

**CITY OF FRISCO  
LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
MUNIS NO. 15608  
BID NO. 1704-071**

**ADDENDUM NO. 3  
JUNE 2, 2017**

The time for the submission of bids remains **Monday, June 12, 2017, 10:00 AM in Conference Room 3C.**

**00 91 13        ADDENDUM No. 3**

***The following additions, deletions, modifications, or clarifications shall be made to the appropriate sections of the plans and specifications and shall become a part of the Contract Documents. Bidders shall acknowledge receipt of this Addendum in the space provided on the Bid form.***

**CLARIFICATIONS:**

Paving installation shall meet requirements of Specification 32 13 13 with slip form pavement used for thru lanes and hand form pavement method allowed for turn lanes. Both forms shall conform to NCTCOG, 4<sup>th</sup> Edition item 303.

**BID REQUIREMENTS:**

**A3-1    SECTION 1 – BID REQUIREMENTS**

**A.    Reference Bid Form**

Modification: Delete this Section and replace it with the Bid Form included with this Addendum. The revised form is to be attached to the Contract Documents and submitted with the Bid.

**B.    Addition: Include the attached Bidders Qualification Statement of Prospective Bidder Form in lieu of AGC 220.**

**CONTRACT REQUIREMENTS:**

**A3-2    SECTION 2 – CONTRACT REQUIREMENTS**

**A.    Reference Special Conditions, Special Condition 11:**

Addition: Add the following paragraph:

“Section 32 11 16 Flexible Subbase or Base (Crushed Stone/Concrete)  
Reference Page 1, Paragraph 2.01, B:

Addition: “Crushed concrete shall not be utilized as a base material.””

## TECHNICAL SPECIFICATIONS:

### A3-3 Reference 01 29 00 PAYMENT PROCEDURES

Addition: Add the following sentence to Paragraph 2.01, Item No. A1-General Site Preparation: This item includes the removal, replacement and grading of maximum 6" of top soil along the medians and excavation limits.

### A3-3 Reference 01 29 00 PAYMENT PROCEDURES, Paragraph 2.02 Force Main

Modification: Modify Item No. B4 – 2" Combination Air Release Valve to include **Item No.: B12 – 3" Combination Air Release Valve**

### A3-4 Reference 01 29 00 PAYMENT PROCEDURES, Paragraph 2.03 ROADWAY

Modification: Remove the existing paragraph and replace with the following:

#### 2.03 ROADWAY

##### Item No.: C1 – Remove Concrete Pavement

Measurement for removal of existing concrete pavement shall be per square yard removed regardless of thickness and type in the locations show on the Contract Drawings. Payment for removal of concrete pavement shall be made at the unit price bid for this item and shall be full compensation for removal and disposal of existing concrete including monolithic curb and gutter in the locations shown in the Contract Drawings, including labor, equipment, materials, hauling, disposal, and all other items required for removal.

##### Item No.: C2 – Excavation (Roadway)

Measurement and Payment for Roadway Excavation shall be per cubic yard as described in 31 23 16, Excavation (Roadway).

##### Item No.: C3 – Flexible Base (Complete in Place)(TY-D GR-1-2)(12")

Measurement and Payment for Flexible Base (Complete in Place)(TY-D GR-1-2)(12") shall be per square yard as described in 32 11 16, Flexible Subbase or Base (Crushed Stone/Concrete) including payment for geogrid specified in the plans.

##### Item No.: C4 – Reinforced Concrete Pavement

Measurement and Payment for Reinforced Concrete Pavement shall be per square yard as described in 32 13 13, Concrete Pavement.

##### Item No.: C5 – Concrete Median Nose (Type 1); Item No.: C6 – Concrete Median Nose (Type 2)

Measurement and Payment for items C5 and C6 shall be per each as described in 32 16 30, Concrete Median Nose.

##### Item No.: C7 – Concrete Pavers

Measurement and Payment for concrete pavers shall be per SF as described in 32 14 00, Concrete Pavers.

Item No.: C8 – Pavement Markers & Markings (Type I)(4" Broken White); Item No.: C9 – Pavement Markers & Markings (Type I)(4" White); Item No.: C10 – Pavement Markers & Markings (Type I)(8" White); Item No.: C11 – Pavement Markers & Markings (Type I)(12" White); Item No.: C12 – Pavement Markers & Markings (Type I)(24" White); Item No.: C13 – Pavement Markers & Markings (Type I)(4" Yellow); Item No.: C14 – Pavement Markers & Markings (Type I)(12" Yellow)

Measurement and Payment for Items C8, C9, C10, C11, C12, C13, and C14 shall be per linear foot installed as described in 32 17 23, Pavement Markers and Markings.

Item No.: C15 – Pavement Markers & Markings (Type I)(W)(Arrow); Item No.: C16 – Pavement Markers & Markings (Type I)(W)(Word)

Measurement and Payment for Items C15 and C16 shall be per each installed as described in 32 17 25, Prefabricated Pavement Markings (With Warranty).

Item No.: C17 – Raised Pavement Marker (Type II-C-R); Item No.: C18 – Raised Pavement Marker (Type II-A-A)

Measurement and Payment for items C17 and C18 shall be per each installed as described in 32 17 23, Pavement Markers and Markings.

Item No.: C19 – Pavement Marker Removal (4”); Item No.: C20 – Pavement Marker Removal (8”); Item No.: C21 – Pavement Marking Removal (12”)

Measurement for items C19, C20, and C21 shall be per linear foot removed in the locations shown in the contract drawings. Payment for Pavement Marker Removal shall be made at the unit price bid for this item and shall be full compensation for removal of existing pavement markers in the locations shown in the contract drawings, including labor, materials, equipment, tools, and all other items required for removal.

Item No.: C22 – Pavement Marking Removal (Arrow & Word)

Measurement for item C22 shall be per each removed in the locations shown in the contract drawings. Payment for Pavement Marker Removal shall be made at the unit price bid for this item and shall be full compensation for removal of existing pavement markers in the locations shown in the contract drawings, including labor, materials, equipment, tools, and all other items required for removal.

Item No.: C23 – Traffic Signal Modifications

Measurement for Traffic Signal Modification shall be per each intersection location indicated on the Contract Drawings. Payment for Traffic Signal Modifications include all materials and labor for work described in Specification 34 41 13, Installation of Highway Traffic Signals necessary to restore fully functional signal operations for all labor and materials not paid for separately by other items provided in the contract.

Item No.: C24 – Vehicle and Pedestrian Signal Heads

Measurement and payment shall be per each as described in 34 41 25, Vehicle and Pedestrian Signal Heads.

Item No.: C25 – Traffic Signal Cable

Measurement and payment shall be per linear foot installed as described in 34 41 30, Traffic Signal Cable.

Item No.: C26 – Single Post Small Sign Assembly (Remove)

Measurement and Payment for Single Post Small Sign Assembly (Remove) shall be per each as described in 34 41 50, Small Roadside Sign Supports and Assemblies.

Item No.: C27 – Single Post Small Signs

Measurement and Payment for Single Post Small Signs shall be per each as described in 34 41 50, Small Roadside Sign Supports and Assemblies.

Item No.: C28 – Double Post Small Signs

Measurement and Payment for Double Post Small Signs shall be per each in accordance with 34 41 50, Small Roadside Sign Supports and Assemblies with the following exception: Payment will not be made for new sign panel; City will provide the new sign panel. Payment will be for furnish and install all other items required for sign installation per 34 41 50.

Item No.: C29 – Replace Roadway Light Fixtures (Supplied by Others)

Measurement shall be on a per Each (EA) basis, complete in place. Payment shall be per 26 56 20 except that the luminaire fixtures will be provided by the city.

Item No.: C30 – Relocate Luminaire Pole

Measurement shall be on a per Each (EA) basis, complete in place. Contractor shall store existing luminaire poles at a location agreeable to the City and shall not store existing luminaire poles on the project site. Payment shall include all labor and materials including foundations, pull boxes, conduit, and conductors as required to relocate existing luminaire poles and restore full operation of the lighting system.

Item No.: C31 – 20” Recessed Curb Inlet; Item No.: C32 – 15” Recessed Curb Inlet

Measurement and payment for recessed curb inlets shall be per 33 49 20, Standard and Recessed Curb Inlets and Other Inlets.

Item No.: C33 – 18” Reinforced Concrete Pipe

Measurement and payment for reinforced concrete pipe shall be per 33 41 13, Reinforced Concrete Pipe.

Item No.: C34 – 4’x4’ Storm Sewer Manhole

Measurement and payment for storm sewer manholes shall be per 33 49 13, Storm Sewer Manholes.

A3-5 ADD THE FOLLOWING SECTIONS:

**32 14 00 – Concrete Pavers**

**33 39 14 – Cast in Place Concrete Manholes**

**APPENDIX:**

A3-6 REPLACE THE FOLLOWING SECTIONS:

| <b>Replace Section</b>                    | <b>With Section</b>                       |
|---|---|
| APPENDIX A – CITY APPROVED MATERIALS LIST | APPENDIX A – CITY APPROVED MATERIALS LIST |

**DRAWINGS:**

A3-7 Addition:

Sheet C-01, Offsite Sewer Plan & Profile

A3-8 Reference Sheet G-2, Seq. 2:

Modify FNI General Note 2 as follows: Contractor is responsible for all costs associated with supporting power poles and guy wires as required to construct to project. No separate payment is made for this work, and is considered subsidiary to the project.



Modify FNI General Note 5 as follows: All disturbed areas along the force main outside of the Lebanon Road median shall have a 2' strip of sod installed along the one side of the easement line, as directed by the City, with hydraulic mulch covering all remaining areas. All seed and sod shall be planted and maintained per specification 32 92 23, Turfgrass Planting.

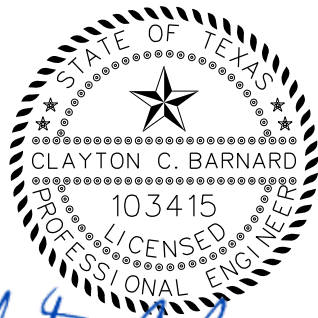
Add FNI General Note 9: Strip existing topsoil to a depth not to exceed 6" within the median and other areas of excavation activities. Replace with new topsoil once rough grading operations are complete. This work is to be considered subsidiary to the General Site Preparation.

A3-9 REPLACE THE FOLLOWING SHEETS

| Replace Sheet |   | With Sheet |   |
|---------------|---|------------|---|
| G-4           | ROADWAY ALIGNMENT DATA                                      | G-4        | ROADWAY ALIGNMENT DATA                                      |
| FM-1          | Force Main Line A Plan and Profile STA 2+62.73 to STA 7+00  | FM-1       | Force Main Line A Plan and Profile STA 2+62.73 to STA 7+00  |
| FM-2          | Force Main Line A Plan and Profile STA 7+00 to STA 14+00    | FM-2       | Force Main Line A Plan and Profile STA 7+00 to STA 14+00    |
| FM-3          | Force Main Line A Plan and Profile STA 14+00 to STA 21+00   | FM-3       | Force Main Line A Plan and Profile STA 14+00 to STA 21+00   |
| FM-4          | Force Main Line A Plan and Profile STA 21+00 to STA 27+00   | FM-4       | Force Main Line A Plan and Profile STA 21+00 to STA 27+00   |
| FM-5          | Force Main Line A Plan and Profile STA 27+00 to STA 33+00   | FM-5       | Force Main Line A Plan and Profile STA 27+00 to STA 33+00   |
| FM-6          | Force Main Line A Plan and Profile STA 33+00 to STA 39+00   | FM-6       | Force Main Line A Plan and Profile STA 33+00 to STA 39+00   |
| FM-7          | Force Main Line A Plan and Profile STA 39+00 to STA 46+00   | FM-7       | Force Main Line A Plan and Profile STA 39+00 to STA 46+00   |
| FM-9          | Force Main Line A Plan and Profile STA 52+00 to STA 59+00   | FM-9       | Force Main Line A Plan and Profile STA 52+00 to STA 59+00   |
| FM-10         | Force Main Line A Plan and Profile STA 59+00 to STA 66+00   | FM-10      | Force Main Line A Plan and Profile STA 59+00 to STA 66+00   |
| FM-11         | Force Main Line A Plan and Profile STA 66+00 to STA 72+00   | FM-11      | Force Main Line A Plan and Profile STA 66+00 to STA 72+00   |
| FM-12         | Force Main Line A Plan and Profile STA 72+00 to STA 78+00   | FM-12      | Force Main Line A Plan and Profile STA 72+00 to STA 78+00   |
| FM-16         | Force Main Line A Plan and Profile STA 98+00 to STA 105+00  | FM-16      | Force Main Line A Plan and Profile STA 98+00 to STA 105+00  |
| FM-17         | Force Main Line A Plan and Profile STA 105+00 to STA 111+00 | FM-17      | Force Main Line A Plan and Profile STA 105+00 to STA 111+00 |
| FM-18         | Force Main Line A Plan and Profile STA 111+00 to STA 117+00 | FM-18      | Force Main Line A Plan and Profile STA 111+00 to STA 117+00 |
| FM-19         | Force Main Line A Plan and Profile STA 117+00 to STA 123+00 | FM-19      | Force Main Line A Plan and Profile STA 117+00 to STA 123+00 |
| FM-20         | Force Main Line A Plan and Profile STA 123+00 to STA 129+50 | FM-20      | Force Main Line A Plan and Profile STA 123+00 to STA 129+50 |
| FM-21         | Force Main Line A Plan and Profile STA 129+50 to STA 135+50 | FM-21      | Force Main Line A Plan and Profile STA 129+50 to STA 135+50 |

|                         |  |                         |  |
|-------------------------|--|-------------------------|--|
| FM-22                   | Force Main Line A Plan and Profile<br>STA 135+50 to STA 141+50 | FM-22                   | Force Main Line A Plan and Profile<br>STA 135+50 to STA 141+50 |
| FM-23                   | Force Main Line A Plan and Profile<br>STA 141+50 to END        | FM-23                   | Force Main Line A Plan and Profile<br>STA 141+50 to END        |
| FMDT-3                  | UTILITY DETAILS  | FMDT-3                  | UTILITY DETAILS  |
| LA-01<br>Thru LA-<br>14 | LANDSCAPE ARCHITECTURE   | LA-01<br>Thru LA-<br>14 | LANDSCAPE ARCHITECTURE   |
| IR-1<br>Thru IR-<br>12  | LANDSCAPE IRRIGATION   | IR-1 Thru<br>IR-15      | LANDSCAPE IRRIGATION   |

**END OF ADDENDUM NO. 3**



6/2/2017

*Clayton C. Barnard*

FREESE AND NICHOLS, INC.  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-2144

| Item No.               | Spec. Item | Name of Pay Item with Unit Price in Words  | Est. Quantity | Unit | Unit Bid Price | Amount Bid |
|------------------------|------------|--|---------------|------|----------------|------------|
| <b>A GENERAL ITEMS</b> |            |  |               |      |                |            |
| 1                      |            | <b>General Site Preparation</b>  | 1             | LS   |                |            |
|                        | 02 41 00   | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit  |               |      |                |            |
| 2                      |            | <b>Storm Water Pollution Prevention Plan</b>   | 10            | MO   |                |            |
|                        | 31 25 00   | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit  |               |      |                |            |
| 3                      |            | <b>Project Sign</b>  | 4             | EA   |                |            |
|                        | 01 58 13   | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit  |               |      |                |            |
| 4                      |            | <b>Trench Safety</b>   |               | LF   |                |            |
|                        | 33 05 10   | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit <b>**Quantity for Trench Safety cannot be less than 9,222 LF**</b> |               |      |                |            |
| 5                      |            | <b>Barricades, Signs, and Traffic Handling</b>   | 10            | MO   |                |            |
|                        | 34 71 13   | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit  |               |      |                |            |

TOTAL BID AMOUNT FOR ITEM A

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

|                     |             |   |       |    |  |  |
|---------------------|-------------|---|-------|----|--|--|
| <b>B FORCE MAIN</b> |             |   |       |    |  |  |
| 1                   |             | <b>RFID Markers</b>   | 122   | EA |  |  |
|                     | 01 70 01    | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 2                   |             | <b>Jack, Bore, or Tunnel (Steel Casing)(36")</b>                                  | 2,238 | LF |  |  |
|                     | 33 05 23.33 | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 3                   |             | <b>Force Main - Fusible PVC (DR 18)(20") (Horizontal Directional Drill)</b>       | 2,637 | LF |  |  |
|                     | 33 05 23.13 | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 4                   |             | <b>Combination Air Valve (2")</b>   | 9     | EA |  |  |
|                     | 33 12 16    | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 5                   |             | <b>Reuse Water Line Combination Air Valve (2")</b>                                | 1     | EA |  |  |
|                     | 33 12 16    | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 6                   |             | <b>Plug Valve (12")</b>   | 1     | EA |  |  |
|                     | 33 12 16.19 | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |
| 7                   |             | <b>Plug Valve (18")</b>   | 4     | EA |  |  |
|                     | 33 12 16.19 | Complete in Place, for the Sum of<br>_____ Dollars and<br>_____ No Cents per unit |       |    |  |  |

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|    |             |                                      |       |    |  |  |
|----|-------------|--------------------------------------|-------|----|--|--|
| 8  |             | <b>Plug Valve (20")</b>              | 8     | EA |  |  |
|    | 33 12 16.19 | Complete in Place, for the Sum of    |       |    |  |  |
|    |             | _____ Dollars and                    |       |    |  |  |
|    |             | _____ No Cents per unit              |       |    |  |  |
| 9  |             | <b>Force Main - PVC (DR 18)(12")</b> | 20    | LF |  |  |
|    | 33 11 14    | Complete in Place, for the Sum of    |       |    |  |  |
|    |             | _____ Dollars and                    |       |    |  |  |
|    |             | _____ No Cents per unit              |       |    |  |  |
| 10 |             | <b>Force Main - PVC (DR 18)(18")</b> | 4,071 | LF |  |  |
|    | 33 11 14    | Complete in Place, for the Sum of    |       |    |  |  |
|    |             | _____ Dollars and                    |       |    |  |  |
|    |             | _____ No Cents per unit              |       |    |  |  |
| 11 |             | <b>Force Main - PVC (DR 18)(20")</b> | 7,577 | LF |  |  |
|    | 33 11 14    | Complete in Place, for the Sum of    |       |    |  |  |
|    |             | _____ Dollars and                    |       |    |  |  |
|    |             | _____ No Cents per unit              |       |    |  |  |
| 12 |             | <b>Combination Air Valve (3")</b>    | 3     | EA |  |  |
|    | 33 12 16    | Complete in Place, for the Sum of    |       |    |  |  |
|    |             | _____ Dollars and                    |       |    |  |  |
|    |             | _____ No Cents per unit              |       |    |  |  |

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TOTAL BID AMOUNT FOR ITEM B \_\_\_\_\_  
 (Total Amount Bid, Numerical Value)

| C  |          | ROADWAY  |        |    |  |
|----|----------|--|--------|----|--|
| 1  |          | <b>Remove Concrete Pavement</b>                                  | 2,661  | SY |  |
|    | 02 41 00 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 2  |          | <b>Excavation (Roadway)</b>                                      | 10,950 | CY |  |
|    | 31 23 16 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 3  |          | <b>Flexible Base (Complete in Place)(TY-D GR-1-2)(12")</b>       | 16,573 | SY |  |
|    | 32 11 16 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 4  |          | <b>Reinforced Concrete Pavement (9")</b>                         | 12,858 | SY |  |
|    | 32 13 13 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 5  |          | <b>Concrete Median Nose (Type 1)</b>                             | 4      | EA |  |
|    | 32 16 60 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 6  |          | <b>Concrete Median Nose (Type 2)</b>                             | 9      | EA |  |
|    | 32 16 60 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 7  |          | <b>Concrete Pavers</b>   | 3,494  | SF |  |
|    | 32 14 00 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 8  |          | <b>Pavement Markers &amp; Markings (Type I)(4" Broken White)</b> | 5,295  | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 9  |          | <b>Pavement Markers &amp; Markings (Type I)(4" White)</b>        | 583    | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 10 |          | <b>Pavement Markers &amp; Markings (Type I)(8" White)</b>        | 1,229  | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 11 |          | <b>Pavement Markers &amp; Markings (Type I)(12" White)</b>       | 168    | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 12 |          | <b>Pavement Markers &amp; Markings (Type I)(24" White)</b>       | 950    | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |
| 13 |          | <b>Pavement Markers &amp; Markings (Type I)(4" Yellow)</b>       | 163    | LF |  |
|    | 32 17 23 | Complete in Place, for the Sum of                                |        |    |  |
|    |          | _____ Dollars and  |        |    |  |
|    |          | _____ No Cents per unit  |        |    |  |

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|   |          |   |       |    |  |  |
|---|----------|---|-------|----|--|--|
| 3 | 14       | <b>Pavement Markers &amp; Markings (Type I)(12" Yellow)</b> | 28    | LF |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 15       | <b>Pavement Markers &amp; Markings (Type I)(W)(Arrow)</b>   | 16    | EA |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 16       | <b>Pavement Markers &amp; Markings (Type I)(W)(Word)</b>    | 7     | EA |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 17       | <b>Raised Pavement Marker (Type II-C-R)</b>                 | 683   | EA |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 18       | <b>Raised Pavement Marker (Type II-A-A)</b>                 | 4     | EA |  |  |
|   | 32 17 25 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 19       | <b>Pavement Marking Removal (4")</b>                        | 1,075 | LF |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 20       | <b>Pavement Marking Removal (8")</b>                        | 111   | LF |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 21       | <b>Pavement Marking Removal (12")</b>                       | 412   | LF |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 22       | <b>Pavement Marking Removal (Arrow &amp; Word)</b>          | 5     | EA |  |  |
|   | 32 17 23 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 23       | <b>Traffic Signal Modifications</b>                         | 3     | EA |  |  |
|   | 34 41 13 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 24       | <b>Vehicle Signal Heads (Install)</b>                       | 21    | EA |  |  |
|   | 34 41 25 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 25       | <b>Traffic Signal Cable (Furnish and Install)</b>           | 432   | LF |  |  |
|   | 34 41 30 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |
| 3 | 26       | <b>Single Post Small Sign Assembly (Remove)</b>             | 20    | EA |  |  |
|   | 34 41 50 | Complete in Place, for the Sum of                           |       |    |  |  |
|   |          | _____ Dollars and<br>_____ No Cents per unit                |       |    |  |  |

|    |          |  |     |    |  |  |
|----|----------|--|-----|----|--|--|
| 27 |          | <b>Single Post Small Sign Assembly (Furnish and Install)</b>           | 16  | EA |  |  |
|    | 34 41 50 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 28 |          | <b>Double Post Small Sign Assembly (F&amp;I, sign panel by others)</b> | 5   | EA |  |  |
|    | 34 41 50 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 29 |          | <b>Replace Roadway Light Fixtures (Supplied by Others)</b>             | 76  | EA |  |  |
|    | 26 56 20 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 30 |          | <b>Relocate Luminaire Pole</b>   | 10  | EA |  |  |
|    | 26 56 19 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 31 |          | <b>20' Recessed Curb Inlet</b>   | 2   | EA |  |  |
|    | 33 49 20 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 32 |          | <b>15' Recessed Curb Inlet</b>   | 2   | EA |  |  |
|    | 33 49 20 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 33 |          | <b>18" Reinforced Concrete Pipe</b>                                    | 100 | LF |  |  |
|    | 33 41 13 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |
| 34 |          | <b>4' x 4' Storm Sewer Manhole</b>                                     | 1   | EA |  |  |
|    | 33 49 13 | Complete in Place, for the Sum of                                      |     |    |  |  |
|    |          | _____ Dollars and  |     |    |  |  |
|    |          | _____ No Cents per unit  |     |    |  |  |

TOTAL BID AMOUNT FOR ITEM C \_\_\_\_\_

(Total Amount Bid, Numerical Value)

| <b>D LANDSCAPE ARCHITECTURE</b> |          |                                   |        |    |  |
|---------------------------------|----------|-----------------------------------|--------|----|--|
| 1                               |          | <b>Hydraulic Mulch Seeding</b>    | 7,963  | SY |  |
|                                 | 32 92 23 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |
| 2                               |          | <b>Sod</b>                        | 16,648 | SY |  |
|                                 | 32 92 23 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |
| 3                               |          | <b>Remove Existing Tree</b>       | 83     | EA |  |
|                                 | 02 41 00 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |
| 4                               |          | <b>Street Trees</b>               | 143    | EA |  |
|                                 | 32 93 00 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |
| 5                               |          | <b>Booster Shrubs</b>             | 24     | EA |  |
|                                 | 32 93 00 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |
| 6                               |          | <b>Landscape Irrigation</b>       | 1      | LS |  |
|                                 | 32 84 23 | Complete in Place, for the Sum of |        |    |  |
|                                 |          | Dollars and                       |        |    |  |
|                                 |          | No Cents per unit                 |        |    |  |

TOTAL BID AMOUNT FOR ITEM D \_\_\_\_\_

(Total Amount Bid, Numerical Value)

3

| <b>E JOHN HICKMAN SANITARY SEWER IMPROVEMENTS</b> |          |   |     |    |  |
|---|----------|---|-----|----|--|
|   |          | <b>10" SDR-35 PVC PIPE (0'-12') CLASS B-1 EMBEDMENT</b>                     | 328 | LF |  |
|   | 33 31 10 | Complete in Place, for the Sum of   |     |    |  |
|   | 33 05 10 | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |
| 2   |          | <b>12" SDR-35 PVC PIPE (0'-12') CLASS B-1 EMBEDMENT</b>                     | 24  | LF |  |
|   | 33 31 10 | Complete in Place, for the Sum of   |     |    |  |
|   | 33 05 10 | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |
| 3   |          | <b>10" SDR-26 PVC PIPE (12'-20') CLASS H EMBEDMENT</b>                      | 377 | LF |  |
|   | 33 31 10 | Complete in Place, for the Sum of   |     |    |  |
|   | 33 05 10 | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |
| 4   |          | <b>10" SDR-26 PVC PIPE ASTM D-2241 (12'-20') CLASS H EMBEDMENT</b>          | 310 | LF |  |
|   | 33 31 10 | Complete in Place, for the Sum of   |     |    |  |
|   | 33 05 10 | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |
| 5   |          | <b>10" SDR-26 PVC PIPE (12'-20') BY BORE WITH SPACERS</b>                   | 105 | LF |  |
|   | 33 31 10 | Complete in Place, for the Sum of   |     |    |  |
|   | 33 05 23 | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |
| 6   |          | <b>20", 1/4" THICK STEEL CASING BY BORE (DOES NOT INCLUDE CARRIER PIPE)</b> | 105 | LF |  |
|   | 33 05 23 | Complete in Place, for the Sum of   |     |    |  |
|   |          | Dollars and   |     |    |  |
|   |          | No Cents per unit   |     |    |  |



|    |          |   |       |    |  |  |
|----|----------|---|-------|----|--|--|
| 7  |          | <b>20", 1/4" THICK STEEL CASING BY OPEN CUT (DOES NOT INCLUDE CARRIER PIPE)</b> | 20    | LF |  |  |
|    |          | Complete in Place, for the Sum of   |       |    |  |  |
|    |          | _____ Dollars and   |       |    |  |  |
|    |          | _____ No Cents per unit   |       |    |  |  |
| 8  |          | <b>5.0' DIA STD. MANHOLE</b>  | 7     | EA |  |  |
|    | 33 39 13 | Complete in Place, for the Sum of   |       |    |  |  |
|    | 33 39 14 |   |       |    |  |  |
|    | 33 39 15 | _____ Dollars and   |       |    |  |  |
|    |          | _____ No Cents per unit   |       |    |  |  |
| 9  |          | <b>10" PLUG</b>   | 3     | EA |  |  |
|    | 33 31 10 | Complete in Place, for the Sum of   |       |    |  |  |
|    | 33 31 15 |   |       |    |  |  |
|    |          | _____ Dollars and   |       |    |  |  |
|    |          | _____ No Cents per unit   |       |    |  |  |
| 10 |          | <b>12" PLUG</b>   | 1     | EA |  |  |
|    | 33 31 10 | Complete in Place, for the Sum of   |       |    |  |  |
|    | 33 31 15 |   |       |    |  |  |
|    |          | _____ Dollars and   |       |    |  |  |
|    |          | _____ No Cents per unit   |       |    |  |  |
| 11 |          | <b>TRENCH SAFETY</b>  | 1,039 | LF |  |  |
|    | 33 05 10 | Complete in Place, for the Sum of   |       |    |  |  |
|    |          | _____ Dollars and   |       |    |  |  |
|    |          | _____ No Cents per unit   |       |    |  |  |

**TOTAL BID AMOUNT FOR ITEM E**

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

**TOTAL BID AMOUNT (A + B + C + D + E)**

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

\_\_\_\_\_  
(Total Amount Bid in Words)



Number of Years in business as a General Contractor on above types of work:: \_\_\_\_\_

Type(s) of work done: (mark)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Asphalt   | <input type="checkbox"/> Storm Sewer    | <input type="checkbox"/> Water and Sanitary Sewer Lines |
| <input type="checkbox"/> Concrete Paving   | <input type="checkbox"/> Steel Erection | <input type="checkbox"/> Earth Work                     |
| <input type="checkbox"/> Miscellaneous Concrete                                    | <input type="checkbox"/> Bridge Work    | <input type="checkbox"/> Painting                       |
| <input type="checkbox"/> Channel Lining  | <input type="checkbox"/> Demolition     | <input type="checkbox"/> Fencing                        |
| <input type="checkbox"/> Pump Stations   | <input type="checkbox"/> Landscaping    | <input type="checkbox"/> Plant Construction             |
| <input type="checkbox"/> Concrete Structures: Inlets, Box Culverts, Junction Boxes |   |   |
| <input type="checkbox"/> Other: _____  |   |   |

Comments: \_\_\_\_\_  
\_\_\_\_\_

Greatest number of contracts in excess of \$100,000 under construction at one time in company's history: \_\_\_\_\_

Greatest number of contracts in excess of \$200,000 under construction at one time in company's history: \_\_\_\_\_

Approximate average of dollar volume of incomplete work outstanding: \_\_\_\_\_

**List completed projects of the type of work qualifying for or similar work, plus the following information for each project:**

Project: \_\_\_\_\_

Owner/Engineer/Architect: \_\_\_\_\_  
\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect: \_\_\_\_\_  
\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect:

\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect:

\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect:

\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

(Use Attachments If Necessary)

**List incomplete projects, plus the following information for each project listed:**

Project: \_\_\_\_\_

Owner/Engineer/Architect:

\_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect: \_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Project: \_\_\_\_\_

Owner/Engineer/Architect: \_\_\_\_\_

Year Built: \_\_\_\_\_ Contract Price: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

**If company is under new management, please list names of staff and qualification and/or experience of said persons. (Please use attachment).**

Have you or any present partner(s) or officer(s) failed to complete a contract? \_\_\_\_\_

If so, name of owner and/or surety: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Are there any unsatisfied demands upon you as to your accounts payable? \_\_\_\_\_

**Bank Reference:**

Bank: \_\_\_\_\_ City: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Contact Officer: \_\_\_\_\_

**Municipality References:**

City: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Position: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

City: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Position: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

**Other Credit References:**

Name: \_\_\_\_\_ Name: \_\_\_\_\_

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

City: \_\_\_\_\_ City: \_\_\_\_\_

Phone: \_\_\_\_\_ Phone: \_\_\_\_\_

**BIDDER'S RELEASE OF QUALIFICATION INFORMATION**

Pursuant to advertisement for bids and in conformance with Instructions to Bidders for types of work outlined in Bidder's Statement of Qualifications, the undersigned is submitting information as required with the understanding that the purpose is for the City's confidential use, only to assist in determining the qualifications of Bidder's organization to perform the type and magnitude of work designated, and further, Bidder guarantees the truth and accuracy of all statements made, and will accept the City's determination of qualifications without prejudice. The surety herein names, any other bonding company(s) with whom Bidder has done business, or who have extended any credit to Bidder is (are) hereby authorized to furnish the City with any information the City may request concerning performance on previous work and Bidder's credit standing with any of them; and Bidder hereby releases any and all such parties from any legal responsibility whatsoever on account of having furnished such information to the City.

