

## **CONSTRUCTION AGREEMENT**

### **FOR BOND STREET UTILITY SERVICES FOR**

**KIRK LANE, WOOD VIEW LANE, SIERRA DRIVE, DANIEL DRIVE, LAKESIDE CIRCLE  
AND POST OAK DRIVE**

**CITY OF NORTH RICHLAND HILLS AND R&D BURNS BROTHERS, INC.**

THIS CONSTRUCTION AGREEMENT (“Contract”) is made and entered by and between **R&D BURNS BROTHERS, INC.**, (hereinafter referred to as "Contractor"), and the **CITY OF NORTH RICHLAND HILLS, TEXAS**, a municipal corporation (hereinafter referred to as "City" or “Owner”), to be effective upon the date executed by the City.

For and in consideration of the covenants and agreements contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

#### **I. CONTRACT DOCUMENTS**

The parties agree that the Contract Documents shall consist of the following:

1. This signed Construction Agreement;
2. Any and all Addendum(s);
3. “Notice to Bidders” advertisement;
4. The Contractor’s Bid Proposal
5. Special Instruction to Bidders;
6. General Conditions of Bid #23-030;
7. Special Conditions of Bid #23-030;
8. The Specifications of Bid #23-030;
9. The Plans/Drawings of Bid #23-030;
10. Payment Bond;
11. Performance Bond; and
12. Insurance Certificate(s)

These contract documents form the construction agreement and are a part of this construction agreement as if fully set forth herein. The contract documents are complementary and what is called for by one shall be as binding as if called for by all. In the event of an inconsistency in any of the provisions of the contract documents, the inconsistency shall be resolved by giving precedence to the contract documents in the order in which they are listed above.

#### **II. THE WORKS**

Contractor shall provide all labor, supervision, materials and equipment necessary to perform

all work required by the contract documents in connection with the construction of Bond Street

Utilities for Kirk Lane, Wood View Lane, Sierra Drive, Daniel Drive, Lakeside Circle and Post Oak Drive (“work”), through Bid #23-030 in accordance with a Scope of Work in the form of **Exhibit “A,”** for each service provided under this Contract. Each Scope of Work shall be incorporated herein and governed by the terms and conditions of this contract.

### **III. TIME OF COMMENCEMENT; COMPLETION**

Contractor shall commence work within ten (10) calendar days after receiving from City a Notice to Proceed for a work order. The Term of this Contract shall be for 12 months. The City shall have the option to renew this Contract for four (4) additional 12 month periods in accordance with Section 39 of the Special Conditions. The Date of Completion for the work shall be set forth in the Scope of Work for each service provided under this Contract.

### **IV. CONTRACT PRICE**

The City shall pay the Contractor in currently available funds for the performance of the work, subject to additions and deductions by change orders as provided in the contract documents, a total amount not to exceed **TWO MILLION ONE HUNDRED EIGHTY THOUSAND FIVE HUNDRED TWENTY-TWO AND 00/100 DOLLARS (2,180,522.00)** (“**Contract Price**”). payment will be due upon completion of work and acceptance of the work by the City. 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 the specific Scope of Work for contracts less than four hundred thousand dollars (\$ 400,000.00) in total Contract Price. 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 the specific Scope of Work for contracts equal to or greater than four hundred thousand dollars (\$ 400,000.00) in total Contract Price. 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.

### **V. CHOICE OF LAW; VENUE**

The parties agree that the laws of the State of Texas shall govern the interpretation, validity, performance and enforcement of this construction agreement, and that the exclusive venue for any legal proceeding involving this construction agreement shall be Tarrant County, Texas. No additional work shall be authorized or charged for unless authorized by a change order signed

by a person authorized by the City to do so. In the event of litigation between the parties, the parties shall be entitled to reasonable attorney's fees that are necessary, equitable and just, in accordance with applicable law, and as awarded by a court of competent jurisdiction.

## **VI. INSURANCE**

The Contractor shall, at his own expense, maintain and keep in force insurance coverage in the minimum amounts as specified in the general conditions and specifications of Bid #23-030, with the City as an additional named insured providing primary coverage. Certificates of coverage, including workers compensation insurance, must be submitted with the contract. Insurance coverage must also cover all subcontractors employed by Contractor. Insurance coverage shall be written by companies approved by the State of Texas and acceptable to the Owner.

**All required insurance certificates must be submitted prior to commencement of work.**

## **VII. TERMINATION**

A) Either party may terminate this Contract at any time for cause or convenience by providing ninety (90) days' written notice to the other party. Upon the receipt of such notice, Contractor shall immediately discontinue all services and work and the placing of all orders or the entering into contracts for all supplies, assistance, facilities and materials in connection with the performance of this Contract and shall proceed to cancel promptly all existing contracts insofar as they are chargeable to this Contract. Contractor shall not be entitled to lost or anticipated profits should City choose to exercise its option to terminate.

B) Non-appropriation of Funds.

In the event no funds or insufficient funds are appropriated by the City in any fiscal period for any payments due hereunder, City will notify Contractor of such occurrence and this Agreement shall terminate on the last day of the fiscal period for which appropriations were received without penalty or expense to the City of any kind whatsoever, except as to the portions of the payments herein agreed upon for which funds have been appropriated.

## **VIII. FORCE MAJEURE**

Neither party shall be liable for failure to perform its obligations under this Contract if the performance is delayed or prevented by reason of war; civil commotion; acts of God; inclement weather; epidemics; pandemics; governmental restrictions, regulations, or interferences; fires; strikes; lockouts, national disasters; riots; material or labor restrictions; transportation problems; or any other circumstances which are reasonably beyond the control of the party. Such party's performance shall be excused for the length of time the force majeure event lasts, provided that

party makes a reasonable attempt to resume performance upon conclusion of the force majeure event, unless such performance has become legally impossible, in which case that party may terminate the Contract.

## **IX. CONFIDENTIAL INFORMATION**

Contractor understands and acknowledges that Contractor will be provided with Owner information that may be confidential by law, rule, statute, ordinance or legal order. Contractor shall not disclose any information deemed confidential to any party who is not privy to or who does not have a special right of access to said information. Contractor agrees to use confidential information for purposes of providing the services contemplated herein only as determined by the City. Disclosure of, or unauthorized use of or access to, any confidential information by Contractor is a material breach of this Agreement. If Contractor violates this provision, and in addition to any other remedies at law or in equity that the City may have, the City may immediately obtain injunctive relief in a court of competent jurisdiction enjoining any continuing or further breaches and exercise any further remedies as authorized by law. Contractor agrees to indemnify and hold the City harmless for any claims or damages caused by Contractor's breach of this confidentiality provision.

## **X. RIGHT TO AUDIT**

During the term of this Contract, and at any time within three (3) years following the expiration of this Contract, the City shall have the right of access to all information held in the possession of the Contractor related to services performed under this Contract, for audit purposes or otherwise. Contractor agrees to provide access to such information unless expressly prohibited from doing so by court or other governmental order. Except in the event of an emergency, the City will provide reasonable advance notice of any intended audits and the need for the information. Contractor agrees that it will keep records relating to the services provided hereunder for as long as required by law.

## **XI. NOTICES**

Any notice required to be given hereunder shall be given by certified mail, return receipt to the following addresses:

If to City:

City of North Richland Hills  
Attn: Mark Hindman, City Manager  
4301 City Point Drive  
North Richland Hills, Texas 76102  
Email: mhindman@nrhtx.com  
Phone: (817) 427-6004

If to Contractor:

R&D Burns Brothers, Inc.  
Attn: Donald Burns  
Address 1  
Address 2  
Email: rdburnsbros@sbcglobal.net  
Phone: 817-919-4015

With copy to the City Attorney at the same address.

## **XII. DISPUTE RESOLUTION**

Except in the event of termination pursuant to Section VII(B) of this Contract, if either City or Contractor has a claim, dispute, or other matter in question for breach of duty, obligations, services rendered or any warranty that arises under this Contract, the parties shall first attempt to resolve the matter through this dispute resolution process. The disputing party shall notify the other party in writing as soon as practicable after discovering the claim, dispute, or breach. The notice shall state the nature of the dispute and list the party's specific reasons for such dispute. Within ten (10) business days of receipt of the notice, both parties shall commence the resolution process and make a good faith effort, either through email, mail, phone conference, in person meetings, or other reasonable means to resolve any claim, dispute, breach or other matter in question that may arise out of, or in connection with this Agreement. If the parties fail to resolve the dispute within thirty

(30) days of the date of receipt of the notice of the dispute, then the parties shall submit the matter to non-binding mediation in Tarrant County, Texas, upon written consent of authorized representatives of both parties in accordance with the Industry Arbitration Rules of the American Arbitration Association or other applicable rules governing mediation then in effect. The mediator shall be agreed to by the parties. Each party shall be liable for its own expenses, including attorney's fees; however, the parties shall share equally in the costs of the mediation. If the parties cannot resolve the dispute through mediation, then either party shall have the right to exercise any and all remedies available under law regarding the dispute. Notwithstanding the fact that the parties may be attempting to resolve a dispute in accordance with this informal dispute resolution process, the parties agree to continue without delay all of their respective duties and obligations under this Agreement not affected by the dispute. Either party may, before or during the exercise of the informal dispute resolution process set forth herein, apply to a court having jurisdiction for a temporary restraining order in injunction where such relief is necessary to protect its interests.

## **XIII. ENTIRE AGREEMENT; AMENDMENTS; BINDING EFFECT**

This construction agreement, including the contract documents listed in Paragraph I represents the entire and integrated agreement between City and the Contractor, and supersedes all prior negotiations, representations, or agreements, either written or oral. This construction agreement may be amended only by written instrument signed by both City and Contractor.

## **XIV. EFFECTIVE DATE**

This construction agreement, shall be effective upon the date of execution by the City of North Richland Hills City Manager.

**IN WITNESS WHEREOF**, the parties have executed this construction agreement upon the year and date indicated beneath their signatures hereto.

CITY OF NORTH RICHLAND HILLS

R&D BURNS BROTHERS, INC.

BY: \_\_\_\_\_  
Mark Hindman, City Manager

BY: \_\_\_\_\_  
John Doe

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

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

ATTEST:

ATTEST: \_\_\_\_\_

\_\_\_\_\_  
Alicia Richardson,  
City Secretary/Chief Governance Officer

TITLE: \_\_\_\_\_

APPROVED AS TO FORM AND LEGALITY:

NRH Council Action Y/N

Date Approved \_\_\_\_\_ Agenda  
No. \_\_\_\_\_ Ord /Res  
No. \_\_\_\_\_

\_\_\_\_\_  
Maleshia B. McGinnis, City Attorney

## BID PROPOSAL

### BASE BID – Bond Street Utility Improvements

#### Section I - Kirk Lane

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	2.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 1350.00
4	9.0	EA	Adjust Water Valve to Grade	\$ 200.00	\$ 1,800.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	12.0	EA	Adjust Water Meter Box to Grade	\$ 125.00	\$ 1,500.00
7	0.0	EA	Remove Water Valve	\$	\$
8	2.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 12,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	0.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	0.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
13	1,400.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 105.00	\$ 147,000.00
14	12.0	EA	1-inch Water Service Line	\$ 300.00	\$ 3,600.00
15	0.0	EA	1" Single Water Service (short)	\$	\$
16	0.0	EA	1" Single Water Service (long)	\$	\$
17	8.0	EA	1" Double Water Service (short)	\$ 1,900.00	\$ 15,200.00
18	4.0	EA	1" Double Water Service (long)	\$ 2,400.00	\$ 9,600.00
19	0.0	EA	Relocate Existing Water Meter	\$	\$



## BASE BID – Bond Street Utility Improvements

### Section I - Kirk Lane

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	5.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 15,000.00
22	0.0	EA	Connect to Existing 12-inch Water Line	\$	\$
23	9.0	EA	6-inch Gate Valve	\$ 2,500.00	\$ 22,500.00
24	0.0	EA	8-inch Gate Valve	\$	\$
25	0.0	EA	10-inch Gate Valve	\$	\$
26	0.0	EA	12-inch Gate Valve	\$	\$
27	0.0	LF	Concrete Encasement	\$	\$
28	0.0	LF	Trench Safety for Sanitary Sewer Lines	\$	\$
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	0.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$	\$
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	0.0	EA	Connect To Existing Sanitary Sewer Manhole	\$	\$
37	0.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$	\$
38	0.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section I - Kirk Lane

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	0.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$	\$
41	0.0	EA	4" Sanitary Sewer Service	\$	\$
42	0.0	LF	Concrete Encasement	\$	\$
43	0.0	LF	Pre-Construction Television Inspection	\$	\$
44	0.0	LF	Post-Construction Television Inspection	\$	\$
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	0.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$	\$
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	1,800.0	SF	Driveway Approach	\$ 20.00	\$ 36,000.00
49	350.0	LF	Driveway Flowline	\$ 23.00	\$ 8,050.00
50	50.0	SF	Sidewalk 4'	\$ 28.00	\$ 1,400.00
51	40.0	SF	Valley Pan	\$ 40.00	\$ 1,600.00
52	60.0	LF	Curb & Gutter	\$ 90.00	\$ 5,400.00
53	40.0	SF	Flume 4'	\$ 62.00	\$ 2,480.00
54	500.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 10,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
<b>SUB-TOTAL AMOUNT BID – BASE BID SECTION I – KIRK LANE:</b>				<b>\$ 301,430.00</b>	

## BASE BID – Bond Street Utility Improvements

### Section II - Wood View Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	1.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 650.00
4	7.0	EA	Adjust Water Valve to Grade	\$ 200.00	\$ 1,400.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	14.0	EA	Adjust Water Meter Box to Grade	\$ 125.00	\$ 1,750.00
7	0.0	EA	Remove Water Valve	\$	\$
8	2.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 12,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	80.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 200.00	\$ 16,000.00
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	0.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
13	1,200.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 105.00	\$ 126,000.00
14	14.0	EA	1-inch Water Service Line	\$ 300.00	\$ 4,200.00
15	0.0	EA	1" Single Water Service (short)	\$	\$
16	0.0	EA	1" Single Water Service (long)	\$	\$
17	7.0	EA	1" Double Water Service (short)	\$ 1,900.00	\$ 13,300.00
18	7.0	EA	1" Double Water Service (long)	\$ 2,400.00	\$ 16,800.00
19	0.0	EA	Relocate Existing Water Meter	\$	\$

## BASE BID – Bond Street Utility Improvement

### Section II - Wood View Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	2.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 6,000
22	2.0	EA	Connect to Existing 12-inch Water Line	\$ 6,000.00	\$ 12,000.00
23	5.0	EA	6-inch Gate Valve	\$ 2,500.00	\$ 12,500.00
24	0.0	EA	8-inch Gate Valve	\$	\$
25	0.0	EA	10-inch Gate Valve	\$	\$
26	2.0	EA	12-inch Gate Valve	\$ 6,000.00	\$ 12,000.00
27	0.0	LF	Concrete Encasement	\$	\$
28	0.0	LF	Trench Safety for Sanitary Sewer Lines	\$	\$
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	0.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$	\$
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	0.0	EA	Connect To Existing Sanitary Sewer Manhole	\$	\$
37	0.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$	\$
38	0.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section II - Wood View Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	0.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$	\$
41	0.0	EA	4" Sanitary Sewer Service	\$	\$
42	0.0	LF	Concrete Encasement	\$	\$
43	0.0	LF	Pre-Construction Television Inspection	\$	\$
44	0.0	LF	Post-Construction Television Inspection	\$	\$
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	0.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$	\$
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	2,000.0	SF	Driveway Approach	\$ 20.00	\$ 40,000.00
49	400.0	LF	Driveway Flowline	\$ 23.00	\$ 9,200.00
50	70.0	SF	Sidewalk 4'	\$ 28.00	\$ 1,960.00
51	480.0	SF	Valley Pan	\$ 40.00	\$ 19,200.00
52	350.0	LF	Curb & Gutter	\$ 90.00	\$ 31,500.00
53	0.0	SF	Flume 4'	\$	\$
54	500.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 10,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
<b>SUB-TOTAL AMOUNT BID – BASE BID SECTION II – WOOD VIEW DRIVE:</b>					<b>\$ 353,460.00</b>

## BASE BID – Bond Street Utility Improvements

### Section III - Sierra Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	1.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 650.00
4	7.0	EA	Adjust Water Valve to Grade	\$200.00	\$ 1,400.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	45.0	EA	Adjust Water Meter Box to Grade	\$ 200.00	\$ 9,000.00
7	0.0	EA	Remove Water Valve	\$	\$
8	2.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 12,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	0.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	0.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
13	1,200.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 105.00	\$ 126,000.00
14	45.0	EA	1-inch Water Service Line	\$ 300.00	\$ 13,500.00
15	1.0	EA	1" Single Water Service (short)	\$ 1,900.00	\$ 1,900.00
16	36.0	EA	1" Single Water Service (long)	\$ 2,400.00	\$ 86,400.00
17	4.0	EA	1" Double Water Service (short)	\$ 1,900.00	\$ 7,600.00
18	4.0	EA	1" Double Water Service (long)	\$ 2,400.00	\$ 9,600.00
19	0.0	EA	Relocate Existing Water Meter	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section III - Sierra Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	5.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 15,000.00
22	0.0	EA	Connect to Existing 12-inch Water Line	\$	\$
23	6.0	EA	6-inch Gate Valve	\$ 2,500.00	\$ 15,000.00
24	0.0	EA	8-inch Gate Valve	\$	\$
25	0.0	EA	10-inch Gate Valve	\$	\$
26	0.0	EA	12-inch Gate Valve	\$	\$
27	0.0	LF	Concrete Encasement	\$	\$
28	0.0	LF	Trench Safety for Sanitary Sewer Lines	\$	\$
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	0.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$	\$
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	0.0	EA	Connect To Existing Sanitary Sewer Manhole	\$	\$
37	0.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$	\$
38	0.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section III - Sierra Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	0.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$	\$
41	0.0	EA	4" Sanitary Sewer Service	\$	\$
42	0.0	LF	Concrete Encasement	\$	\$
43	0.0	LF	Pre-Construction Television Inspection	\$	\$
44	0.0	LF	Post-Construction Television Inspection	\$	\$
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	0.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$	\$
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	1,300.0	SF	Driveway Approach	\$ 20.00	\$ 26,000.00
49	300.0	LF	Driveway Flowline	\$ 23.00	\$ 6,900.00
50	16.0	SF	Sidewalk 4'	\$ 28.00	\$ 448.00
51	0.0	SF	Valley Pan	\$	\$
52	150.0	LF	Curb & Gutter	\$ 90.00	\$ 13,500.00
53	0.0	SF	Flume 4'	\$	\$
54	2,000.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 40,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
SUB-TOTAL AMOUNT BID – BASE BID SECTION III – SIERRA DRIVE:					\$ 391,898.00



## BASE BID – Bond Street Utility Improvements

### Section IV - Daniel Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	1.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 650.00
4	4.0	EA	Adjust Water Valve to Grade	\$ 200.00	\$ 800.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	9.0	EA	Adjust Water Meter Box to Grade	\$ 125.00	\$ 1,125.00
7	0.0	EA	Remove Water Valve	\$	\$
8	1.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 6,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	0.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	0.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
13	940.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 105.00	\$ 98,700.00
14	9.0	EA	1-inch Water Service Line	\$ 300.00	\$ 2,700.00
15	0.0	EA	1" Single Water Service (short)	\$	\$
16	0.0	EA	1" Single Water Service (long)	\$	\$
17	3.0	EA	1" Double Water Service (short)	\$ 1,900.00	\$ 5,700.00
18	6.0	EA	1" Double Water Service (long)	\$ 2,400.00	\$ 14,400.00
19	0.0	EA	Relocate Existing Water Meter	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section IV - Daniel Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	3.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 9,000.00
22	0.0	EA	Connect to Existing 12-inch Water Line	\$	\$
23	4.0	EA	6-inch Gate Valve	\$ 2,500.00	\$ 10,000.00
24	0.0	EA	8-inch Gate Valve	\$	\$
25	0.0	EA	10-inch Gate Valve	\$	\$
26	0.0	EA	12-inch Gate Valve	\$	\$
27	0.0	LF	Concrete Encasement	\$	\$
28	0.0	LF	Trench Safety for Sanitary Sewer Lines	\$	\$
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	0.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$	\$
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	0.0	EA	Connect To Existing Sanitary Sewer Manhole	\$	\$
37	0.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$	\$
38	0.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section IV - Daniel Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	0.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$	\$
41	0.0	EA	4" Sanitary Sewer Service	\$	\$
42	0.0	LF	Concrete Encasement	\$	\$
43	0.0	LF	Pre-Construction Television Inspection	\$	\$
44	0.0	LF	Post-Construction Television Inspection	\$	\$
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	0.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$	\$
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	1,200.0	SF	Driveway Approach	\$ 20.00	\$ 24,000.00
49	230.0	LF	Driveway Flowline	\$ 23.00	\$ 5,290.00
50	24.0	SF	Sidewalk 4'	\$ 28.00	\$ 672.00
51	400.0	SF	Valley Pan	\$ 40.00	\$ 16,000.00
52	50.0	LF	Curb & Gutter	\$ 90.00	\$ 4,500.00
53	0.0	SF	Flume 4'	\$	\$
54	500.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 10,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
<b>SUB-TOTAL AMOUNT BID – BASE BID SECTION IV – DANIEL DRIVE:</b>					<b>\$ 216,537.00</b>

