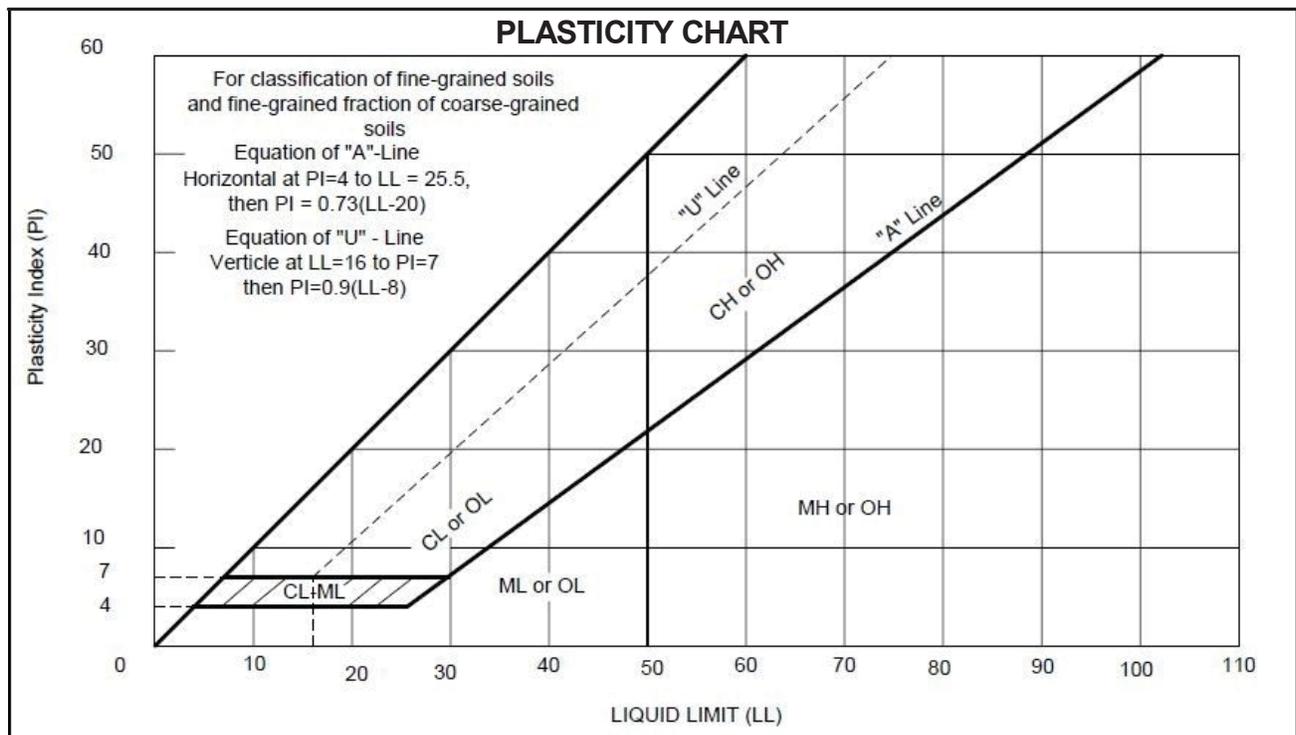


# UNIFIED SOIL CLASSIFICATION SYSTEM

ADAPTED FROM ASTM D 2487

## SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME	
COARSE GRAINED SOILS  MORE THAN 50% OF MATERIAL IS RETAINED ON THE NO. 200 SIEVE	GRAVELS  MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS <i>Cu</i> ≥ 4 and 1 ≤ <i>Cc</i> ≤ 3  (LESS THAN 5% FINES)	<b>GW</b>	WELL-GRADED GRAVEL	
			<b>GP</b>	POORLY-GRADED GRAVEL	
		GRAVELS WITH FINES  (MORE THAN 12% FINES)	Fines classify as ML or MH	<b>GM</b>	SILTY GRAVEL
			Fines classify as CL or CH	<b>GC</b>	CLAYEY GRAVEL
	SANDS  MORE THAN 50% OF COARSE FRACTION PASSING THE NO. 4 SIEVE	CLEAN SANDS  (LESS THAN 5% FINES)	<i>Cu</i> ≥ 6 and 1 ≤ <i>Cc</i> ≤ 3  <i>Cu</i> < 6 and/or [ <i>Cc</i> < 1 or <i>Cc</i> > 3]	<b>SW</b>	WELL-GRADED SAND
			<b>SP</b>	POORLY-GRADED SAND	
	SANDS WITH FINES  (MORE THAN 12% FINES)	Fines classify as ML or MH	<b>SM</b>	SILTY SAND	
		Fines classify as CL or CH	<b>SC</b>	CLAYEY SAND	
FINE GRAINED SOILS  MORE THAN 50% OF MATERIAL PASSES THROUGH THE NO. 200 SIEVE	SILTS AND CLAYS  LIQUID LIMIT LESS THAN 50	INORGANIC  PI > 7 and plots on or above "A" line	<b>CL</b>	LEAN CLAY	
			PI < 4 or plots below "A" line	<b>ML</b>	SILT
		ORGANIC  $\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$	<b>OL</b>	ORGANIC CLAY ORGANIC SILT	
	SILTS AND CLAYS  LIQUID LIMIT GREATER THAN 50	INORGANIC  PI plots on or above "A" line	<b>CH</b>	FAT CLAY	
			PI plots below "A" line	<b>MH</b>	ELASTIC SILT
		ORGANIC  $\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$	<b>OH</b>	ORGANIC CLAY ORGANIC SILT	
HIGHLY ORGANIC SOILS	PRIMARILY ORGANIC MATTER, DARK IN COLOR, AND ORGANIC ODOR		<b>PT</b>	PEAT	