Signed: \_\_\_\_\_ Title: \_\_\_\_\_

Bidder: \_\_\_\_\_ Date: \_\_\_\_\_

**LOCATION OF LOCAL UNDERWRITING OFFICE OF PROPOSED SURETY**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_

**SECTION 321400**  
**CONCRETE PAVERS**

**PART 1 – GENERAL**

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary for Concrete Pavers in accordance with *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 304.

1.02 REFERENCES

- A. *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 304

**PART 2 – PRODUCTS**

2.01 MATERIALS

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 304.
- B. Colors for use in Frisco include Pavestone Frisco Maroon and Frisco Charcoal or approved equivalent.

**PART 3 – EXECUTION**

3.01 PREPARATION

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 304.

**PART 4 – MEASUREMENT AND PAYMENT**

4.01 MEASUREMENT

- A. Item shall be measured complete in place per square-foot (SF) and in accordance with the Contract Documents.

4.02 PAYMENT

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 304.

END OF SECTION



**SECTION 333914****CAST-IN-PLACE CONCRETE MANHOLES****PART 1 – GENERAL**

## 1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Cast-In-Place Concrete Manholes in accordance with *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1.

## 1.02 REFERENCES

- A. *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1

## 1.03 RELATED SECTIONS

- A. Section 333913 – Wastewater Manhole Frames and Covers
- B. Section 330131 – Wastewater and Manhole Testing

**PART 2 – PRODUCTS**

## 2.01 MATERIALS

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1.4.1.1.
- B. A manhole-pipe connection must use water tight, size on size resilient connectors that allow for differential settlement and must conform to ASTM C923.
- C. A manhole located in a roadway or other paved area subject to vehicular traffic must meet or exceed the American Association of State Highways and Transportation Officials standard M-306 for load bearing.

**PART 3 – EXECUTION**

## 3.01 CONSTRUCTION

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1.4.
- B. For fifteen inch (15”) to twenty-seven inch (27”) wastewater mains, the manhole shall have a minimum diameter of five feet (5’).
- C. For wastewater mains larger than twenty-seven inches (27”), the manhole shall have a minimum diameter of six feet (6’).
- D. Manholes deeper than fifteen feet (15’) shall have a minimum diameter of five feet (5’).
- E. The exterior of all concrete manholes shall be coated with bituminous waterproofing material.

**PART 4 – MEASUREMENT AND PAYMENT**

4.01 MEASUREMENT

A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1.6.

4.02 PAYMENT

A. Refer to *Public Works Construction Standards*, NCTCOG, 4<sup>th</sup> Edition, Item 502.1.6.

END OF SECTION

**City of Frisco**  
**Approved Materials List for Utilities and Storm Sewer**

Contact: David Chacon (972) 292-5437

| BASIC PRODUCT CATEGORY        | PRODUCT SUB-CATEGORY        | MANUFACTURER                  | MODEL, TYPE, OR STYLE APPROVED | GOVERNING SPECIFICATION | NOTES                   | NSF 61 CERTIFIED |
|-------------------------------|-----------------------------|-------------------------------|--------------------------------|-------------------------|-------------------------|------------------|
| <b>Air Valves</b>             |                             |                               |                                |                         |                         |                  |
| Combination Air Valves        | Distribution/ Transmission  | Vent-O-Mat                    | RBX Series                     | NCTCOG 502.6.3          |                         | NSF              |
| Combination Air Valves        | Distribution/ Transmission  | International Valve Marketing |                                | NCTCOG 502.6.3          |                         |                  |
| Combination Air Valves        | Sewage or Reuse Force Mains | Vent-O-Mat                    | RGX Series                     | NCTCOG 502.6.3          |                         |                  |
| Combination Air Valves        | Force Mains                 | International Valve Marketing |                                | NCTCOG 502.6.3          |                         |                  |
| <b>Angle Meter Valve</b>      |                             |                               |                                |                         |                         |                  |
| Angle Meter Valve             | 3/4"                        | Ford                          | BA43-333W-G-NL                 |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 1"                          | Ford                          | BA43-444W-G-NL                 |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 1-1/2"                      | Ford                          | FV43-666W-G-NL                 |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 2"                          | Ford                          | FV43-777W-G-NL                 |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 3/4"                        | Cambridge                     | 210NL-H3T3                     |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 1"                          | Cambridge                     | 210NL-H4T4                     |                         | Comp x Meter Tail or FL |                  |
| Angle Meter Valve             | 1 1/2"                      | Cambridge                     | 210NL-H6MF6                    |                         | Comp x FL               |                  |
| Angle Meter Valve             | 2"                          | Cambridge                     | 210NL-H7MF7                    |                         | Comp x FL               |                  |
| Angle Meter Valve             | 3/4" to 2"                  | A.Y. McDonald                 | 74602BQ                        |                         | Comp x Meter Tail or FL |                  |
| <b>Automatic Flush Device</b> |                             |                               |                                |                         |                         |                  |
| Eclipse                       |                             | Kupferle Foundry              | 9800WC - Eclipse Warm Climate  |                         |                         |                  |

**City of Frisco**  
**Approved Materials List for Utilities and Storm Sewer**

Contact: David Chacon (972) 292-5437

| <b>BASIC PRODUCT CATEGORY</b> | <b>PRODUCT SUB-CATEGORY</b> | <b>MANUFACTURER</b>                    | <b>MODEL, TYPE, OR STYLE APPROVED</b> | <b>GOVERNING SPECIFICATION</b> | <b>NOTES</b>       | <b>NSF 61 CERTIFIED</b> |
|-------------------------------|-----------------------------|--|---------------------------------------|--------------------------------|--------------------|-------------------------|
| <b>Casing Spacers</b>         |                             |  |                                       |                                |                    |                         |
| Raci Spacers                  |                             | Raci North America, a JR Group Company | Various                               |                                | Center/ Restrained |                         |
| PSI Model S                   |                             | Pipeline Seal and Insulator, Inc.      | S8G2, S8GN2, S12G2,S12GN2             |                                | Center/ Restrained |                         |
| <b>Cleanouts</b>              |                             |  |                                       |                                |                    |                         |
| Cleanout Castings             |                             | Bass & Hays                            | Pattern No. 339                       |                                |                    |                         |
| Cleanout Castings             |                             | Dallas Foundry                         | No. 349                               |                                |                    |                         |
| Cleanout Castings             |                             | Trinity Valley Iron & Steel            | No. 1684                              |                                |                    |                         |
| <b>Corporation Stop</b>       |                             |  |                                       |                                |                    |                         |
| Plug Type                     | 3/4"                        | Ford                                   | F1000-3                               | AWWA C800                      | AWWA Taper x Comp  |                         |
| Plug Type                     | 1"                          | Ford                                   | F1000-4                               | AWWA C800                      | AWWA Taper x Comp  |                         |
| Plug Type                     | 3/4"                        | Cambridge                              | 302NL-A3H3                            | AWWA C800                      | AWWA Taper x Comp  |                         |
| Plug Type                     | 1"                          | Cambridge                              | 302NL-A4H4                            | AWWA C800                      | AWWA Taper x Comp  |                         |
| Plug Type                     | 3/4" to 2"                  | A.Y. McDonald                          | 4701T/4701-22                         | AWWA C800                      | AWWA Taper x Comp  |                         |
| Ball Type                     | 3/4"                        | Ford                                   | FB1000-3-G-NL                         | AWWA C800                      | AWWA Taper x Comp  |                         |
| Ball Type                     | 1"                          | Ford                                   | FB1000-4-G-NL                         | AWWA C800                      | AWWA Taper x Comp  |                         |
| Ball Type                     | 1-1/2"                      | Ford                                   | FB1000-6-G-NL                         | AWWA C800                      | AWWA Taper x Comp  |                         |
| Ball Type                     | 2"                          | Ford                                   | FB1000-7-G-NL                         | AWWA C800                      | AWWA Taper x Comp  |                         |
| Ball Type                     | 3/4"                        | Cambridge                              | 301NL-A3H3                            | AWWA C800                      | AWWA Taper x Comp  |                         |

**City of Frisco**  
**Approved Materials List for Utilities and Storm Sewer**

Contact: David Chacon (972) 292-5437

| BASIC PRODUCT CATEGORY                                | PRODUCT SUB-CATEGORY     | MANUFACTURER               | MODEL, TYPE, OR STYLE APPROVED                                     | GOVERNING SPECIFICATION | NOTES              | NSF 61 CERTIFIED |
|---|--------------------------|----------------------------|--|-------------------------|--------------------|------------------|
| <b>Corporation Stop, continued</b>                    |                          |                            |  |                         |                    |                  |
| Ball Type   | 1"                       | Cambridge                  | 301NL-A4H4   | AWWA C800               | AWWA Taper x Comp  |                  |
| Ball Type   | 1-1/2"                   | Cambridge                  | 301NL-A6H6   | AWWA C800               | AWWA Taper x Comp  |                  |
| Ball Type   | 2"                       | Cambridge                  | 301NL-A7H7   | AWWA C800               | AWWA Taper x Comp  |                  |
| Ball Type   | 3/4" to 2"               | A.Y. McDonald              | 74701BQ  | AWWA C800               | AWWA Taper x Comp  |                  |
| <b>Fire Hydrants</b>                                  |                          |                            |  |                         |                    |                  |
| Fire Hydrant  |                          | American Flow Control      | 5 1/4" Waterous Pacer  | AWWA C502               | Rain cap Required  | NSF              |
| Fire Hydrant  |                          | American Flow Control      | 5 1/4" American Darling B-84-B-5                                   | AWWA C502               | Rain cap Required  | NSF              |
| Fire Hydrant Paint (Entire Hydrant)                   | All Main Sizes           | Tnemec                     | Series 530 Omnithane   |                         | Aluminum           |                  |
| Fire Hydrant Paint (Top bonnett, lip and nozzle caps) | 6" Main Size             | Tnemec                     | Series 530 Omnithane   |                         | Aluminum           |                  |
| Fire Hydrant Paint (Top bonnett, lip and nozzle caps) | 8" Main Size             | Tnemec                     | Series 2H  |                         | True Blue / Safety |                  |
| Fire Hydrant Paint (Top bonnett, lip and nozzle caps) | 12" and Larger Main Size | Tnemec                     | Series 2H  |                         | Yellow / Safety    |                  |
| <b>Fire Hydrant Extension</b>                         |                          |                            |  |                         |                    |                  |
| Fire Hydrant Extension                                |                          | Match Hydrant Manufacturer | Breakaway coupler shall be located per manufacturer recommendation |                         |                    |                  |
| <b>Fire Hydrant Reflector</b>                         |                          |                            |  |                         |                    |                  |
| Fire Hydrant Reflector                                |                          | Stimsonite                 | C88-AB   |                         | Blue               |                  |

**City of Frisco**  
**Approved Materials List for Utilities and Storm Sewer**

Contact: David Chacon (972) 292-5437

| BASIC PRODUCT CATEGORY         | PRODUCT SUB-CATEGORY      | MANUFACTURER  | MODEL, TYPE, OR STYLE APPROVED       | GOVERNING SPECIFICATION | NOTES                                 | NSF 61 CERTIFIED |
|--------------------------------|---------------------------|---|--------------------------------------|-------------------------|---------------------------------------|------------------|
| <b>Fittings</b>                |                           |   |                                      |                         |                                       |                  |
| Ductile Iron Fittings          |                           | American, U.S. Pipe, Tyler Pipe, Star Pipe Products | Full Body or Compact                 | AWWA C110/<br>AWWA C153 | Distribution/<br>Transmission         | NSF              |
| <b>Manhole Appurtenances</b>   |                           |   |                                      |                         |                                       |                  |
| Manhole Ring and Cover         | 30" Opening Wastewater    | ej  | ej 1480APT 2810ZPT<br>00147925W01    | ASTM 48                 | Cover with Logo                       |                  |
| Manhole Ring and Cover         | 30" Opening Wastewater    | Bass & Hays   | BH VRM30 WTBF                        | ASTM 48                 | Cover with Logo                       |                  |
| Manhole Ring and Cover         | 32" Opening Wastewater    | EJTW  | NPR15-333-92                         |                         | Cover with Logo                       |                  |
| Manhole Ring and Cover         | 30" Opening (Storm water) | Bass & Hays   | BH-VRM 30                            |                         | Bass Fish Logo<br>(Storm Sewer MH)    |                  |
| Manhole Ring and Cover         | 24" Opening (Storm water) | Bass & Hays   | BH400-24                             |                         | Bass Fish Logo<br>(Storm Sewer MH)    |                  |
| Manhole Ring and Cover         | 18" Opening (Storm water) | Bass & Hays   | BH 184L                              |                         | Bass Fish Logo<br>(Storm Sewer Inlet) |                  |
| Manhole to Pipe Connectors     | 6" to 15"                 | Trelleborg  | Kor-N-Seal I<br>106/406 Series       | ASTM C923               | Precast Manholes                      |                  |
| Manhole to Pipe Connectors     | 18" to 48"                | Trelleborg  | Kor-N-Seal II<br>206 Series          | ASTM C923               | Precast Manholes                      |                  |
| Manhole to Pipe Connectors     | 8" to 48"                 | A-LOK Products                                      | A-LOK Premium                        | ASTM C923               | Precast Manholes                      |                  |
| Manhole to Pipe Connectors     | 8" to 48"                 | A-LOK Products                                      | A-LOK Fiberglass<br>Field Sleeve     | ASTM C923               | Cast-In-Place Manholes                |                  |
| Manhole Waterproofing Material | 16 mils                   | Carboline   | Bitumastic 300M                      | AWWA C210               | Precast / Cast-In-Place               |                  |
| <b>Pipe Material</b>           |                           |   |                                      |                         |                                       |                  |
| Ductile Iron Pipe              | 16" to 48"                | American, U.S. Pipe,<br>McWane                      | Pressure Class 150, 250,<br>300, 350 | AWWA C151               | Distribution/<br>Transmission         | NSF              |

**City of Frisco**  
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|---------------------------------|-----------------------------------|-------------------------|------------------------------------|---------------------------|--|------------------|
| <b>Pipe Material, continued</b> |                                   |                         |                                    |                           |  |                  |
| PVC Pipe                        | 6" to 30"                         | Various Manufacturers   | DR-14, DR-18                       | AWWA C900<br>AWWA C905    | Distribution/<br>Transmission          | NSF              |
| PVC Pipe                        | 6" to 15"                         | Various Manufacturers   | SDR 26 (PS 115)<br>SDR 35 (PS 46)  | ASTM D3034                | Non-pressure Wastewater                |                  |
| PVC Pipe                        | 18" to 48"                        | Various Manufacturers   | PS 115                             | ASTM F679                 | Non-pressure Wastewater                |                  |
| PVC Pipe                        | 18" to 48"                        | Various Manufacturers   | Closed Profile (PS 46)             | ASTM F1803                | Non-pressure Wastewater                |                  |
| PVC Pipe                        | 6" to 12"                         | Various Manufacturers   | SDR 26 (Pressure rated<br>160 psi) | ASTM D2241                | Pressure Wastewater;<br>White in Color |                  |
| PVC Pipe                        | 16" to 42"                        | Various Manufacturers   | DR-25                              | AWWA C905                 | Pressure Wastewater;<br>White in Color |                  |
| Fiberglass Pipe                 | 18" to 72"                        | Hobas, Flowtite, Future | PS 46                              | ASTM D3262                | Non-pressure Wastewater                |                  |
| <b>Polywrap</b>                 |                                   |                         |                                    |                           |  |                  |
| Polyethylene Encasement         | Ductile Iron Pipe and<br>Fittings | Various Manufacturers   | 8 mils                             | AWWA C105                 |  |                  |
| Adhesive Tape                   | 2" Wide                           | Polyken                 | Scotchrap No. 50                   |                           |  |                  |
| <b>Retainer Glands</b>          |                                   |                         |                                    |                           |  |                  |
| Retainer Glands                 | For MJ DI Pipe Up to 36"          | Uni-Flange              | Series 1400-D                      | AWWA C600<br>NCTCOG 502.4 |  | NSF              |
| Retainer Glands                 | For MJ DI Pipe Up to 48"          | Ebba Iron               | Megalug<br>Series 1100, 1100SD     | AWWA C600<br>NCTCOG 502.4 |  | NSF              |
| Retainer Glands                 | For MJ PVC Pipe Up to<br>24"      | Uni-Flange              | Series 1500, 1500-C                | AWWA C600<br>NCTCOG 502.4 |  | NSF              |
| Retainer Glands                 | For MJ PVC Pipe Up to<br>24"      | Ebba Iron               | Megalug<br>Series 2000PV           | NCTCOG 502.4              |  | NSF              |

**City of Frisco**  
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|------------------------------------|---------------------------|-----------------------|--------------------------------|-------------------------|---------------------------------|------------------|
| <b>Reclaimed Water Meter</b>       |                           |                       |                                |                         |                                 |                  |
| Reclaimed Water Meter              | 1"-6"                     | Neptune (sole source) |                                |                         | No Lead                         |                  |
| <b>Reclaimed Water Meter Boxes</b> |                           |                       |                                |                         |                                 |                  |
| Reclaimed Water Meter Box          | 1" or less                | DFW Plastics          | DFW-2814F5-5SF Frico           |                         | purple                          |                  |
| Reclaimed Water Meter Box          | 1 1/2" or 2"              | DFW Plastics          | DFW-2818F5-5SF Frico           |                         | purple                          |                  |
| <b>Service Saddles</b>             |                           |                       |                                |                         |                                 |                  |
| Service Saddle                     | 3/4" to 2"                | Ford                  | Style 202B                     |                         | Brass with double bronze straps |                  |
| Service Saddle                     | 3/4" to 2"                | Cambridge             | Series 810                     |                         | Brass with double bronze straps |                  |
| Service Saddle                     | 3/4" to 2"                | A.Y. McDonald         | Model #3825                    |                         | Brass with double bronze straps |                  |
| <b>Tapping Sleeve</b>              |                           |                       |                                |                         |                                 |                  |
| Tapping Sleeve                     | For DI, CI, PVC Up to 24" | Mueller               | Model #H-615                   | AWWA C600               | Gray or DI, Full Bodied         | NSF              |
| Tapping Sleeve                     | For DI Up to 36"          | American              | Series 2800                    | AWWA C600               | DI Full Bodied                  | NSF              |
| Tapping Sleeve                     | For CI or DI 14" to 36"   | American              | Series 1004                    | AWWA C600               | DI Full Bodied                  | NSF              |
| Tapping Sleeve                     | For DI, CI, PVC Up to 36" | U.S. Pipe             | T-9                            | AWWA C600               | DI Full Bodied                  | NSF              |
| Tapping Sleeve                     | 20" and Larger            | Smith-Blair           | Style 623                      | AWWA C600               | Stainless Steel                 | NSF              |



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|-------------------------|-------------------------|-----------------------|--------------------------------|-------------------------|--|------------------|
| <b>Valves</b>           |                         |                       |                                |                         |  |                  |
| Gate Valve              | 6" to 12" 150 psi test  | Mueller               | 2360 Series                    | AWWA C509               | Distribution                                 | NSF              |
| Gate Valve              | 16" to 24" 150 psi test | M&H                   | Style 4067                     | AWWA C509               | Distribution                                 | NSF              |
| Gate Valve              | 6" to 16" 150 psi test  | M&H                   | Style 7571                     | AWWA C515               | Distribution                                 | NSF              |
| Gate Valve              | 6" to 24" 150 psi test  | American Flow Control | Series 2500                    | AWWA C509               | Distribution                                 | NSF              |
| Butterfly Valve         | 16" to 48"              | Mueller               | 3211 Series                    | AWWA C504               | Distribution/<br>Transmission                | NSF              |
| Butterfly Valve         | 16" to 24"              | M&H                   | Style 4500                     | AWWA C504               | Distribution/<br>Transmission                | NSF              |
| Butterfly Valve         | 30" to 48"              | M&H                   | Style 1450                     | AWWA C504               | Distribution/<br>Transmission                | NSF              |
| Plug Valve (Eccentric)  | 4" to 24"               | M&H                   | Style 1820                     | AWWA C504<br>AWWA C505  |  | NSF              |
| <b>Valve Stack</b>      |                         |                       |                                |                         |  |                  |
| Valve Stack             | 3 piece screw type      | Tyler Union           | Tyler Union 30U 6850           |                         | 2 Piece Screw type with lid to make 3 piece  |                  |
| Valve Stack             | 3 piece screw type      | PROSELECT             | PROSELECT<br>PSVBxxxSW         |                         | 2 Piece Screw types with lid to make 3 piece |                  |
| Valve Stack             | 3 piece screw type      | Star Pipe Products    | Star Pipe VB-0001              |                         | 2 Piece Screw types with lid to make 3 piece |                  |
| <b>Valve Box Insert</b> |                         |                       |                                |                         |  |                  |
| Valve Box Insert        |                         | Parsons Environmental | Valve Box Insert               | ASTM D1248              | 5 1/4" SRC                                   |                  |

**City of Frisco**  
**Approved Materials List for Utilities and Storm Sewer**

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| <b>BASIC PRODUCT CATEGORY</b>          | <b>PRODUCT SUB-CATEGORY</b> | <b>MANUFACTURER</b>              | <b>MODEL, TYPE, OR STYLE APPROVED</b> | <b>GOVERNING SPECIFICATION</b> | <b>NOTES</b>                  | <b>NSF 61 CERTIFIED</b> |
|--|-----------------------------|----------------------------------|---------------------------------------|--------------------------------|-------------------------------|-------------------------|
| <b>Water Meter AMR Lids</b>            |                             |                                  |                                       |                                |                               |                         |
| Water Meter Lid                        | 18" x 18"                   | DFW Plastics                     | DFW18 AMR -1SF 6540 FRISCO Lid        | ASTM C857-95                   |                               |                         |
| Water Meter Lid                        | 20" Diameter                | DFW Plastics                     | DFW20G-1IBT-Lid                       | ASTM C857-95                   | for Automatic Flushing Device |                         |
| <b>Water Meter Vaults</b>              |                             |                                  |                                       |                                |                               |                         |
| Domestic Meter Vault                   | 3" to 8" Meter              | Watkins Industries, Inc.         | Precast Concrete                      |                                | Galvanized Steel Hatchway     |                         |
| Domestic Meter Vault                   | 3" to 6" Meter              | Park Environmental Equipment Co. | Precast Concrete                      |                                | Galvanized Steel Hatchway     |                         |
| Double Detector Check Fire Meter Vault | 4" to 10" Meter             | Park Environmental Equipment Co. | Precast Concrete                      |                                | Aluminum Hatchway             |                         |
| <b>Water Meter Boxes</b>               |                             |                                  |                                       |                                |                               |                         |
| Water Meter Boxes                      | 1" or less                  | DFW Plastics                     | DFW-1814F-1SA% F6450 FRISCO           |                                |                               |                         |
| Water Meter Boxes                      | 1 1/2" to 2"                | DFW Plastics                     | DFW-2818F-1IBT                        |                                |                               |                         |
| Water Meter Boxes                      | 29" x 18"                   | DFW Plastics                     | DFW-2818F-1IBT                        |                                | for Automatic Flushing Device |                         |
| <b>Water Meter Couplings</b>           |                             |                                  |                                       |                                |                               |                         |
| Water Meter Strainer                   | 3"                          | Neptune (sole source)            | 53107-000                             |                                | Bronze Strainer               |                         |
| Water Meter Strainer                   | 4"                          | Neptune (sole source)            | 53107-100                             |                                | Bronze Strainer               |                         |
| Water Meter Strainer                   | 6"                          | Neptune (sole source)            | 52000-201                             |                                | Bronze Strainer               |                         |



STA 70+22.29  
BEGIN LANDSCAPE ALIGNMENT  
N=7093953.82  
E=2469853.97

4TH ARMY DR.