## BASE BID – Bond Street Utility Improvements

### Section V - Lakeside Circle

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	1.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 650.00
4	4.0	EA	Adjust Water Valve to Grade	\$ 200.00	\$ 800.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	19.0	EA	Adjust Water Meter Box to Grade	\$ 125.00	\$ 2,375.00
7	0.0	EA	Remove Water Valve	\$	\$
8	1.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 6,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	0.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	1,000.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 115.00	\$ 115,000.00
13	0.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
14	19.0	EA	1-inch Water Service Line	\$ 300.00	\$ 5,700.00
15	9.0	EA	1" Single Water Service (short)	\$ 1,900.00	\$ 17,100.00
16	10.0	EA	1" Single Water Service (long)	\$ 2,400.00	\$ 24,000.00
17	0.0	EA	1" Double Water Service (short)	\$	\$
18	0.0	EA	1" Double Water Service (long)	\$	\$
19	0.0	EA	Relocate Existing Water Meter	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section V - Lakeside Circle

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	2.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 6,000.00
22	0.0	EA	Connect to Existing 12-inch Water Line	\$	\$
23	0.0	EA	6-inch Gate Valve	\$	\$
24	4.0	EA	8-inch Gate Valve	\$ 3,700.00	\$ 14,800.00
25	0.0	EA	10-inch Gate Valve	\$	\$
26	0.0	EA	12-inch Gate Valve	\$	\$
27	0.0	LF	Concrete Encasement	\$	\$
28	0.0	LF	Trench Safety for Sanitary Sewer Lines	\$	\$
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	0.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$	\$
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	0.0	EA	Connect To Existing Sanitary Sewer Manhole	\$	\$
37	0.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$	\$
38	0.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section V - Lakeside Circle

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	0.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$	\$
41	0.0	EA	4" Sanitary Sewer Service	\$	\$
42	0.0	LF	Concrete Encasement	\$	\$
43	0.0	LF	Pre-Construction Television Inspection	\$	\$
44	0.0	LF	Post-Construction Television Inspection	\$	\$
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	0.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$	\$
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	1,200.0	SF	Driveway Approach	\$ 20.00	\$ 24,000.00
49	230.0	LF	Driveway Flowline	\$ 23.00	\$ 5,290.00
50	120.0	SF	Sidewalk 4'	\$ 28.00	\$ 3,360.00
51	0.0	SF	Valley Pan	\$	\$
52	50.0	LF	Curb & Gutter	\$ 90.00	\$ 4,500.00
53	0.0	SF	Flume 4'	\$	\$
54	1,000.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 20,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
<b>SUB-TOTAL AMOUNT BID – BASE BID SECTION V – LAKESIDE CIRCLE:</b>					<b>\$ 256,575.00</b>

## BASE BID – Bond Street Utility Improvements

### Section VI - Post Oak Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	0.0	EA	Adjust Fire Hydrant to Grade	\$	\$
2	0.0	EA	Adjust Existing Water Line	\$	\$
3	2.0	EA	Remove Fire Hydrant	\$ 650.00	\$ 1,300.00
4	4.0	EA	Adjust Water Valve to Grade	\$ 200.00	\$ 800.00
5	0.0	EA	Adjust Irrigation Control Valve to Grade	\$	\$
6	14.0	EA	Adjust Water Meter Box to Grade	\$ 125.00	\$ 1,750.00
7	0.0	EA	Remove Water Valve	\$	\$
8	2.0	EA	Fire Hydrant Assembly	\$ 6,000.00	\$ 12,000.00
9	0.0	LF	Trench Safety for Water Lines	\$	\$
10	0.0	LF	12-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
11	0.0	LF	10-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
12	0.0	LF	8-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$	\$
13	1,000.0	LF	6-inch AWWA C900 PVC DR 18 (Class 150) Water Line	\$ 105.00	\$ 105,000.00
14	14.0	EA	1-inch Water Service Line	\$ 300.00	\$ 4,200.00
15	1.0	EA	1" Single Water Service (short)	\$ 1,900.00	\$ 1,900.00
16	1.0	EA	1" Single Water Service (long)	\$ 2,400.00	\$ 2,400.00
17	6.0	EA	1" Double Water Service (short)	\$ 1,900.00	\$ 11,400.00
18	6.0	EA	1" Double Water Service (long)	\$ 2,400.00	\$ 14,400.00
19	0.0	EA	Relocate Existing Water Meter	\$	\$

## BASE BID – Bond Street Utility Improvements

### Section VI - Post Oak Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
20	0.0	EA	Relocate Existing Backflow Preventer	\$	\$
21	3.0	EA	Connect to Existing 6-inch Water Line	\$ 3,000.00	\$ 9,000.00
22	0.0	EA	Connect to Existing 12-inch Water Line	\$	\$
23	4.0	EA	6-inch Gate Valve	\$ 2,500.00	\$ 10,000.00
24	0.0	EA	8-inch Gate Valve	\$	\$
25	0.0	EA	10-inch Gate Valve	\$	\$
26	0.0	EA	12-inch Gate Valve	\$	\$
27	0.0	LF	Concrete Encasement	\$	\$
28	1,000.0	LF	Trench Safety for Sanitary Sewer Lines	\$ 2.00	\$ 2,000.00
29	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
30	0.0	LF	8-inch SDR 35 PVC Sanitary Sewer	\$	\$
31	1,000.0	LF	8-inch SDR 26 PVC Sanitary Sewer	\$ 135.00	\$ 135,000.00
32	0.0	LF	6-inch SDR 35 PVC Sanitary Sewer	\$	\$
33	0.0	LF	6-inch SDR 26 PVC Sanitary Sewer	\$	\$
34	0.0	LF	12-inch SDR 35 PVC Sanitary Sewer	\$	\$
35	0.0	LF	18-inch SDR 35 PVC Sanitary Sewer	\$	\$
36	3.0	EA	Connect To Existing Sanitary Sewer Manhole	\$ 1,000.00	\$ 3,000.00
37	5.0	EA	4-foot Diameter Sanitary Sewer Manhole	\$ 2,500.00	\$ 42,500.00
38	65.0	VF	Extra Depth for 4-foot Sanitary Sewer Manhole	\$ 500.00	\$ 32,500.00



## BASE BID – Bond Street Utility Improvements

### Section VI - Post Oak Drive

ITEM NO.	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
39	0.0	EA	5-foot Diameter Sanitary Sewer Manhole	\$	\$
40	1,800.0	VF	Extra Depth for Sanitary Sewer Trench >12 feet deep	\$ 60.00	\$ 108,000.00
41	24.0	EA	4" Sanitary Sewer Service	\$ 2,200.00	\$ 52,800.00
42	0.0	LF	Concrete Encasement	\$	\$
43	1,000.0	LF	Pre-Construction Television Inspection	\$ 8.00	\$ 8,000.00
44	1,000.0	LF	Post-Construction Television Inspection	\$ 8.00	\$ 8,000.00
45	0.0	LF	Remove Existing Sanitary Sewer Line	\$	\$
46	5.0	EA	Remove Existing Sanitary Sewer Line Manhole	\$ 750.00	\$ 3,750.00
47	0.0	EA	Adjust Existing Sanitary Sewer Manhole to Grade	\$	\$
48	1,400.0	SF	Driveway Approach	\$ 20.00	\$ 28,000.00
49	250.0	LF	Driveway Flowline	\$ 23.00	\$ 5,750.00
50	24.0	SF	Sidewalk 4'	\$ 28.00	\$ 672.00
51	300.0	SF	Valley Pan	\$ 40.00	\$ 12,000.00
52	150.0	LF	Curb & Gutter	\$ 90.00	\$ 13,500.00
53	0.0	SF	Flume 4'	\$	\$
54	1,200.0	SF	Asphalt Pavement Repair	\$ 20.00	\$ 24,000.00
55	1.0	LS	Miscellaneous Utility Allowance	\$ 7,000.00	\$ 7,000.00
<b>SUB-TOTAL AMOUNT BID – BASE BID SECTION VI – POST OAK DRIVE:</b>					<b>\$ 660,622.00</b>

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Total Amount Bid: Base Bid:

Section I – Kirk Lane \$ 301,430.00

Section II – Wood View Lane \$ 353,460.00

Section III – Sierra Drive \$ 391,898.00

Section IV – Daniel Drive \$ 216,537.00

Section V – Lakeside Circle \$ 256,575.00

Section VI – Post Oak Drive \$ 660,622.00

\$ 2,180,522.00

(Total Amount Bid, Numerical Value)

## **SPECIAL CONDITIONS**

### **1. OWNER AND CONTRACTOR**

The Owner and Contractor are those persons or organizations identified as such in the Agreement and are referred to throughout the contract documents as if singular in number and masculine in gender.

The Project Manager shall be understood to represent the Owner. The duties, responsibilities and limitations of authority of the Project Manager 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.

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the character, quality and quantity of the materials, equipment and facilities needed during the prosecution of the work, the general and local conditions, and all other matters which can in any way effect the work under this contract. No verbal agreement or conversation with any officer, agent or employee of the City either before or after the execution of this contract shall effect or modify any of the terms or obligations herein contained.

### **2. CONTRACT DOCUMENTS**

The contract documents shall consist of: the Notice to Bidders (Advertisement); Instructions to Bidders; Proposal; Signed Agreement; Maintenance, Performance and Payment Bonds (when required); insurance certificate; General Conditions; Specifications; Plans; and all modifications thereof incorporated in any of the documents before the execution of the agreement.

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.

The contract documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the contract documents, priority of interpretation shall be in the following order: Signed contract agreement, performance and payment bonds, Contractor's proposal, Notice to Contractors, Specifications, Plans, and General Conditions of Agreement.

### **3. SUB-CONTRACTOR**

The term Sub-Contractor, as employed herein, shall include any third party having a direct contract or other agreement with the Contractor to perform work or provide services and who performs or

provides services according to the plans or specifications of the work, but shall not include one who merely furnishes material.

**4. WRITTEN NOTICE**

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

**5. WORK**

The Contractor is responsible for compliance with local, state, and federal regulations. Contractor to provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, fuel, transportation and other facilities necessary for the execution and completion of the work covered by the contract documents. All materials shall be new and workmanship shall be of a good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words that so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

**6. SITE OBSERVATION BY PROJECT MANAGER/OWNER'S REPRESENTATIVE**

The Project Manager/Owner's Representative shall make periodic visits to the site to familiarize him or her with the progress of the executed work and to determine if such work meets the requirements of the specifications and contract documents.

Any review of work in progress, or any visit or observation during construction by the Project Manager/Owner's Representative is agreed by the Contractor to be for the purpose of observing the extent and nature of work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling Contractor to more fully understand the plans and specifications so that the completed construction work will conform thereto, and shall in no way relieve the Contractor from full and complete responsibility for the proper performance of his work on the project.

Deviation by the Contractor from plans and specifications that may have been in evidence during any such visitation or observation by the Project Manager/Owner's representative, whether called to the Contractor's attention or not shall in no way relieve the Contractor from his responsibility to complete all work in accordance with said plans and specifications.

**7. PROGRESS PAYMENTS FOR WORK**

Public Works shall review Contractor's applications for payment and supporting data, determine the amount owed to the Contractor and approve, in writing, payment to Contractor. 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.

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.

### **8. CONTRACTOR'S DUTY AND SUPERINTENDENCE**

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

The Contractor is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing his work under this contract, with full power and authority to select the means, method and manner of performing such work, so long as such methods do not adversely affect the completed improvements. Likewise, the Contractor shall be solely responsible for the safety of himself, his employees and other persons, as well as for the protection of the safety of the improvements being erected and the property of himself or any other person, as a result of his operations hereunder.

Contractor shall be fully and completely liable, at his own expense, for design, construction, installation and use, or non-use, of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by him during construction.

### **9. UTILITY CONFLICTS**

It is the Contractor's responsibility to make arrangements with the owners of such underground facilities prior to working in the area to confirm the locations and to determine whether any additional facilities may be present. Contractor shall preserve and protect all underground facilities.

<u>UNDERGROUND FACILITY OWNER</u>	<u>TELEPHONE NUMBER</u>
ATMOS	811
ONCOR	811
AT&T	811
City of North Richland Hills Water/Sewer	817.427.6440
Charter Cable	811

### **10. 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.

**11. TRAFFIC CONTROL**

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. All traffic control devices used during construction shall meet the standards utilized in the MUTCD.

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

**12. PROSECUTION OF CONSTRUCTION**

The CONTRACTOR will, unless otherwise approved by the Owner, 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>
  - MLK Day ..... Third Monday in January
  - Memorial Day ..... Last Monday in May
  - Independence Day ..... July 4th
  - Labor Day ..... First Monday in September
  - Thanksgiving Holiday ..... Fourth Thursday in November and the following Friday
  - Christmas Holiday ..... December 24th & December 25th

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

- D. If the Contractor wishes to work more than thirty minutes per day overtime, approval **must be acquired from the Public Works Department 24 hours in advance and the Contractor must agree to pay the City for the inspector’s time at the rate of seventy-five dollars (\$75.00) per hour.** If the Contractor arranges to work on a weekend and for any reason does not or cannot work, he will be responsible for a minimum of two hours pay for the inspector.

### **13. INSPECTION AND TESTING**

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 Engineer, and permitted with the City of North Richland Hills' Public Works Department.

Utility Testing Services provided shall include but are not limited to the following:

- a. Pressure and bacteriological test of water mains
- b. Vacuum testing of manholes
- c. Slump and Air Content Tests
- d. Flexural or Compressive Strength Tests for concrete (if used)
- e. Soil Compaction for trench backfill

### **14. CHARACTER OF WORKERS**

The Contractor agrees to employ only orderly and competent workers, skillful in the performance of the type of work required under this contract; and agrees that whenever the Owner shall inform him in writing that any worker or workers on the work site, in Owner's opinion, are incompetent, unfaithful or disorderly, such worker or workers shall be discharged from the work and shall not again be employed on the work without the Owner's written consent.

### **15. PRELIMINARY APPROVAL**

The Project Manager shall not have the power to waive the obligations of this contract for the furnishing of good material, or of his performing good work as herein described in full accordance with the plans and specifications. No failure or omission of the Project Manager to discover, object to or condemn defective work or material shall release the Contractor from obligations to fully and properly perform the contract, including without limitations, the obligation to at once tear out, remove and properly replace the same at any time prior to final acceptance upon discovery of said defective work or material; provided, however, that the Project Manager shall, upon request of the Contractor, inspect and accept or reject any material furnished.

Any questioned work may be ordered taken up or removed for re-examination by the Project Manager prior to final acceptance. If found not in accordance with the specifications for said work, all expense of removing, re-examination and replacement shall be borne by the Contractor.

### **16. DEFECTS AND THEIR REMEDIES**

It is further agreed that if the work or any material brought on the job site for use or selected for use, shall be deemed by the Project Manager as unsuitable or not in conformity with the specifications, the Contractor shall, after receipt of written notice from the Project Manager, remove

such material and rebuild or otherwise remedy such work so that it shall be in full accordance with this contract.

**17. CHANGE ORDERS**

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

It is agreed that the quantities of work to be done at unit prices and materials to be furnished may be increased or diminished as may be considered necessary, in the opinion of the project Manager, to complete the work fully as planned and contemplated. All work is to be performed as provided for in the specifications. The Owner reserves the right to increase or decrease the amount of work to be done by any amount not to exceed twenty-five percent (25%) of the original contract amount. The Contractor shall submit a bid in writing to the Project Manager for approval of the work requested. The Owner 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.

If the Owner approves the bid for the requested change in work, a change order will be executed. All change orders shall be approved in writing by the North Richland Hills' designated representative prior to work being executed.

**18. KEEPING OF PLANS AND SPECIFICATIONS ACCESSIBLE**

The Owner shall furnish the Contractor with an adequate and reasonable number of copies of all plans and specifications without expense to him. The Contractor shall keep one copy of the same constantly accessible on the work with the latest versions noted thereon.

**19. OWNERSHIP OF DRAWINGS**

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

**20. RIGHT OF ENTRY**

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

**21. DISCREPANCIES AND OMISSIONS**

In the event of any discrepancies between the separate contract documents, the priority of interpretation defined under "Contract Documents" shall govern. In the event there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the Project Manager shall define which is intended to apply to the work.



**22. EQUIPMENT AND MATERIALS**

The Contractor shall be responsible for the care, preservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, all means of construction, and any and all parts of the work, whether the Contractor has been paid, partially paid, or not paid for such work until the entire work is completed and accepted.

**23. PROTECTION AGAINST ACCIDENT TO EMPLOYEES AND THE PUBLIC**

The Contractor shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provision of Federal, State, and Municipal safety laws, building and construction codes. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent contractor.

**24. 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, from the action of the elements, from any unforeseen circumstances in the prosecution of the same, from any unusual obstructions or difficulties which may be encountered in the prosecution of the work shall be sustained and borne by the Contractor at his own cost and expense.

**25. PROTECTION OF ADJOINING PROPERTY**

Contractor shall take proper means to protect all adjacent or adjoining properties in any way encountered which might be injured or seriously affected by any process of construction to be undertaken under the Agreement. Contractor shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The Contractor agrees to indemnify, save and hold harmless the Owner and Project Manager against any claim or claims for damages due to the injury to any adjacent or adjoining property arising or growing out of performance of the contract. Any such indemnity shall not apply to any claim of any kind arising out of the existence or character of the work.

**26. LAWS AND ORDINANCES**

The Contractor shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations, which in any manner effect the contract or the work. If the Contractor observes that the plans and specifications are at variance therewith, he shall promptly notify the Project Manager in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Manager, he shall bear all costs arising there from.

**27. ASSIGNMENT AND SUBLETTING**

The Contractor further agrees that he will retain personal control and will give his personal attention to the fulfillment of this contract and that he will not assign by Power of Attorney, or otherwise, or sublet said contract without the written consent of the Owner. The Contractor further agrees that

the subletting of any portion or feature of the work, or material required in the performance of this contract, shall not relieve the Contractor from his full obligations to the Owner, as provided by this Agreement.

## **28. INDEMNIFICATION / PROTECTION AGAINST CLAIMS**

**The 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 for the negligence of the 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.**

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

- (1) Is attributable to bodily injury, sickness, disease, death or injury to or destruction of tangible property, including the loss of use and,**
- (2) Is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by anyone of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.**

The obligation of the Contractor under this paragraph shall not extend to the liability of the Project Manager, his agents or employees arising out of the approval of drawings, reports, Change Orders, designs or specifications, or the giving of or the failure to give directions or instructions by the Project Manager, his agents or employees, provided such giving or failure to give in the primary cause of the injury or damage.

## **29. WORKERS COMPENSATION INSURANCE**

As required by the Texas Workers' Compensation Commission Rule 28, 110.110, the Contractor shall also carry worker's compensation insurance. The Contractor's failure to comply with any of the provisions of this Rule will be considered a breach of contract by the Contractor. The City will have the right to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the City.

The successful Contractor must provide a certificate of coverage to the City prior to being awarded the contract. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must file a new certificate of coverage with the City Purchasing Division showing coverage has been extended. The Contractor shall obtain from each sub-contractor providing services on the project a certificate of coverage, prior to that person beginning work on the project. Sub-contractor certificates must also be submitted to the Purchasing Division.

### **30. WAGE RATES**

The successful contractor shall be required to comply with Chapter 2258 of the Texas Government Code with respect to the payment of prevailing wage rates. Chapter 2258 states contractors and subcontractors shall not pay less than the prevailing wage rate to all laborers, workmen, and mechanics employed by them in the execution of the contract. Contractors should familiarize themselves with the entire provision of this law and the penalties provided for its violation before submitting their bids.

No portion of this provision shall be construed to prohibit the payment of more than the stated wage rate to any laborer, workman or mechanic employed on the project. It shall be the responsibility of the Contractor to maintain an adequate work force whether higher wages are required or not.

The State of Texas has adopted the Federal Davis-Bacon wage rates for the use in Texas pursuant to and in accordance with the Texas Government Code, Section 2258.022. The U.S. Department of Labor web site may be accessed at [www.access.gpo.gov](http://www.access.gpo.gov) to obtain the appropriate wage rates to be used in Tarrant County, Texas.

**It shall be the responsibility of the successful contractor to obtain the proper wage rates for Tarrant County for the type of work defined in the bid specifications.**

The City will audit the contractor and all sub-contractors employed by contractor to ensure they are paying the prevailing wage rate weekly. Contractor and all sub-contractors must submit certified payrolls on a weekly basis per the [Contractor's Application](#) that must be filed prior to bidding. In the event an audit is performed, the contractor shall be required to supply a certified copy of the records showing the prevailing wage rates have been met.

### **31. TIME AND ORDER OF COMPLETION**

It is the meaning and intent of this contract, unless otherwise herein specifically provided, that the Contractor shall be allowed to prosecute his work at such times and seasons, in such order of precedence, and in such manner as shall be most conducive to economy of construction; provided, however, that the order and the time of prosecution shall be such that the work shall be substantially completed as a whole and in part, in accordance with this contract, the plans and specifications, and within the time of completion designated in the Proposal.

The Contractor shall submit, at such times as may reasonably be requested by the Project Manager, schedules which shall show the order in which the Contractor proposes to carry on the

work, with dates at which the Contractor will start the several parts of the work, and estimated dates of completion of the several parts.

### **32. EXTENSION OF TIME**

Contractor shall give the Project Manager immediate notice in writing of any delay in completion of project. If the Owner decides an extension of time is justified, the Project Manager shall issue a written extension of time for completing the work. Extension shall be sufficient to compensate for the delay.