# SOLUBLE SULFATE CONTENT RESULTS

## TEX 145-E

PROJECT: NRH Main Street Improvements

PROJECT NUMBER: G23-2035

CLIENT: Peloton Land Solutions

LOCATION: North Richland Hills, TX

Boring Number:	Depth (feet):	Soil Description	Soluble Sulfate Content (ppm)
P1	0-1	<b>FILL: CLAYEY SAND (SC);</b> dark brown, brown, reddish brown	140
P2	1-2	<b>FAT CLAY (CH);</b> light gray, reddish brown, light brown	1200
P3	1-2	<b>FILL: CLAYEY SAND (SC);</b> reddish tan, light brown	500



# SWELL TEST RESULTS

PROJECT: NRH Main Street Improvements

CLIENT: Peloton Land Solutions

PROJECT NUMBER: G23-2035

LOCATION: North Richland Hills, TX

Boring Number	Depth feet	Initial Moisture Content, %	Final Moisture Content, %	Applied Pressure, psf	Vertical Swell, %
P1	7-8	20.1	23.6	910	0.1
P2	3-4	17.2	20.1	394	0.5

## **APPENDIX B- GENERAL DESCRIPTION OF PROCEDURES**

## **ANALYTICAL METHODS TO PREDICT MOVEMENT**

### **INDEX PROPERTY AND CLASSIFICATION TESTS**

Index property and classification testing is perhaps the most basic, yet fundamental tool available for predicting potential movements of clay soils. Index property testing typically consists of moisture content, Atterberg Limits, and Grain-size distribution determinations. From these results a general assessment of a soil's propensity for volume change with changes in soil moisture content can be made.

#### **Moisture Content**

By studying the moisture content of the soils at varying depths and comparing them with the results of Atterberg Limits, one can estimate a rough order of magnitude of potential soil movement at various moisture contents, as well as movements with moisture changes. These tests are typically performed in accordance with ASTM D2216.