STA 80+17.53  
1500'R PC  
N=7093151.24  
E=2470442.50

STA 100+00.00  
BEGIN RD ALIGNMENT  
N=7092537.67  
E=2472227.20

STA 94+25.36  
1500'R PT  
N=7092537.67  
E=2471652.56

N89°26'01"E  
925.90'

CURVE DATA  
A=29°08'38"  
R=1000.00  
T=259.96  
L=508.65

STA 140+92.21  
END RD ALIGNMENT  
N=7092980.78  
E=2476220.85

CURVE DATA  
A=53°46'31"  
R=1500.00  
T=760.59  
L=1407.84

N90°00'00"E  
574.64'

STA 134+98.08  
1000'R PT  
N=7092689.46  
E=2475703.04

STA 129+89.43  
1000'R PC  
N=7092561.01  
E=2475216.53

DATUM BASE NOTE:  
COORDINATES AND BEARINGS SHOWN HEREIN  
ARE STATE PLANE (NAD 83) FOR THE TEXAS  
NORTH CENTRAL ZONE.  
ALL DISTANCES ARE SURFACE.  
HELD PT: "T-9"  
N=7092682.36  
E=2475665.22  
ELEV=625.12  
SURF SCALE FACTOR=1.000156676

**PROJECT BENCHMARK**

BM-103  
CHISELED BOX CUT PER 4TH ARMY PROJECT  
ELEV=580.83  
N=7093248.24  
E=2470452.15

BM-3  
CHISELED BOX CUT ON TOP OF CURB AT THE  
NOSE OF A MEDIAN AT THE INTERSECTION OF  
COMPASS DR. AND LEBANON RD. AND  
LOCATED APPROXIMATELY 60 FEET NORTH OF  
THE CENTERLINE OF LEBANON RD.  
ELEV=611.23  
N=7092613.42  
E=2474667.01

BM-4  
CHISELED BOX CUT ON TOP OF CURB AT THE  
SOUTHWEST CORNER OF THE INTERSECTION OF  
LEGACY DR. AND LEBANON RD. ALSO BEING  
LOCATED ON THE WEST CURB OF LEGACY, JUST  
SOUTH OF THE CURB RETURN.  
ELEV=670.64  
N=7093070.02  
E=2476748.72

**PROJECT CONTROL POINT TABLE**

| CONTROL POINT | NORTHING   | EASTING    | ELEV.  | DESCRIPTION                        |
|---------------|------------|------------|--------|------------------------------------|
| T-1           | 7092859.96 | 2470729.05 | 579.14 | 1/2" IRON ROD WITH RED PLASTIC CAP |
| T-2           | 7092604.88 | 2471227.20 | 582.47 | 1/2" IRON ROD WITH RED PLASTIC CAP |
| T-6           | 7092547.41 | 2474137.09 | 590.36 | 1/2" IRON ROD WITH RED PLASTIC CAP |
| T-7           | 7092548.95 | 2474720.86 | 612.58 | 1/2" IRON ROD WITH RED PLASTIC CAP |
| T-110         | 7093060.47 | 2476244.54 | 645.73 | 1/2" IRON ROD WITH RED PLASTIC CAP |
| T-111         | 7093098.12 | 2476708.23 | 668.88 | 1/2" IRON ROD WITH RED PLASTIC CAP |

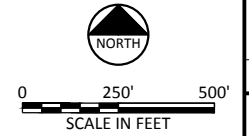
**NOTE:**

- CONTRACTOR SHALL USE THE PROVIDED CONTROL INFORMATION TO ESTABLISH AND PLACE THEIR OWN CONTROL POINTS OF REFERENCE THAT WILL NOT BE DISTURBED BY CONSTRUCTION PROCESSES.

**CITY OF FRISCO MONUMENT NOTES:**

**STATION NO. 23**

STANDARD CITY OF FRISCO MONUMENT LOCATED APPROXIMATELY 270' EAST OF THE INTERSECTION OF RUSHMORE DR. AND LEBANON RD. IN THE CENTER MEDIAN OF LEBANON RD. THE MONUMENT IS LOCATED 134' EAST OF A TRAFFIC SIGN, 23' NORTHWEST OF A TRAFFIC SIGN, AND 143' EAST OF AN OVERHANGING TRAFFIC SIGN.



SEE SHEET G-5



Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

06-02-2017

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

GENERAL

**ROADWAY ALIGNMENT DATA**

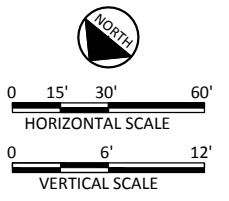
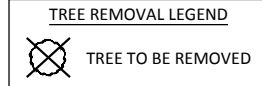
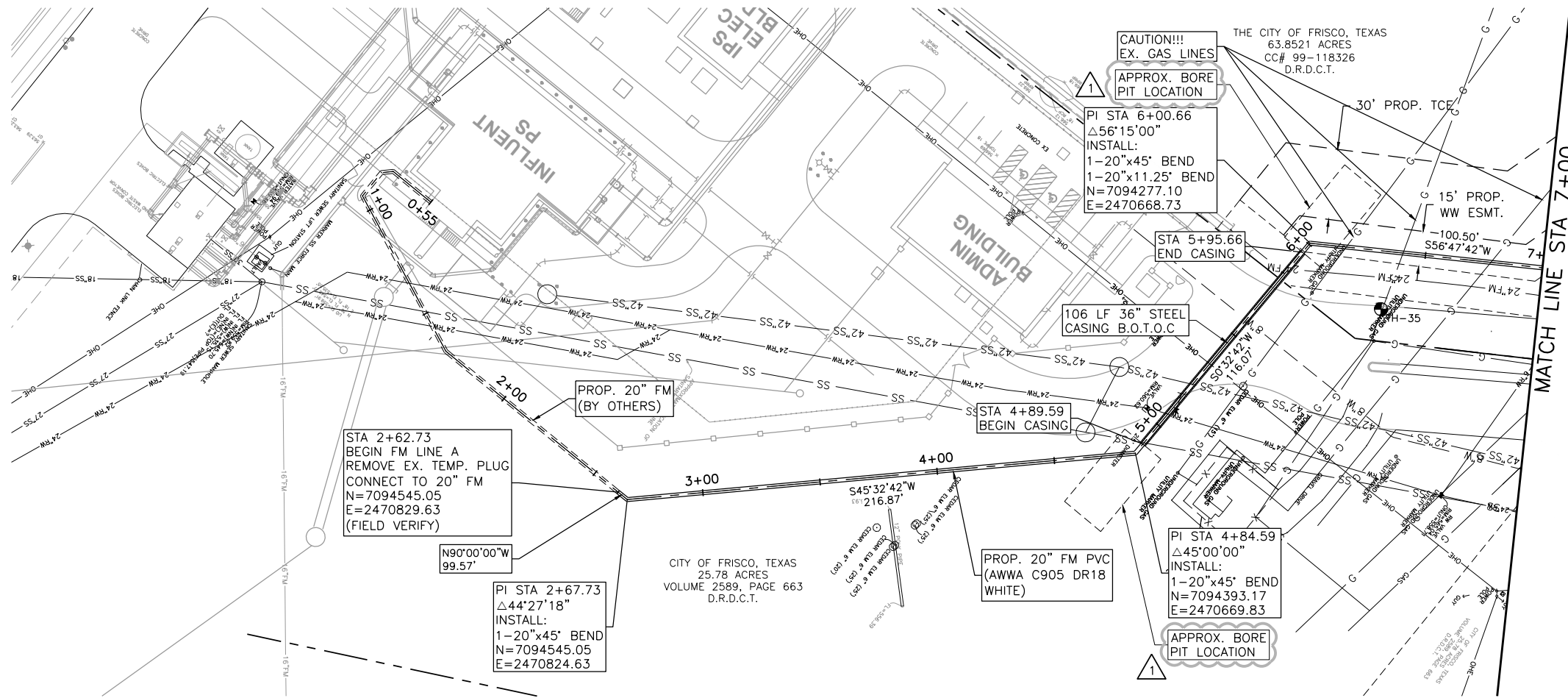
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|--------|----------|----|----|-----|
| 6/2017 |          |    |    |     |

AMENDMENT NO. 3  
REVISION 1  
FILE NAME: cv-gn-all-ctrl01

NO. 1  
SHEET G-4  
SEQ. 4

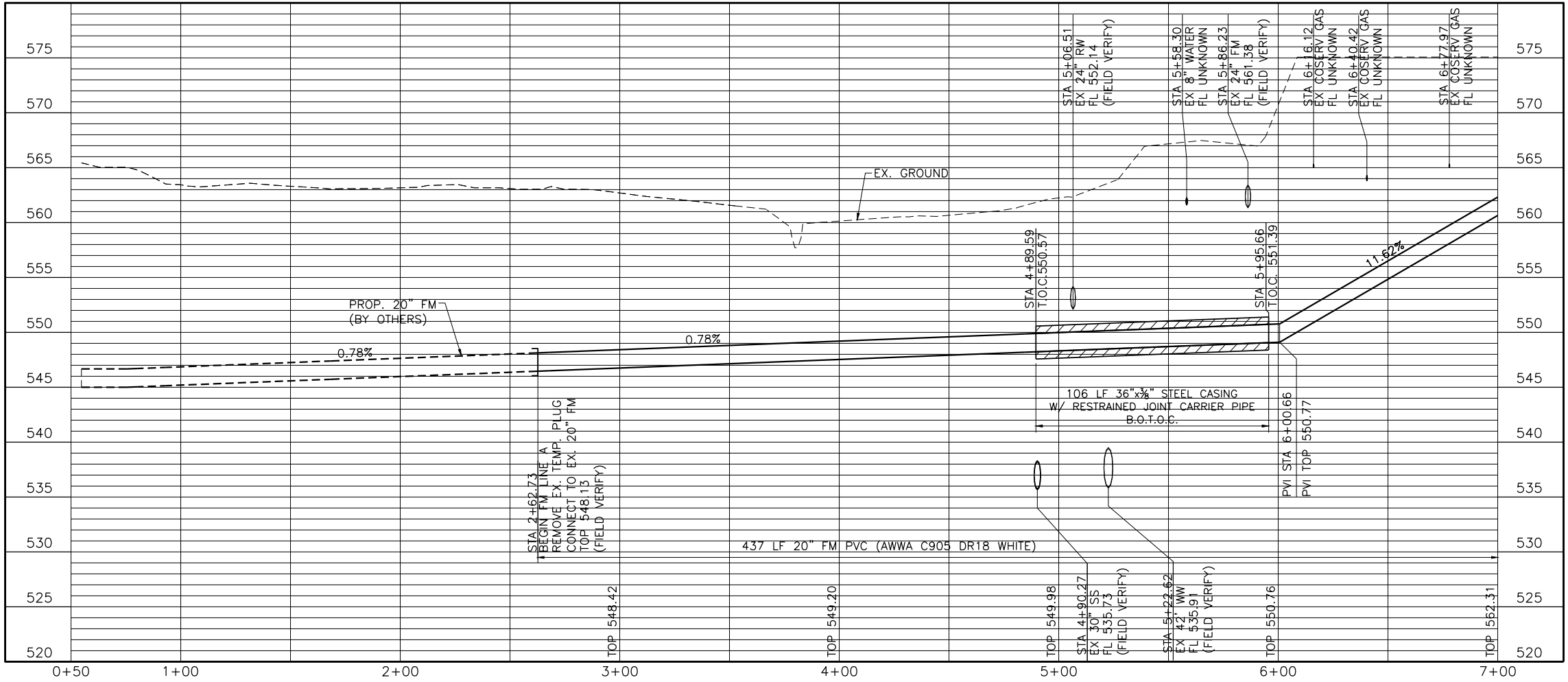
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**CAUTION!!!**  
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA.  
48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

- NOTES:**
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
  - CONTRACTOR SHALL REPAIR ALL IRRIGATION LINES DISRUPTED DURING THE PIPE INSTALLATION TO THE PRE-CONSTRUCTION CONDITIONS. THIS SHALL BE SUBSIDIARY TO THE PIPE PRICE.
  - NO UNPROTECTED TRENCHES OR PITS ARE ALLOWED OVERNIGHT. AT THE CONCLUSION OF EACH WORK DAY, CONTRACTOR SHALL PLACE PROTECTIVE STEEL PLATES OVER BORE PITS UNTIL THE PIPELINE CREW REACHES THE BORE PIT LOCATION FOR THE PIPE INSTALLATION.



Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

Clayton C. Barnard  
Professional Engineer  
6/2/2017

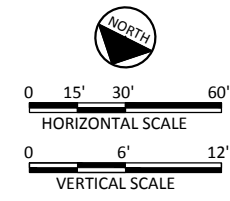
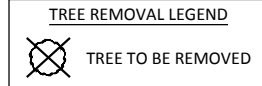
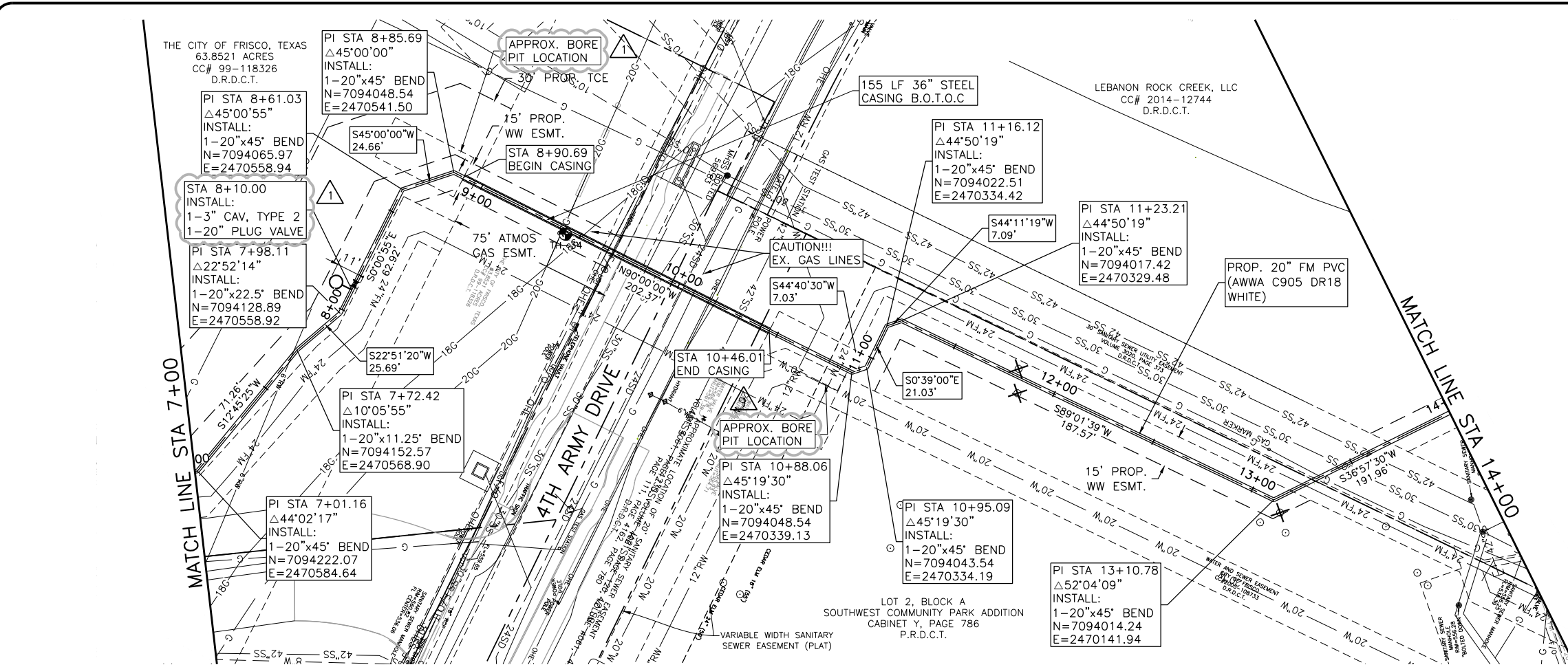
**FRESE NICHOLS**

5805 McIn Street, Suite B  
Frisco, Texas 75034  
Phone - (972) 624-9201  
Fax - (972) 624-9202  
Web - www.freese.com

CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
STA 2+62.73 TO STA 7+00

|     |                |    |          |             |                |
|-----|----------------|----|----------|-------------|----------------|
| NO. | ISSUE          | BY | DATE     | FRN JOB NO. | FRS15624       |
| 0   | VERIFY SCALE   | CB | 06/01/17 | DATE        | MAY 2017       |
| 1   | ADDENDUM NO. 3 | CB | 06/01/17 | DESIGNED    | REE            |
|     | VERIFY SCALE   | CB | 06/01/17 | DRAWN       | LMR            |
|     | VERIFY SCALE   | CB | 06/01/17 | REVISION    | LMR            |
|     | VERIFY SCALE   | CB | 06/01/17 | CHECKED     | CCB            |
|     | VERIFY SCALE   | CB | 06/01/17 | FILE NAME   | CV-PPL-PP-FM-5 |

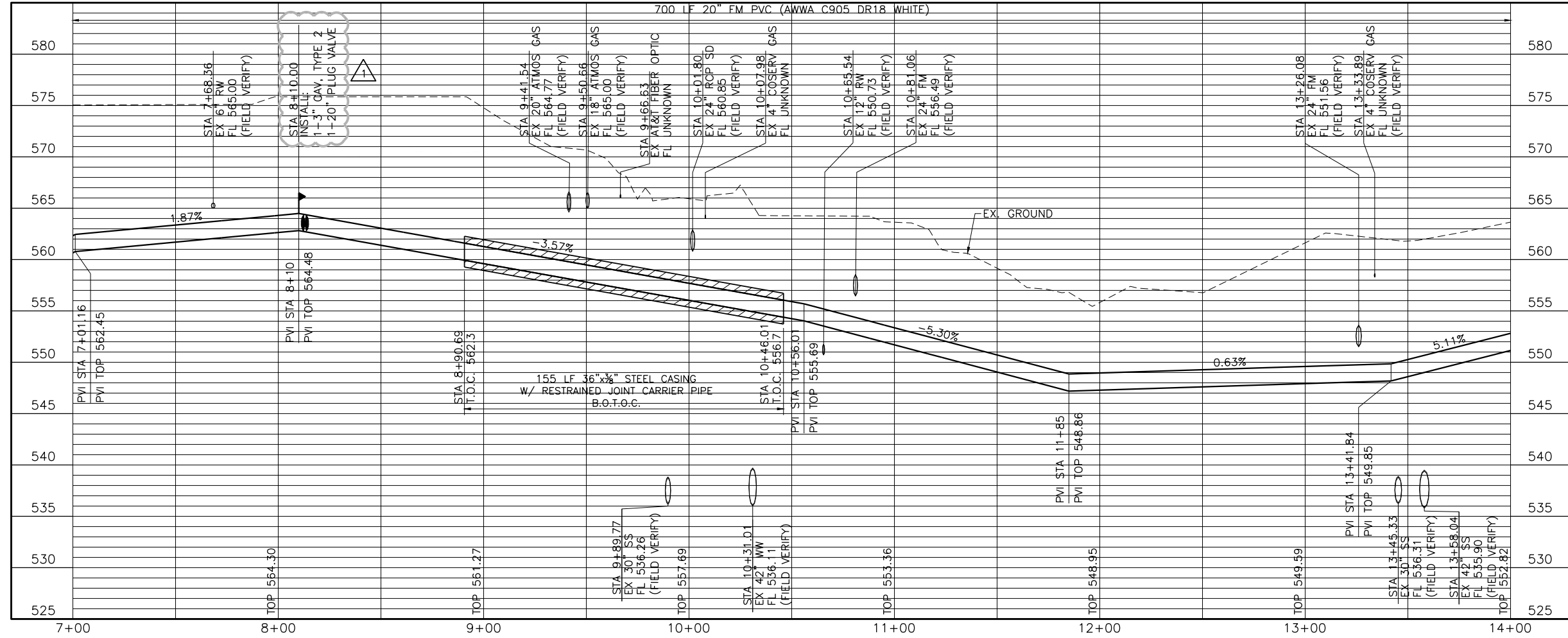
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.



**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

6/2/2017  
 Clayton C. Barnard

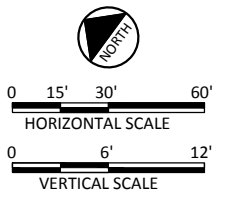
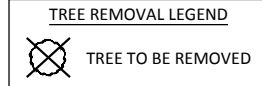
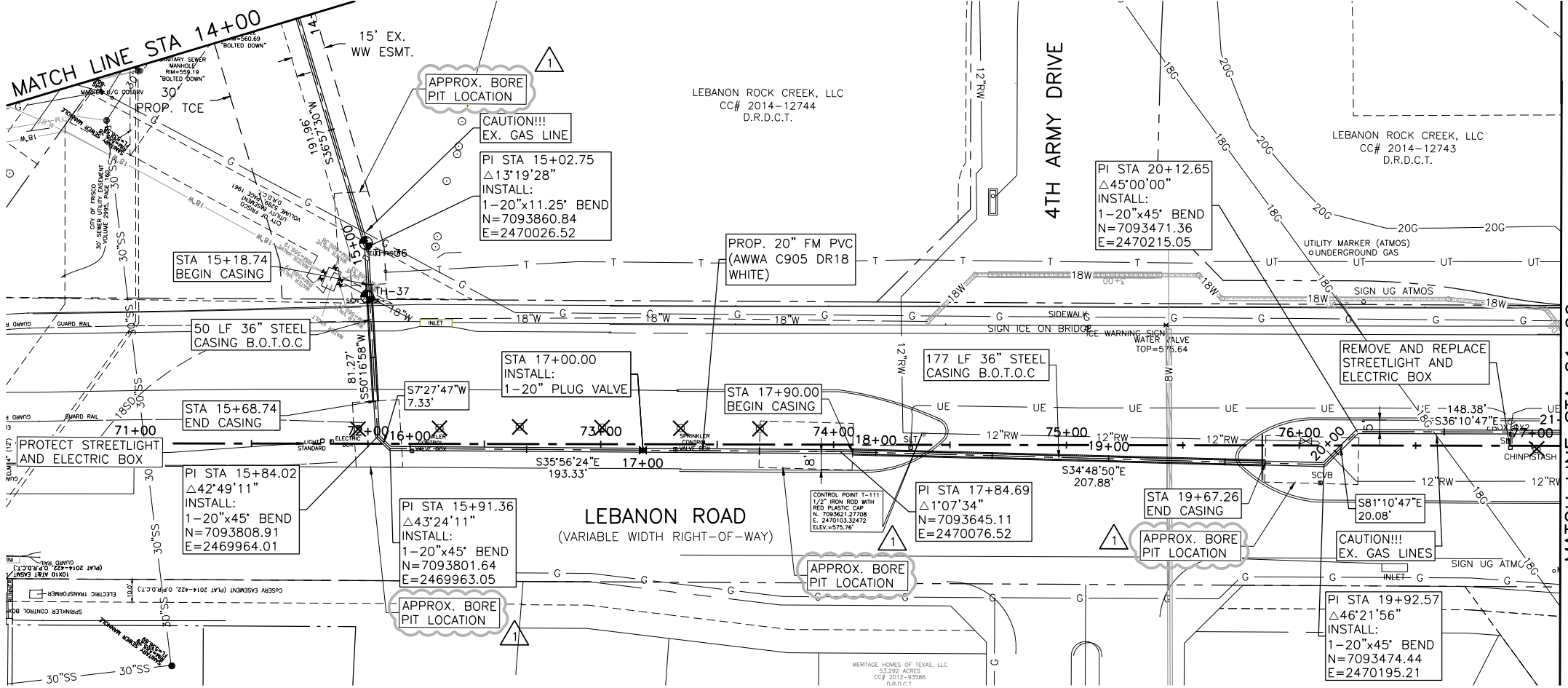
**FRESE & NICHOLS**

5805 McIn Street, Suite B  
 Frisco, Texas 75034  
 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
 Web - www.freese.com

CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 7+00 TO STA 14+00**

|     |       |    |      |   |               |
|-----|-------|----|------|---|---------------|
| NO. | ISSUE | BY | DATE | FRN JOB NO.   | FR15624       |
|     |       |    |      | DATE  | MAY 2017      |
|     |       |    |      | DESIGNED  | REE           |
|     |       |    |      | DRAWN   | LMR           |
|     |       |    |      | REVISION  | CCB           |
|     |       |    |      | CHECKED   | CCB           |
|     |       |    |      | FILE NAME   | CV-PP-PP-FM-6 |
|     |       |    |      | ADDENDUM NO. 3  |               |
|     |       |    |      | VERIFY SCALE  | 1             |
|     |       |    |      | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |               |

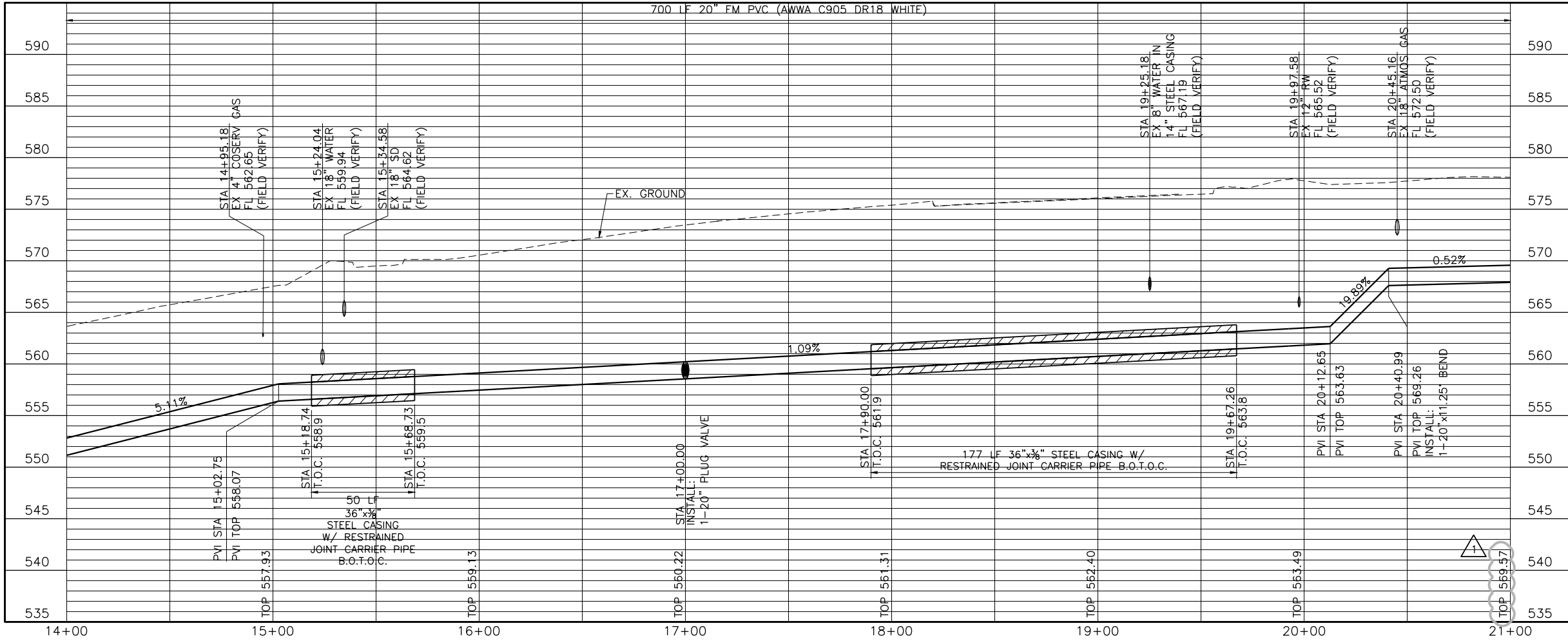




**CAUTION!!!**  
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

**NOTES:**

- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
- CONTRACTOR SHALL REPAIR ALL IRRIGATION LINES DISRUPTED DURING THE PIPE INSTALLATION TO THE PRE-CONSTRUCTION CONDITIONS. THIS SHALL BE SUBSIDIARY TO THE PIPE PRICE.
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Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