### **33. LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE WORK ON TIME**

The Contractor agrees that, from the compensation otherwise to be paid, The Owner may retain the sum of Two Hundred Twenty-Eight Dollars (\$228.00) for each calendar day after the agreed Date of Substantial Completion that the work remains not substantially complete, which sum is agreed upon as the proper measure of liquidated damages which the Owner will sustain per diem by the failure of the Contractor to complete the work at the time stipulated in the contract. This sum is not to be construed in any sense a penalty.

### **34. PRICE OF WORK**

The Owner agrees to pay the Contractor for furnishing of all necessary labor, equipment and material, and the satisfactory completion of all work, the prices set forth in the Proposal hereto attached, which has been made a part of this contract. All materials embraced in the completion of this Contract must be in full conformity with the specifications and stipulations herein contained.

### **35. USE OF COMPLETED PORTIONS**

The Owner shall have the right to take possession of and use any completed or partially completed portions of the work, and use shall not be deemed an acceptance of any work not completed in accordance with the contract documents.

The Contractor shall notify the Project Manager when, in the Contractor's opinion, the contract is "substantially completed" and when so notifying the Project Manager, the Contractor shall furnish to the Project Manager in writing a detailed list of unfinished work.

The Project Manager will review the Contractor's list of unfinished work and will add thereto such items as the contractor has failed to include. The "substantial completion" of the structure or facility shall not excuse the Contractor from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the structure of facility in accordance with the contract documents.

### **36. PAYMENTS WITHHELD**

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

- (1) Defective work not remedied.
- (2) Claims filed or reasonable evidence indicating probable filing of claims.
- (3) Failure of the Contractor to make payments properly to Sub-Contractors or for material or labor.

- (4) Damage to another contractor.
- (5) Reasonable doubt that the work can be completed for the unpaid balance of the contract amount.
- (6) Reasonable indication the work will not be completed within contract time.

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

**37. TIME OF FILING CLAIMS**

It is further agreed by both parties hereto that all questions of dispute or adjustment presented by the Contractor shall be in writing and filed with the Project Manager within ten (10) days after the Project Manager has given any directions, order or instruction to which the Contractor desires to take exception. The Project Manager shall reply within ten (10) days to such written exceptions by the Contractor and render his final decision in writing.

**38. ABANDONMENT BY CONTRACTOR**

If the Contractor shall fail to commence work within ten (30) calendar days after written notice to commence is served on Contractor or if the Contractor stops work or fails to pursue work in a timely fashion and fails to resume and pursue work in a timely fashion within ten (10) calendar days of a written notice of work stoppage or failure to pursue work in a timely fashion, or if the Contractor fails to comply with orders consistent with the contract documents, the Owner may declare the contract abandoned and direct the surety on the performance bond with a written notice to complete the work. A copy of the notice to the surety shall be served on the Contractor.

After receiving the notice of abandonment, the Contractor shall not remove any materials or supplies from the job site.

After the contract is declared abandoned, the Owner shall be entitled to pursue any legal remedy and to seek damages for breach of contract from the Contractor and, to the extent that it fails to honor its obligations under the performance bond, from the surety on the bond.

**39. DURATION OF AGREEMENT AND PRICE ADJUSTMENTS**

The successful bidder will be awarded a twelve (12) month agreement effective the date of award. Prices are to remain firm for the twelve (12) month agreement period. At the City’s option, the agreement may be renewed for four (4) additional twelve (12) month periods at a price proposed by the contractor. The Contractor shall submit the renewal proposal with price changes and justification to the Purchasing Department at least sixty (60) days before the expiration of the current agreement. Increase in contract pricing shall not exceed the consumer price index of the Dallas/Fort Worth standard metropolitan statistical for the previous twelve (12) month period or 5%, whichever is smaller. Renewal shall be at the sole discretion of the City of North Richland Hills departments utilizing the contract. All areas of non-conformance shall be submitted in writing to the Purchasing Manager and must be corrected within 10 days from date of notification. After three non-conformance complaints the contract may be subject to cancellation.

The quantities listed are estimated quantities using the best information available. The City reserves the right to choose the items that will be purchased and to purchase more than or less than the quantities listed.

## SPECIFICATIONS

- A. The Contractor shall provide and pay for all materials, supplies, machinery, equipment, tools, traffic control devices, superintendence, labor, services, insurance, and all water, fuel, transportation and other facilities necessary for the execution and completion of the work covered by the contract documents. All materials shall be new and workmanship shall be of a good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.
- B. Contractor agrees that the City of North Richland Hills Public Works Department has the right to make all final determinations as to whether the work has been satisfactorily completed and meets all specifications.
- C. All construction work shall be inspected by the Public Works Department. No utility pipe or appurtenances shall be backfilled until an inspection is done by the Public Works Department. If the contractor fails to have the work inspected before backfilled, the contractor shall expose the pipe and re-backfill at the contractor's expense.
- D. All construction work shall be in accordance with the City of North Richland Hills Public Works Design Manual and the Standard Specifications for Public Works Construction for the North Central Texas (North Central Texas Council of Governments) Design Manual. The contractor shall meet all specifications as outlined by these two manuals.
- E. The Contractor shall be responsible for all costs to construct pay items and must furnish their own dump site for waste material removed.
- F. The Contractor is responsible for all street repairs. Trenches must be plated or backfilled with an all-weather surface course at the end of each work day. Permanent pavement repair shall be provided within 21 calendar days of completion of utility work.
- G. The contractor is responsible for all property restoration (yards, street right-of-ways). This includes backfilling, top-soil, grass, mail boxes, irrigation systems, sprinkler heads, sign posts, signs or any other structures located on property or in the street right-of-way. No separate pay for restoration.
- H. Backfill material and top-soil shall be approved by the Public Works Department. The contractor is responsible for readjustment of sprinkler heads, mailboxes or any landscaping to match new grades at the repair site.
- I. The yard or street right-of-ways shall be restored to the original condition or better using sod of the same type grass that was removed from that area. All spoil dirt shall be removed from the surrounding area. The new sod shall be laid edge to edge to give full coverage unless property owner request gaps be left between the sod pads. Cut-in edges of pads to match existing ground elevations. The new sod pads shall be laid brick layer staggered fashion to prevent erosion.

- J. If yard restoration occurs during the non-growing months of November to March, a winter grass such as rye shall be planted to hold the soil.
- K. The Contractor shall complete the yard restoration by planting the new sod in the month of April. Working day charges will be stopped when the project is substantially complete, but two percent (2%) of the contract price will be retained until new sodding and yard restoration is complete. If sodding and yard restoration is not completed by April 15, working day charges will be resumed on April 16, and will continue until yard restoration is complete.
- L. If yard is equipped with an irrigation system, caution should be taken to preserve the system. If a portion of the irrigation system is damaged, it will be the responsibility of the Contractor, as part of the yard restoration, to repair or replace all broken parts and have the owner test the repaired system. No direct payment shall be made for the yard restoration. All irrigation damages, repairs or relocations shall be done by a licensed irrigation company or person. No separate pay for irrigation repair.
- M. Contractor shall be responsible for supplying and replacing the barricades and shall conform to the Manual on Uniform Traffic Control Devices (MUTCD). No direct payment shall be made for the supplying and replacing of barricades. Payment shall be included in the unit price bid for related items.
- N. It is the contractor's responsibility to minimize sediment travel onto adjacent property or streets. Erosion control must be in place as shown on the plans or as directed by the Street Supervisor. The erosion control is to be maintained until sod has been established.
- O. The contractor shall remove all excess spoils from the road. There will be no overnight stock piling of materials either new or spoiled within the Public Rights of Way without prior approval.



**Explanation of Bid Items**

**ADJUST EXISTING WATER LINE**

This item shall govern adjusting the existing water main to where it is in conflict with proposed improvements (curb inlets, storm drain lines, etc.). Water lines in conflict shall be adjusted to maintain a minimum 2 feet of vertical clearance and 2.5' horizontal clearance from all proposed utilities.

Payment for this item shall be at the contract unit price “per each” location the water main is adjusted and shall include excavation, embedment, backfill, thrust blocking, bends, fittings, and all other appurtenances necessary for a complete adjustment.

**REMOVE FIRE HYDRANT**

Existing fire hydrant assembly shall be removed and salvaged where shown on the plans and shall follow the provisions of Item 203.3. Associated gate valve shall be removed and salvaged subsidiary to this bid item. The City maintains salvage rights on existing fire hydrants removed and shall provide a location for the contractor to transport the assembly. If The City does not wish to obtain the salvaged assembly, the contractor shall dispose of the assembly offsite in a lawful manner.

Payment for Remove Fire Hydrant shall be on a “per each” basis and shall include excavation, removal, backfill, and transporting the fire hydrant assembly.

**ADJUST WATER VALVE TO GRADE**

This item shall govern adjusting the valve stack on water valves such that the finished elevation of the rim is flush with the grade of the proposed pavement. See NRH Detail 1W.

Payment for this item shall be at the contract unit price “per each” water valve adjusted and shall include all materials including extension stems if necessary, equipment, labor, tools, and incidentals necessary to complete the work.

**ADJUST IRRIGATION CONTROL VALVE TO GRADE**

This item shall govern adjusting the valve stack on irrigation control valves such that the finished elevation of the rim is flush with the grade of the proposed parkway along Bridge Street.

Payment for this item shall be at the contract unit price “per each” irrigation control valve adjusted and shall include all materials including extension stems if necessary, equipment, labor, tools, and incidentals necessary to complete the work.

**ADJUST WATER METER BOX TO GRADE**

This item shall govern adjusting existing water meter boxes such that the finished elevation of the top of box is flush with proposed grade.

Payment for this item shall be at the contract unit price “per each” water meter box adjusted and shall include all materials, equipment, labor, tools, and incidentals necessary to complete the work.

### **REMOVE WATER VALVE**

Existing water valves on main lines and fire hydrant leads shall be removed and salvaged where shown on the plans and shall follow the provisions of Item 203.3. The City maintains salvage rights on existing water valves removed and shall provide a location for the contractor to transport the assembly. If the City does not wish to obtain the salvaged assembly, the contractor shall dispose of the assembly offsite in a lawful manner.

Payment for Remove Water Valve shall be on a “per each” basis and shall include excavation, removal, backfill, and transporting the water valve offsite.

### **FIRE HYDRANT ASSEMBLY**

Fire hydrant assemblies shall be furnished and installed in accordance with Item 502.3 of the COG Specifications and City Specifications (Figure 3W-1). Fire hydrants shall be installed 2-foot to 3-foot behind the back of curb or edge of pavement. Payment for Fire Hydrant Assembly shall be on a “per each” basis and shall include fire hydrant, barrel extension (if required), 6-inch lead line and valve, concrete pads, concrete valve block, traffic button marker, thrust blocking, paint, and all other materials, equipment, labor, tools, and incidentals necessary to complete the work.

### **SANITARY SEWER LINES (OPEN CUT)**

Sanitary sewer line shall be furnished and installed in accordance with Items 501.17, 504 and 507 of the COG Specifications and City Specifications. All sanitary sewer lines less than 12 feet deep shall be PVC SDR-35. All sanitary sewer lines deeper than 10 feet shall be PVC SDR-26. Should existing sanitary sewer main be disrupted, CONTRACTOR shall use bypass sewage pumping to avoid disrupting sewer flow during construction of the new sewer main. The cost of sewage pumping shall be subsidiary to this bid item. CONTRACTOR shall have pumps on the job site capable of handling the flow.

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 D-698 (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 foot 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 enclosure.

All sanitary sewer lines shall be installed with a tracer wire. Payment for sanitary sewer line shall be by the linear foot and shall include excavation, embedment, backfill, tracer wire, testing, materials, equipment, labor, tools and incidentals necessary to complete the work.

**CONNECT TO EXISTING SANITARY SEWER MANHOLE**

Payment for connect to existing sanitary sewer manhole shall be made for each connection made and shall be full compensation for making the connection. Connections shall be performed in a neat and workmanlike manner and made watertight. Cleaning and bypass pumping, if necessary, will be performed at no extra cost to the Owner to permit the connection. Payment shall also include the cost of plugging abandoned connections.

**SANITARY SEWER MANHOLE AND EXTRA DEPTH**

Standard Sanitary sewer manholes shall be furnished and installed in accordance with Items 502.1 of the COG Specifications and City Specifications. Payment for standard sanitary sewer manholes shall be based on the number of manholes installed for each specified diameter and shall include excavation, materials, backfill, manhole tie-ins, and vacuum testing. Payment for extra depth for standard sanitary sewer manholes shall be made on the basis of the number of vertical feet of manhole in excess of 6-feet.

**CONCRETE ENCASEMENT**

Concrete encasement shall be installed at the location shown on the plans in accordance with Item 504.5.2.13 of the COG Specifications. Concrete encasement shall have a minimum dimension of six (6) inches around the pipe. Concrete for encasement shall be Type “B” – 2,000 psi compressive strength at 28 days. Payment for concrete encasement shall be by the linear foot actually installed and shall include supporting pipe and furnishing and installing concrete.

**PRE-CONSTRUCTION TELEVISION 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 COG Specifications. Cleaning and bypass pumping will be performed as necessary to allow the television inspection. Measurement and payment for pre-construction television inspection shall be on a per linear foot basis for the length of pipe actually inspected. Cleaning shall be considered subsidiary to this item.

**POST-CONSTRUCTION TELEVISION INSPECTION**

Post-construction television inspection shall be performed on all sanitary sewer lines in accordance with Item 507.5.2 of the COG 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 for post-construction television inspection shall be on a per linear foot basis.

**REMOVE EXISTING SANITARY SEWER LINE**

Existing sanitary sewer lines where shown on the plans to be removed shall become the property of the CONTRACTOR to be disposed in accordance with local, state and federal guidelines. Payment for “Remove Existing Sanitary Sewer Line” shall be on a “per linear foot” basis and shall include excavation, pipe removal and disposal, pipe cutting and plugging, backfill and all labor and materials necessary to remove the existing line.

### **REMOVE EXISTING SANITARY SEWER MANHOLE**

Existing sanitary sewer manholes to be removed shall become the property of the CONTRACTOR to be disposed in accordance with local, state and federal guidelines. Payment for "Remove Existing Sanitary Sewer Manhole" shall be on a "per each" basis and includes the complete removal and disposal of manholes, manhole lids, rings, concrete cones, concrete walls, concrete bases, piping, and plugging the ends of the sanitary sewer mains to be abandoned with an adequate quantity of concrete to form a tight enclosure where specified, and backfilling the remaining hole to match surrounding grades or as specified.

### **SANITARY SEWER SERVICE**

Furnish & Install 4-Inch PVC Sanitary Sewer Service. Four (4") inch sewer pipe covered by this bid item shall be furnished and installed in accordance with the applicable portions of Specification 501.17 "Polyvinyl Chloride (PVC) Wastewater Pipe & Fittings with Dimension Control." The Contractor shall furnish PVC Sewer Pipe (ASTM D 3034 DR 35) as specified

The price per each shall include all labor, equipment and materials necessary to complete the work including excavation, embedment, backfill, internal inspection, and testing. Plan quantities based on centerline of proposed pipe to right-of-way.

### **ADJUST EXISTING SANITARY SEWER MANHOLE TO GRADE**

This item shall govern only for adjusting existing manholes to grade on existing sewer lines to remain under street construction. The cost of adjusting proposed manholes to grade is incidental to the unit cost of the manhole. Adjustments shall be made with grade rings. Rings and lids shall be salvaged and reused. Measurement and payment shall be on a "per each" basis for those manholes actually adjusted.

### **WATER LINES (BY OPEN CUT)**

Water line shall be furnished and installed in accordance with Item 506 of the COG Specifications and City Specifications. Water lines 6-inch through 12-inch diameter shall be AWWA C900 PVC, Class 150 DR 18, blue in color. Water lines greater than 12-inch in diameter shall be AWWA C905 PVC, Class 235 DR 18, blue in color.

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 Proctor procedures elsewhere. Densities shall be taken every one (1) lift at staggered hundred-foot increments.

The cost of fittings and thrust blocking is incidental to the unit cost of pipe. The cost of cutting, plugging, and abandoning existing water 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 enclosure. Measurement and payment shall be made per linear foot of pipe installed or the various sizes. The unit price for this bid item shall consist of all materials, equipment, labor, tools, and incidentals necessary to complete the work.

**WATER SERVICE LINES**

Water service lines shall be replaced from the main to the meter. Water services shall be furnished in accordance with Items 501.10, 504 and 506 of the COG Specifications and City Specifications. New meter boxes shall be furnished and existing meters salvaged and reused.

Payment shall be on a “per each” basis for the size of service installed (short or long side) (single or double meters) and shall include the meter boxes and connection to the existing service.

**REMOVE EXISTING WATER LINE**

Existing water lines shown on the plans to be removed shall become the property of the CONTRACTOR to be disposed in accordance with local, state and federal guidelines. Payment for “Remove Existing Water Line” shall be on a “per linear foot” basis and shall include excavation, pipe removal and disposal, pipe cutting and plugging, backfill and all labor and materials necessary to remove the existing line.

**RELOCATE EXISTING WATER METER**

Existing water meters shall be relocated where shown on the plans and shall be located per Figure 4W. The existing meter, box and appurtenances shall be removed. The existing meter and appurtenances shall be reinstalled at the proposed location and connected to the proposed service. The water service leading up to the relocated meter and new meter box shall be paid under a separate item.

Payment for Relocate Existing Water Meter shall be on a “per each” basis and shall include removal, reinstallation, excavation, backfill, disposal of meter box, labor and all incidentals to relocate and connect the water service and appurtenances.

**RELOCATE EXISTING BACKFLOW PREVENTER**

Existing backflow preventer shall be relocated where shown on the plans. The existing backflow preventer and appurtenances shall be removed and reinstalled at the proposed location and connected to the proposed service. The water service leading up to the relocated backflow preventer shall be paid under a separate item.

Payment for Relocate Existing Backflow Preventer shall be on a “per each” basis and shall include removal, reinstallation, excavation, backfill, labor and all incidentals to relocate and connect the backflow preventer and appurtenances.

**CONNECT TO EXISTING WATER LINE**

Connection to existing water lines shall be made in accordance with Item 501.10 of the COG Specifications. CONTRACTOR shall coordinate shutdown of water lines with City personnel. Excavation to locate exact end of pipe shall be the responsibility of the CONTRACTOR. Measurement and payment shall be “per each” existing water line connection performed and shall include necessary fittings, removal of thrust blocking, materials, equipment, labor, tools, shutdown of the line, end of pipe locating, and incidentals necessary to complete the work.

### **CONNECT TO EXISTING VAULT**

Payment for connect to existing vault shall be made “per each” vault connection performed and shall include necessary fittings, materials, equipment, labor, tools, end of pipe locating, and incidentals necessary to complete the work.

### **GATE VALVES**

Gate valves shall be furnished and installed in accordance with Item 502.6.6.1 of the COG Specifications and City Specifications. The CONTRACTOR shall be paid for each valve installed, including box and lid.

### **TAPPING SLEEVE AND GATE VALVE**

Tapping sleeve and gate valves shall be furnished and installed in accordance with Item 502.10 of the COG Specifications. The CONTRACTOR shall be paid for each tapping sleeve and gate valve furnished and installed and shall include all materials, equipment, and labor necessary to pressure tap existing water lines.

### **TRENCH SAFETY**

On this project, where the trench excavation is in excess of five feet in depth, Trench Excavation Safety Protection under this bid item shall be accomplished in accordance with the Occupational Safety and Health Administration’s (OSHA) Standards for trench safety that will be in effect during the period of construction of the project. The Contractor is required to receive from OSHA such OSHA Standards for trench safety. The contractor shall employ all competent persons and registered professional engineers required to comply with all the provisions of the OSHA Standard for trench safety. Excavation for manholes shall also be considered to be trench excavation for the purpose of excavation safety protection. This item shall govern trench safety for storm sewer, water, and wastewater.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot of trench excavation safety protection and shall be full compensation for all labor, materials, designs, inspections, equipment and necessary appurtenances required to produce a project-specific trench safety plan, complete the work and for taking all other measures required to comply with the OSHA Standards for trench safety that will be in effect during the period of construction of the project.

### **ASPHALT PAVEMENT REPAIR**

This item shall govern saw cutting and removing existing asphalt and installing a permanent asphalt pavement repair (Figure 15P-1) along utility trenches. Only the necessary amount of existing pavement shall be removed to install the proposed utility. Contractor shall dispose the removed asphalt pavement in accordance with local, state and federal guidelines.

Payment for Asphalt Pavement Repair shall be made on a square foot basis. Saw cut, removal, and replacement of asphalt pavement beyond limits approved by Public Works shall be at the Contractor’s expense.

### **REMOVE AND REPLACE CONCRETE CURB AND GUTTER**

Where removal cannot be terminated at a joint, a saw cut shall be made at no extra cost to the Owner. Any existing reinforcing steel, extending from the concrete which is not removed into that which is removed, shall be retained for a length of 30 diameters into the new concrete.

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.

Saw-cut and remove existing curb & gutter and construct new Class A (3,000 psi-28 day) concrete curb & gutter. Concrete curb and gutter shall be constructed in accordance with Item 305.1 of the COG Specifications and City Specifications (see Figure 2P) and shall consist of a 6-inch wide by 6-inch tall concrete curb and either 18-inch or 24-inch wide gutter section, to match the existing gutter width. Finished concrete shall have light broom finish.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per linear foot, as measured along the face of the curb or the gutter line and shall include the cost of saw cutting complete in place and include all removal, haul-off, concrete, reinforcing steel, form work, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals.