#### **Atterberg Limits**

Atterberg limits determine the liquid limit (LL), plastic limit (PL), and plasticity index (PI) of a soil. The liquid limit is the moisture content at which a soil begins to behave as a viscous fluid. The plastic limit is the moisture content at which a soil becomes workable like putty, and at which a clay soil begins to crumble when rolled into a thin thread (1/8" diameter). The PI is the numerical difference between the moisture constants at the liquid limit and the plastic limit. This test is typically performed in accordance with ASTM D4318.

Clay mineralogy and the particle size influence the Atterberg Limits values, with certain minerals (e.g., montmorillonite) and smaller particle sizes having higher PI values, and therefore higher movement potential.

A soil with a PI below about 15 to 18 is considered to be generally stable and should not experience significant movement with changes in moisture content. Soils with a PI above about 30 to 35 are considered to be highly active and may exhibit considerable movement with changes in moisture content.

Fat clays with very high liquid limits, weakly cemented sandy clays, or silty clays are examples of soils in which it can be difficult to predict movement from index property testing alone.

#### **Grain-size Distribution**

The simplest grain-size distribution test involves washing a soil specimen over the No. 200 mesh sieve with an opening size of 0.075 mm (ASTM D1140). This particle size has been defined by the engineering community as the demarcation between coarse-grained and fine-grained soils. Particles smaller than this size can be further distinguished between silt-size and clay-size particles by use of a Hydrometer test (ASTM D422). A more complete grain-size distribution test that uses sieves to relative amount of particles according is the Sieve Gradation Analysis of Soils (ASTM D6913). Once the characteristics of the soil are determined through classification testing, a number of movement prediction techniques are available to predict the potential movement of the soils. Some of these are discussed in general below.

## **POTENTIAL VERTICAL MOVEMENT**

A general index for movement is known as the Potential Vertical Rise (PVR). The actual term PVR refers to the TxDOT Method 124-E mentioned above. For the purpose of this report the term Potential Vertical Movement (PVM) will be used since PVM estimates are derived using multiple analytical techniques, not just TxDOT methods.

It should be noted that all slabs and foundations constructed on clay or clayey soils have at least some risk of potential vertical movement due to changes in soil moisture contents. To eliminate that risk, slabs, and foundation elements (e.g., grade beams) should be designed as structural elements physically separated by some distance from the subgrade soils (usually 6 to 12 inches).

## **SPECIAL COMMENTARY ON CONCRETE AND EARTHWORK**

### **RESTRAINT TO SHRINKAGE CRACKS**

One of the characteristics of concrete is that during the curing process shrinkage occurs and if there are any restraints to prevent the concrete from shrinking, cracks can form. In a typical slab on grade or structurally suspended foundation there will be cracks due to interior beams and piers that restrict shrinkage. Similar restraint can occur when pavements are cast directly against rigid bedrock materials. This restriction is called Restraint to Shrinkage (RTS). These RTS cracks do not normally adversely affect the overall performance of foundations or pavements. It should be noted that for exposed floors, especially those that will be painted, stained, or stamped, these cracks may be aesthetically unacceptable. Any tile which is applied directly to concrete or over a mortar bed over concrete has a high probability of minor cracks occurring in the tile due to RTS. It is recommended if tile is used to install expansion joints in appropriate locations to minimize these cracks.

### **UTILITY TRENCH EXCAVATION**

Trench excavation for utilities should be sloped or braced in the interest of safety. Attention is drawn to OSHA Safety and Health Standards (29 CFR 1926/1910), Subpart P, regarding trench excavations greater than 5 feet in depth.

### **FIELD SUPERVISION AND DENSITY TESTING**

Some adjustments in the test frequencies may be required based upon the general fill types and soil conditions at the time of fill placement.

It is recommended that all site and subgrade preparation, proof rolling, and pavement construction be monitored by a qualified engineering firm. Density tests should be performed to verify proper compaction and moisture content of any earthwork. Inspection should be performed prior to and during concrete placement operations. D&S would be pleased to perform these services in support of this project.

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