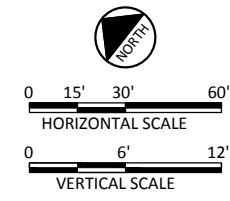
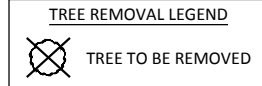
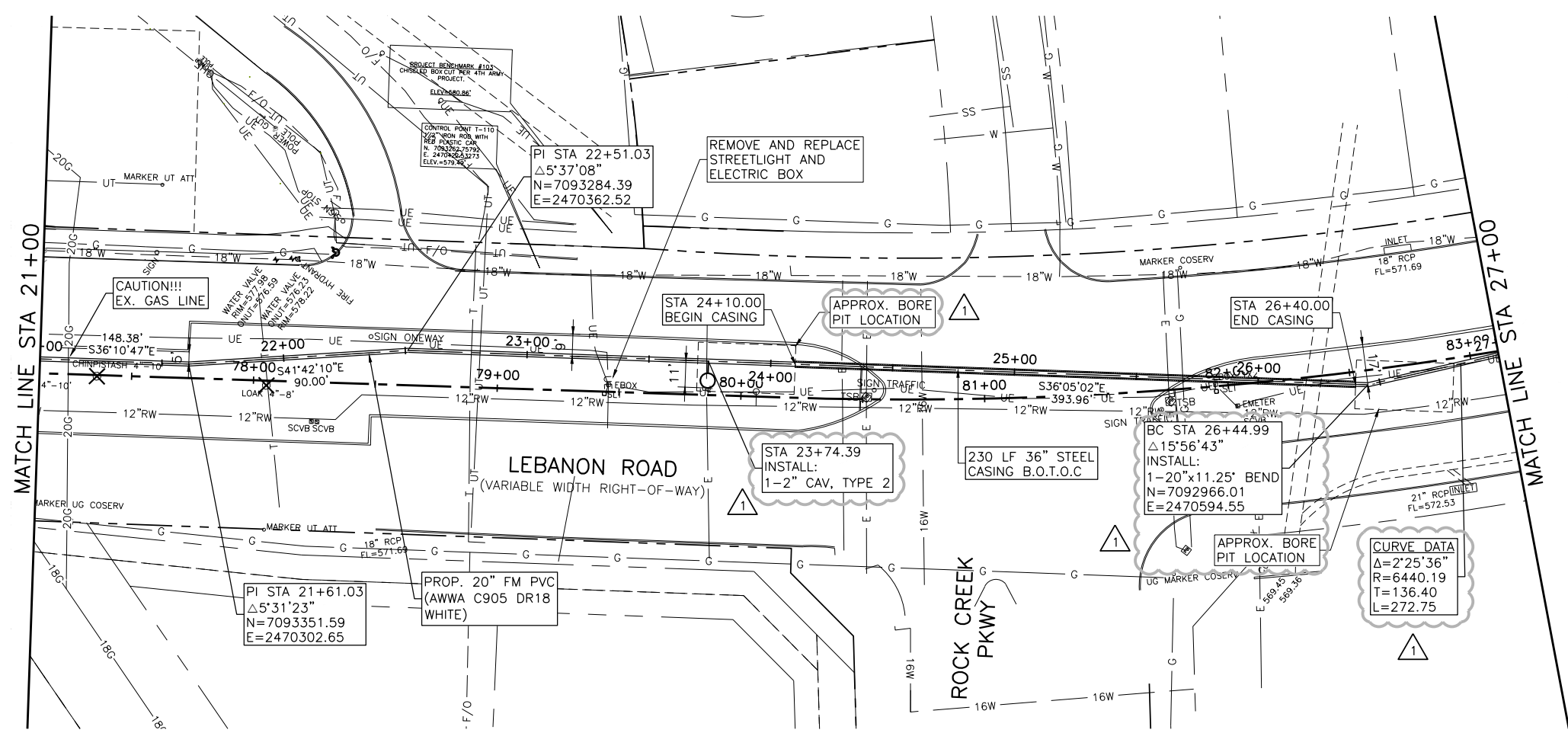
Clayton C. Barnard

**FRESE & NICHOLS**

5805 McInnis Street, Suite B  
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Phone - (972) 624-9201  
Fax - (972) 624-9202  
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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
STA 14+00 TO STA 21+00

|       |       |    |      |   |                |
|-------|-------|----|------|---|----------------|
| NO.   | ISSUE | BY | DATE | FRN JOB NO.   | FR15624        |
|       |       |    |      | DATE  | MAY 2017       |
|       |       |    |      | DESIGNED  | REE            |
|       |       |    |      | DRAWN   | LMR            |
|       |       |    |      | REVISION  |                |
|       |       |    |      | CHECKED   | CCB            |
|       |       |    |      | FILE NAME   | CV-PPL-PP-FM-7 |
|       |       |    |      | ADDENDUM NO. 3  |                |
|       |       |    |      | VERIFY SCALE  | 1              |
|       |       |    |      | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |                |
| SHEET | FM-3  |    |      |   |                |
| SEQ.  | 14    |    |      |   |                |



**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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| 600 LF 20" FM PVC (AWWA C905 DR18 WHITE) |  |
|--|--|
| 595                                      | STA 21+11.62 EX 20" ATMOS GAS FL 563.83 (FIELD VERIFY)                                       |
| 590                                      | STA 21+92.37 EX TEL FL 577.00 (FIELD VERIFY)   |
| 585                                      | STA 22+77.13 EX TEL FL 571.67 (FIELD VERIFY)   |
| 580                                      | STA 22+80.68 EX TEL FL 571.67 (FIELD VERIFY)   |
| 575                                      | STA 23+29.07 EX ELEC FL 571.00 (FIELD VERIFY)  |
| 570                                      | STA 23+52.79 EX ELEC FL 577.00 (FIELD VERIFY)  |
| 565                                      | STA 23+74.39 INSTALL: 1-2" CAV, TYPE 2   |
| 560                                      | STA 24+29.65 EX ELEC FL 576.50 (FIELD VERIFY)  |
| 555                                      | STA 24+59.54 EX ELEC FL 576.50 (FIELD VERIFY)  |
| 550                                      | STA 24+61.95 EX 16" WATER FL 568.83 (FIELD VERIFY)   |
| 545                                      | STA 25+62.87 EX ELEC FL 575.00 (FIELD VERIFY)  |
| 540                                      | STA 25+69.10 EX 16" COSERV GAS FL 571.76 (FIELD VERIFY)                                      |
| 535                                      | STA 26+22.88 EX 16" RCP FL 570.30 (FIELD VERIFY)   |
| 530                                      | STA 26+39.99 U.O.C. 567.4  |
| 525                                      | STA 26+44.99 BC STA 26+44.99 Δ15°56'43" INSTALL: 1-20"x11.25' BEND N=7092966.01 E=2470594.55 |
| 520                                      | STA 26+49.99 U.O.C. 567.4  |
| 515                                      | STA 27+00.00 U.O.C. 567.4  |

Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

Clayton C. Barnard


**FRESE NICHOLS**

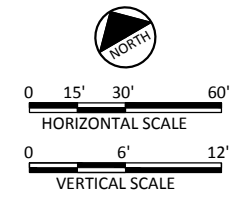
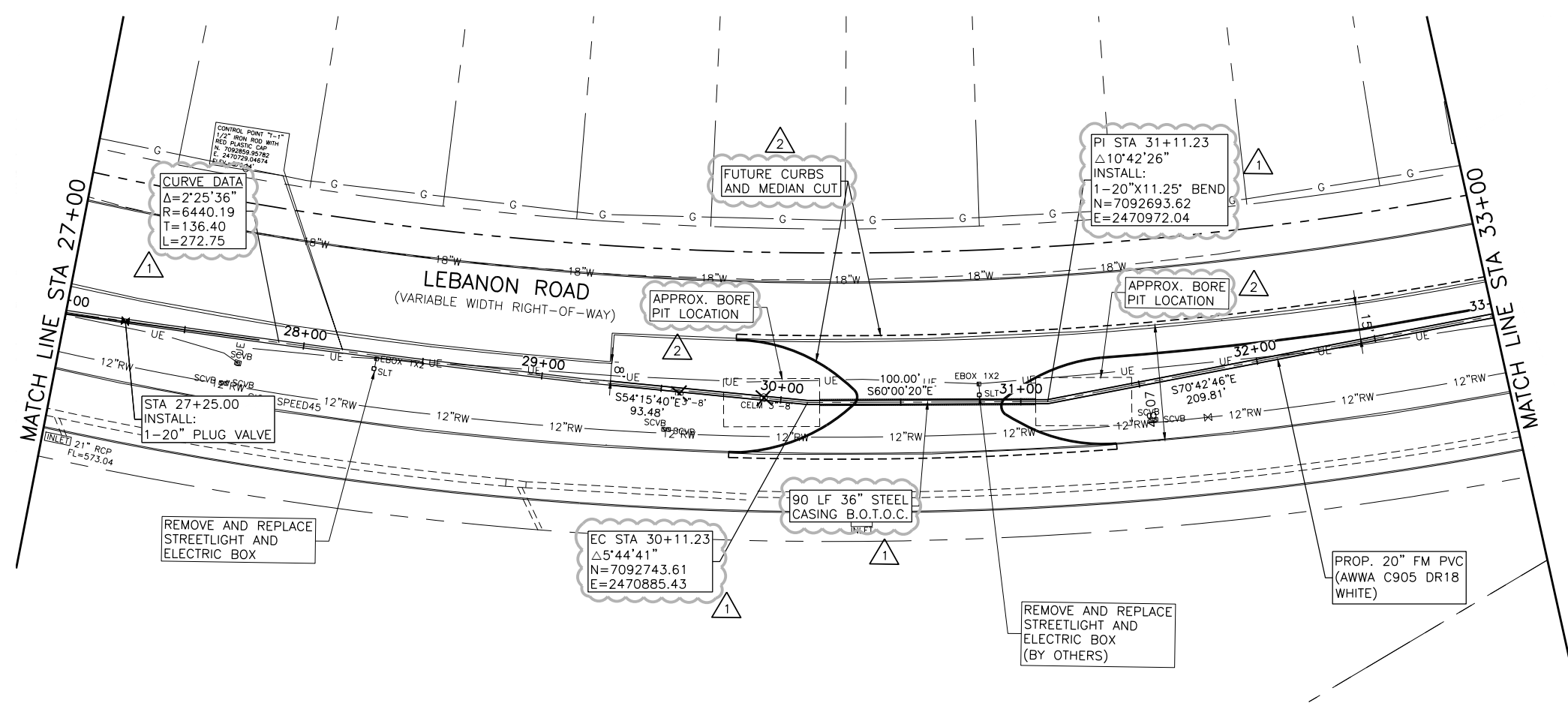
5905 McIn Street, Suite B  
 Frisco, Texas 75034  
 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
 Web - www.freese.com

CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 21+00 TO STA 27+00**

|   |       |    |          |             |                |
|---|-------|----|----------|-------------|----------------|
| NO.   | ISSUE | BY | DATE     | FRN JOB NO. | FR15624        |
|   |       |    |          | DATE        | MAY 2017       |
|   |       |    |          | DESIGNED    | REE            |
|   |       |    |          | DRAWN       | LMR            |
|   |       |    |          | REVISION    |                |
|   |       |    |          | CHECKED     | CCB            |
|   |       |    |          | FILE NAME   | CV-PPL-PP-FM-8 |
| ADDITION NO. 3  |       | CB | 06/01/17 |             |                |
| VERIFY SCALE  |       |    |          |             |                |
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| Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |    |          |             |                |
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| SEQ.  | 15    |    |          |             |                |

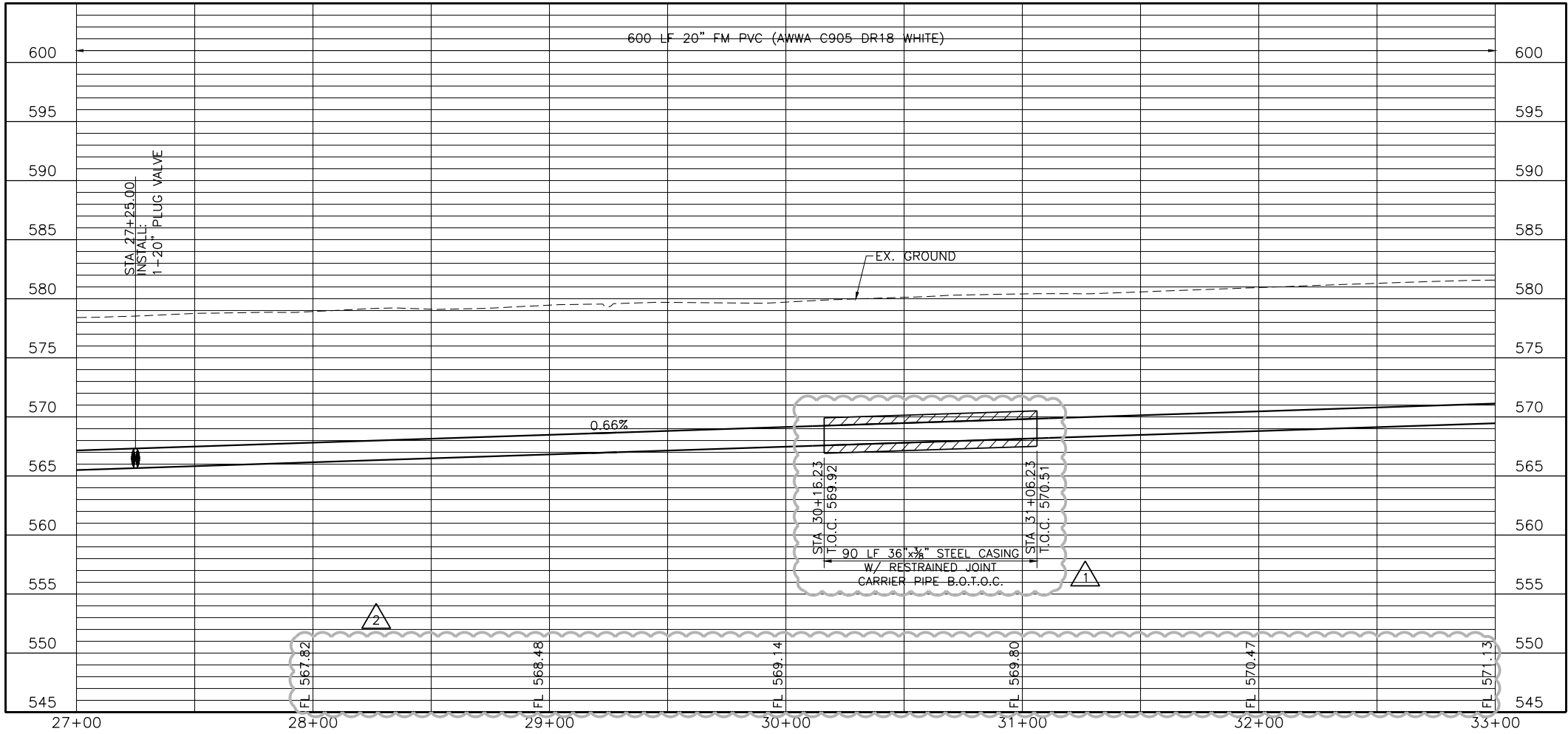


**TREE REMOVAL LEGEND**  
 TREE TO BE REMOVED




**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144



Clayton C. Barnard

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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 27+00 TO STA 33+00**

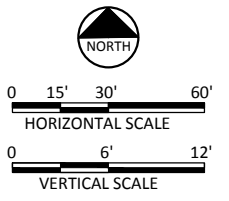
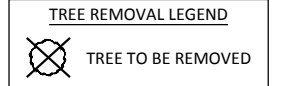
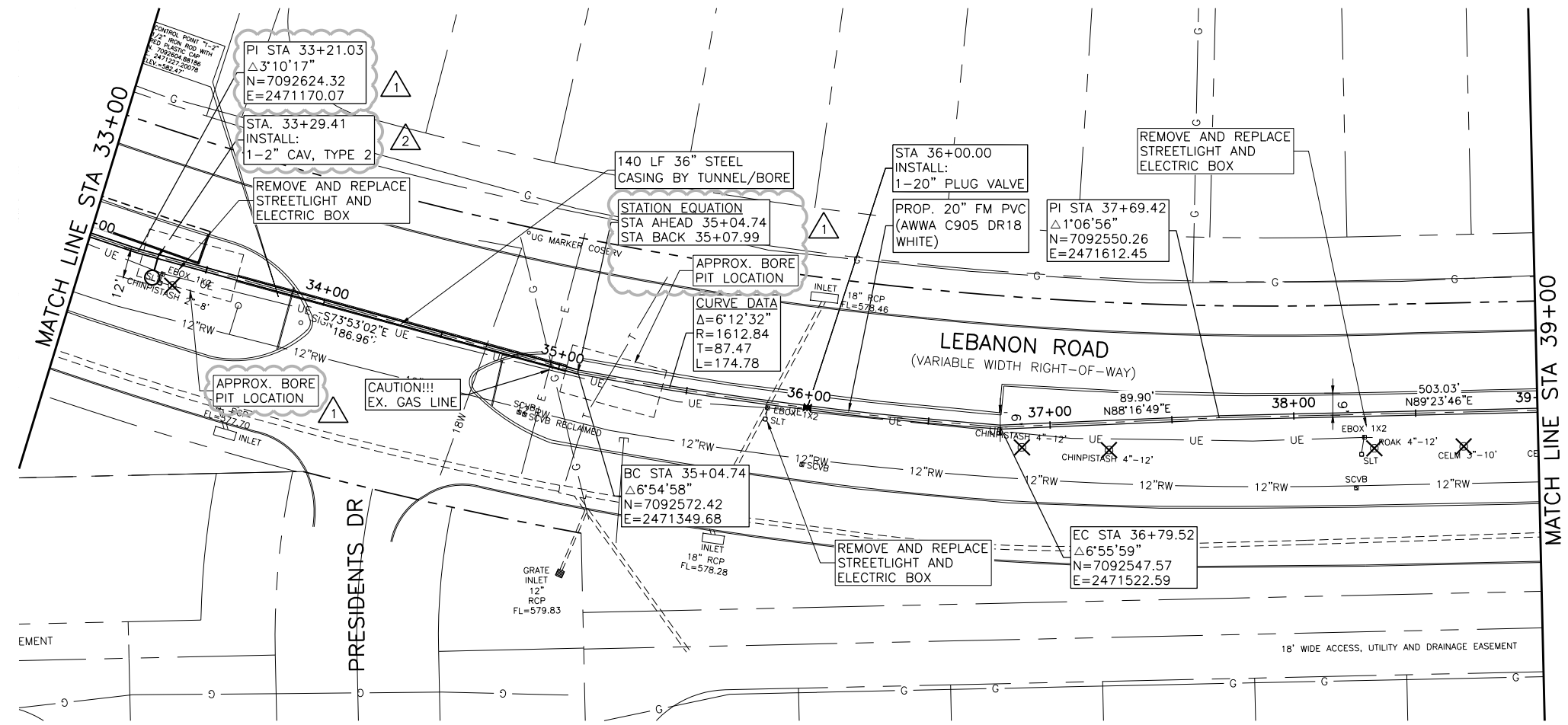
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|     |       |      |    |      | MAY 2017  |          |         |                |
|     |       |      |    |      | CCB       | 06/02/17 | CCB     |                |
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ADDENDUM NO. 3  
 ADDENDUM NO. 1  
 VERIFY SCALE

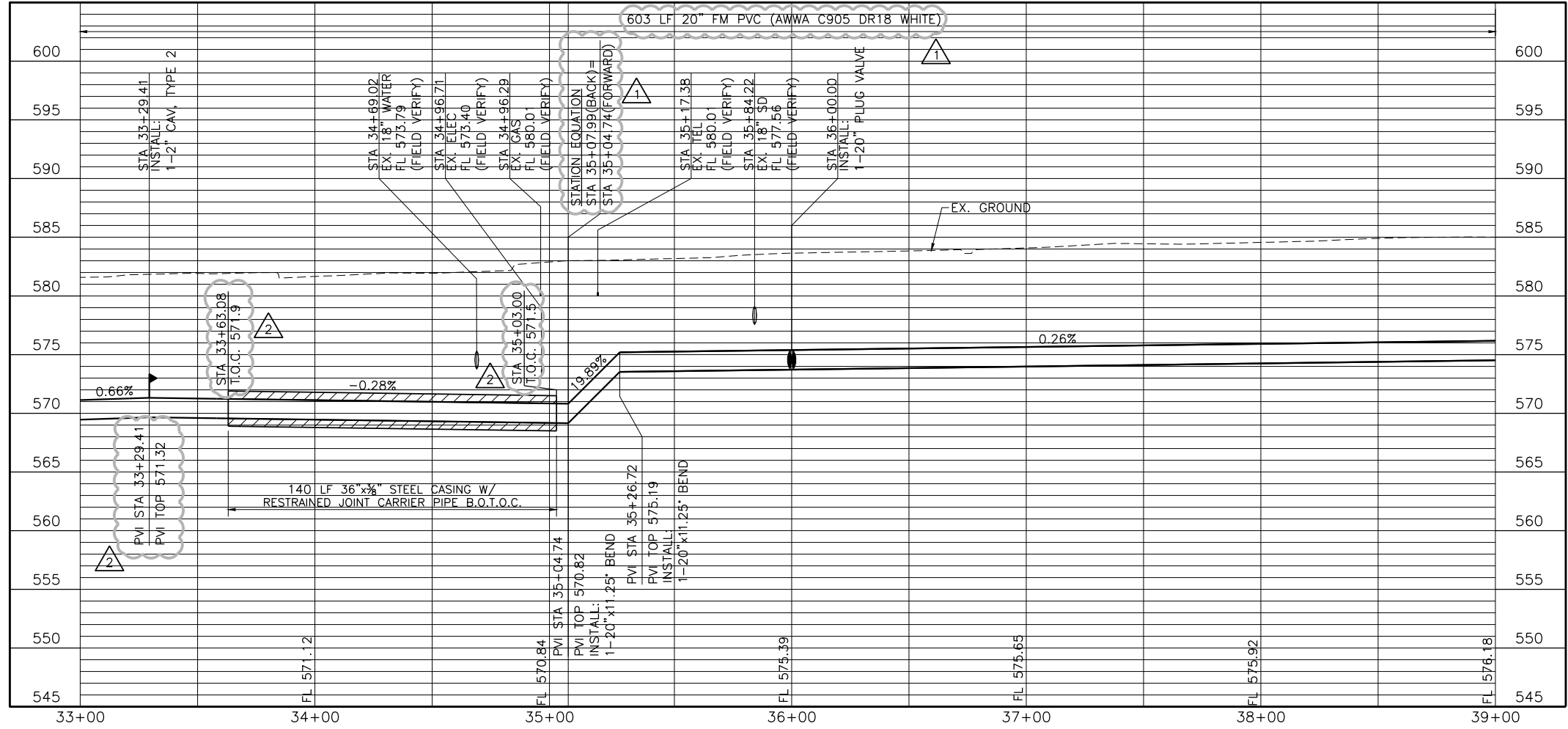
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 Texas Registered Engineering Firm F-2144  
  
 Clayton C. Barnard

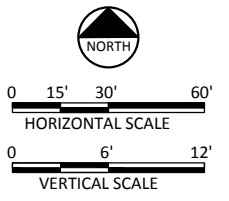
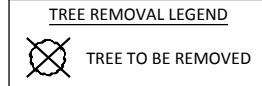
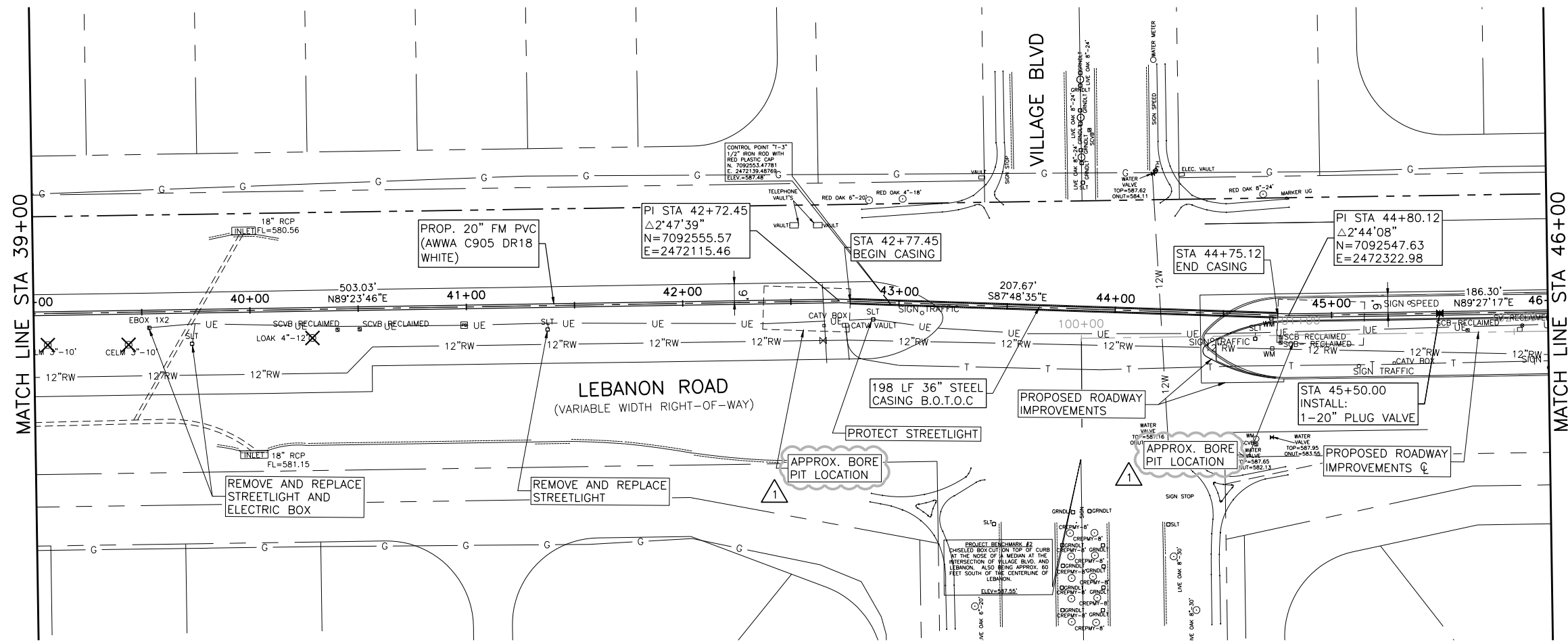
**FRESE NICHOLS**  
 5805 Main Street, Suite B  
 Frisco, Texas 75034  
 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
 Web - www.freese.com

CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS  
 AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE  
 STA 33+00 TO STA 39+00**

|                |       |     |          |             |          |          |          |                 |
|----------------|-------|-----|----------|-------------|----------|----------|----------|-----------------|
| NO.            | ISSUE | BY  | DATE     | FRN JOB NO. | DATE     | DESIGNED | REVIEWED | FILE NAME       |
|                |       |     |          | FRC15624    | MAY 2017 | CCB      | LMR      | CV-PPL-PP-FM-10 |
| ADDENDUM NO. 3 |       | CCB | 06/02/17 | DESIGNED    | REVIEWED | CCB      | LMR      |                 |
| ADDENDUM NO. 1 |       | CCB | 05/22/17 | DRAWN       | CHECKED  | CCB      | LMR      |                 |
| VERIFY SCALE   |       |     |          |             |          |          |          |                 |
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| 1              |       |     |          |             |          |          |          |                 |

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

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**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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| Station  | Profile Description  | Elevation (ft) |
|----------|--|----------------|
| 39+00    | 700 LF 20" FM PVC (AWWA C905 DR18 WHITE)                                   | 550            |
| 40+00    | EX. GROUND   | 555            |
| 41+00    | EX. GROUND   | 560            |
| 42+00    | EX. GROUND   | 565            |
| 43+00    | EX. GROUND   | 570            |
| 44+00    | EX. GROUND   | 575            |
| 45+00    | EX. GROUND   | 580            |
| 46+00    | EX. GROUND   | 585            |
| 42+77.45 | 198 LF 36" x 3/8" STEEL CASING W/ RESTRAINED JOINT CARRIER PIPE B.O.T.O.C. | 577.24         |
| 44+75.12 | 198 LF 36" x 3/8" STEEL CASING W/ RESTRAINED JOINT CARRIER PIPE B.O.T.O.C. | 578.4          |
| 45+50.00 | 1-20" PLUG VALVE   | 582.32         |

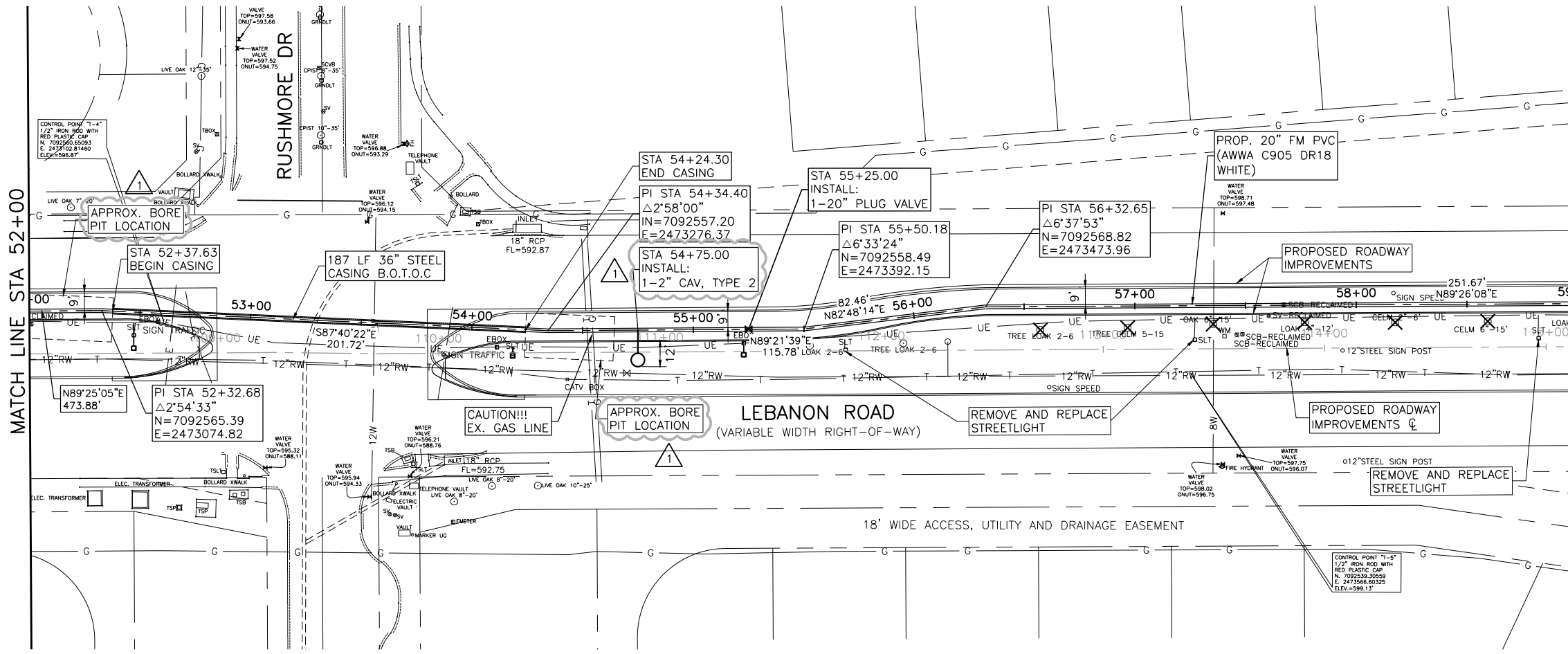
Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144  
  