### **REMOVE AND REPLACE DRIVEWAY FLOW LINE**

Saw-cut and remove existing driveway flow line and construct new Class A (3,000 psi-28 day) concrete driveway flow line.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per linear foot, as measured along driveway flowline and shall include the cost in place of all saw cutting, removal, haul-off, concrete, reinforcing steel, form work, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals.

### **REMOVE AND REPLACE DRIVEWAY APPROACH**

Saw-cut and remove existing driveway approach and construct new Class A (3,000 psi-28 day) concrete driveway approach. Limit of driveway approach is from the street asphalt concrete pavement to the property line. Finished concrete shall have light broom finish. **See figure DW-M**

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per linear foot, as measured along driveway flowline and shall include the cost in place of all saw cutting, removal, haul-off, concrete, reinforcing steel, form work, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals.

**REMOVE AND REPLACE VARIABLE WIDTH CONCRETE FLUME**

Saw-cut and remove existing concrete flume and construct new Class A (3,000 psi- 28 day) concrete flume to match previous flume width, invert, and curb height. Curb height shall not exceed 12". See Figure 5D.

MEASUREMENT AND PAYMENT: Payment for Concrete Flume shall be on a "per square foot" basis and shall include saw cutting, removal, haul-off, excavation, backfill, form work, concrete, reinforcing steel and labor to perform the work. Existing curb removal and replacement where applicable is incidental to this bid item.

**REMOVE AND REPLACE REINFORCED 4" or 5" CONCRETE SIDEWALK**

Saw-cut and remove existing sidewalk and construct new 4" and 5" thick concrete sidewalk. Reinforced concrete sidewalks, including reinforcing steel, shall be constructed in accordance with City details. Reinforced concrete paving shall be constructed with 3,000 psi Class "A" Portland Cement Concrete. One (1") inch thick layer of cushion sand under the sidewalk is subsidiary to the unit price of the sidewalk. Light broom finish will be required.

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" of sidewalk removed and replaced, and shall include all materials, equipment, labor, tools, and incidentals necessary to complete the work, including pavement saw cuts.

**REMOVE AND REPLACE VALLEY GUTTER**

Saw-cut and remove existing valley gutter and construct new Class A (3,000 psi-28 day) concrete valley gutter to city standards.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price "per square foot" valley gutter removed and replaced, and shall include all materials, equipment, labor, tools, and incidentals necessary to complete the work, including pavement saw cuts. The payment for curbs on valley gutters to be included in the unit price bid for valley gutters based on the top of curb area in square feet.





**CITY OF NORTH RICHLAND HILLS  
GENERAL NOTES**

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF NORTH RICHLAND HILLS' STANDARDS AND SPECIFICATIONS. WHEN SILENT, THE CURRENT "PUBLIC WORKS CONSTRUCTION STANDARDS" ADOPTED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) SHALL GOVERN.
2. UTILITY CONTRACTOR AND STREET CONTRACTOR ARE TO NOTIFY A CITY TECHNICAL CONSTRUCTION INSPECTOR AT (817) 427-6440, AT LEAST 48HOURS PRIOR TO BEGINNING CONSTRUCTION.
3. ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" GUIDELINES.
4. DEVELOPER / CONTRACTOR IS RESPONSIBLE FOR COORDINATING PERMISSION FROM TXDOT FOR ANY WORK IN STATE ROW.
5. ALL MANHOLE LIDS SHALL BE PAINTED BLACK.
6. PRIOR TO FINAL ACCEPTANCE OF A DEVELOPMENT, THE CITY MAY REQUIRE A FIELD SURVEY PROVIDED BY A REGISTERED PROFESSIONAL SURVEYOR TO VERIFY THAT THE AS-BUILT COORDINATES MATCH THE APPROVED DESIGN.

WATER:

7. ALL WATER MAINS SHALL BE PVC AWWA-C900, DR18, CLASS 150.
8. GATE VALVES SHALL CONFORM TO ANSI/AWWA C509-87J.
9. CITY ORDINANCE PROHIBITS ANYONE (OTHER THAN CITY EMPLOYEES) FROM OPENING OR CLOSING A WATER VALVE WHICH IS PART OF THE ACTIVE SYSTEM.
10. ALL FITTINGS SHALL BE RESTRAINED WITH ANCHORING COUPLINGS OR RESTRAINING HARNESSSES.
11. ALL FITTINGS SHALL BE WRAPPED WITH 8 MIL POLYVINYL PLASTIC.
12. WATER SERVICES SHALL NOT BE DIRECTLY CONNECTED TO WATER MAINS SIXTEEN (16") INCHES IN DIAMETER OR GREATER.
13. THE MINIMUM HORIZONTAL SEPARATION BETWEEN ANY WATER MAIN AND A STORM DRAIN FACILITY SHALL BE EQUAL TO 2.5 FEET OR HALF THE DEPTH OF THE WATER LINE, WHICHEVER IS GREATER.
14. ROUTE WATER LINES AROUND STORM DRAIN INLETS WITH A MINIMUM OF 12" CLEARANCE OUT-TO-OUT.
15. MINIMUM DEPTH OF COVER OVER ALL WATER MAINS SMALLER THAN TEN (10") INCHES IN DIAMETER SHALL BE THREE (3) FEET. MINIMUM DEPTH OF COVER FOR WATER MAINS TEN (10") INCHES AND LARGER SHALL BE THREE AND ONE-HALF (3.5') FEET.
16. DETECTOR CHECK ASSEMBLY SHALL BE LOCATED IN AN UNDERGROUND VAULT WITHIN A WATER LINE EASEMENT. DETECTOR CHECK EQUIPMENT SHALL NOT BE LOCATED WITHIN BUILDINGS.
17. A BILCO LID K-5 (3.5' x 3.5') OR APPROVED EQUAL IS REQUIRED ON DETECTOR CHECK VAULTS. A TRAFFIC-RATED LID (CERTIFIED AS TRAFFIC-RATED BY THE MANUFACTURER) IS REQUIRED WHEN VAULT IS LOCATED IN AN AREA SUBJECT TO VEHICULAR TRAFFIC.
18. ALL PORTIONS (EXCLUDING CHAINS) OF FIRE HYDRANT ABOVE GRADE SHALL BE PAINTED WITH TNE MEC SERIES 02H HI-BUILD TNE ME-GLOSS. COLOR: CHILEAN RED.
19. BLOW-OFF HYDRANTS ARE TO BE SURROUNDED WITH HIGH-VISIBILITY CONSTRUCTION FENCING FOR THE DURATION OF CONSTRUCTION ACTIVITY.

\* GENERAL NOTES (1 OF 3) \*

NORTH  
RICHLAND  
HILLS

R 9-01-2015      FIGURE 1M-1

# NRH

**CITY OF NORTH RICHLAND HILLS**  
**GENERAL NOTES**

SANITARY SEWER:

20. ALL SANITARY SEWER PIPE SHALL BE SDR 35 PVC (ASTM D-3034), UNLESS THE LINE IS DEEPER THAN 10 FEET, THEN SDR 26 PVC SHALL BE USED.
21. ALL SANITARY SEWER LINES ARE TO HAVE ONE JOINT CENTERED BELOW WATER MAIN CROSSINGS.
22. WHEN PLACING A NEW SANITARY SEWER MANHOLE OVER EXISTING VITREOUS CLAY PIPE, INSTALL NEW PVC PIPE ACROSS THE MANHOLE AT A LENGTH TO BE DETERMINED BY THE CITY REPRESENTATIVE.
23. SEWER MAINS WHICH REQUIRE MORE THAN AN EIGHTEEN (18") INCH DIFFERENCE IN FLOW LINES MUST BE ACCOMODATED WITH A FIVE (5') FOOT DIAMETER MANHOLE WITH AN INTERNAL DROP.
24. ALL SANITARY SEWER MAINS SHALL END IN A MANHOLE. CLEANOUTS WILL NOT BE ALLOWED.
25. THE MINIMUM HORIZTONTAL SEPARATION BETWEEN ANY SANITARY SEWER MAIN AND A STORM DRAIN FACILITY SHALL BE EQUAL TO 2.5 FEET OR HALF THE DEPTH OF THE SANITARY SEWER, WHICHEVER IS GREATER.
26. THE MAXIMUM DEPTH FOR ALL SEWER SERVICE SHALL BE 10 FEET.
27. INDIVIDUAL 4" SANITARY SEWER SERVICES WILL NOT BE PERMITTED IN MANHOLES WITHOUT THE EXPRESS PERMISSION OF THE PUBLIC WORKS DEPARTMENT.
28. A MANHOLE MUST BE PROVIDED AT THE MAIN FOR ALL 6" AND LARGER SANITARY SEWER SERVICES.
29. SERVICES WHICH ARE CONNECTED TO MANHOLES SHALL BE INSTALLED A MINIMUM OF 8 INCHES ABOVE THE MAIN FLOWLINE.

DRAINAGE:

30. ALL STORM DRAINAGE PIPE SHALL BE ASTM C-76, CLASS III REINFORCED CONCRETE, UNLESS NOTED OTHERWISE.
31. ROCK RIP RAP RUBBLE SHALL USE 12" (MINIMUM) ROCKS AND BE GROUTED SO THAT 6" OF THE ROCKS ARE EXPOSED.
32. NO PRECAST INLETS ARE PERMITTED FOR PUBLIC DRAINAGE SYSTEMS.

STREETSCAPE:

33. ALL STREET FEATURES (TRAFFIC SIGNALS, POLES, STREET LIGHTS, STREET SIGNS, ETC.) MUST BE DESIGNED IN ACCORDANCE WITH CURRENT ADOPTED STANDARDS. CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DEPARTMENT AT (817)-427-6400 FOR A CURRENT LIST OF APPROVED STREETSCAPE MATERIALS.

PAVING:

34. ALL PAVEMENT FOR PUBLIC STREETS MUST BE CONSTRUCTED USING A PAVING MACHINE.
35. "CURB RAMPS" ARE TO BE CONSTRUCTED ON ALL PERMENANT CURB RETURNS AT INTERSECTIONS OF ALL STREETS OR AS DIRECTED BY THE PUBLIC WORKS DEPARTMENT.

\* GENERAL NOTES (2 OF 3) \*

**NORTH  
RICHLAND  
HILLS**

R 7-01-2009

FIGURE 1M-2



**CITY OF NORTH RICHLAND HILLS  
GENERAL NOTES**

PAVING (CONTINUED):

- 36. ALL CONCRETE SHALL BE CLASS "C" CONCRETE AND SHALL HAVE 4.5 LB/IN OF CEMENT/SY, MAXIMUM SLUMP OF 5 INCHES, AND A 3600 PSI COMPRESSIVE STRENGTH AT 28 DAYS, UNLESS SPECIFIES OTHERWISE. CONCRETE SHALL BE PLACED WHEN TEMPERATURE IS 35°F AND RISING, IF THE TEMPERATURE IS 40°F AND FALLING THEN PLACEMENT SHALL BE STOPPED. NO FLYASH SHALL BE ALLOWED IN THE CONCRETE MIX.
- 37. OPEN CUTTING PAVEMENT TO INSTALL NEW UTILITIES IS NOT ALLOWED. THE CONTRACTOR MUST BORE THE UTILITY UNDER THE EXISTING STREET AND USE 3/8-INCH STEEL ENCASEMENT PIPE THAT IS AT A MINIMUM CLASS 51 STEEL. SPACERS SHALL BE USED TO CENTER THE UTILITY PIPE IN THE ENCASEMENT PIPE AND THE ENCASEMENT PIPE SHALL BE GROUTED AT THE ENDS.
- 38. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING TEMPORARY STREET PATCHES INSTALLED ON PUBLIC STEEETS WITH PERMENANT REPAIRS WITHIN 21 CALENDAR DAYS OF OPEN CUTTING THE STREET, OR AS DIRECTED BY THE ASSISTANT PUBLIC WORKS DIRECTOR.
- 39. TRAFFIC LANE MARKINGS SHALL BE INSTALLED WITH APPROVED RAISED MARKINGS (TRAFFIC BUTTONS TYPE 1C, 1A, ETC.) UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DEPARTMENT. ALL PAVEMENT MARKINGS "LEGENDS" SHALL BE INSTALLED WITH APPROVED THERMOPLASTIC MARKINGS.

GRADING/EARTHWORK/EROSION CONTROL:

- 40. ALL AREAS DISTURBED DURING CONSTRUCTION, INCLUDING AREAS OUTSIDE THE CONSTRUCTION BOUNDARY, ARE TO BE SEEDED, HYDROMULCHED, OR SODDED TO RE-ESTABLISH VEGETATION (AT LEAST 70%) PRIOR TO FINAL ACCEPTANCE. A CUMULATIVE APPROACH WHERE A PORTION OF THE DISTURBED AREA IS 100% VEGETATED AND OTHER AREAS ARE LEFT BARE IS NOT ACCEPTABLE.
- 41. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF A MAXIMUM NUMBER OF PASSING FIELD DENSITY TESTS ON LIME STABILIZED SUBGRADE EQUAL TO THE RATIO OF 1 PER 100 LINEAR FEET OF STREET AND ALL FALING DENSITY TESTS AND REQUIRED MOISTURE-DENSITY CURVES.
- 42. ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM-698).
- 43. STOCKPILING OF EXCESS FILLS WILL NOT BE ALLOWED WITHIN CITY LIMITS WITHOUT OBTAINING A FILL/EXCAVATION PERMIT.
- 44. PARKWAY GRADING SHALL NOT RESULT IN SLOPES GREATER THAN 4' HORIZTONTAL TO 1' VERTICAL (4:1).
- 45. ALL PARKWAY GRADING SHALL BE COMPLETE IN ACCORDANCE WITH THE APPROVED PLANS PRIOR TO THE CITY ACCEPTING THE PROJECT.
- 46. A ROW OF CURLEX MATTING (OR APPROVED EQUAL) OR SOLID SOD SHALL BE PLACED BEHIND THE BACK CURB IN PARKWAYS.
- 47. SLOPES CRETED BY EXCAVATION OR FILL SHALL NOT EXCEED 3' HORIZTONTAL TO 1' VERTICAL (3:1) FOR A PERIOD MORE THAN 120 DAYS. IF LONGER THAN 120 DAYS THE SLOPE SHALL NOT EXCEED 4' HORIZONTAL TO 1' VERTICAL (4:1).
- 48. ALL STATE AND LOCAL REQUIREMENTS MUST BE MET PERMITTING TO STORM WATER POLLUTION PREVENTION PLANS (SWPPP).

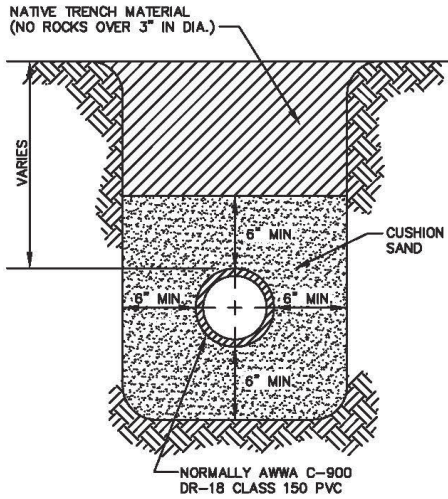
\* GENERAL NOTES (3 OF 3) \*



R 07-01-2009      FIGURE 1M-3

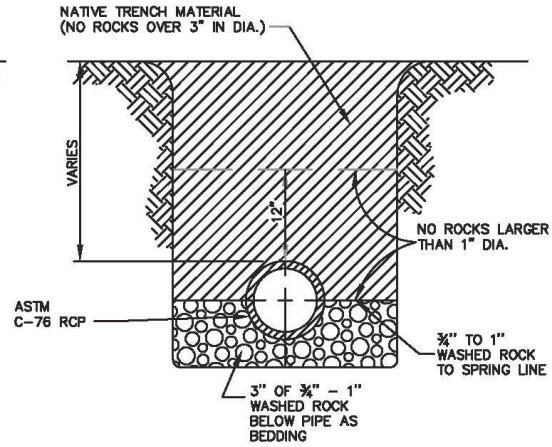
MISCELLANEOUS TRENCH EMBEDMENT AND BACKFILL DETAILS

NOT TO SCALE

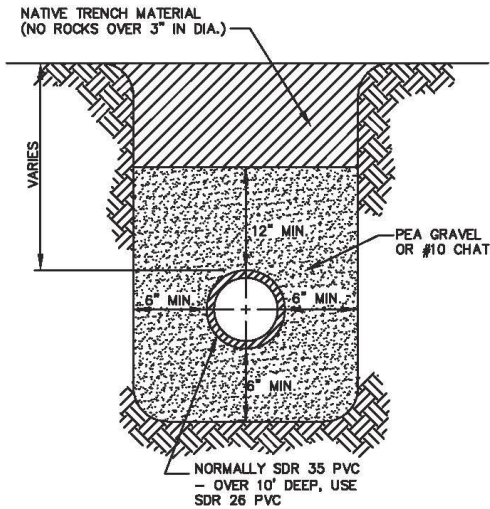


WATER

INSTALL TRACING WIRE ON NEW TRUNK LINES



STORM DRAIN



SANITARY SEWER

GENERAL NOTES:

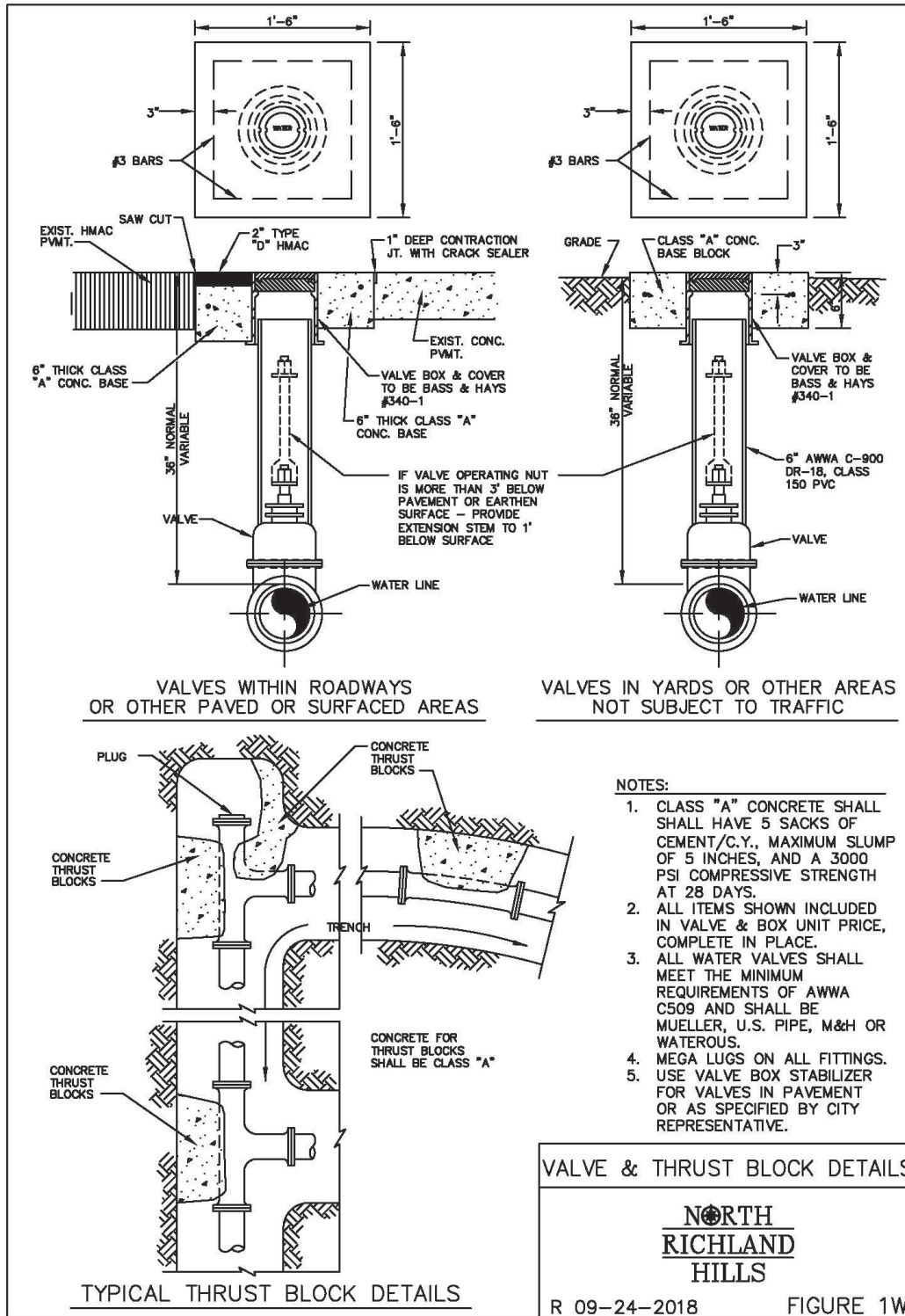
1. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY (ASTM D-698).
2. MECHANICALLY COMPACTED TRENCH BACKFILL SHALL BE PLACED IN NO GREATER THAN 6" LIFTS. TESTING SHALL BE AT THE RATE OF ONE TEST PER LIFT PER 500 FEET OF TRENCH, AND WHERE CITY'S REPRESENTATIVE REQUIRES ADDITIONAL TESTS.
3. IF A DIFFERENT TYPE OF STORM DRAIN PIPE IS APPROVED BY PUBLIC WORKS A SPECIFIC EMBEDMENT & BACKFILL DETAIL WILL NEED TO BE SUBMITTED AND APPROVED BY THE CITY.
4. EMBEDMENT TO BE IN COMPLIANCE WITH CURRENT TCEQ REQUIREMENTS.

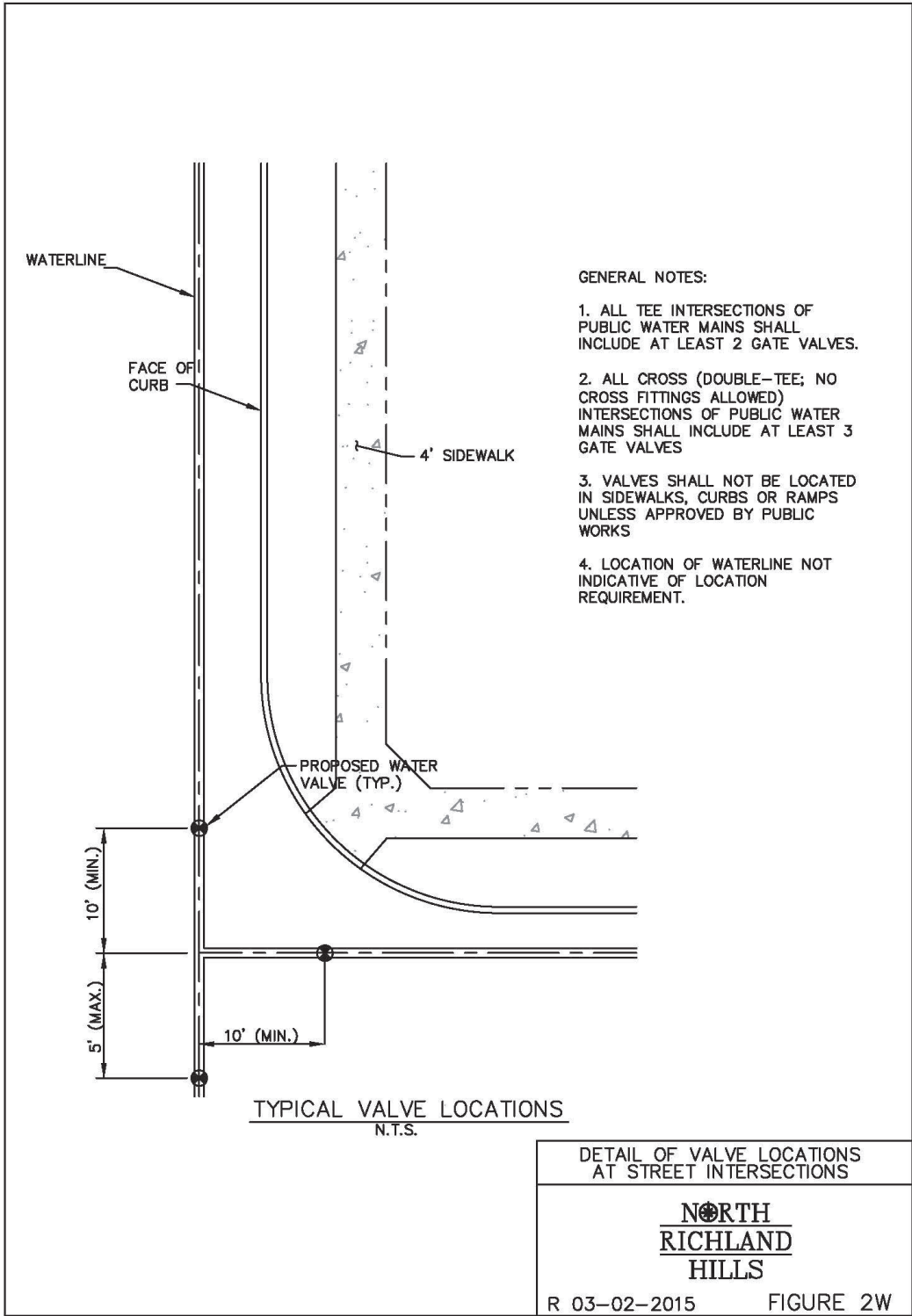
TRENCH EMBEDMENT & BACKFILL DETAILS

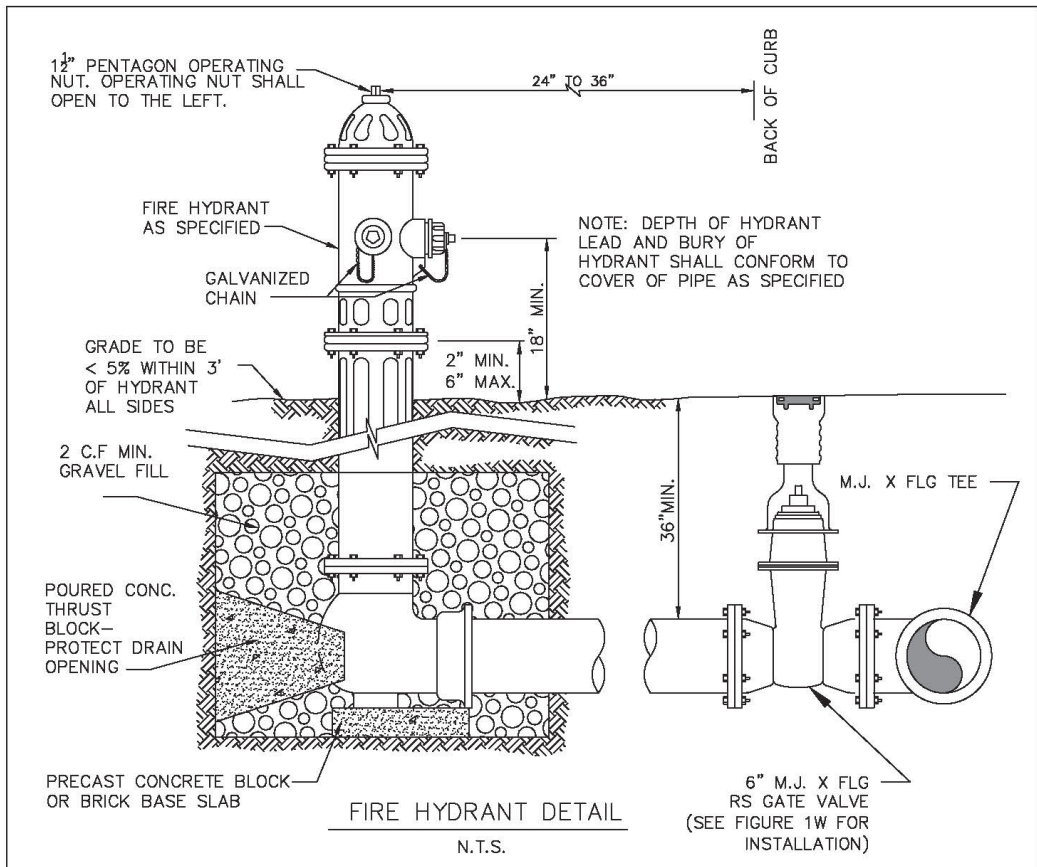
**NORTH  
RICHLAND  
HILLS**

R 07-01-2009

FIGURE 3M



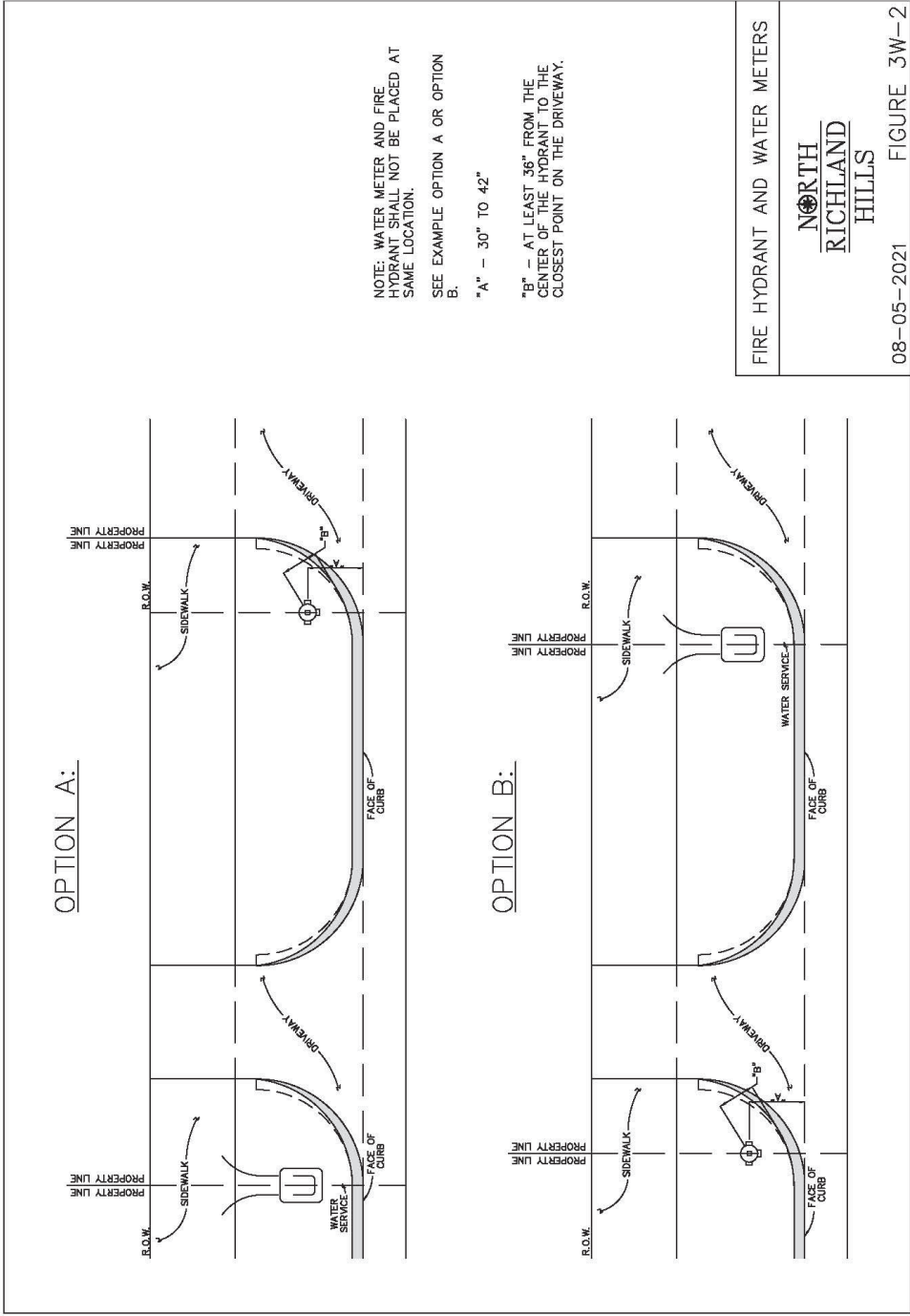




GENERAL NOTES:

1. CONCRETE SHALL BE PLACED OR Poured AGAINST UNDISTURBED SOIL.
2. ALL FIRE HYDRANTS SHALL CONFORM TO NORTH RICHLAND HILLS SPECIFICATIONS AND SHALL BE MUELLER/CENTURION, M&H MODEL 129 OR WATEROUS PACER MODEL WB-67-250.
3. NO SEPARATE PAY FOR EXTENSIONS TO FINISHED GRADE.
4. ALL PORTIONS (EXCLUDING CHAINS) OF FIRE HYDRANT ABOVE GRADE SHALL BE PAINTED WITH TNEC SERIES 02H HI-BUILD TNEC-GLOSS. COLOR: CHILEAN RED.
5. ROMAGRIP 6" RG-PVCAP-D ON ALL FITTINGS.
6. ACTUAL VALVE LOCATION WILL DEPEND ON LOCATION OF WATER MAIN.
7. FIRE HYDRANT NO CLOSER THAN 18" TO EXISTING OR PROPOSED SIDEWALKS. (TYPICAL)
8. BURY DEPTH SHALL NOT EXCEED 7- FEET.
9. FIRE HYDRANT SHALL BE PLACED ON THE EXTENDED LOT LINE WHEN POSSIBLE. WHEN CO-LOCATED WITH WATER METERS AT THE LOT LINE SEE FIGURE 3W-2.
10. ALL BELOW GROUND IRON ASSEMBLIES SHALL BE WRAPPED IN 8MM THICK POLYETHYLENE ACCORDING TO AWWA C105.
11. FIRE HYDRANT SHALL BE LOCATED A MINIMUM OF 1-FOOT OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADIUS AT INTERSECTIONS.
12. FIRE HYDRANT SHALL BE AT LEAST 42-INCHES FROM ANY ABOVE GROUND OBSTRUCTIONS SUCH AS GUARDRAILS, RETAINING WALLS, BOLLARDS, ETC.
13. ALL HYDRANTS SHALL OPEN BY TURNING THE OPERATING-STEM NUT TO THE LEFT (COUNTER-CLOCKWISE). A CLEARLY VISIBLE CURVED ARROW AND THE WORD "OPEN" SHALL BE CAST IN RELIEF ON TOP OF THE HYDRANT TO INDICATE THE DIRECTION OF OPENING.

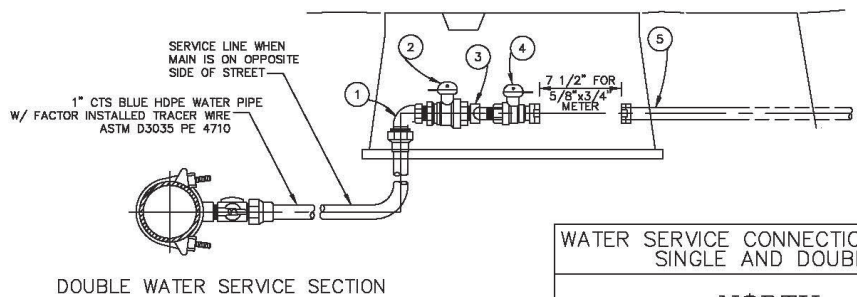
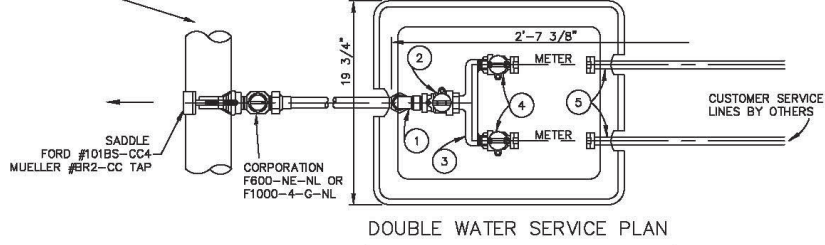
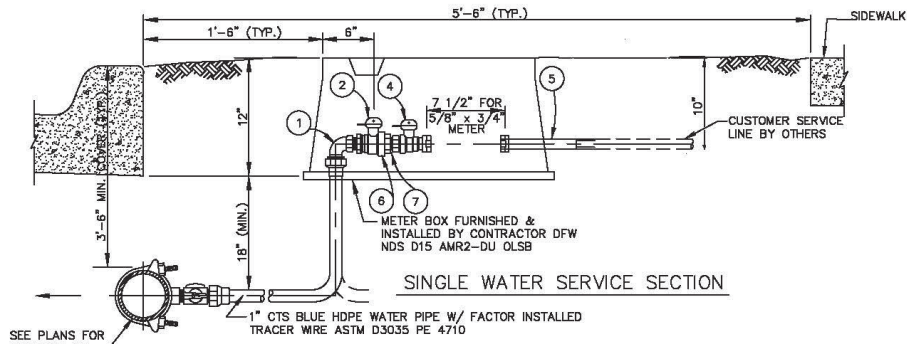
FIRE HYDRANT DETAILS	
<b>NORTH RICHLAND HILLS</b>	
08-09-2021	FIGURE 3W-1





ITEM NO.	QUANTITY		SIZE	DESCRIPTION	PART NUMBER	
	SINGLE	DOUBLE			FORD	MUELLER
1.	1	1	1"	90° BRASS ELBOW, FLARE COPPER X M.I.P., (QTR. BEND)	L-28-44-NL L68-44-G-NL	330 H-15530 330 H-15531W
2.	1	1	1"	BALLVALVE CB. STOP, F.I.P. X F.I.P.	B11-444WR-NL	330 B 20200N
3.		1	1"x3/4"x7 1/2"	U-BRANCH	UB8-43-NL	H 15362N
4.	1	2	3/4"	BALLVALVE CB. STOP, F.I.P. X METER YOLK	B13-332W-NL	250 B 24351-3N
5.	1	2	3/4"x2 1/2"	METER COUPLING	C38-23-2-SNL	H 10880N-2.5" LONG
6.	1		1"x3/4"	BRASS REDUCER BUSHING (REDUCING SPUD MIP X MIP)	C18-34-NL	502464
7.	1		3/4"	ALL THREAD BRASS NIPPLE	-	-

- NOTES:
- IF SERVICE IS INSTALLED AHEAD OF CURB AND GUTTER, CUT AND SHAPE PIPE TO FIT POSITION SHOWN BUT BEND DOWN ABOUT 5 INCHES TO MINIMIZE CHANCES OF DAMAGE DURING CONSTRUCTION OF CURB AND GUTTER. SERVICE LINE COVER MINIMUM 24 INCHES, UNDER STREET SUBGRADE AND MINIMUM 12 INCHES UNDER BOTTOM OF CURB AND GUTTER.
  - CONTRACTOR FURNISHES ALL PARTS LISTED AT HIS EXPENCE. ALL ITEMS SHALL BE INSTALLED BY CONTRACTOR EXCEPT ITEM 5 WHICH WILL BE GIVEN TO CONST. INSPECTOR AND INSTALLED BY CITY FORCES.
  - RECESSED AMR HOLE IN METER BOX SHALL BE PLACED NEAREST THE BACK OF CURB.

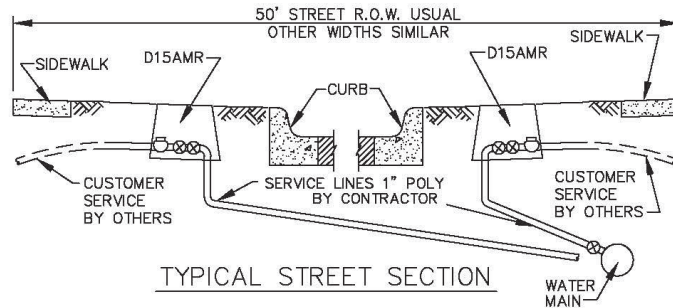


WATER SERVICE CONNECTION DETAILS  
SINGLE AND DOUBLE

**NORTH  
RICHLAND  
HILLS**

FIGURES 4W-1 & 4W-2 TO BE USED TOGETHER

7/21/2021 FIGURE 4W-1



NOTES:

1. SINGLE BAND STRAP FOR 1" TAP. DOUBLE STRAPPED BRONZE OR STAINLESS STEEL FOR LARGER THAN 1" SERVICE SADDLE SHALL BE USED FOR ALL SERVICE TAPS. AWWA C800 SADDLE MUST BE DESIGNED FOR PIPE MATERIAL BEING TAPPED.
2. SERVICES SHALL BE CONTINUOUS WITH NO JOINTS FROM CORP. STOP TO QUARTER BEND.
3. METERS SHALL NOT BE LOCATED IN SIDEWALKS, DRIVEWAYS, OR OTHER AREAS SUBJECT TO VEHICULAR TRAFFIC, OR WITHIN 3' OF DRIVEWAYS OR STREETS.
4. ALL COPPER FITTINGS SHALL BE COMPRESSION FITTINGS WITH LINER/STIFFENER (STAINLESS STEEL, MUST BE A STIFFENER RECOMMENDED BY COMPRESSION FITTING MANUFACTURER. TAPS SHALL BE 1" MINIMUM.
5. METERS AND TAPS SHALL BE LOCATED ON SAME SIDE OF MAIN.
6. TRACER WIRE SHALL BE 10 AWG (AVERAGE WIRE GRADE). HDPE COATED SINGLE STRAND COPPER CLAD STEEL TO BE INSTALLED CONTINUOUSLY (NO SPLICING ALLOWED) FROM THE WATER MAIN TO THE METER BOX. 8" EXPOSED IN THE METER BOX ABOVE QUARTER BEND.
7. TYPE "K" SOFT COPPER SERVICES TO BE USED FOR GAS STATIONS AND OTHER SITES WHICH USE GASOLINE AND OTHER HYDRO CARBONS.