 Clayton C. Barnard  
 6/2/2017

**FREES NICHOLS**  
 5805 McInnis Street, Suite B  
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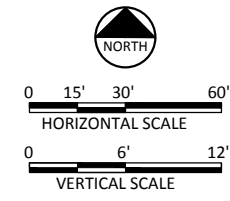
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
 STA 39+00 TO STA 46+00

| NO. | ISSUE          | DATE | BY  | DATE     | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME       |
|-----|----------------|------|-----|----------|----------|-------|----------|---------|-----------------|
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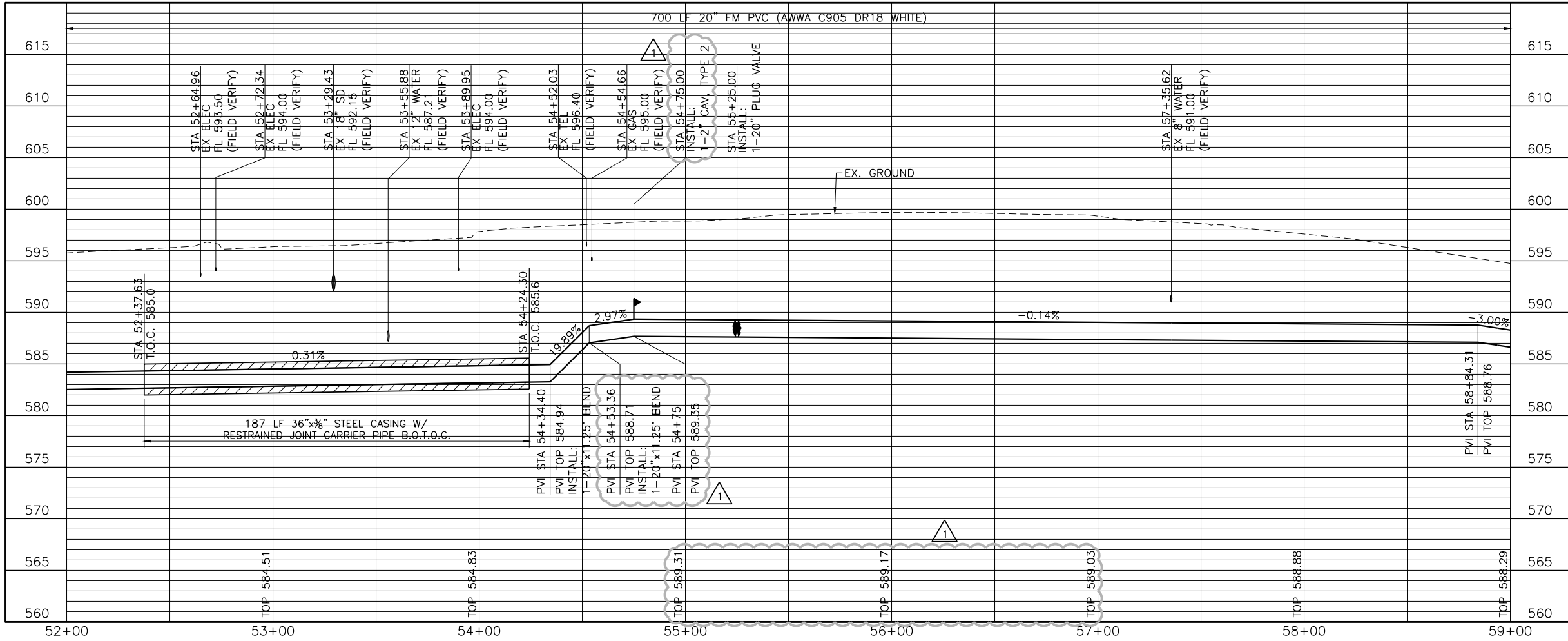
**TREE REMOVAL LEGEND**  
 TREE TO BE REMOVED



**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144  
  
 Clayton L.C. Barnard  
 103415  
 PROFESSIONAL ENGINEER  
 State of Texas  
 Expires 6/2/2017  
 Clifford C. Barnard

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 Frisco, Texas 75034  
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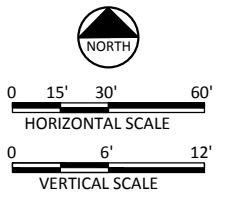
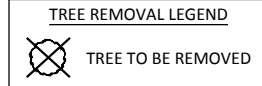
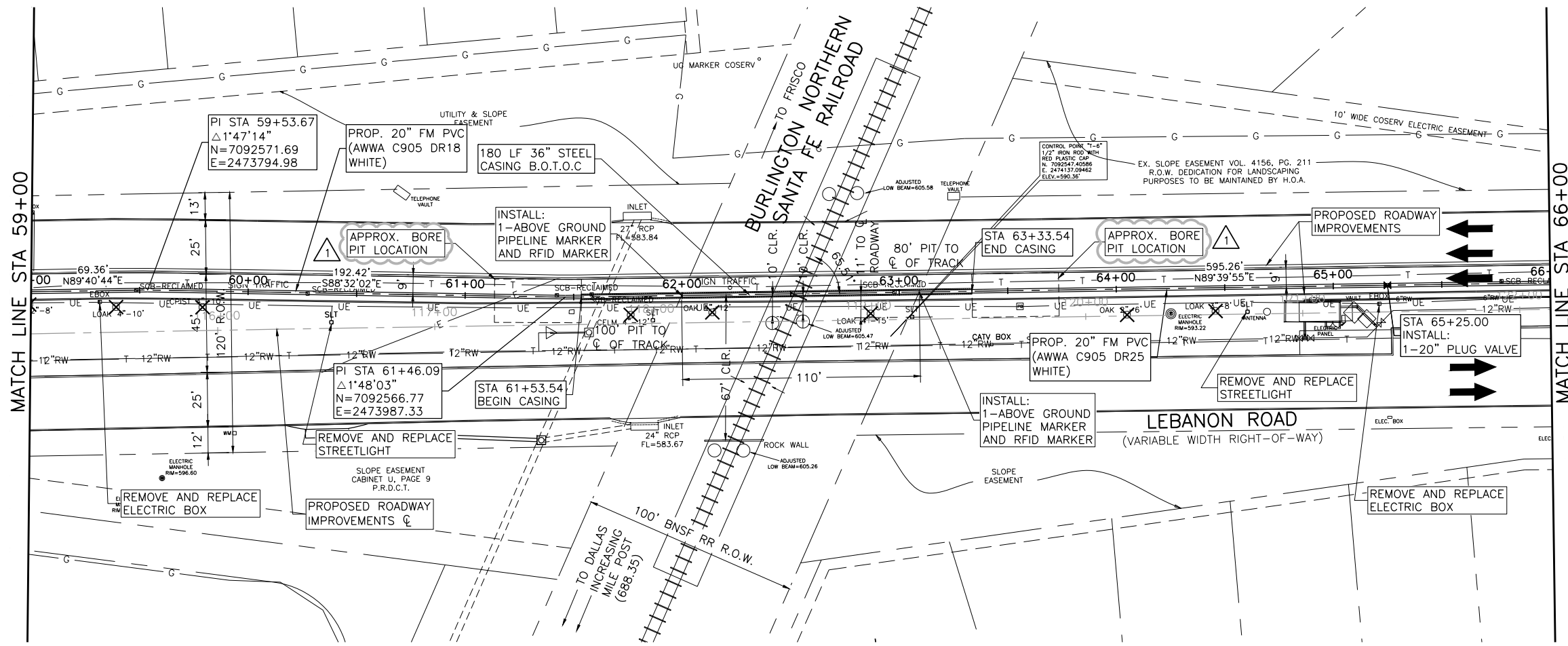
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 52+00 TO STA 59+00**

| NO. | ISSUE          | BY | DATE     | FRM JOB NO. | DATE     | DESIGNED | REVIEWED | LMR | CHECKED | CCB |
|-----|----------------|----|----------|-------------|----------|----------|----------|-----|---------|-----|
| 0   | ADDENDUM NO. 3 | CB | 06/01/17 | FRC15624    | MAY 2017 |          |          |     |         |     |

Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale.

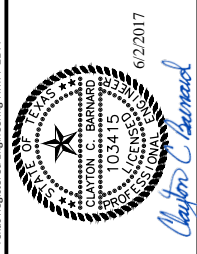
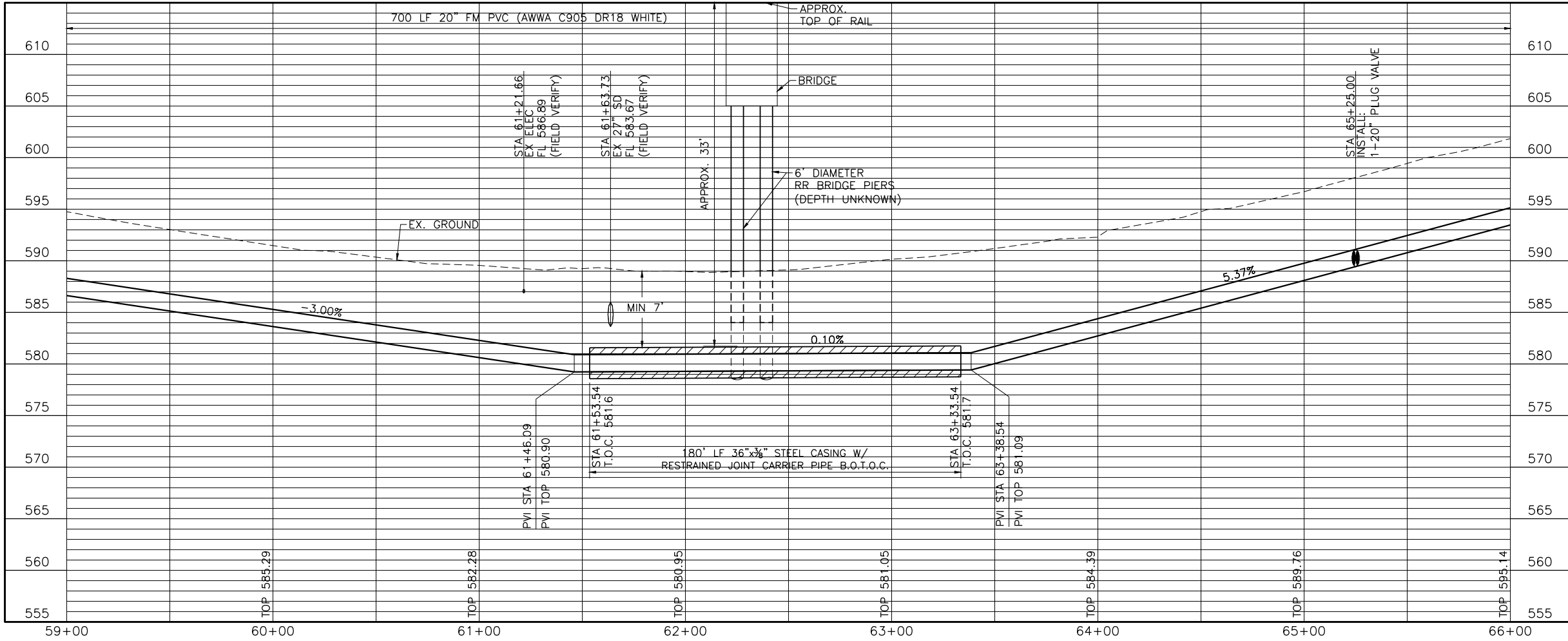
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**CAUTION!!!**  
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  - NO UNPROTECTED TRENCHES OR PITS ARE ALLOWED OVERNIGHT. AT THE CONCLUSION OF EACH WORK DAY, CONTRACTOR SHALL PLACE PROTECTIVE STEEL PLATES OVER BORE PITS UNTIL THE PIPELINE REACHES THE BORE PIT LOCATION FOR THE PIPE INSTALLATION.
  - PRIOR TO COMMENCING ANY WORK WITH IN THE BNSF RR R.O.W., THE CONTRACTOR SHALL COMPLETE THE REQUIRED SAFETY TRAINING PROGRAM AT [HTTP://WWW.CONTRACTORORIENTATION.COM](http://www.contractororientation.com), NO MORE THAN ONE YEAR IN ADVANCE OF THE CONTRACTOR'S ENTRY ON THE BNSF RR R.O.W.
  - THE CONTRACTOR SHALL CALL 1-800-533-2891 TO ARRANGE FOR A BNSF UNDERGROUND CABLE LOCATOR. BNSF FORM "UNDERGROUND CABLE LOCATION & ACKNOWLEDGEMENT" WILL BE COMPLETED BY A BNSF REPRESENTATIVE AND COPY PROVIDED TO THE CONTRACTOR. THE CONTRACTOR MUST HAVE THIS COMPLETED FORM IN POSSESSION AT THE JOBSITE AT ALL TIMES.
  - CONTRACTOR SHALL COMPLY WITH ALL BNSF PERMIT REQUIREMENTS (APPENDIX B OF THE PROJECT MANUAL).
  - CONTRACTOR SHALL REPLACE EXISTING UNDERGROUND ELECTRICAL CONDUIT AND WIRE ASSOCIATED WITH THE STREET LIGHTS AS NECESSARY. THE REPLACEMENT CONDUIT AND WIRE SHALL MATCH THE EXISTING SIZE. IF EXISTING WIRE IS DAMAGED NEW WIRE SHALL BE RAN FROM STREET LIGHT TO STREET LIGHT WITH NO SPLICING ALLOWED. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE FORCE MAIN.

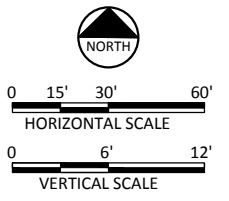
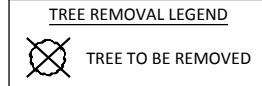
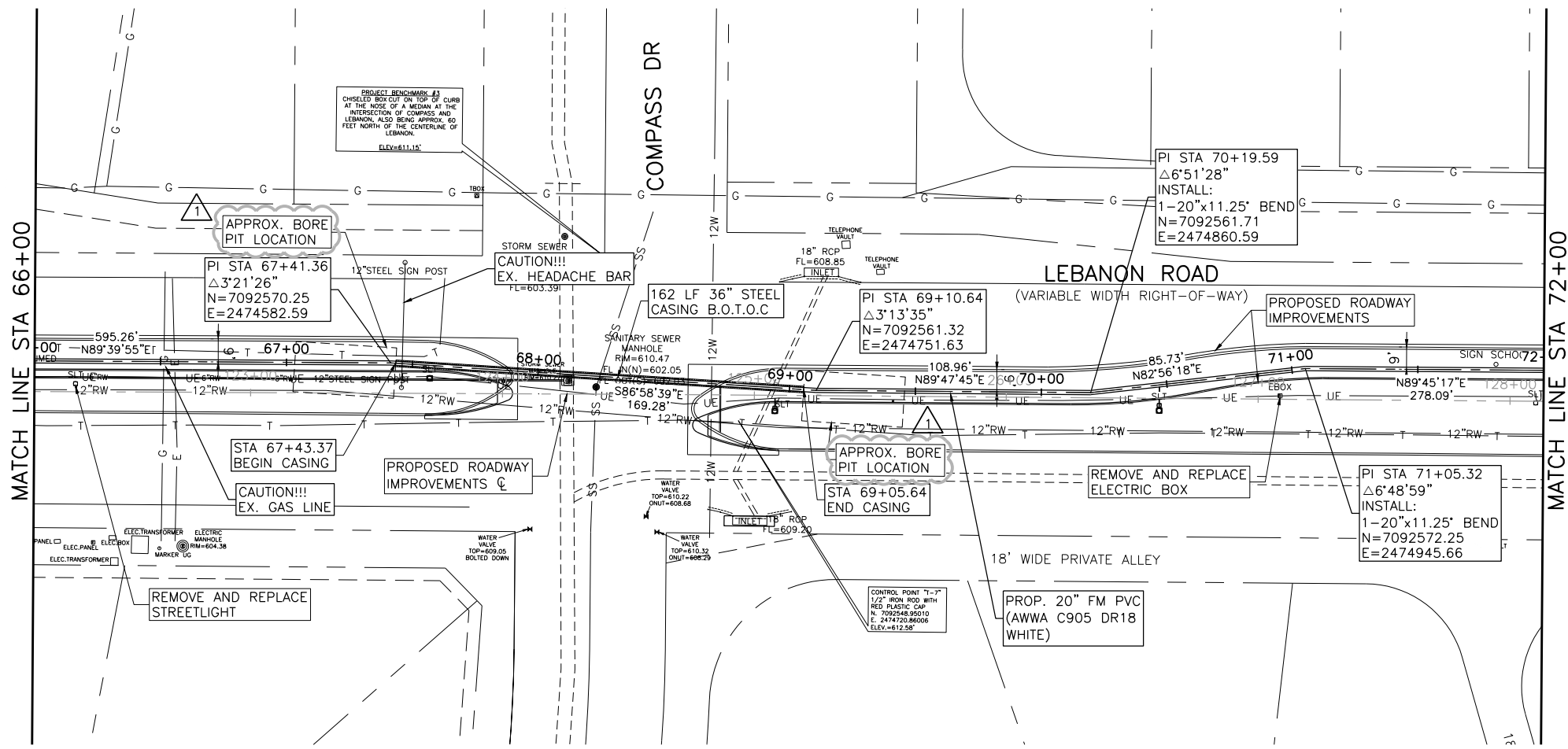


**FRESE NICHOLS**  
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Web - www.frese.com

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN CIVIL**  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 59+00 TO STA 66+00**

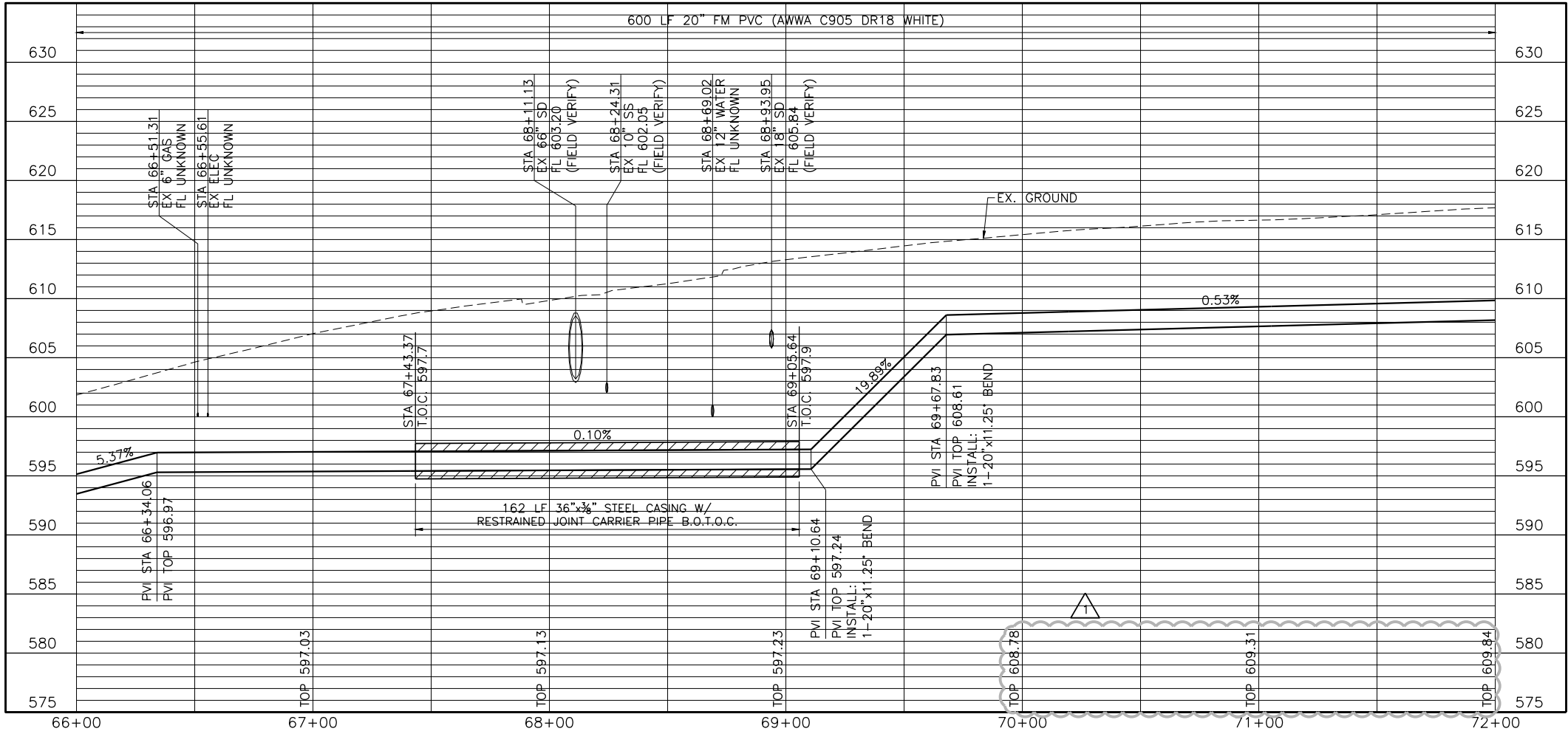
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**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

Clayton C. Barnard  
 6/2/2017

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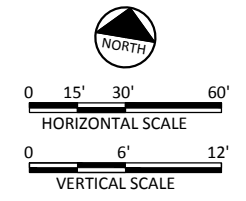
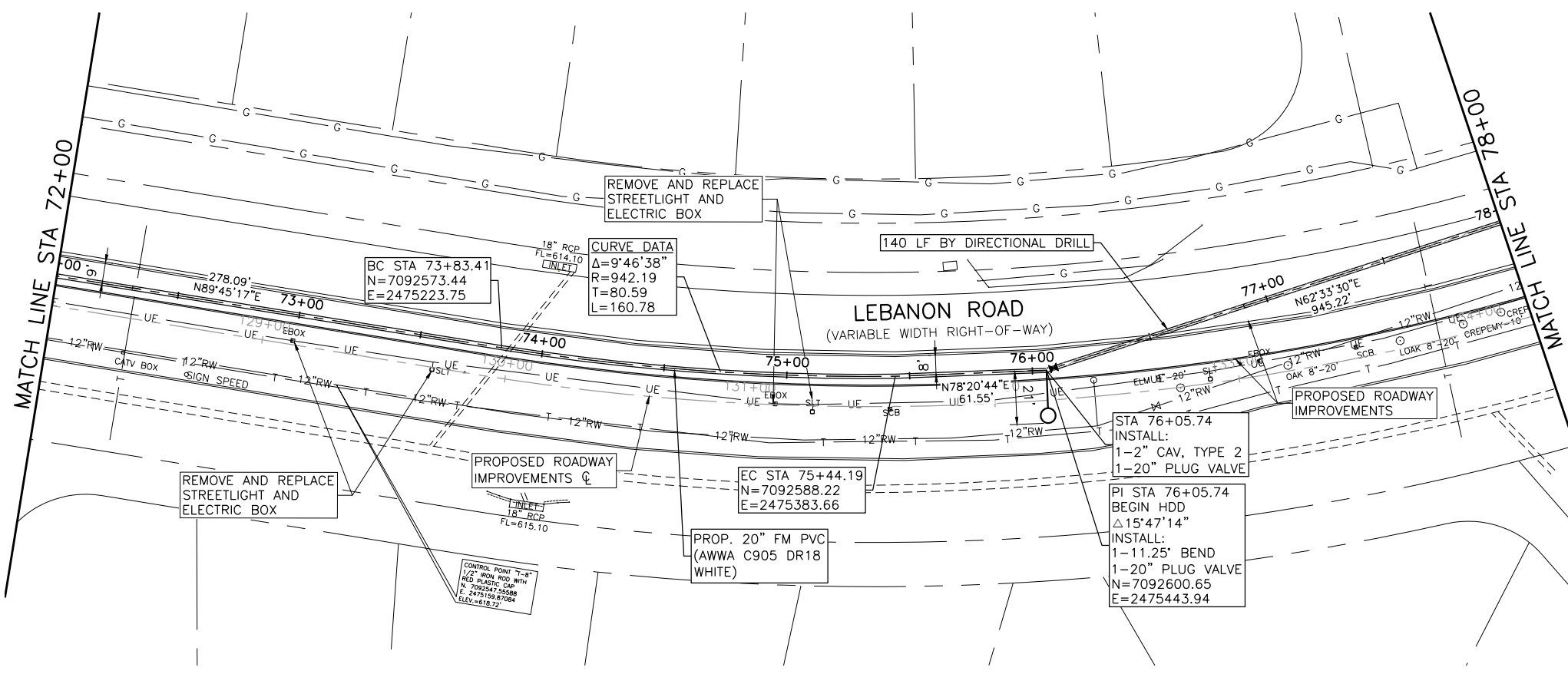
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 66+00 TO STA 72+00**

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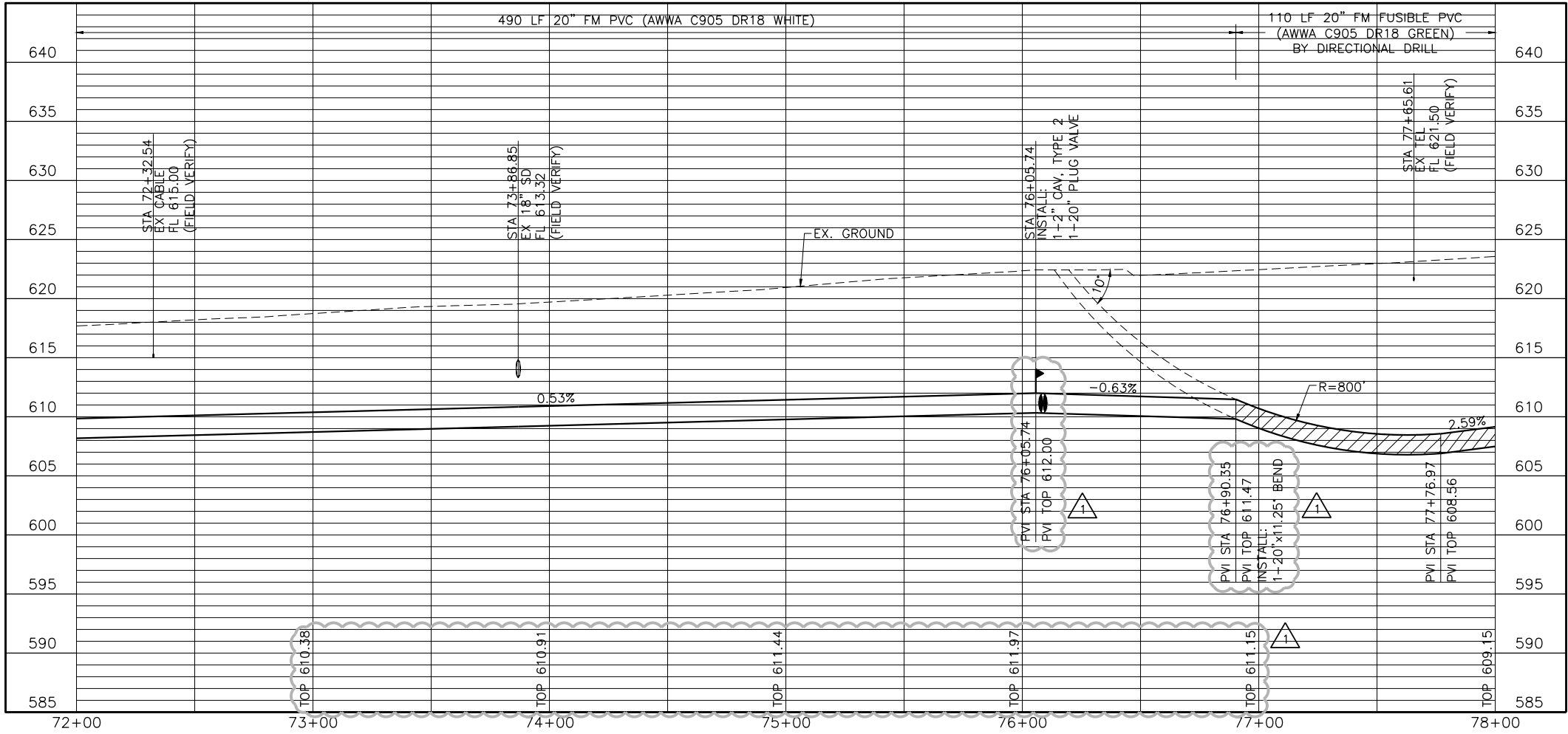