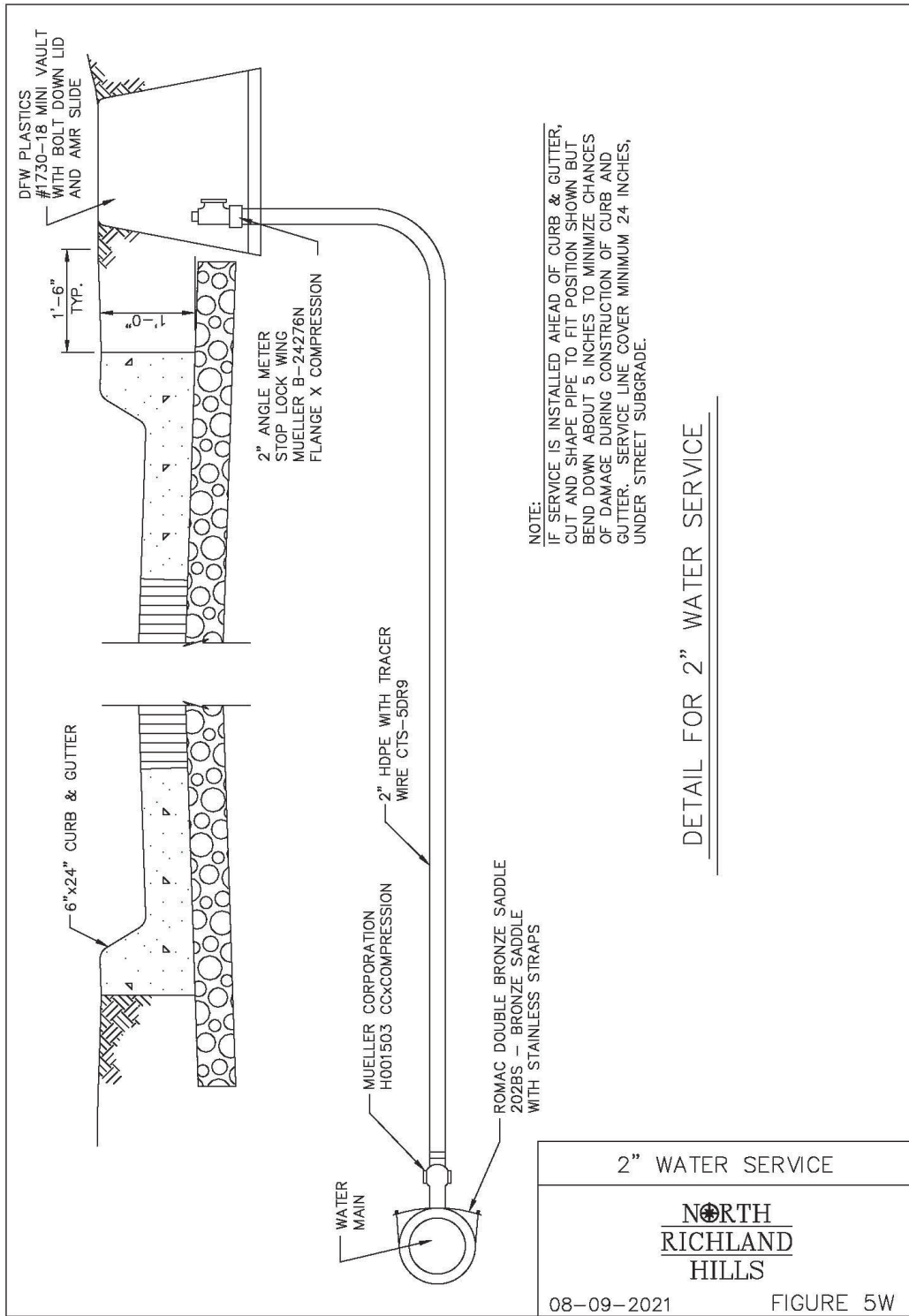
WATER SERVICE CONNECTION DETAILS  
SINGLE AND DOUBLE

**NORTH**  
**RICHLAND**  
**HILLS**

FIGURES 4W-1 & 4W-2 TO BE USED TOGETHER

7/21/2021

FIGURE 4W-2





**CITY OF NORTH RICHLAND HILLS  
WATER ABANDONMENT NOTES**

THE CITY OF NORTH RICHLAND HILLS SHALL BE THE SOLE DETERMINE OF APPROPRIATE ABANDONMENT PROCEDURES AND METHODS. RESTORE ALL DISTURBED SURFACES TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE PUBLIC WORKS INSPECTOR.

RETURN ALL REMOVED FACILITIES (HYDRANTS, FITTINGS, VALVES, ETC.) TO THE PUBLIC WORKS SERVICE CENTER, AT THE DISCRETION OF THE PUBLIC WORKS INSPECTOR. UNUSABLE EQUIPMENT SHALL BE DISPOSED OF BY THE CONTRACTOR. THE FOLLOWING METHODS ARE APPROVED ABANDONMENT PROCEDURES FOR TERMINATED FACILITIES.

ABANDONED HYDRANTS, SERVICES, BRANCH MAINS, ETC. SHALL BE TERMINATED ALL THE WAY BACK TO THE MAINLINE, AND SHALL NOT BE LEFT STUBBED OUT.

WATER MAINS:

1. CUT AND DRAIN THE ABANDONED WATER MAIN WHERE EXPOSED DURING CONSTRUCTION.
2. REMOVE ANY MAINS LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY (ROW) OR WHICH WILL CONFLICT WITH NEW CONSTRUCTION. SAW CUT AND REMOVE SHORT SECTIONS OF PIPE AT A TIME. MAINS SHALL NOT BE FORCIBLY REMOVED WITH HEAVY EQUIPMENT DUE TO POTENTIAL DAMAGE TO SURROUNDING UTILITIES.
3. MAINS TO BE ABANDONED IN PLACE SHALL BE REMOVED TO CREATE A MINIMUM OF A THREE FOOT SEPARATION FROM THE LIVE PORTION OF THE LINE FOR PIPES 4" AND LARGER IN DIAMETER, AND SECURELY CLOSED AT THE PIPE ENDS BY INSTALLING A WATERTIGHT PLUG OF CONCRETE NOT LESS THAN ONE FOOT THICK. CONTACT PUBLIC WORKS INSPECTOR IN WRITING 48 HOURS IN ADVANCE, TO CHECK THE CONDITION OF THE EXISTING SERVICES PRIOR TO ABANDONMENT.
4. MAINS OUTSIDE THE PUBLIC ROW NOT ENCOUNTERED DURING NEW TRENCHING MAY BE LEFT IN PLACE, BUT VALVES MUST BE ABANDONED AS DESCRIBED UNDER "VALVES".
5. TO ABANDON LINES IN PLACE, PLUG ENDS OF ABANDONED MAIN EXPOSED DURING CONSTRUCTION WITH GROUT PLUG, BLIND FLANGE, OR CAP AS DIRECTED BY THE CITY.

VALVES:

1. REMOVE VALVES AND VALVE BOXES. PLUG OR BLIND FLANGE THE WATER MAIN.
2. AN ALTERNATIVE METHOD OF ABANDONMENT IS ACCEPTABLE IF, AT THE DISCRETION OF THE PUBLIC WORKS INSPECTOR, THE VALVE CANNOT BE REMOVED. PLUG AND CLOSE THE VALVE, THEN REMOVE THE VALVE BOX.

WATER SERVICES:

1. REMOVE ALL VAULTS, SETTERS AND MISCELLANEOUS FITTINGS. BACKFILL WITH CRUSHED ROCK AND COMPACT. NATIVE SOILS MAY BE USED FOR BACKFILL ONLY IF APPROVED BY THE CITY.
2. REMOVE ENTIRE SERVICE LINE BACK TO WATER MAIN. REMOVE TAPPING SADDLE, USE REPAIR CLAMP IN ITS PLACE, AND WRAP IT IN PLASTIC.
3. AT THE DISCRETION OF THE CITY, THE SERVICE LINE MAY REMAIN IN PLACE, BUT MUST BE TERMINATED AT THE MAINLINE AS DESCRIBED ABOVE.

HYDRANTS:

REMOVE THE ENTIRE HYDRANT AND ABANDON THE MAINLINE VALVE AS DETAILED ABOVE UNDER "VALVES". REMOVE AND PROPERLY DISPOSE OF ANY BOLLARDS.

WATER ABANDONMENT NOTES

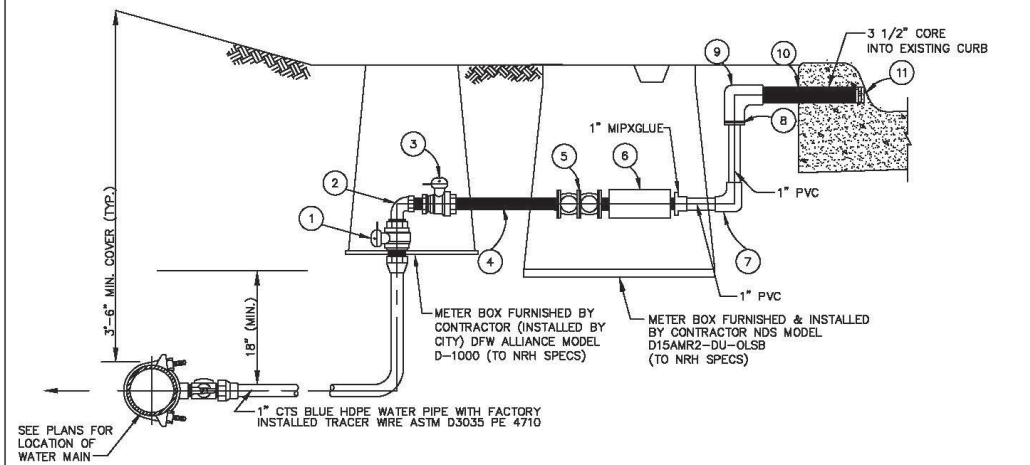


08-09-2021

FIGURE 9W

ITEM NO.	QUANTITY		SIZE	DESCRIPTION	PART NUMBER	
	SINGLE	DOUBLE			FORD	MUELLER
1.	1		1"	BALLVALVE CB. STOP, COMP X F.I.P.	B41-444 NL	B25172N
2.	1		1"	90° BRASS ELBOW, F.I.P. X M.I.P., (QTR. BEND)	L-28-44 -NL OR L-86-44 G-NL	H15530 OR H15431 N
3.	1		1"	BALLVALVE CB. STOP, F.I.P. X F.I.P.	B11-444WR NL	330 B 20200 N
4.			1"	1" X 6" BRASS NIPPLE	-	-
5.	1		1"	BACKFLOW PREVENTION WILKINS 1" 350 SHFT	-	-
6.	1		1"	HUNTER PGV101-G IRRIGATION VALVE WITH HUNTER NODE -100 CONTROLLER	-	-
7.	1		1"	1"X1"X90° GLUE FITTING F.I.P. X F.I.P.	-	-
8.	1		1"x2"	2"X1" PVC BUSHING	-	-
9.	1		2"	2" PVC GLUE X FIP 90° ELBOW	-	-
10.	1		2"	2" X 6" BRASS NIPPLE	-	-
11.	1		2"	2" F.I.P. X COMP W/ STAINLESS STEEL SCREEN	C14 - 77-Q-NL	H-15451N

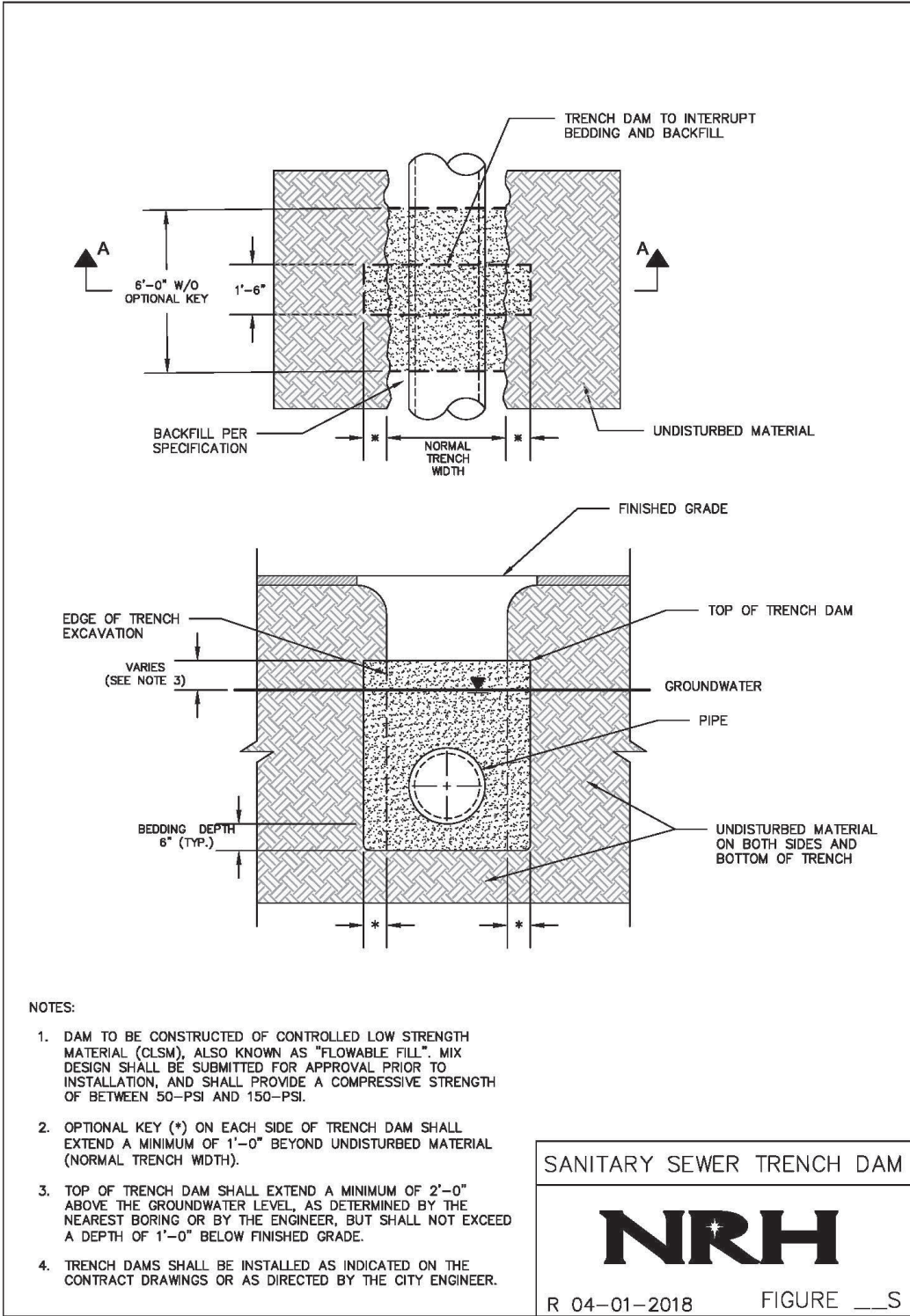
- NOTES:
- IF SERVICE IS INSTALLED AHEAD OF CURB AND GUTTER, CUT AND SHAPE PIPE TO FIT POSITION SHOWN BUT BEND DOWN ABOUT 5 INCHES TO MINIMIZE CHANCES OF DAMAGE DURING CONSTRUCTION OF CURB AND GUTTER. SERVICE LINE COVER MINIMUM 24 INCHES, UNDER STREET SUBGRADE AND MINIMUM 12 INCHES UNDER BOTTOM OF CURB AND GUTTER.
  - CONTRACTOR FURNISHES ALL PARTS LISTED AT HIS EXPENCE. ALL ITEMS SHALL BE INSTALLED BY CONTRACTOR.
  - RECESSED AMR HOLE IN METER BOX SHALL BE PLACED NEAREST THE BACK OF CURB.
  - INSTALL FREEZE SENSOR WITH CONTROLLER UNIT.

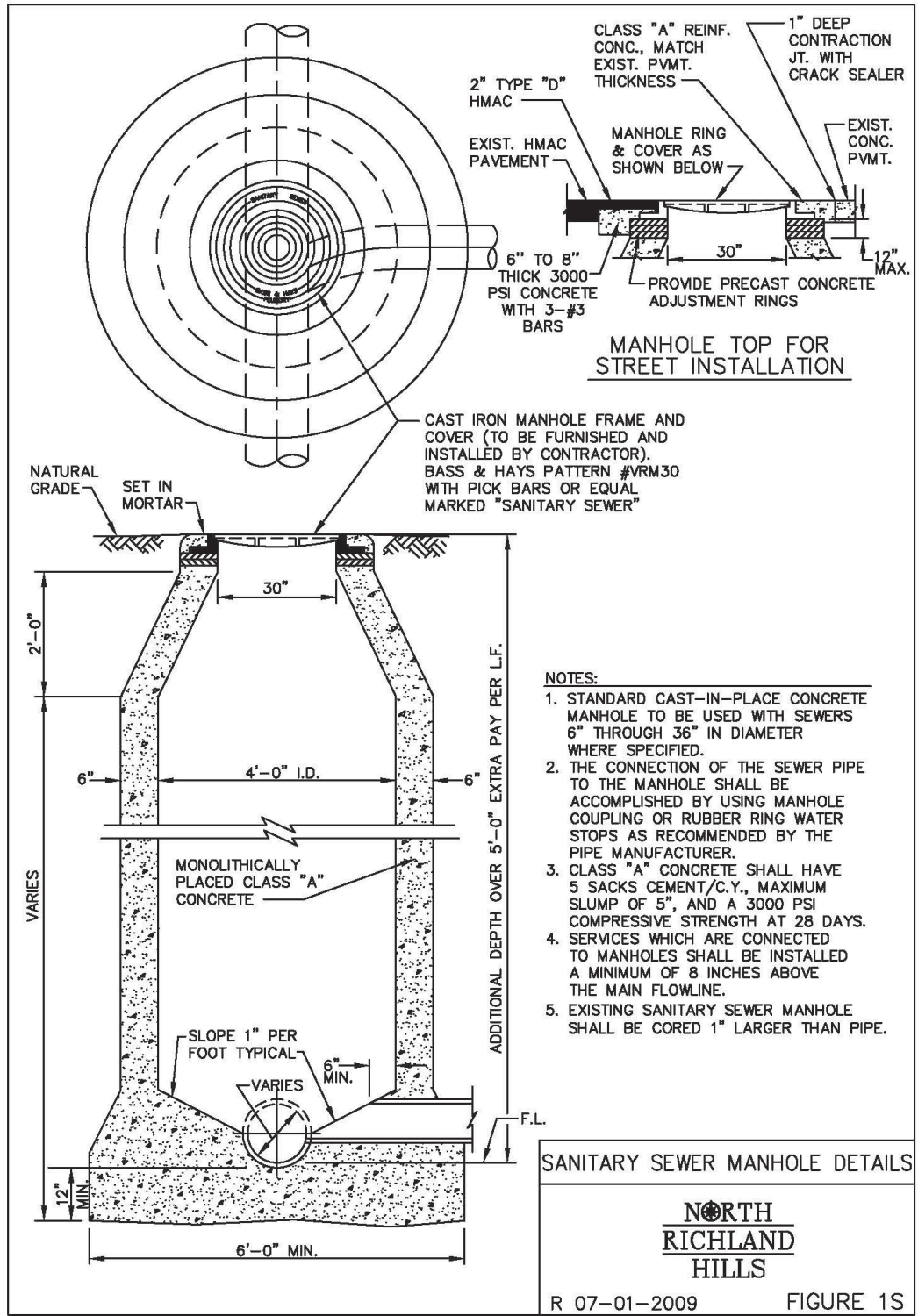


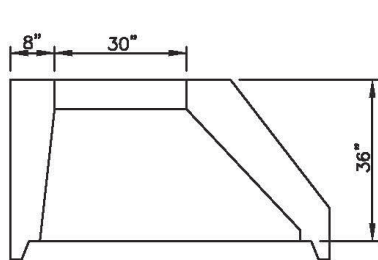
AUTOMATIC DEAD END FLUSHING DEVICE

**NORTH  
RICHLAND  
HILLS**

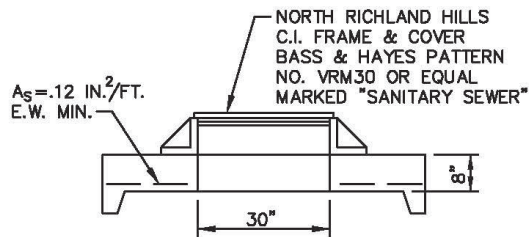
08-09-2021      FIGURE 10W



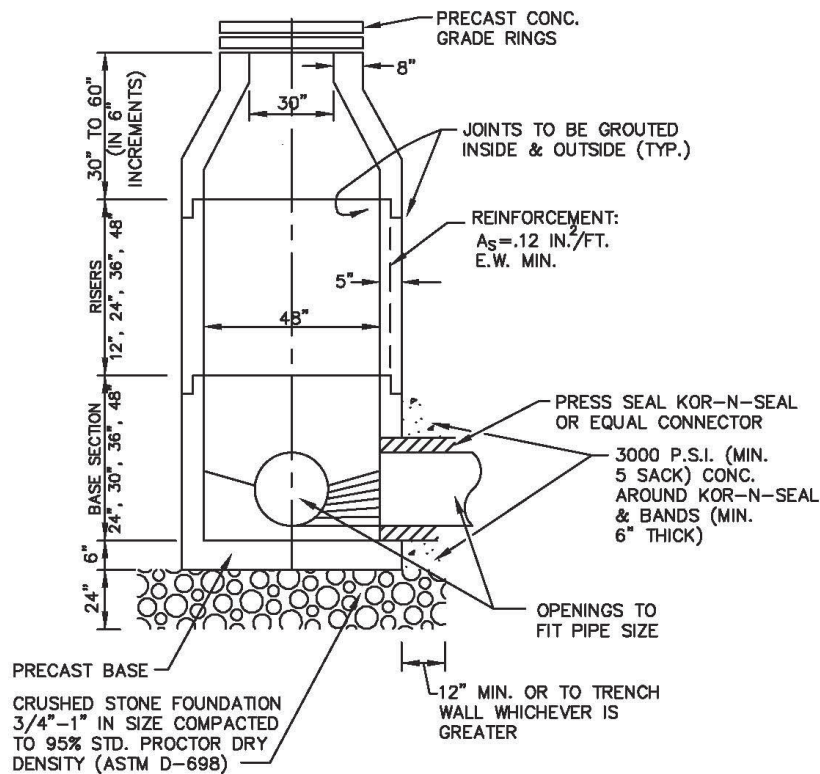




ECCENTRIC CONE



FLAT TOP  
(USED IN PLACE OF CONE)  
(OFF-SET HOLE ALSO AVAILABLE)



TYPICAL 48" DIA. MANHOLE  
(WITH PRECAST BASE & FACTORY INVERT)

N.T.S.

**NOTES:**

1. PRECAST MANHOLE TO MEET ALL REQUIREMENTS OF ASTM C-478.
2. O-RING GASKET JOINT REQUIRED IN ACCORDANCE WITH ASTM C-443.
3. SERVICES WHICH ARE CONNECTED TO MANHOLES SHALL BE INSTALLED A MINIMUM OF 8 INCHES ABOVE THE MAIN FLOWLINE.
4. EACH INDIVIDUAL SECTION OF THE PRECAST MANHOLE WILL NEED TO BE STAMPED WITH THE ASTM SPECIFICATION NUMBER, THE MANUFACTURER'S NAME, AND DATE MANUFACTURED

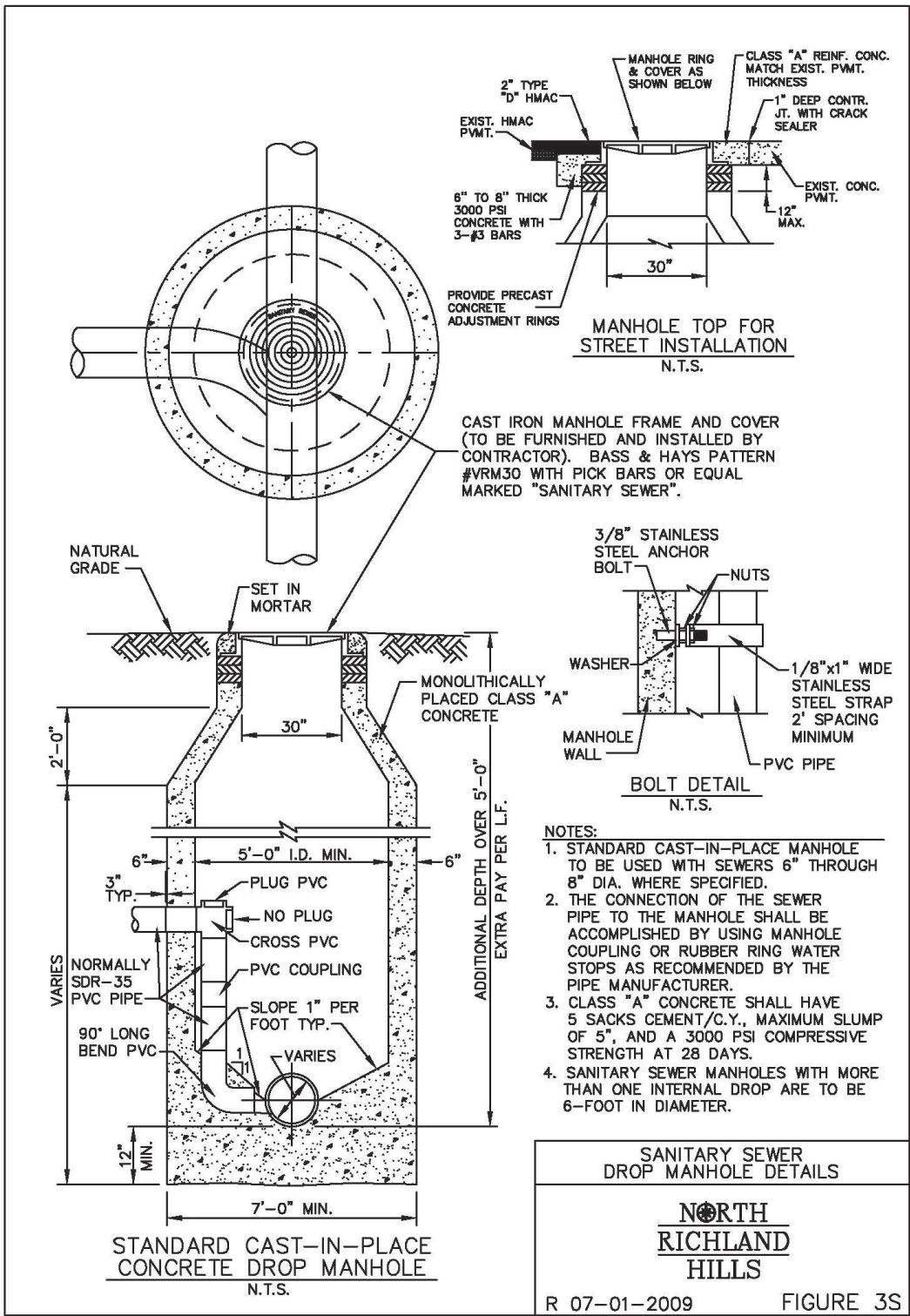
PRECAST CONCRETE MANHOLE DETAILS

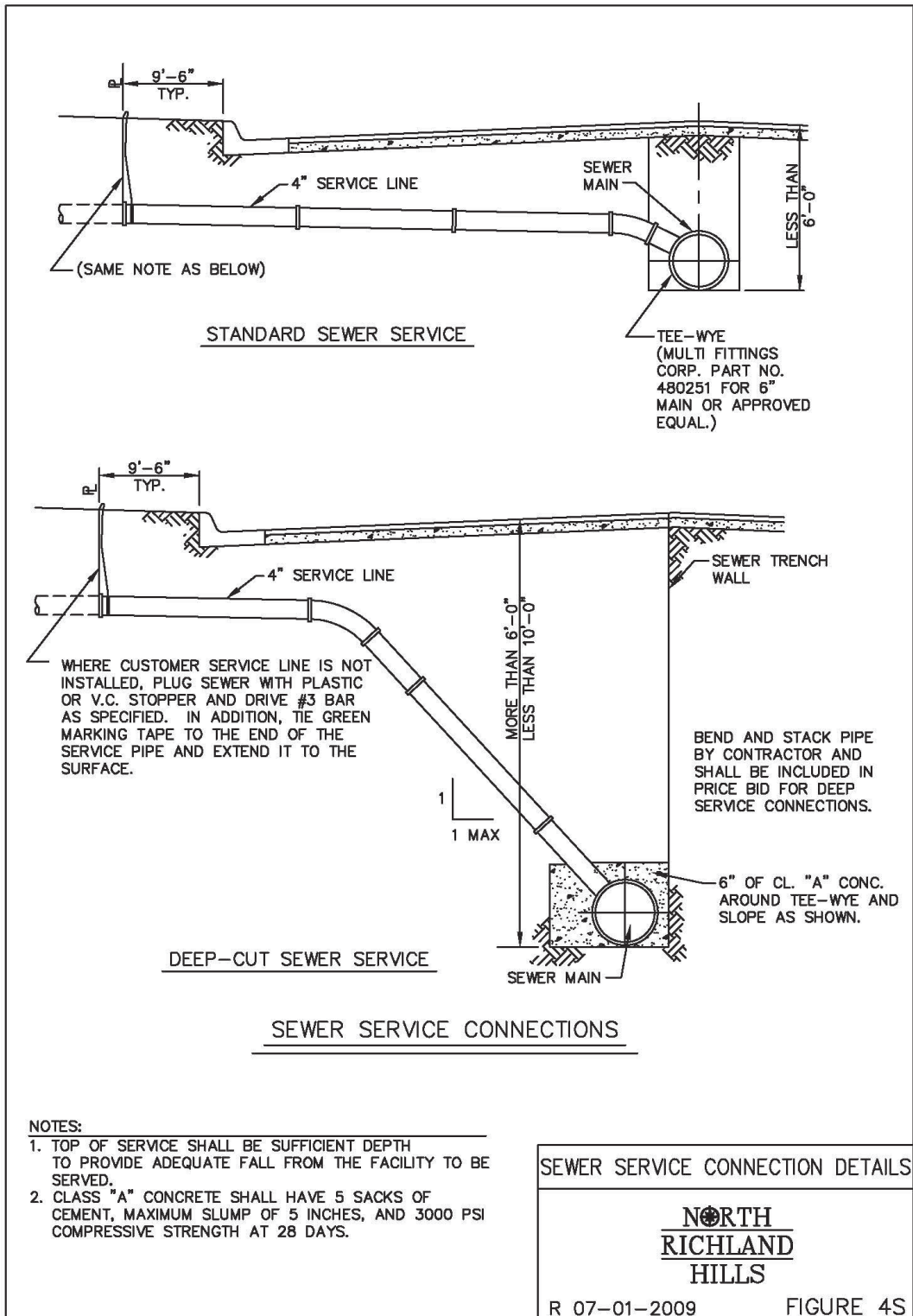
**NORTH  
RICHLAND  
HILLS**

R 07-01-2009

FIGURE 2S








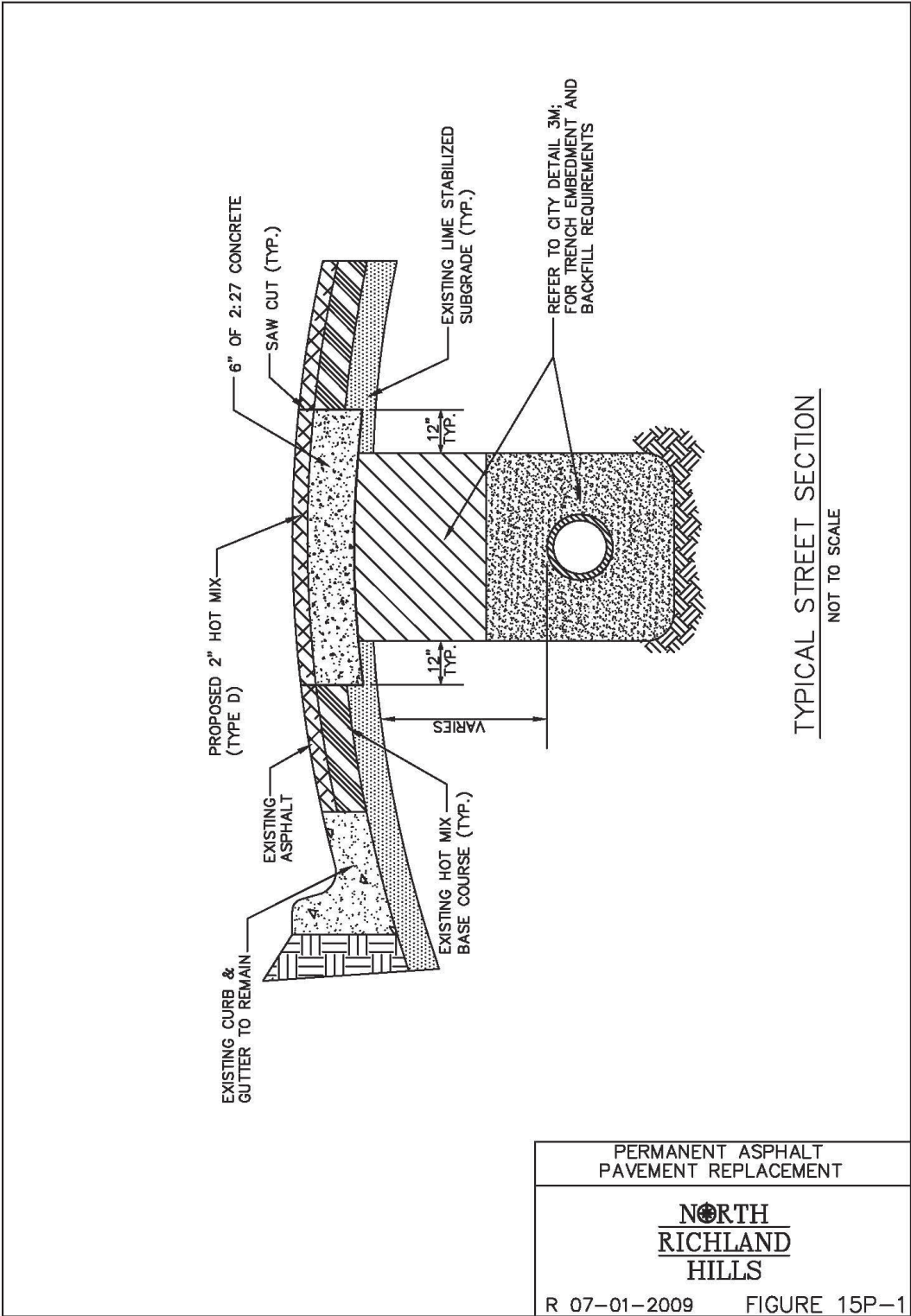


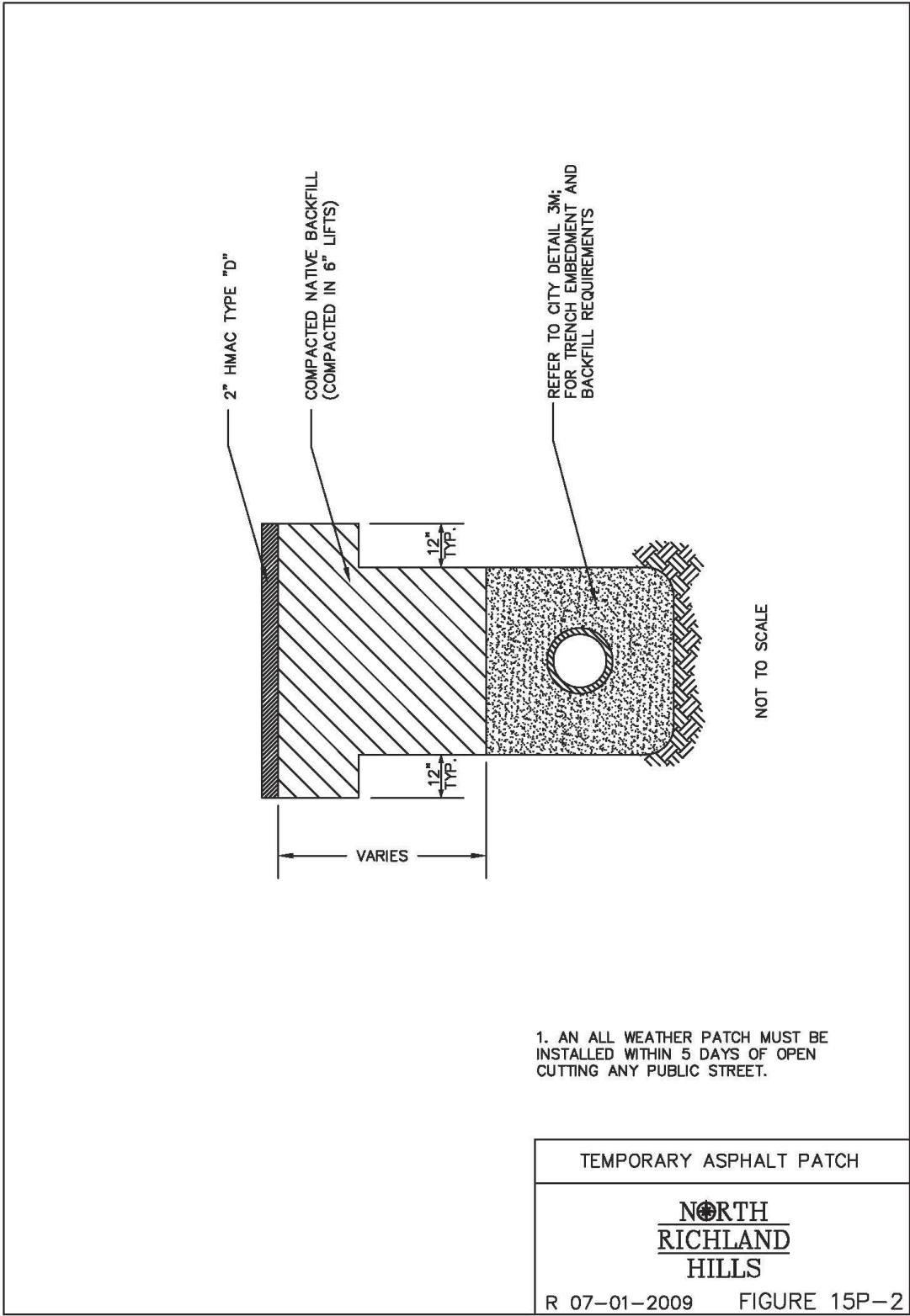
**CITY OF NORTH RICHLAND HILLS SANITARY  
SEWER ABANDONMENT NOTES**

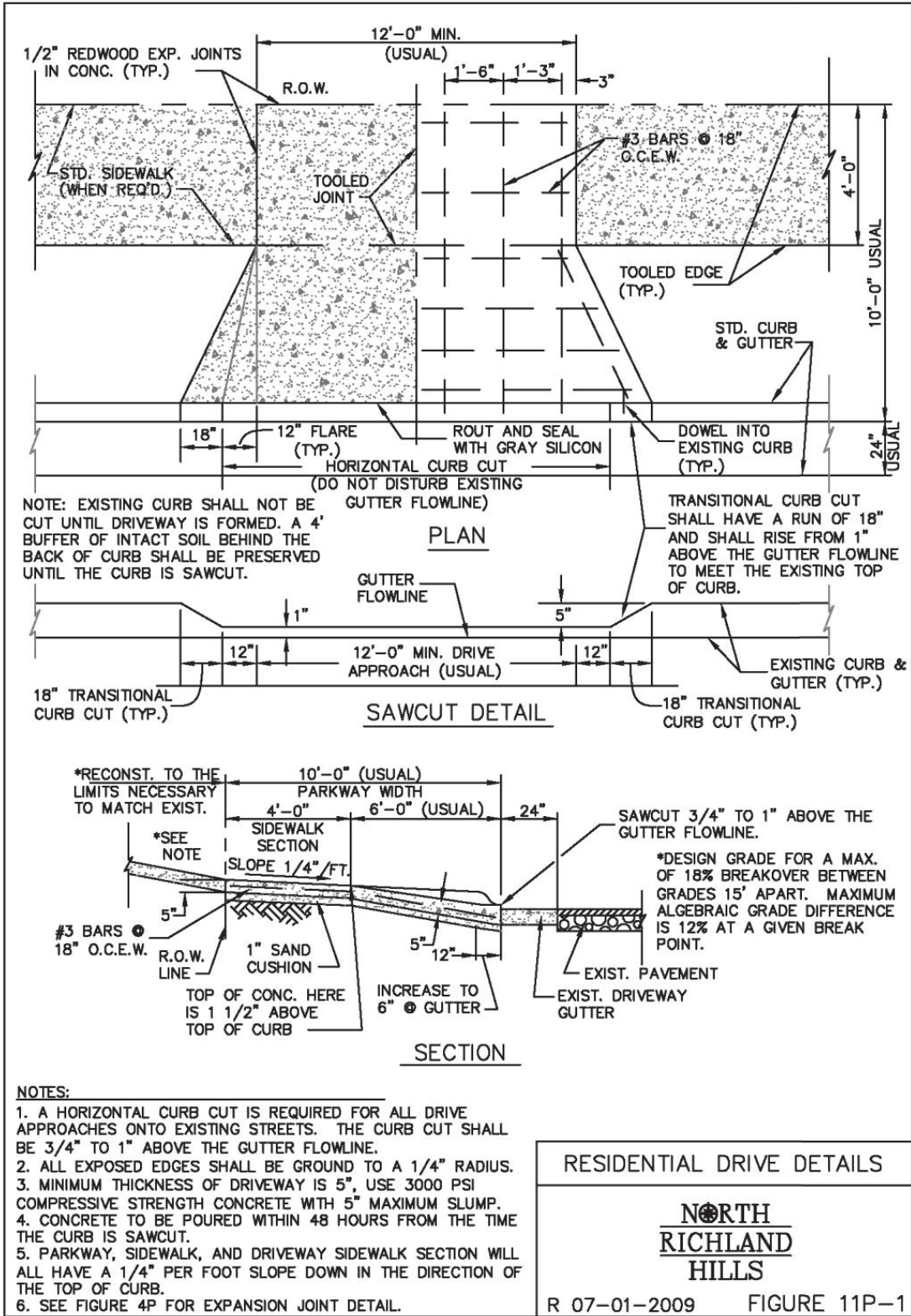
The City of North Richland Hills shall be the sole determine of appropriate abandonment procedures and methods. Restore all disturbed surfaces to original condition and to the satisfaction of the Public Works Inspector.

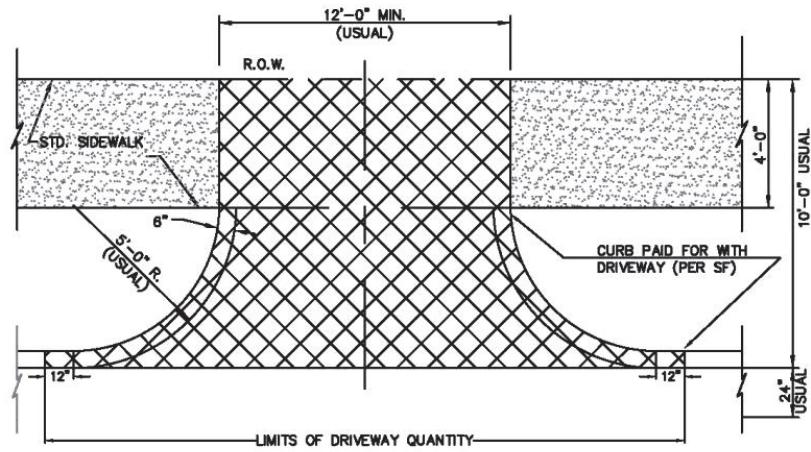
1. Abandon in-place any un-used existing sanitary sewer lateral pipe from back of the curb to the sewer main when the sewer main is under pavement..
2. Any existing pipe occupying the same trench that will be used by a new line must be removed and cannot be abandoned in place.
3. Any pipe to be abandoned, main line or service lateral, is to be separated to create a minimum of three feet separation from the nearest active main line segment.
4. In the event of a service lateral disconnection from an active main, or an inactive main disconnection from an active main in the absence of a manhole, the active main shall be repaired as follows.
  - a) If the original lateral connection was made with a factory "wye", then the "wye" is intact and undamaged shall be sealed appropriately to prevent material or water intrusion.
  - b) If the original lateral connection was made in any other fashion besides a factory "wye" or the factory "wye" is damaged, then the active sewer main section shall be replaced to eliminate the existing connection point in order to adequately seal the main.
  - c) The main section to be replaced shall extend to the nearest factory pipe "bell" or joint as applicable.
5. Fill abandoned pipe with backfill material: sand, or controlled density fill (CDF) such as flowable fill, controlled low-strength material (CLSM), flowable mortar, plastic soil-cement, soil-cement slurry, or K-Krete. CDF must have unconfined compressive strength of 100 psi or less to allow for future excavation of the area.
6. If sand is used to fill abandoned pipe, securely close each pipe end by installing a watertight plug of concrete, controlled density fill (CDF), controlled low-strength material (CLSM), flowable mortar, plastic soil-cement, soil-cement slurry, or K-Krete not less than two feet in length.
7. Pipes to be abandoned that are non-continuous or broken by construction activity are to be repaired sufficiently to contain the selected abandonment backfill material. If such repairs are impractical or infeasible, the pipe(s) shall be removed and properly disposed.
8. Un-used pipes between the curb and the right-of-way are to be removed and disposed (not abandoned in place).