**TREE REMOVAL LEGEND**  
 TREE TO BE REMOVED



**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144  
  
 Clayton C. Barnard  
 6/2/2017

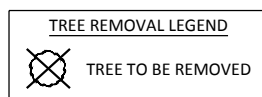
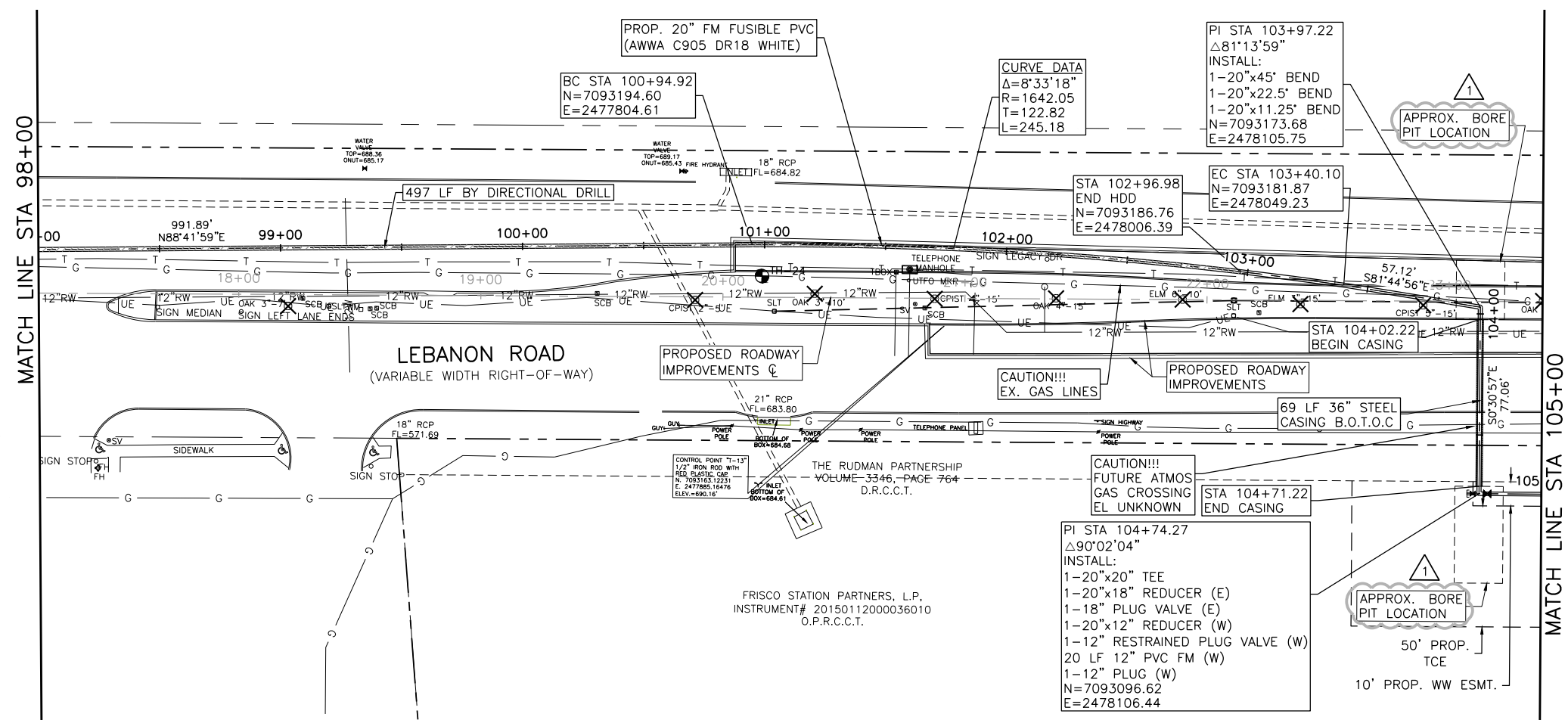
**FRESE NICHOLS**  
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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 72+00 TO STA 78+00**

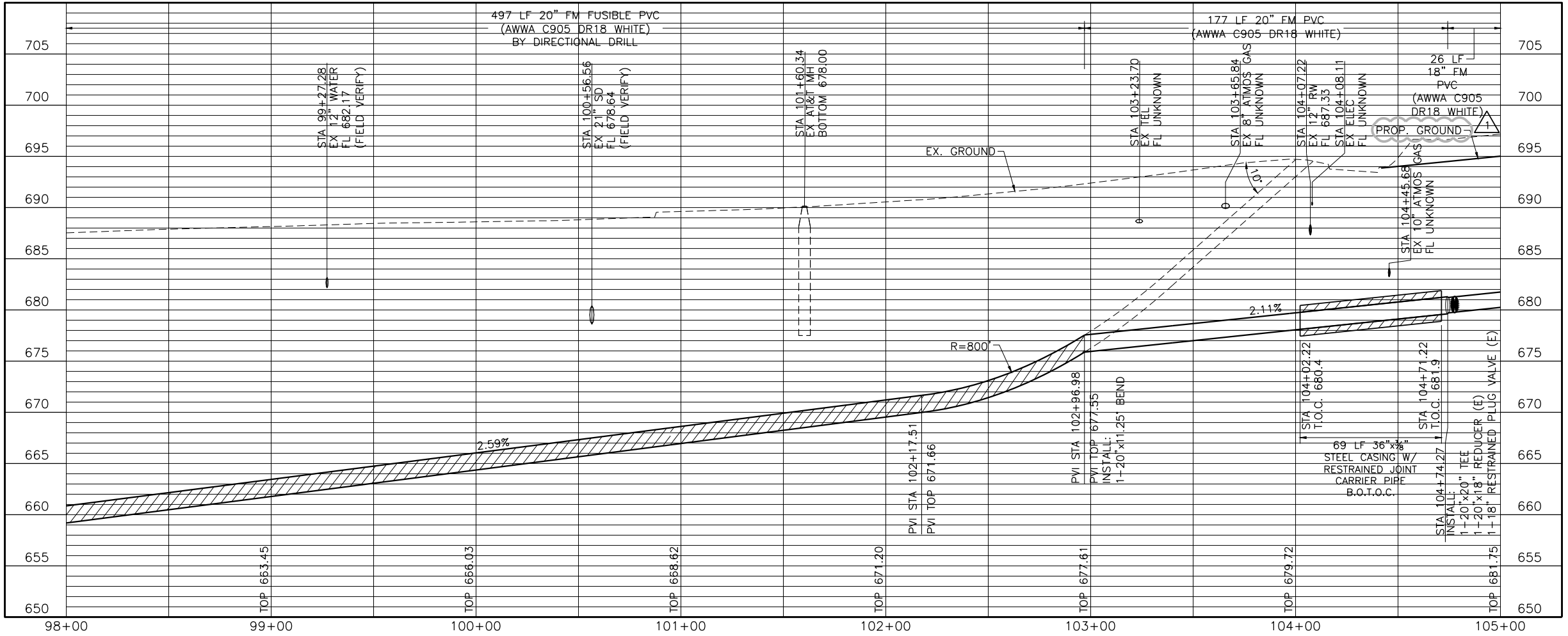
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- NOTES:**
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  - THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
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Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144  
 1034 IS  
 CLAYTON C. BARNARD  
 PROFESSIONAL ENGINEER  
 6/2/2017  
 Clayton C. Barnard

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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 98+00 TO STA 105+00**

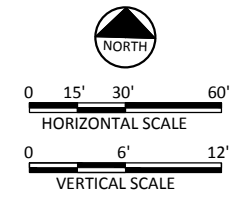
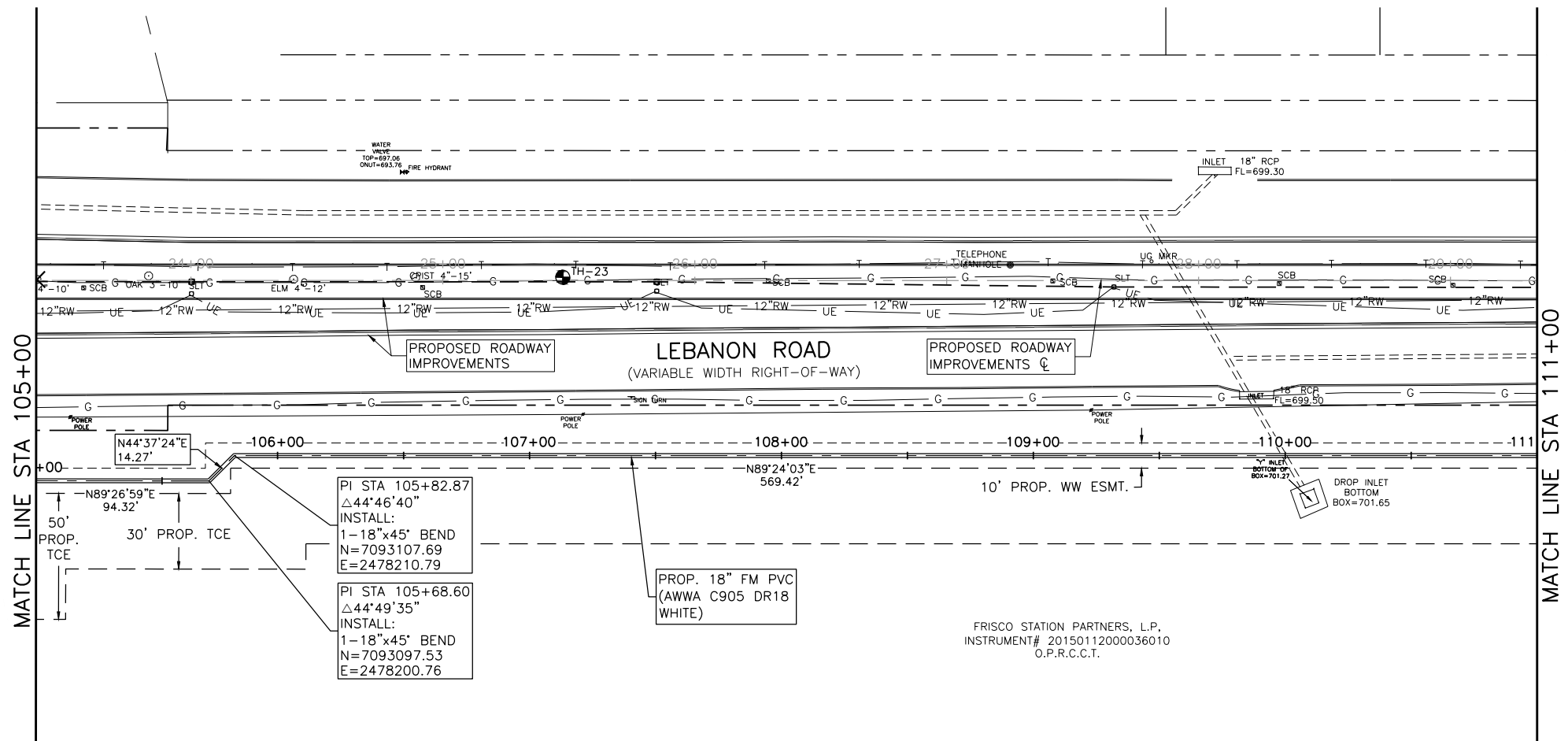
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ADDENDUM NO. 3  
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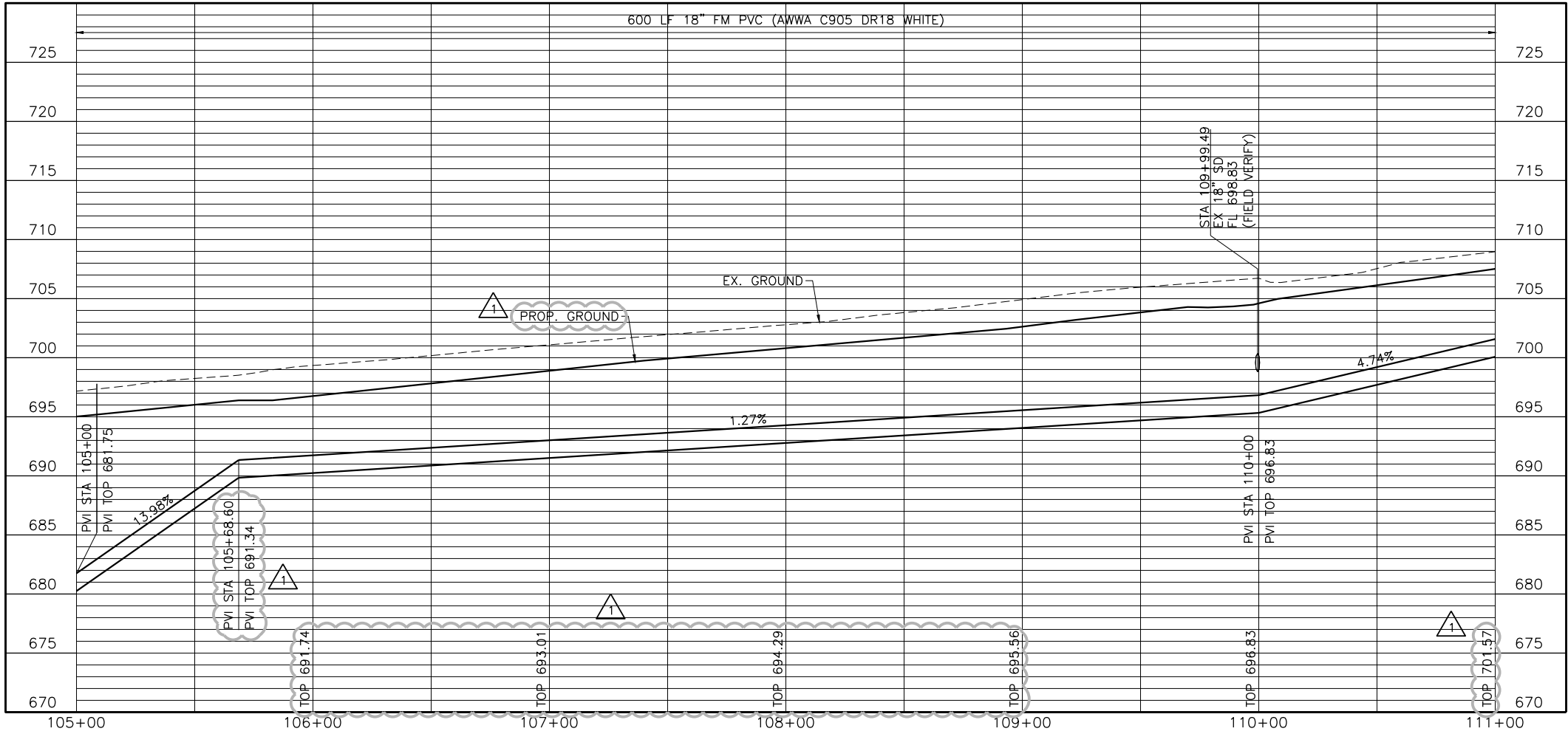
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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS  
AND FORCE MAIN**  
CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
STA 105+00 TO STA 111+00



- NOTES:**
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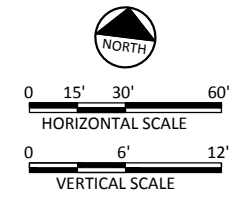
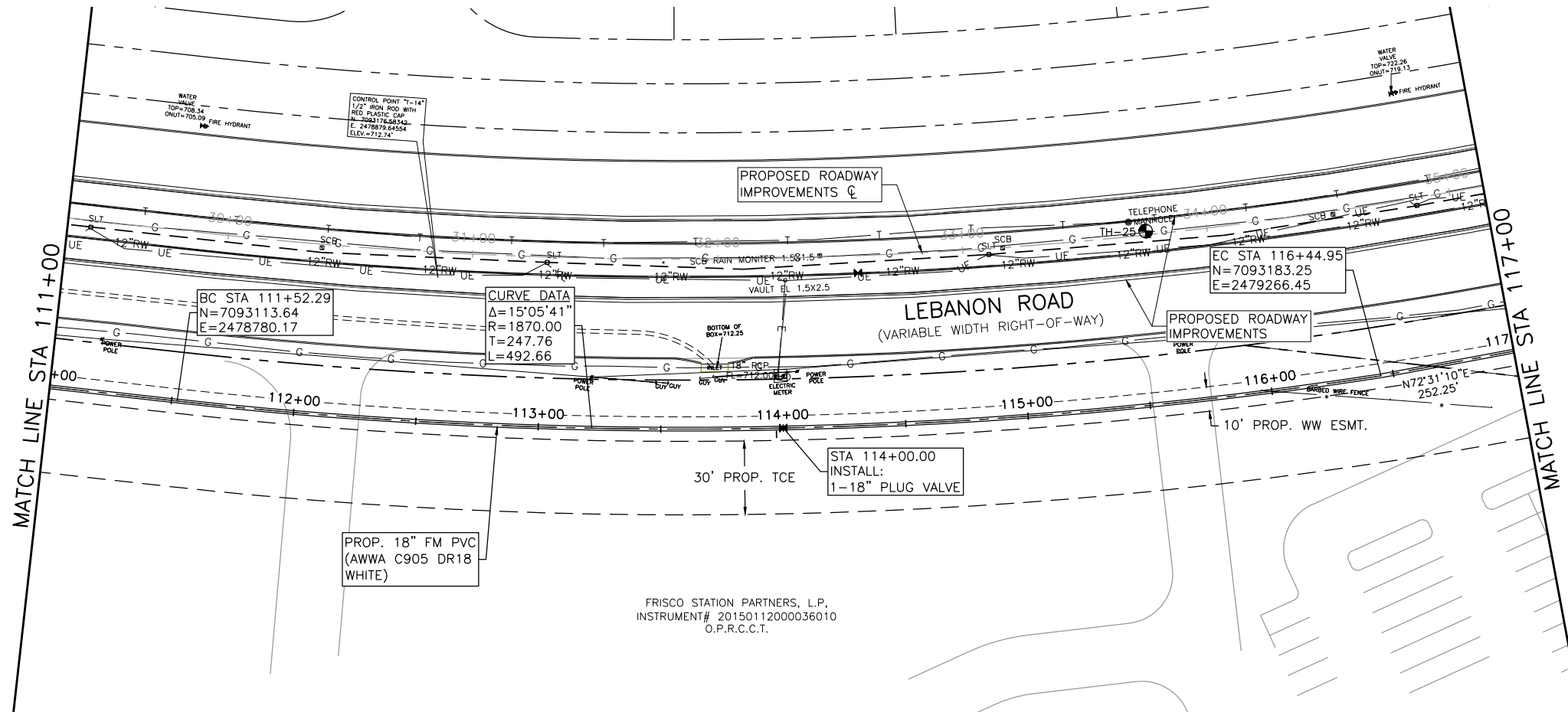
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Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

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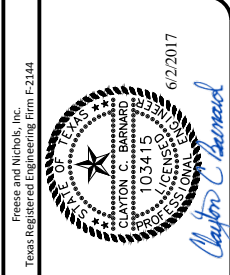
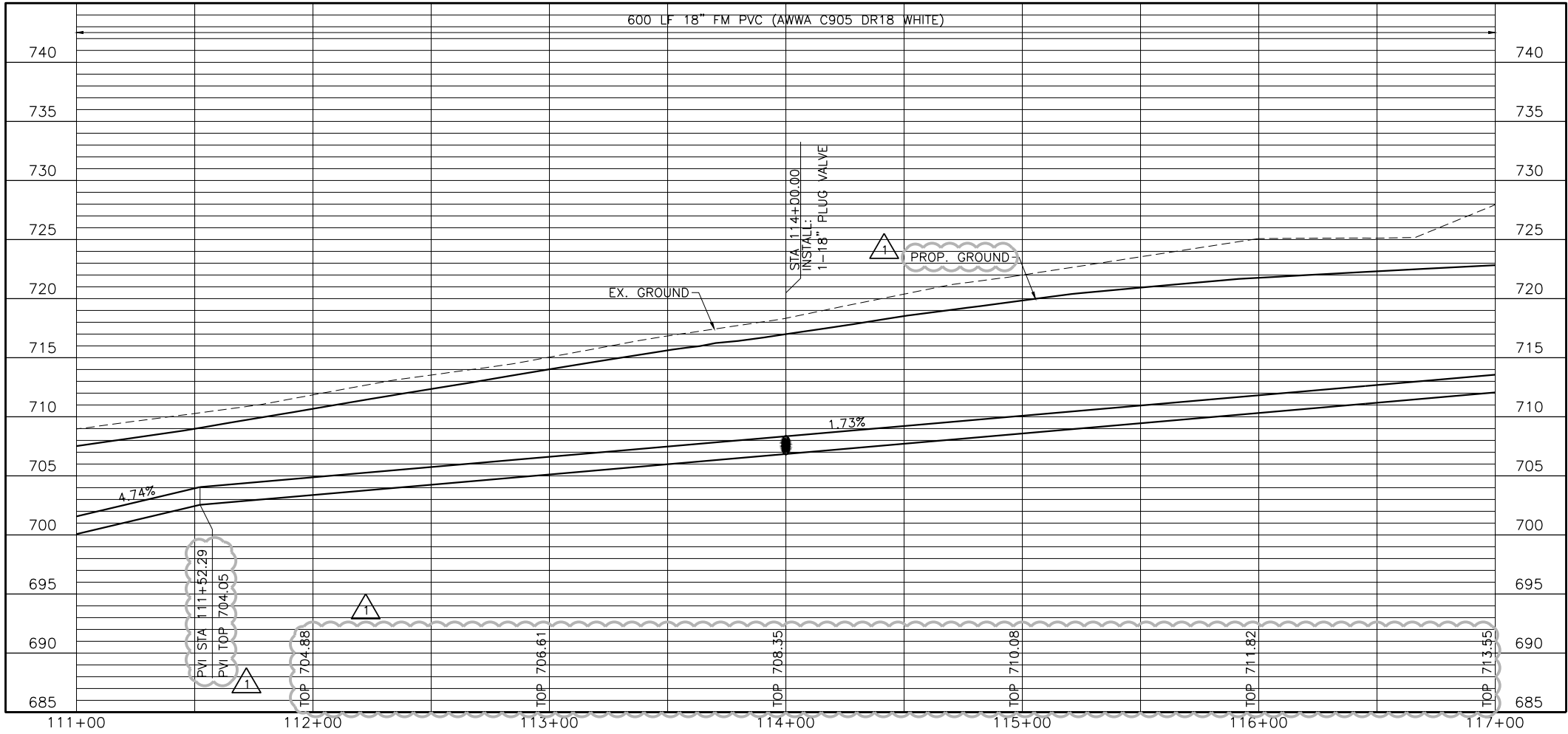
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SEQ: 28



**CAUTION!!!**  
EXISTING UNDERGROUND AND  
OVERHEAD UTILITIES IN THE AREA.  
48 HOURS PRIOR TO  
CONSTRUCTION CONTACT  
1-800-DIG-TESS

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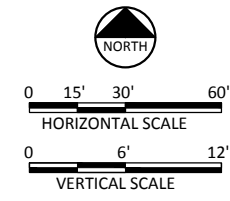
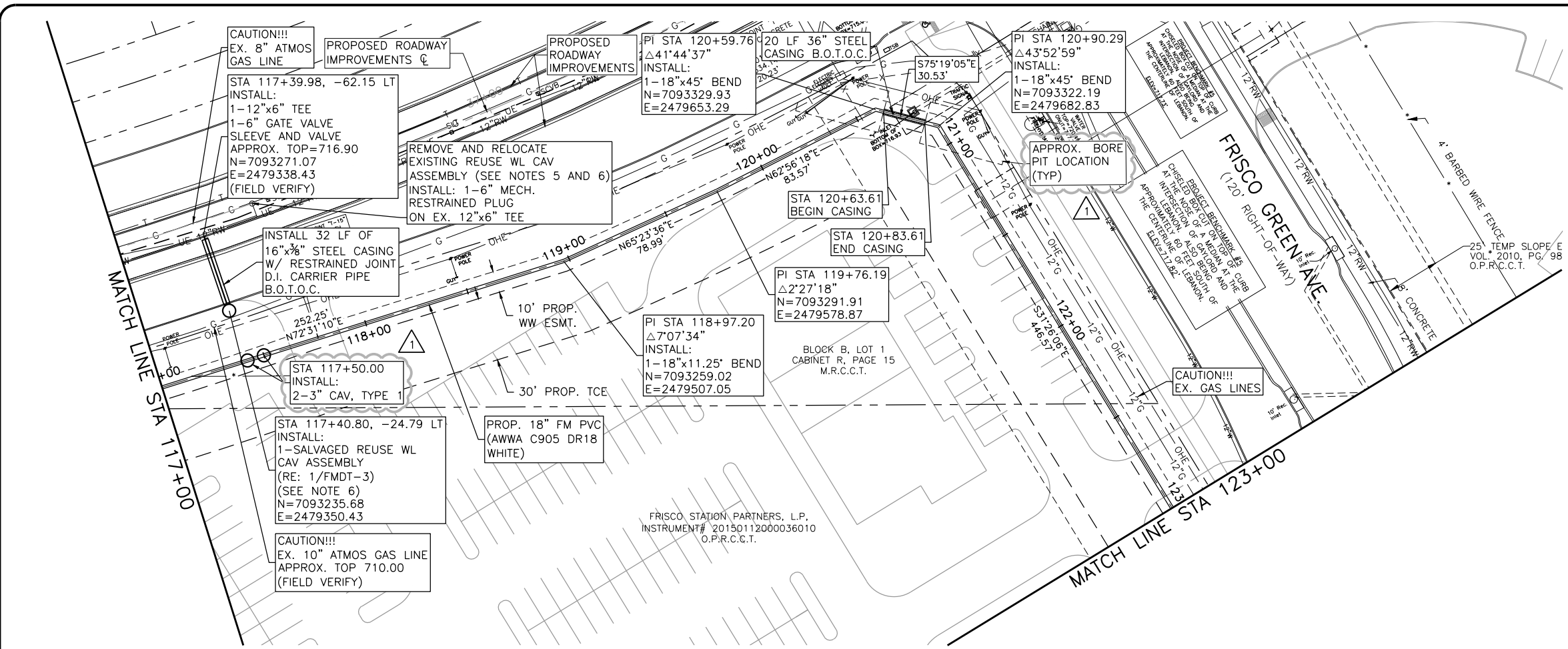


**FREES & NICHOLS**  
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CITY OF FRISCO, TEXAS  
LEBANON ROAD IMPROVEMENTS  
AND FORCE MAIN  
CIVIL  
FORCE MAIN LINE A PLAN AND PROFILE  
STA 111+00 TO STA 117+00

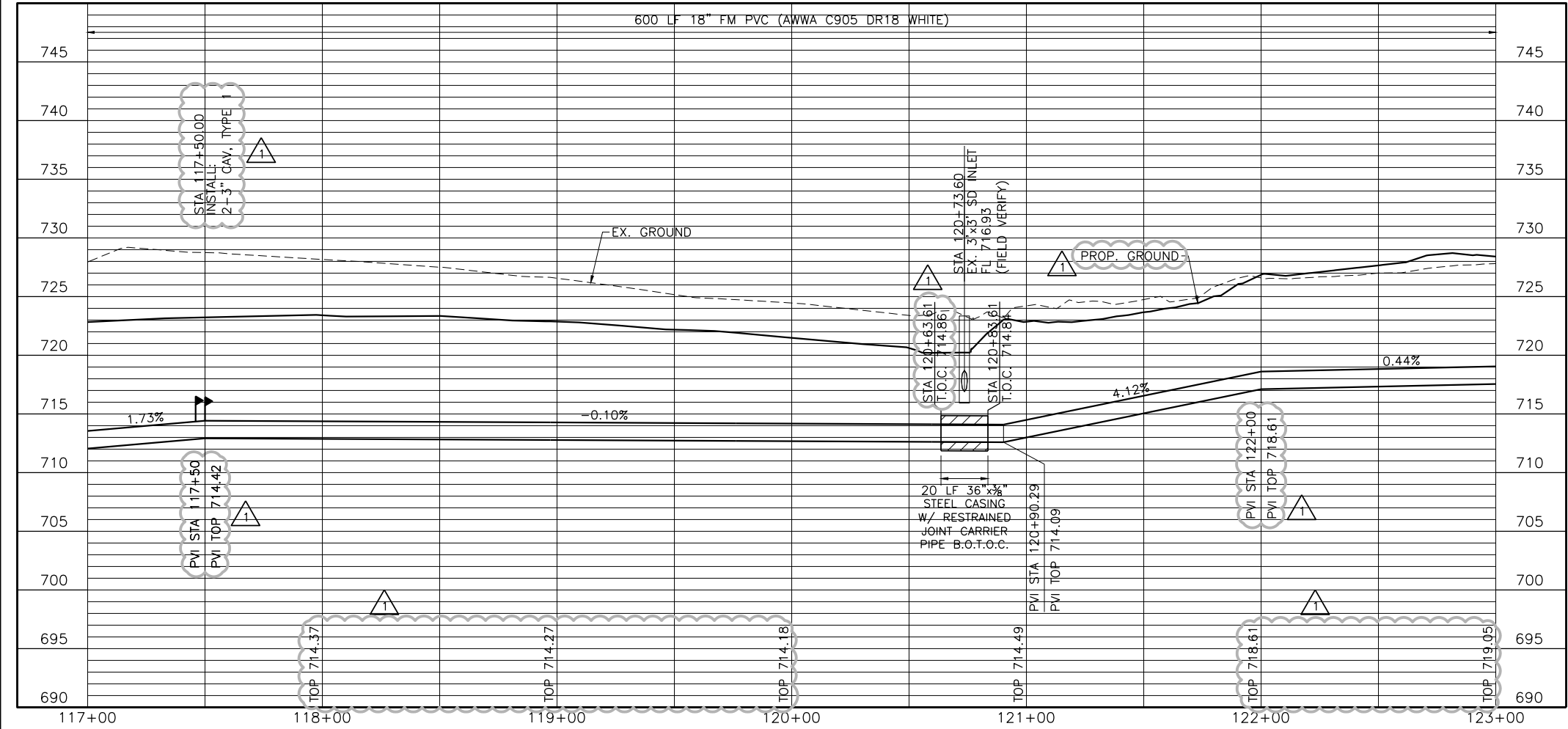
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| 1   | ADDENDUM NO. 3 |     |          |             |          |          |          |         |                 |

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.



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  - CONTRACTOR SHALL CONTACT LANCE JONES (CITY OF FRISCO) AT (972) 292-5823 TO COORDINATE CONNECTION TO THE REUSE WL. DECHLORINATION OF REUSE WL IS NOT REQUIRED.
  - REUSE ARV MANHOLE RIM SHALL BE INSTALLED AT GRADE OF EXISTING GROUND.



Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

Clayton C. Barnard  
Professional Engineer

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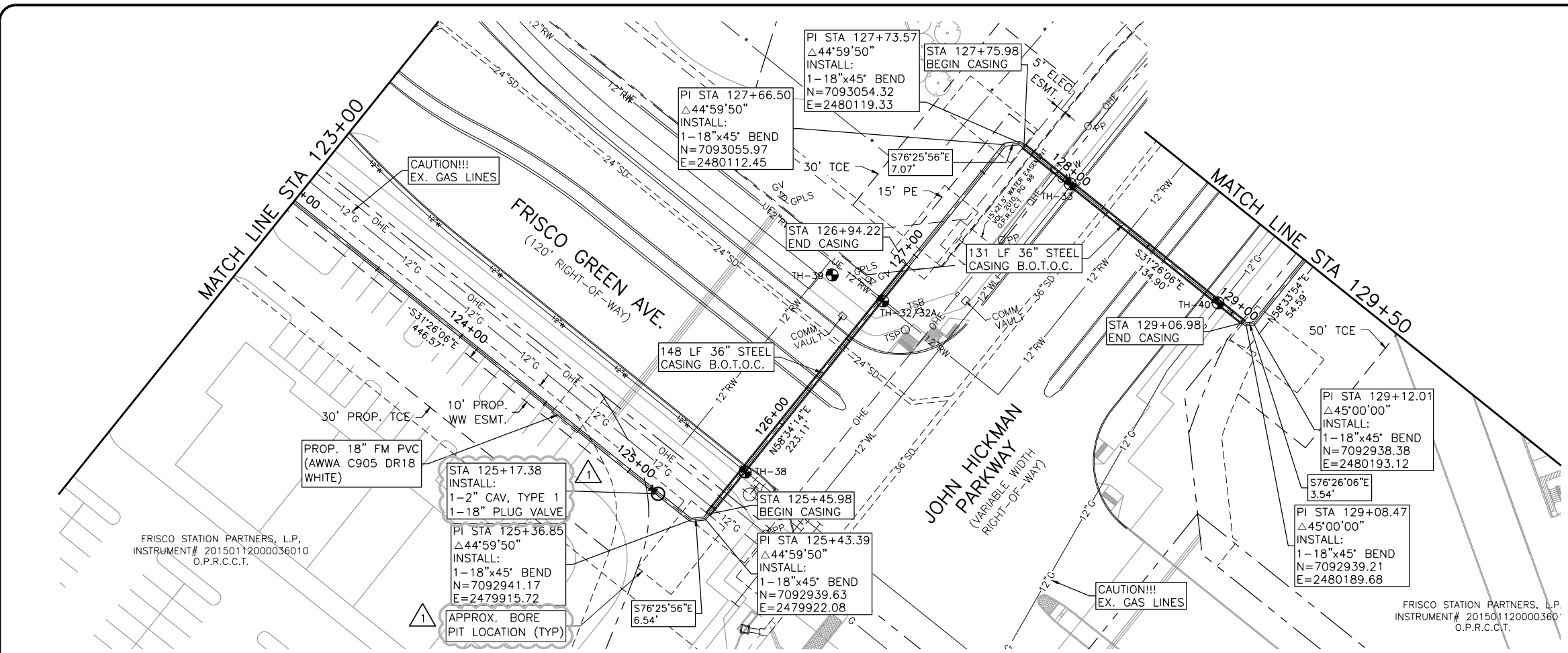
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS  
AND FORCE MAIN**  
CVIL  
**FORCE MAIN LINE A PLAN AND PROFILE  
STA 117+00 TO STA 123+00**

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|  |       |       |          | DATE        | MAY 2017        |
|  |       |       |          | DESIGNED    | REE             |
|  |       |       |          | DRAWN       | LMR             |
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| Bar: is one inch on original drawing, if not one inch on this sheet, adjust scale. |       |       |          |             |                 |
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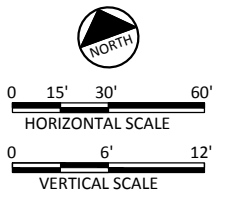


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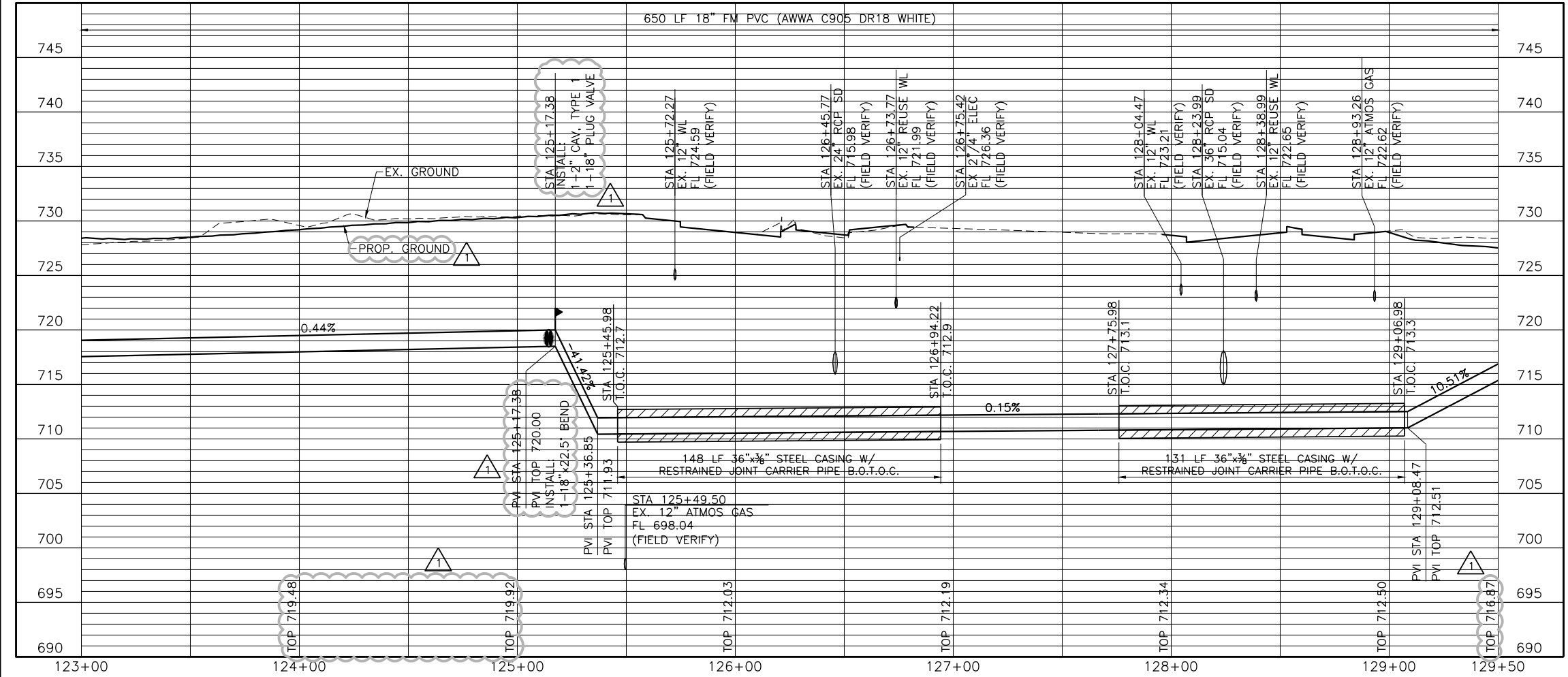
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FRISCO STATION PARTNERS, L.P.  
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 O.P.R.C.C.T.



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  - THE FORCE MAIN FROM THE PLUG VALVE AT STA 125+06.42 TO CONNECTION AT STA 145+45.42 AND THE GRAVITY SECTION IN THIS AREA MUST BE SUBSTANTIALLY COMPLETE BY DEC. 15, 2017.



Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

Clayton C. Barnard  
 PROFESSIONAL ENGINEER  
 6/2/2017

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 Web - www.freese.com

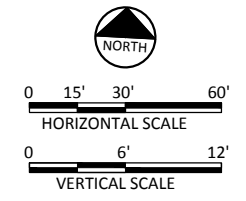
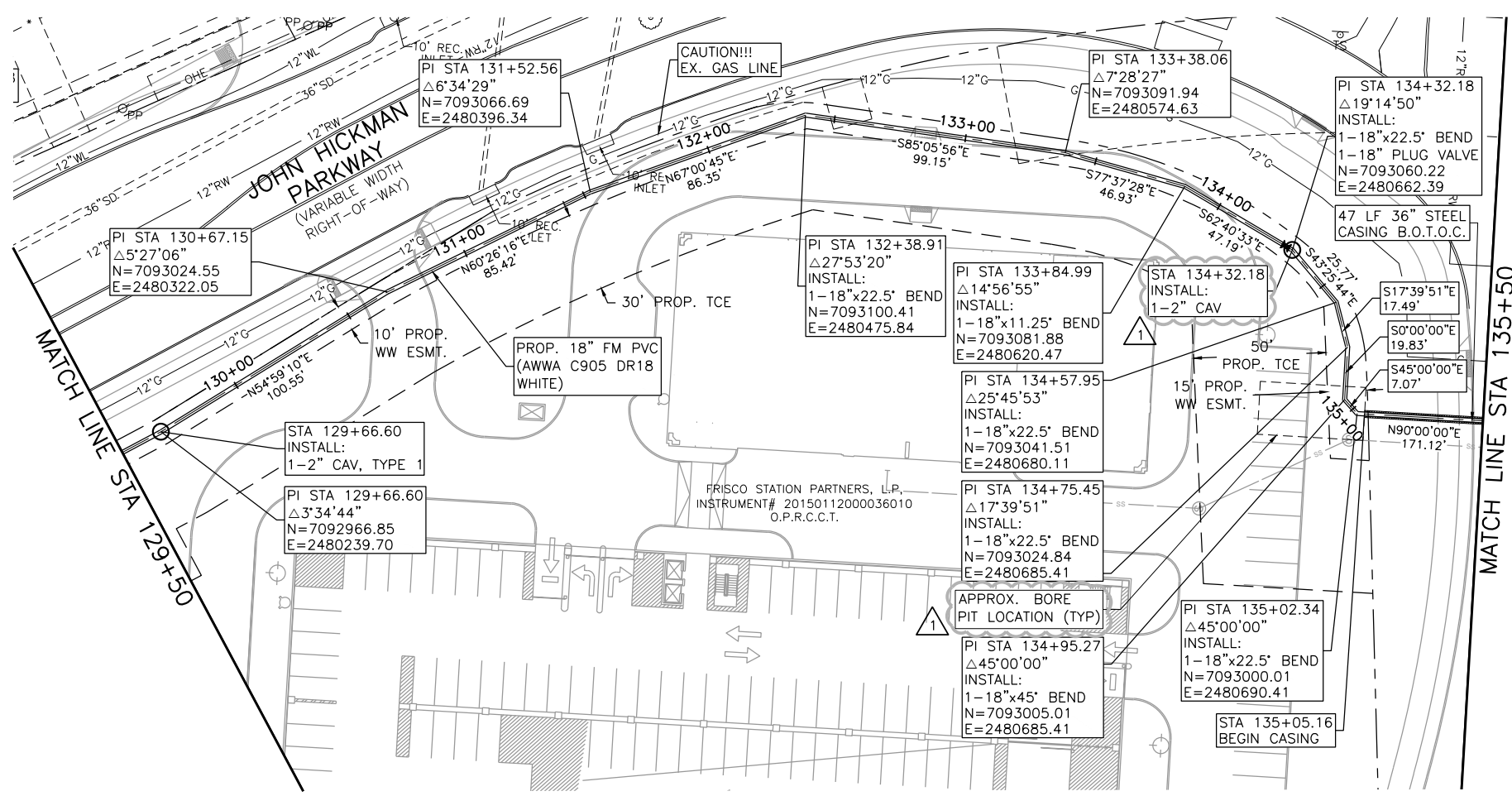
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 123+00 TO STA 129+50**

|     |                |     |          |             |          |          |          |          |                 |
|-----|----------------|-----|----------|-------------|----------|----------|----------|----------|-----------------|
| NO. | ISSUE          | BY  | DATE     | FRN JOB NO. | FRN DATE | DESIGNED | DATE     | REVISION | FILE NAME       |
| 1   | ADDENDUM NO. 3 | CCB | 06/02/17 | FR15624     | MAY 2017 | CCB      | 06/02/17 | REVISED  | CV-PPL-PP-FM-24 |
| 2   | ADDENDUM NO. 1 | CCB | 05/22/17 |             |          | CCB      | 05/22/17 | CHECKED  |                 |
| 3   | VERIFY SCALE   |     |          |             |          |          |          |          |                 |

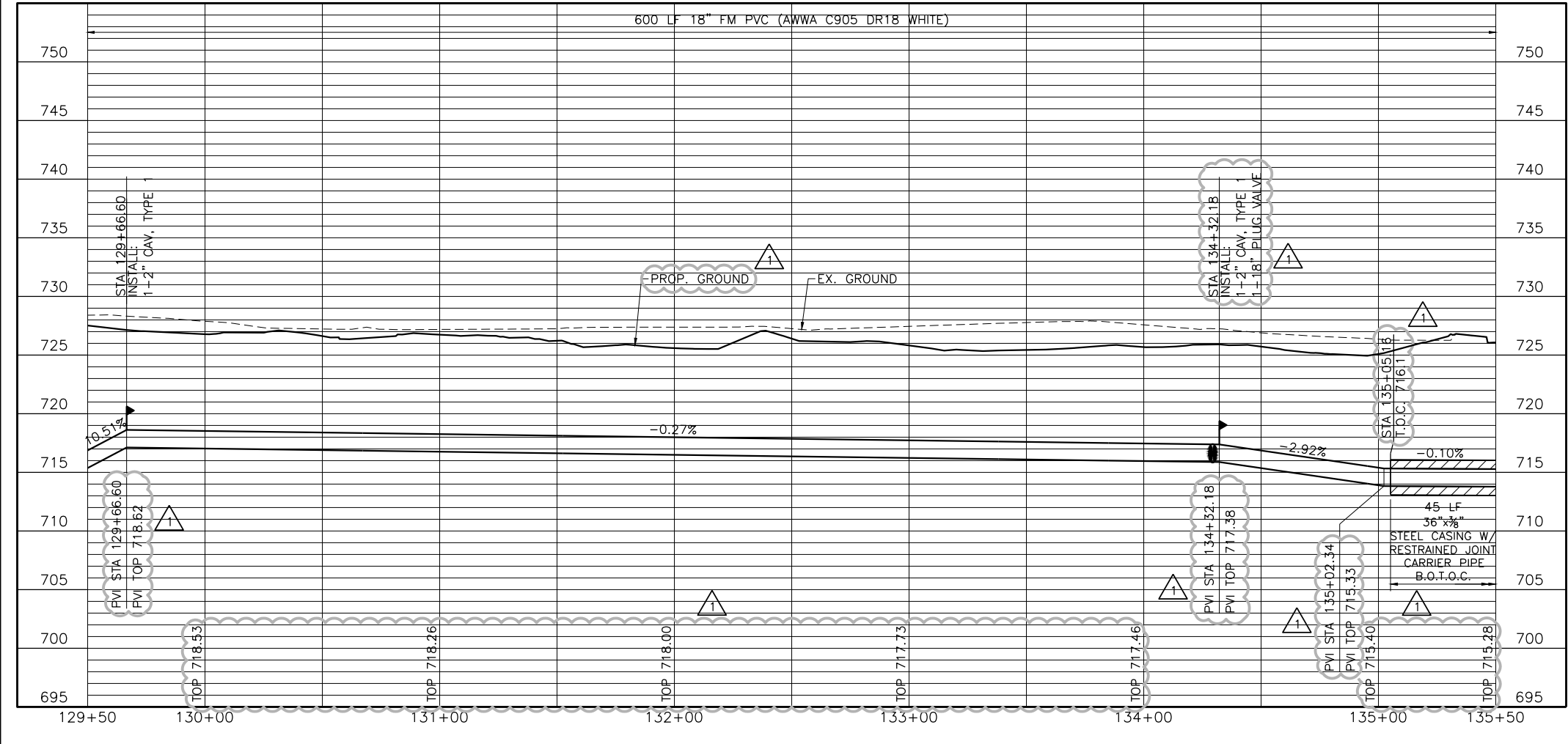
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SHEET **FM-20**

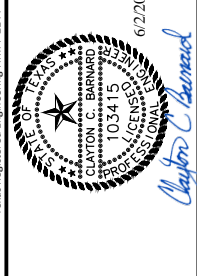
SEQ. 31



- NOTES:**
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
  - CONTRACTOR SHALL REPAIR ALL IRRIGATION LINES DISRUPTED DURING THE PIPE INSTALLATION TO THE PRE-CONSTRUCTION CONDITIONS. THIS SHALL BE SUBSIDIARY TO THE PIPE PRICE.
  - NO UNPROTECTED TRENCHES OR PITS ARE ALLOWED OVERNIGHT. AT THE CONCLUSION OF EACH WORK DAY, CONTRACTOR SHALL PLACE PROTECTIVE STEEL PLATES OVER BORE PITS UNTIL THE PIPELINE CREW REACHES THE BORE PIT LOCATION FOR THE PIPE INSTALLATION.
  - THE FORCE MAIN FROM THE PLUG VALVE AT STA 125+06.42 TO CONNECTION AT STA 145+45.42 AND THE GRAVITY SECTION IN THIS AREA MUST BE SUBSTANTIALLY COMPLETE BY DEC. 15, 2017.



ACAD Ref: 2016 (IMS Tech)  
 Filename: N:\WTU\Drawings\PHASE\FM A\CV-PPL-PP-FM-25.dwg  
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**CITY OF FRISCO, TEXAS**  
**LEBANON ROAD IMPROVEMENTS**  
**AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 129+50 TO STA 135+50**

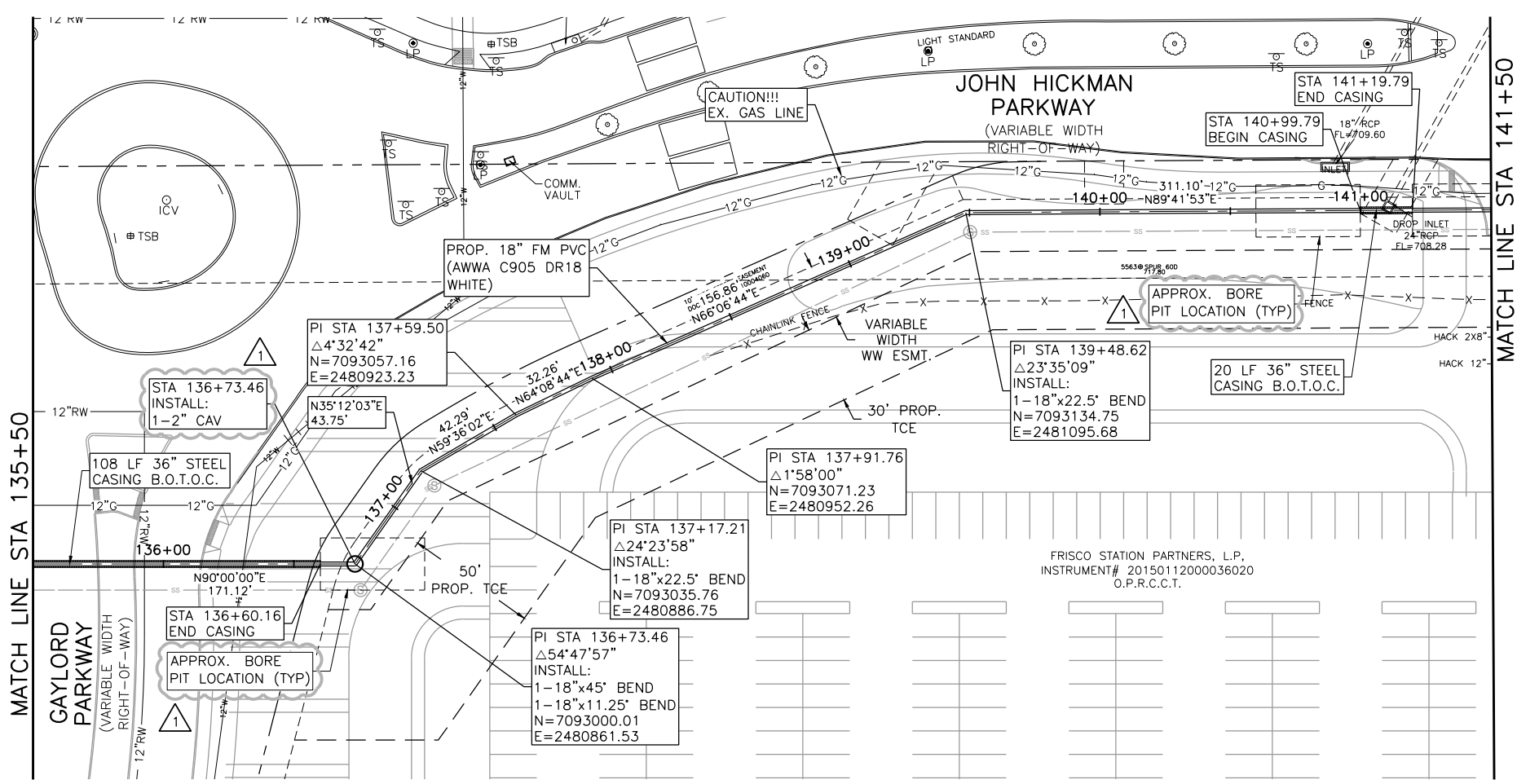
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|     |       |      |    | MAY 2017 | REVISION | LMR      | CCB     |                 |
|     |       |      |    | 06/02/17 | DRAWN    | LMR      | CCB     |                 |
|     |       |      |    | 05/22/17 | REVISED  | LMR      | CCB     |                 |

ADDENDUM NO. 3  
 ADDENDUM NO. 1  
 VERIFY SCALE

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

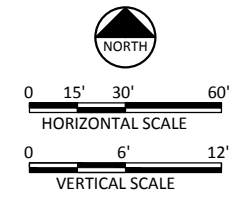
SHEET **FM-21**  
 SEQ. 32

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 Last Saved: 6/1/2017 9:18 AM Saved By: lmr



MATCH LINE STA 135+50  
 GAYLORD PARKWAY  
 (VARIABLE WIDTH RIGHT-OF-WAY)

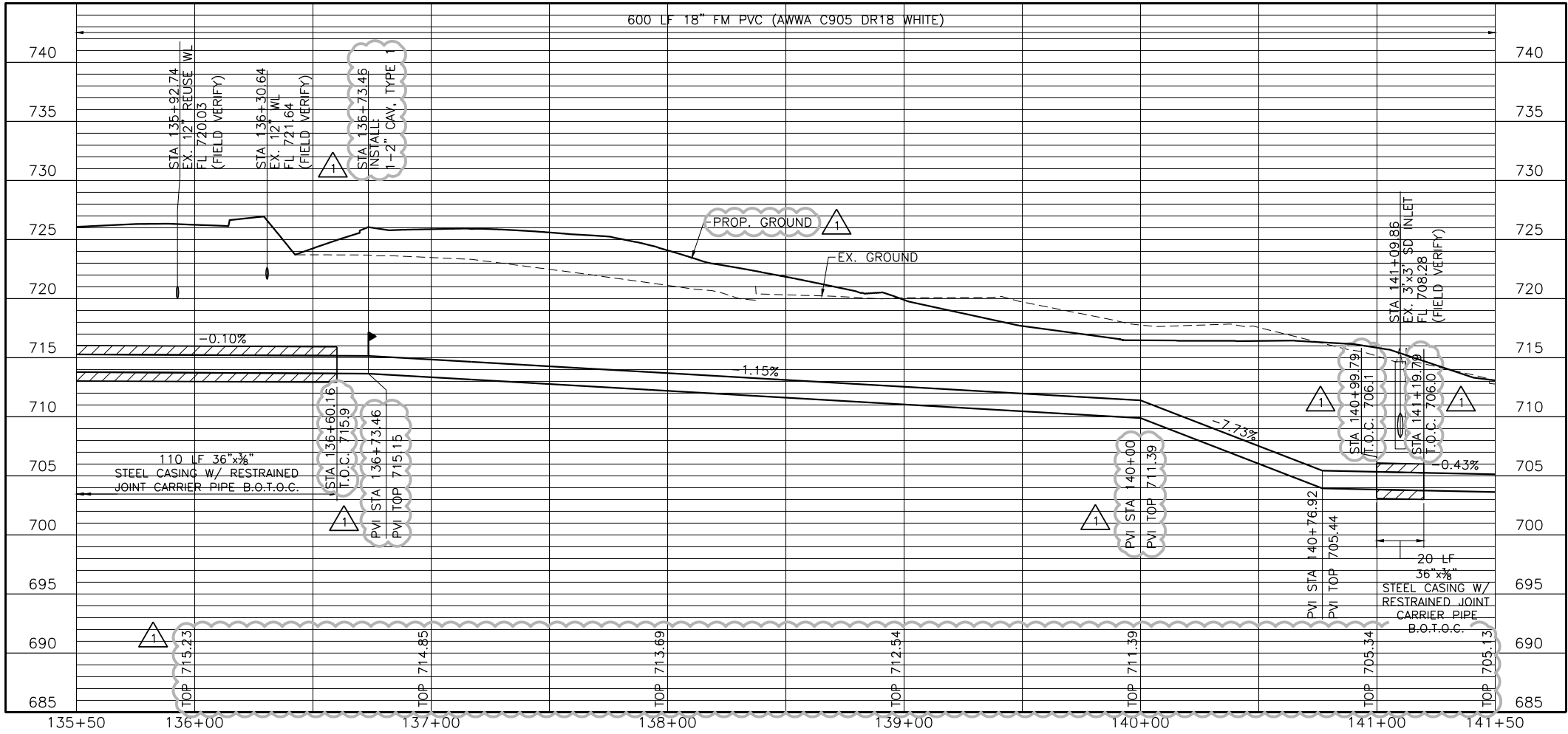
MATCH LINE STA 141+50



**CAUTION!!!**  
 EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA.  
 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

**NOTES:**

- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
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- THE FORCE MAIN FROM THE PLUG VALVE AT STA 125+06.42 TO CONNECTION AT STA 145+45.42 AND THE GRAVITY SECTION IN THIS AREA MUST BE SUBSTANTIALLY COMPLETE BY DEC. 15, 2017.