SEWER ABANDONMENT NOTES

R 9-23-2015      FIGURE 5S



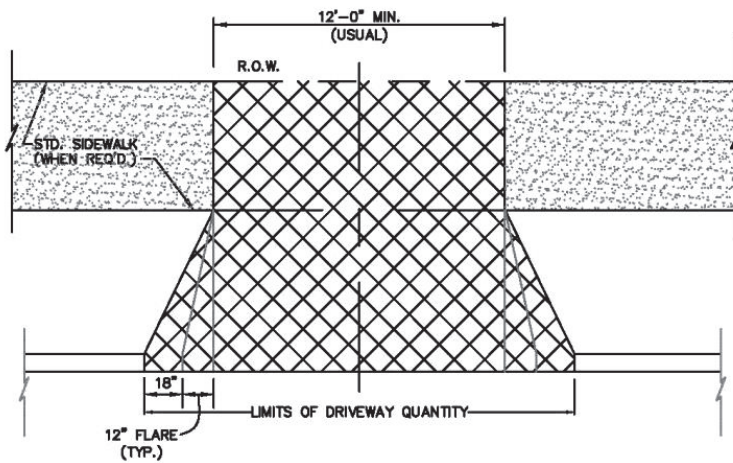






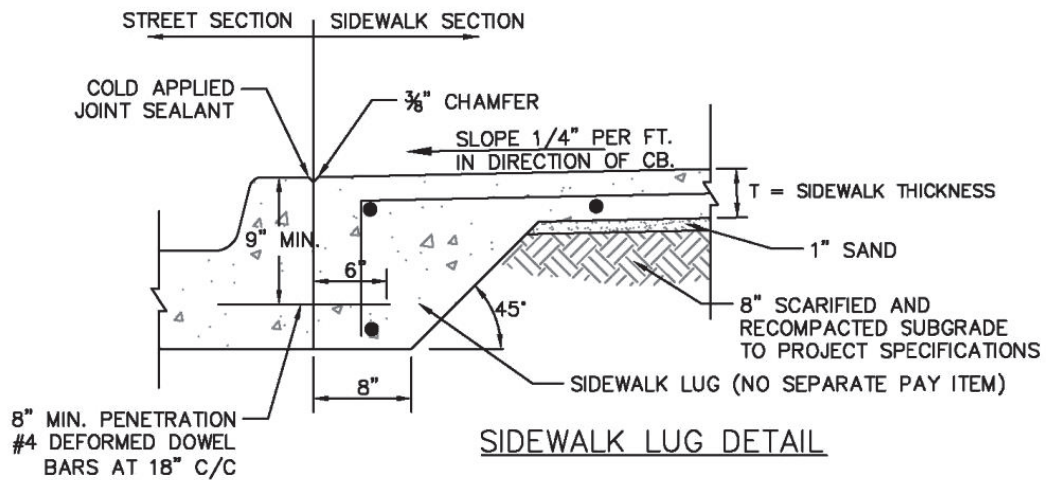
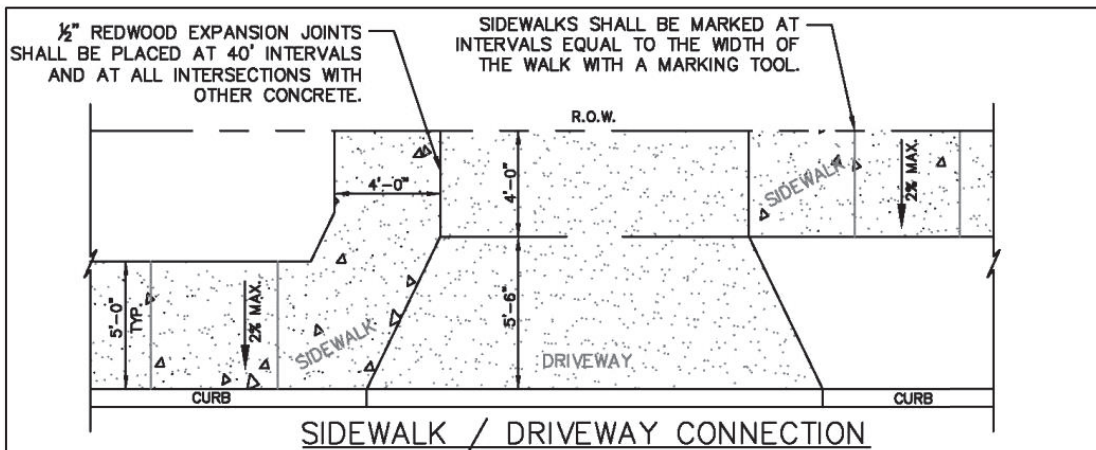
**Driveway w/ Radius (Traditional)**  
Area - sf

Width	Radius					
	5	10	15	20	25	30
12	134.21	169.31	222.72	295.88	364.02	435.16
14	154.21	189.31	242.72	315.88	384.02	455.16
16	174.21	209.31	262.72	335.88	404.02	475.16
18	194.21	229.31	282.72	355.88	424.02	495.16
20	214.21	249.31	302.72	375.88	444.02	515.16
22	234.21	269.31	322.72	395.88	464.02	535.16
24	254.21	289.31	342.72	415.88	484.02	555.16
26	274.21	309.31	362.72	435.88	504.02	575.16
28	294.21	329.31	382.72	455.88	524.02	595.16
30	314.21	349.31	402.72	475.88	544.02	615.16
35	364.21	399.31	452.72	525.88	594.02	665.16

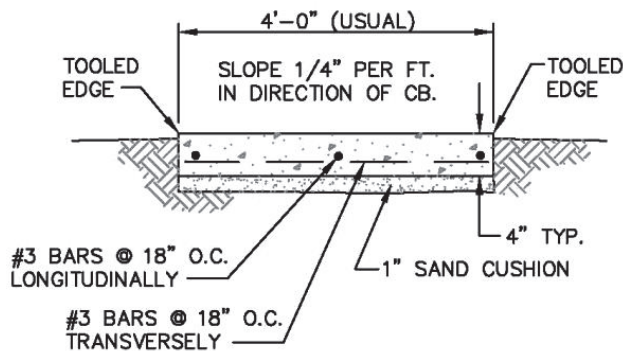


**Driveway w/ Flares**

Width	Area (sf)
	12
14	156.25
16	176.25
18	196.25
20	216.25
22	236.25
24	256.25
26	276.25
28	296.25
30	316.25
35	366.25



STANDARD SIDEWALK DETAIL



NOTES:

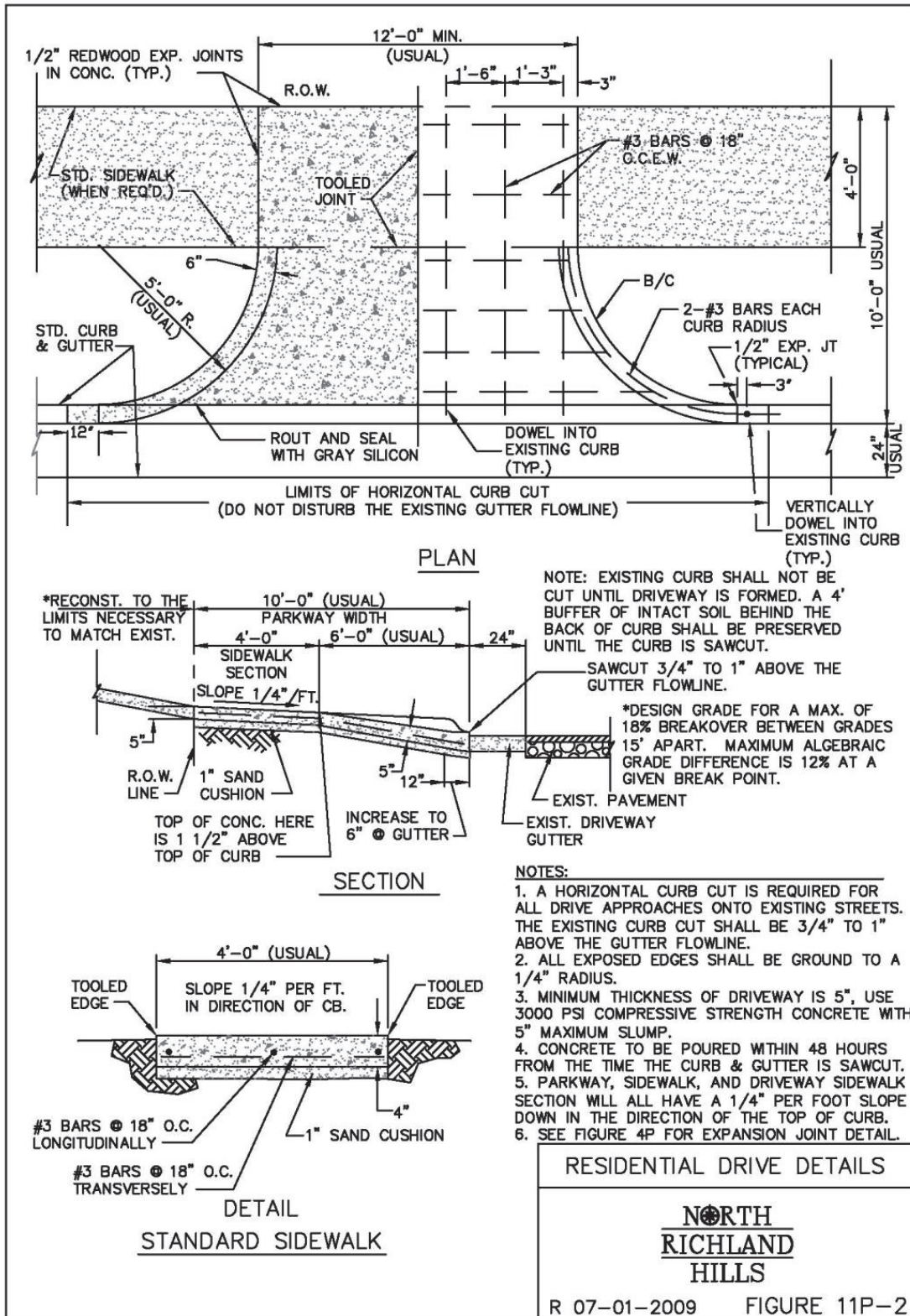
1. PARKWAY, SIDEWALK, AND DRIVEWAY SIDEWALK SECTION WILL ALL HAVE A  $\frac{1}{4}$ " PER FOOT SLOPE DOWN IN THE DIRECTION OF THE TOP OF CURB.
2. SIDEWALK PERMITTED AT BACK OF CURB WITH PRIOR AUTHORIZATION ONLY.
3. ALL EXPOSED EDGES SHALL BE GROUND TO A  $\frac{1}{2}$ " RADIUS.
4. USE 3000 PSI COMPRESSIVE STRENGTH CONCRETE WITH 5" MAXIMUM SLUMP.
5. SIDEWALK SHALL BE BRUSHED TRANSVERSELY TO OBTAIN A SMOOTH UNIFORM BRUSH FINISH.

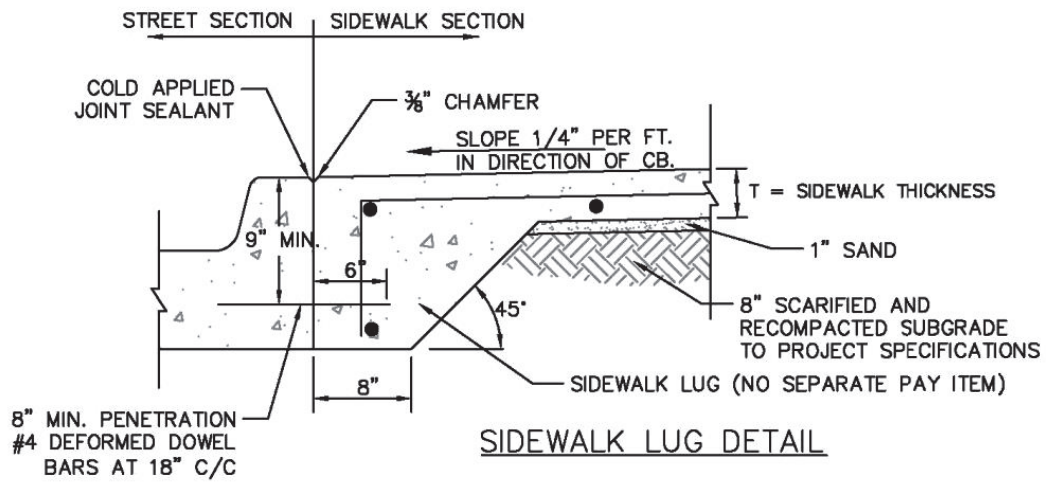
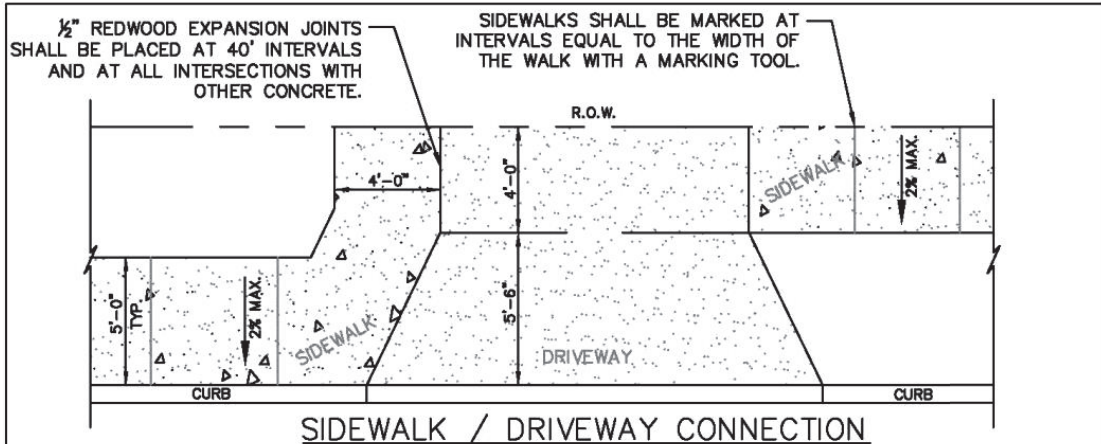
SIDEWALKS

NORTH  
 RICHLAND  
 HILLS

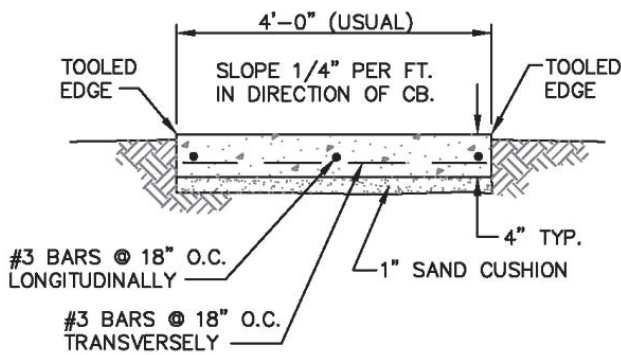
R 02-01-2012 FIGURE 11P-3







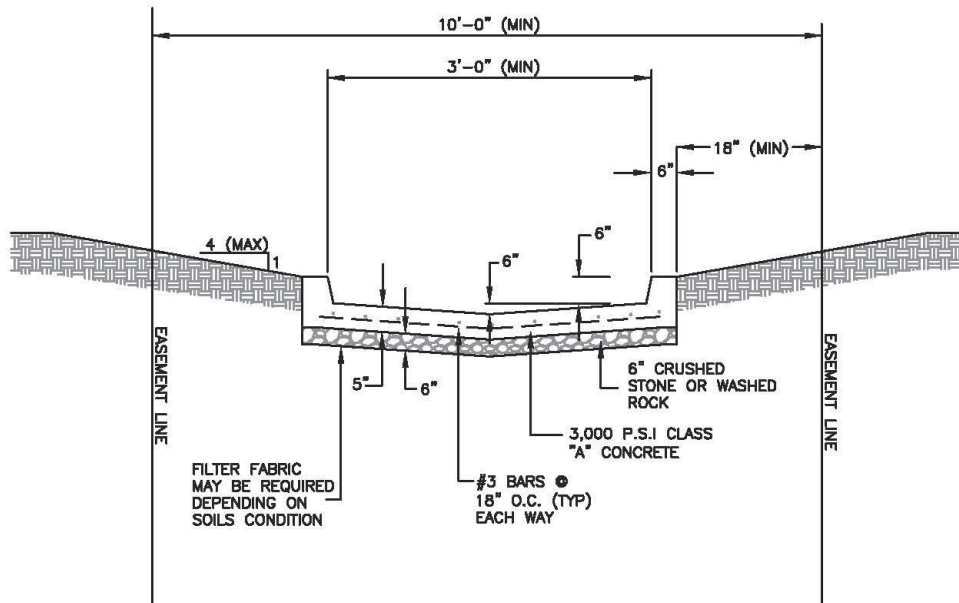
**STANDARD SIDEWALK DETAIL**



**NOTES:**

1. PARKWAY, SIDEWALK, AND DRIVEWAY SIDEWALK SECTION WILL ALL HAVE A 1/4" PER FOOT SLOPE DOWN IN THE DIRECTION OF THE TOP OF CURB.
2. SIDEWALK PERMITTED AT BACK OF CURB WITH PRIOR AUTHORIZATION ONLY.
3. ALL EXPOSED EDGES SHALL BE GROUND TO A 1/2" RADIUS.
4. USE 3000 PSI COMPRESSIVE STRENGTH CONCRETE WITH 5" MAXIMUM SLUMP.
5. SIDEWALK SHALL BE BRUSHED TRANSVERSELY TO OBTAIN A SMOOTH UNIFORM BRUSH FINISH.

SIDEWALKS
<b>NORTH RICHLAND HILLS</b>
R 02-01-2012      FIGURE 11P-3



**NOTES:**

1. FLUME SHALL BE CONTAINED IN A PERMANENT DRAINAGE EASEMENT AT LEAST 10' IN WIDTH WITH A MINIMUM OF 18" OF EASEMENT ON EACH SIDE OF THE FLUME MEASURED FROM BACK OF CURB.
2. SIDE SLOPES SHALL BE SMOOTH EARTHEN FREE OF ROCKS AND SHALL RECEIVE THE FOLLOWING: 6" OF TOPSOIL, HYDROMULCH, AND A SOIL RETENTION BLANKET, OR AN ALTERNATIVE APPROVED BY THE PUBLIC WORKS DEPARTMENT. ALL VEGETATION SHALL EXTEND TO THE EASEMENT LINES ON EACH SIDE OF THE FLUME.
3. NO FENCING WILL BE PERMITTED THAT ENCREACHES OR CROSSES THE FLUME.
4. 12" MINIMUM DIAMETER ROCK RUBBLE RIP-RAP, GROUTED WITH ONE HALF OF ROCK EXPOSED MUST BE INSTALLED AT THE OUTFALL TO MINIMIZE EROSION.
5. EXPANSION JOINTS SHALL BE CONSTRUCTED AS REQUIRED BY THE PUBLIC WORKS DEPARTMENT.
6. CONTROL JOINTS SHALL BE CONSTRUCTED AND SPACED IN DIRECT PROPORTION TO THE WIDTH OF THE FLUME, I.E. 5' FLUME WIDTH RESULTS IN 5' CONTROL JOINT SPACING.
7. FLUMES WHICH INTERSECT SIDEWALKS OR FUTURE SIDEWALK LOCATIONS SHALL BE CONSTRUCTED WITH ADA ACCESSIBLE RAMPS TO ACCOMMODATE THE CROSSING. FLUMES SHALL NOT BE "BRIDGED" BY STEEL PLATES OR OTHER SUCH STRUCTURES.
8. THE CONCRETE FLUME DETAILED IN THIS DRAWING IS NOT INTENDED FOR USE AS A PILOT CHANNEL IN EARTHEN CHANNELS. SEE DETAIL 4D FOR CONCRETE PILOT CHANNEL REQUIREMENTS.

CONCRETE FLUME

**NORTH  
RICHLAND  
HILLS**

R 07-01-2009 FIGURE 5D