1 3

Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

Clayton C. Barnard

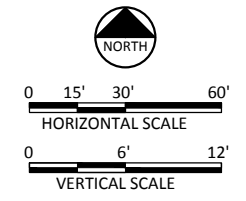
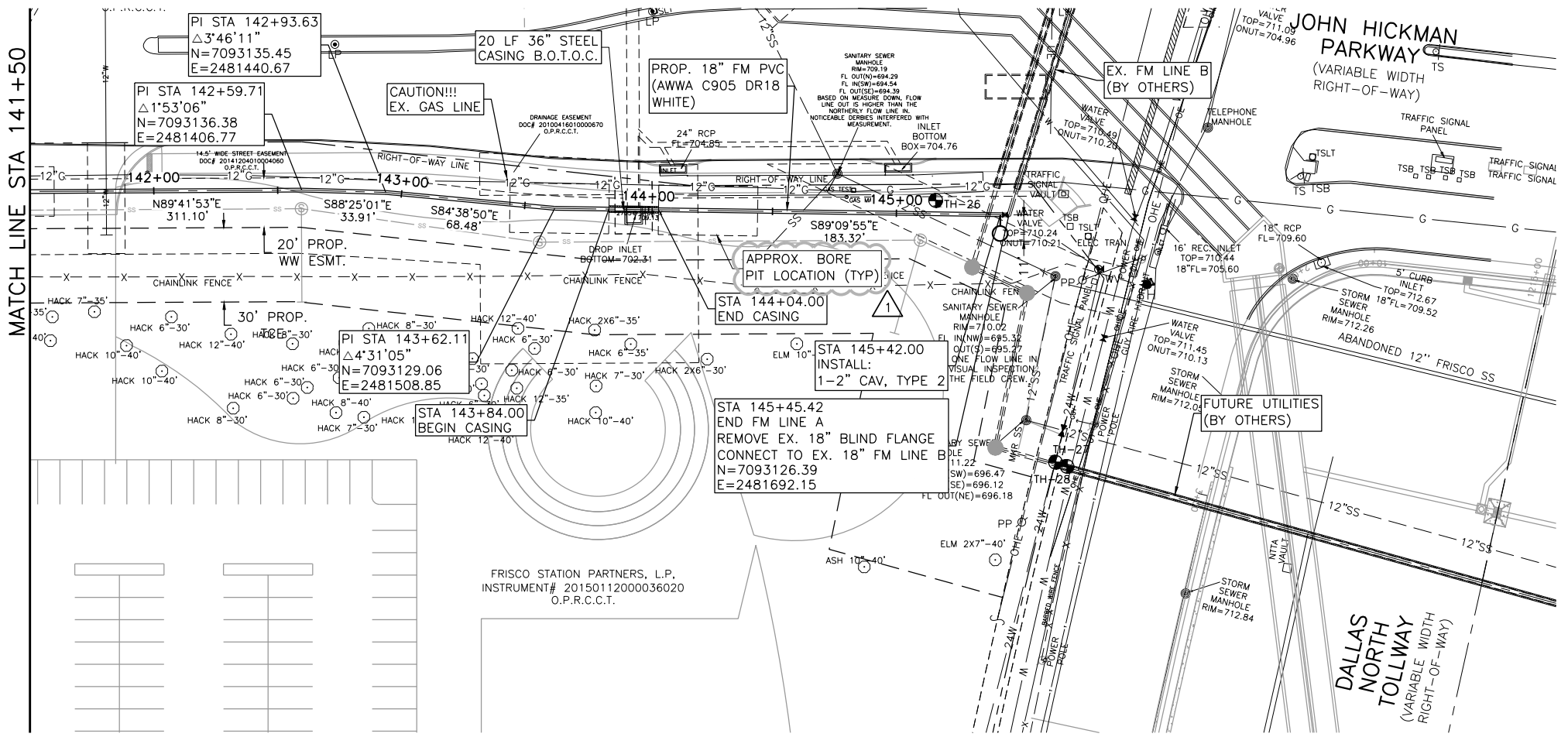
**FREES & NICHOLS**  
 5805 McJannet Street, Suite B  
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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE**  
**STA 135+50 TO STA 141+50**

|       |       |    |      |  |                 |
|-------|-------|----|------|--|-----------------|
| NO.   | ISSUE | BY | DATE | FRN JOB NO.  | FR15624         |
|       |       |    |      | DATE   | MAY 2017        |
|       |       |    |      | DESIGNED   | REE             |
|       |       |    |      | DRAWN  | LMR             |
|       |       |    |      | CHECKED  | CCB             |
|       |       |    |      | FILE NAME  | CV-PPL-PP-FM-26 |
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|       |       |    |      | VERIFY SCALE   |                 |
|       |       |    |      | Bar: is one inch on original drawing, if not one inch on this sheet, adjust scale. |                 |
| SHEET | FM-22 |    |      |  |                 |
| SEQ.  | 33    |    |      |  |                 |

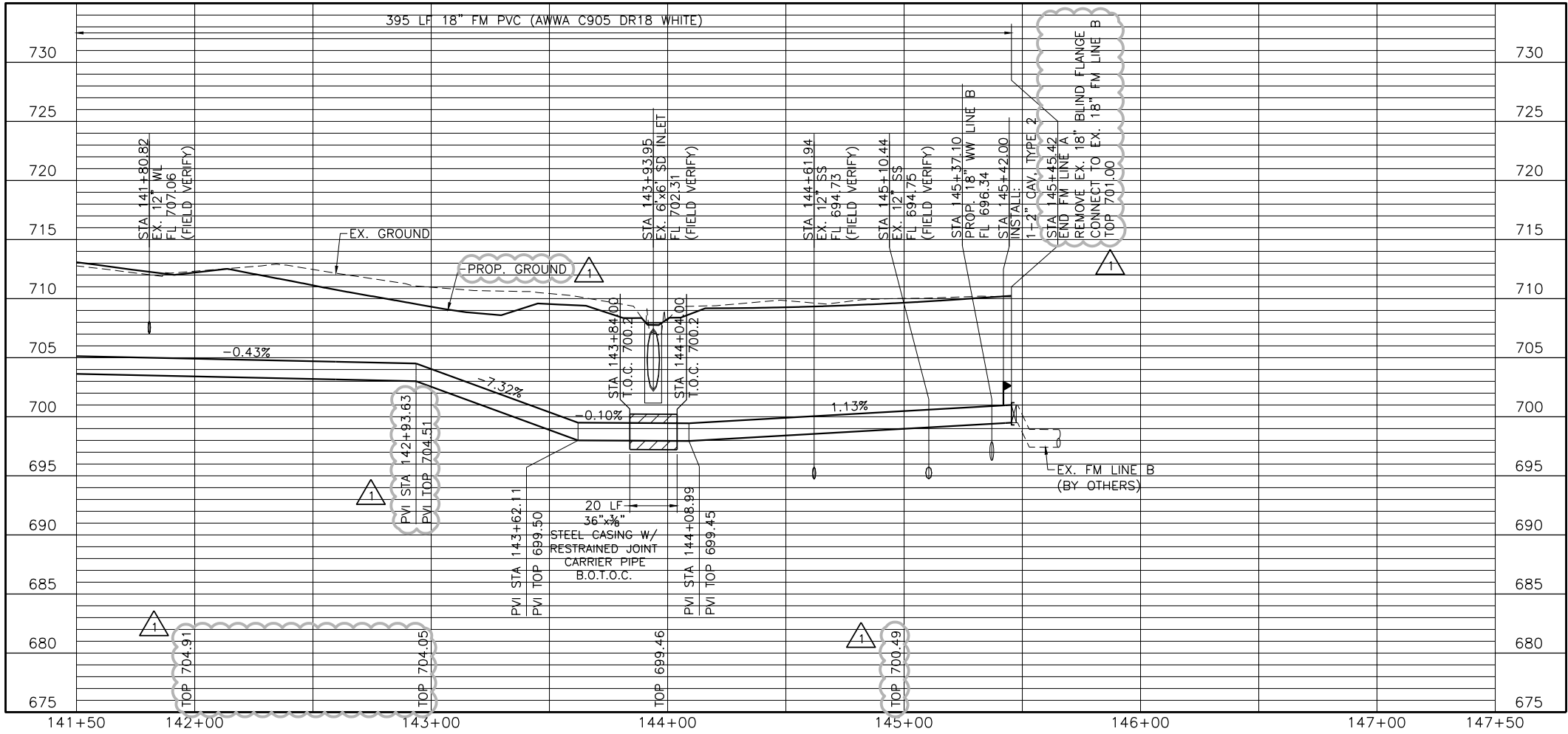


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**CAUTION!!!**  
 EXISTING UNDERGROUND AND  
 OVERHEAD UTILITIES IN THE AREA.  
 48 HOURS PRIOR TO  
 CONSTRUCTION CONTACT  
 1-800-DIG-TESS

- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOTIFY ATMOS OPERATIONS (JIMMY PRATT AT (214) 346-4535) AT LEAST 48 HOURS PRIOR TO CROSSING ATMOS FACILITIES. ALL ATMOS GAS LINES MUST BE POTHOLED BY THE CONTRACTOR TO VERIFY THE EXACT DEPTH PRIOR TO CROSSING THEM.
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  - THE FORCE MAIN FROM THE PLUG VALVE AT STA 125+06.42 TO CONNECTION AT STA 145+45.42 AND THE GRAVITY SECTION IN THIS AREA MUST BE SUBSTANTIALLY COMPLETE BY DEC. 15, 2017.



1 2

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 Texas Registered Engineering Firm F-2144

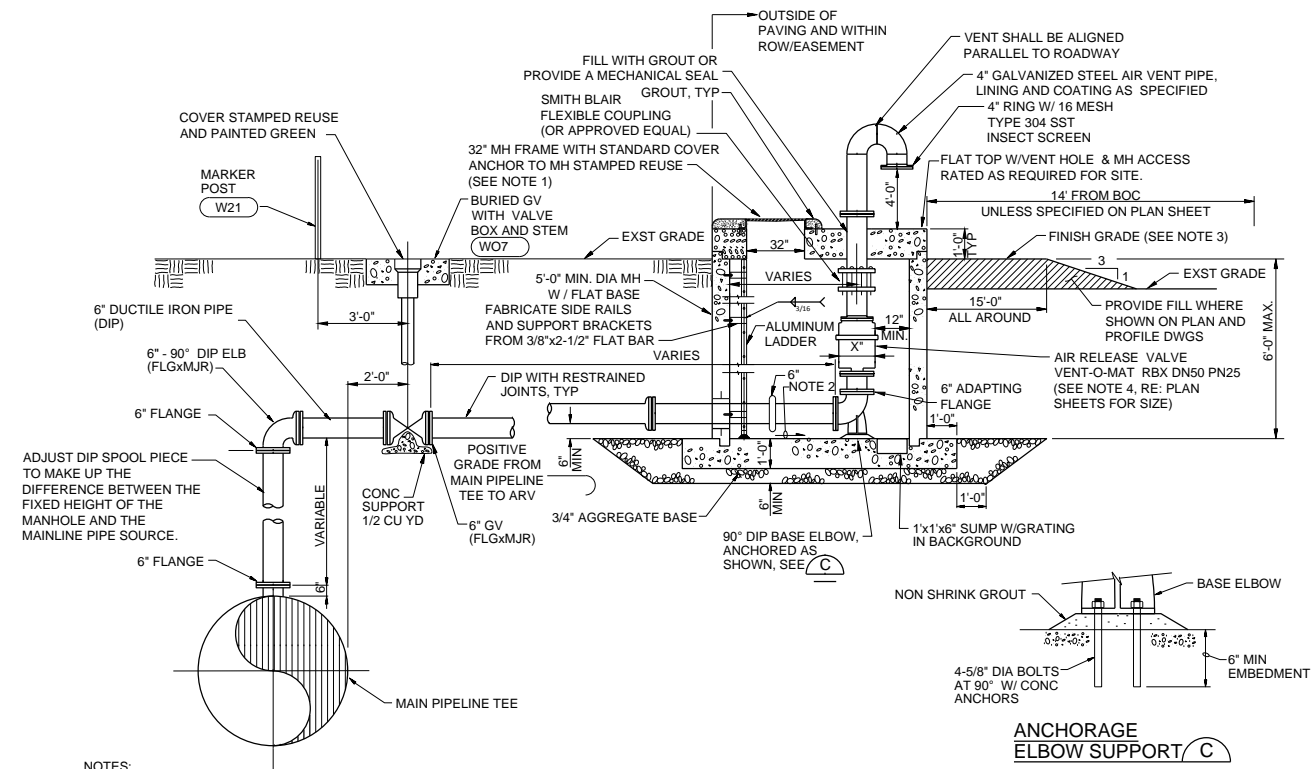
Clayton C. Barnard  
 Professional Engineer

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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS  
 AND FORCE MAIN**  
 CIVIL  
**FORCE MAIN LINE A PLAN AND PROFILE  
 STA 141+50 TO END**

|       |       |    |      |  |                 |
|-------|-------|----|------|--|-----------------|
| NO.   | ISSUE | BY | DATE | FRN JOB NO.  | FR15624         |
|       |       |    |      | DATE   | MAY 2017        |
|       |       |    |      | DESIGNED   | REE             |
|       |       |    |      | DRAWN  | LMR             |
|       |       |    |      | REVISION   |                 |
|       |       |    |      | CHECKED  | CCB             |
|       |       |    |      | FILE NAME  | CV-PPL-PP-FM-27 |
|       |       |    |      | ADDENDUM NO. 3   |                 |
|       |       |    |      | ADDENDUM NO. 1   |                 |
|       |       |    |      | VERIFY SCALE   |                 |
|       |       |    |      | Bar: is one inch on original drawing, if not one inch on this sheet, adjust scale. |                 |
| SHEET | FM-23 |    |      |  |                 |
| SEQ.  | 34    |    |      |  |                 |

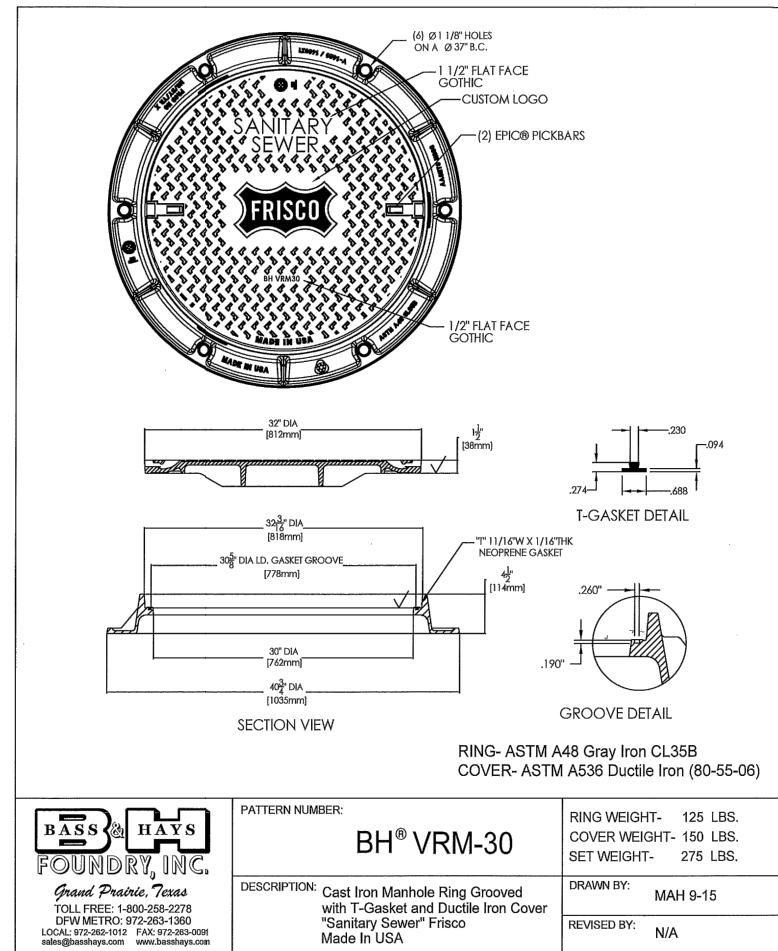


**NOTES:**

- SEE APPROVED MATERIALS LIST FOR MH LID MODEL NUMBER.
- PROVIDE 2% MIN SLOPE TOWARDS SUMP.
- CONTRACTOR SHALL COORDINATE FINAL GRADING AND TOP OF MANHOLE ELEVATIONS WITH THE CITY OF FRISCO, BASED UPON ACTUAL FIELD CONDITIONS.

**TYPICAL CITY OF FRISCO AIR RELEASE VAC ASSEMBLY DETAIL (REUSE WATER ONLY)**

1  
 -  
 NOT TO SCALE



**BASS & HAYS**  
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 Grand Prairie, Texas  
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 DFW METRO: 972-263-1360  
 LOCAL: 972-263-1012 FAX: 972-263-0091  
 sales@basshays.com www.basshays.com

|                 |   |   |
|-----------------|---|---|
| PATTERN NUMBER: | <b>BH® VRM-30</b>   | RING WEIGHT- 125 LBS.<br>COVER WEIGHT- 150 LBS.<br>SET WEIGHT- 275 LBS. |
| DESCRIPTION:    | Cast Iron Manhole Ring Grooved with T-Gasket and Ductile Iron Cover "Sanitary Sewer" Frisco Made In USA | DRAWN BY: MAH 9-15<br>REVISY BY: N/A                                    |

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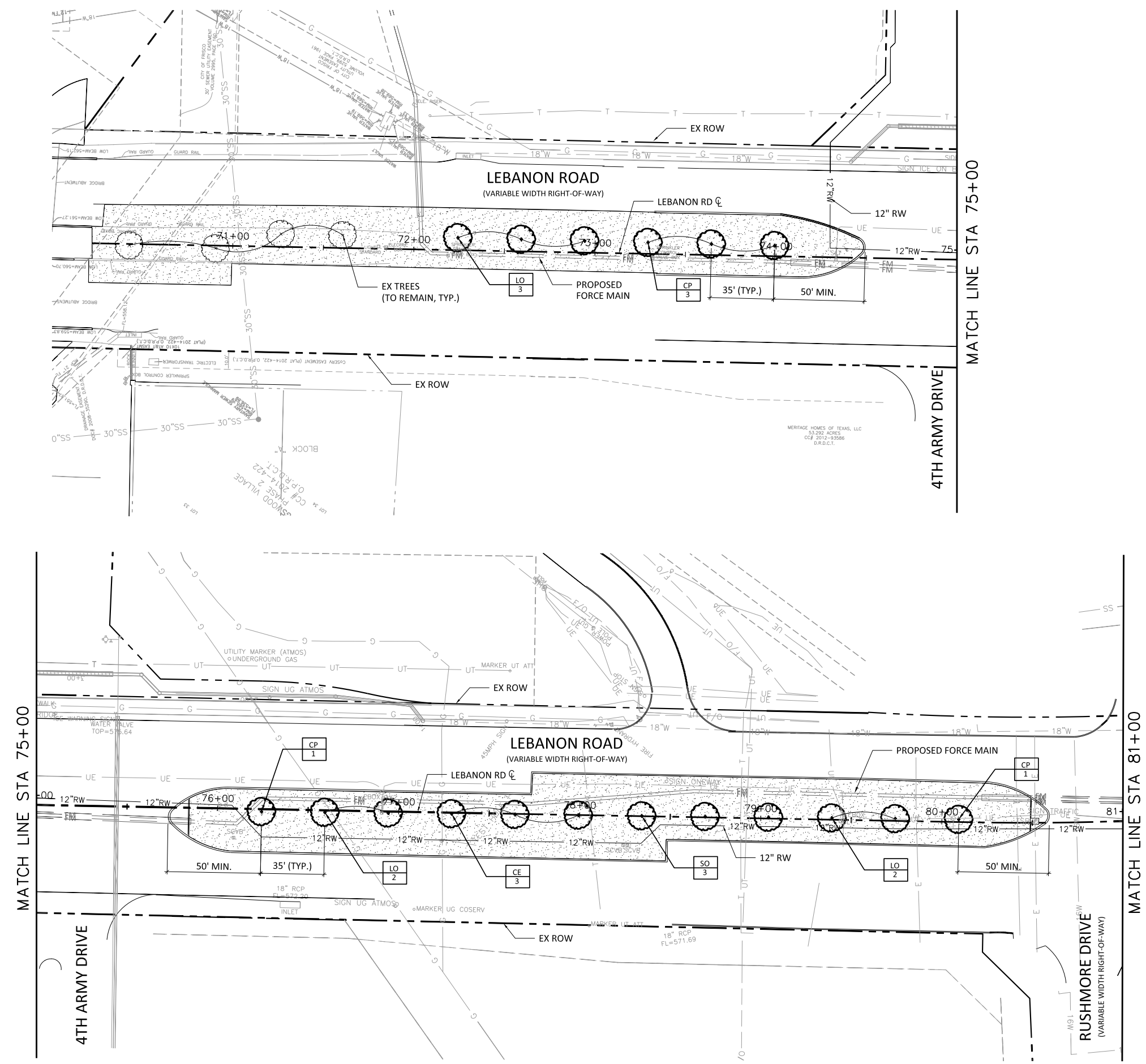


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| NO.            | ISSUE         | DATE     | BY  | FILE NAME | CV-ALL-DT-4A |
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| ADDENDUM NO. 3 |               | 06/01/17 | CCB |           |              |
| VERIFY SCALE   | 0             |          |     |           |              |
| SHEET          | <b>FMDT-3</b> |          |     |           |              |
| SEQ.           | 37            |          |     |           |              |

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.



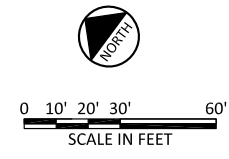
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- NOTES:
- REFER TO SHEET LA-13 FOR PLANTING DETAILS, AND SHEET LA-14 FOR DESCRIPTIONS AND SPECIES INFORMATION.
  - ALL TREES TO BE CENTERED IN MEDIAN.
  - NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DIMENSIONS SHOWN.
  - WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.

LEGEND

- SOLID TURF GRASS
- STREET / ORNAMENTAL TREES
- TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
- QUANTITY



Freesee and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

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 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
 Web - www.freesee.com

**FREESEE NICHOLS**

CITY OF FRISCO, TEXAS

LANDSCAPE ARCHITECTURE

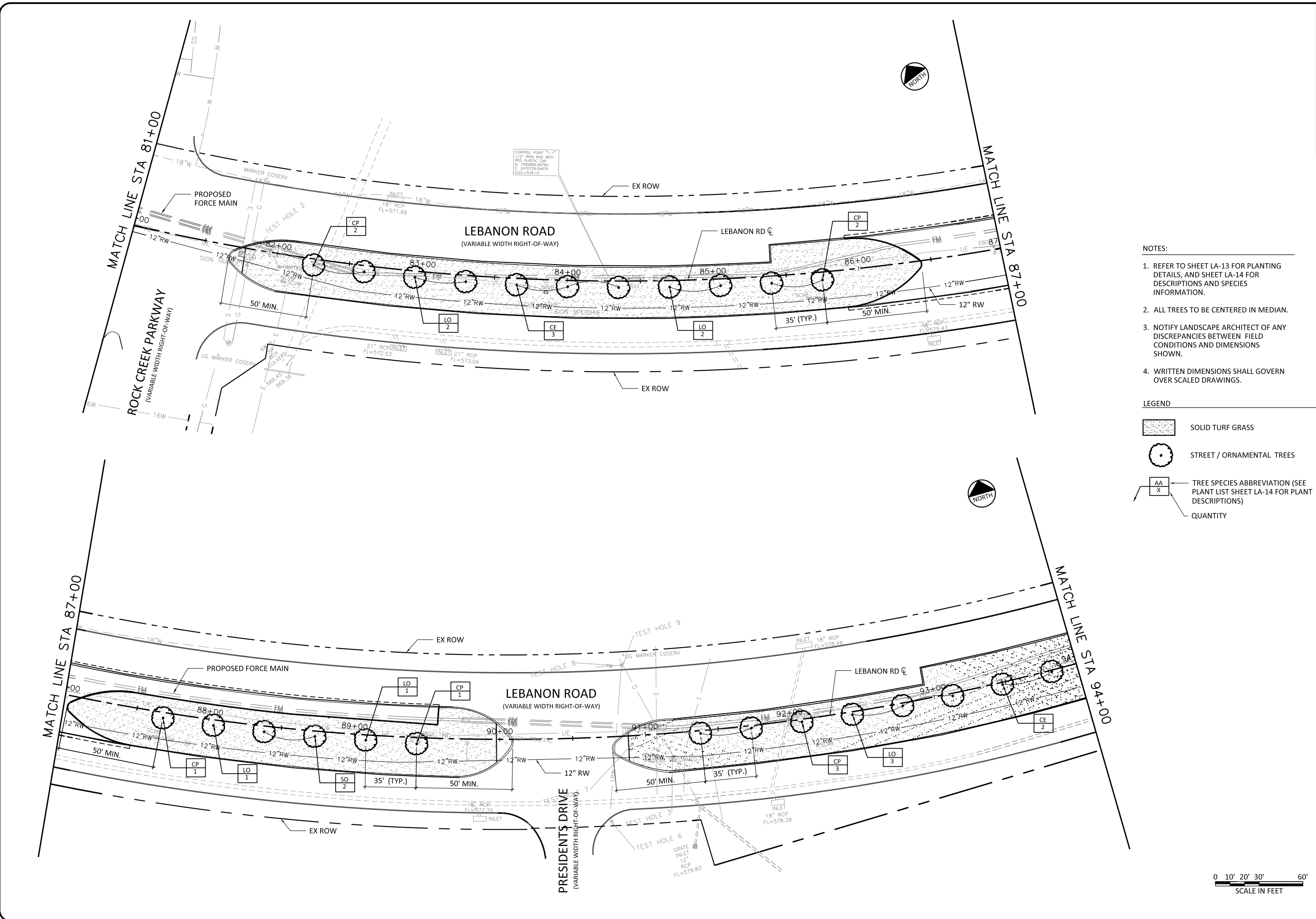
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

**LEBANON ROAD PLANTING PLAN**

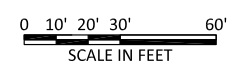
**BEGIN TO STA 81+00**

|   |       |    |        |                |
|---|-------|----|--------|----------------|
| NO.   | ISSUE | BY | DATE   | FRCL15624      |
|   |       |    | 6/2017 | DATE           |
|   |       |    | MLM    | DESIGNED       |
|   |       |    | MLM    | DRAWN          |
|   |       |    | MLM    | REVISED        |
|   |       |    | 6/2/17 | CHECKED        |
|   |       |    |        | FILE NAME      |
|   |       |    |        | L-RD-PL-Plant1 |
| AMENDMENT NO. 3   |       |    |        | VERIFY SCALE   |
| Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |    |        | 1              |
| SHEET   |       |    |        | LA-01          |
| SEQ.  |       |    |        |                |

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- NOTES:
- REFER TO SHEET LA-13 FOR PLANTING DETAILS, AND SHEET LA-14 FOR DESCRIPTIONS AND SPECIES INFORMATION.
  - ALL TREES TO BE CENTERED IN MEDIAN.
  - NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DIMENSIONS SHOWN.
  - WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.
- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



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 Fax - (972) 624-9202  
 Web - www.freese.com

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CITY OF FRISCO, TEXAS

LANDSCAPE ARCHITECTURE

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

**LEBANON ROAD PLANTING PLAN**

**STA 81+00 TO STA 94+00**

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| NO. | ISSUE | DATE   | BY  | DATE   | FRCLJOB NO. | DATE   | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME      |
|-----|-------|--------|-----|--------|-------------|--------|----------|-------|----------|---------|----------------|
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| 1   |       | 6/2/17 | MLM | 6/2/17 |             |        |          |       |          |         |                |

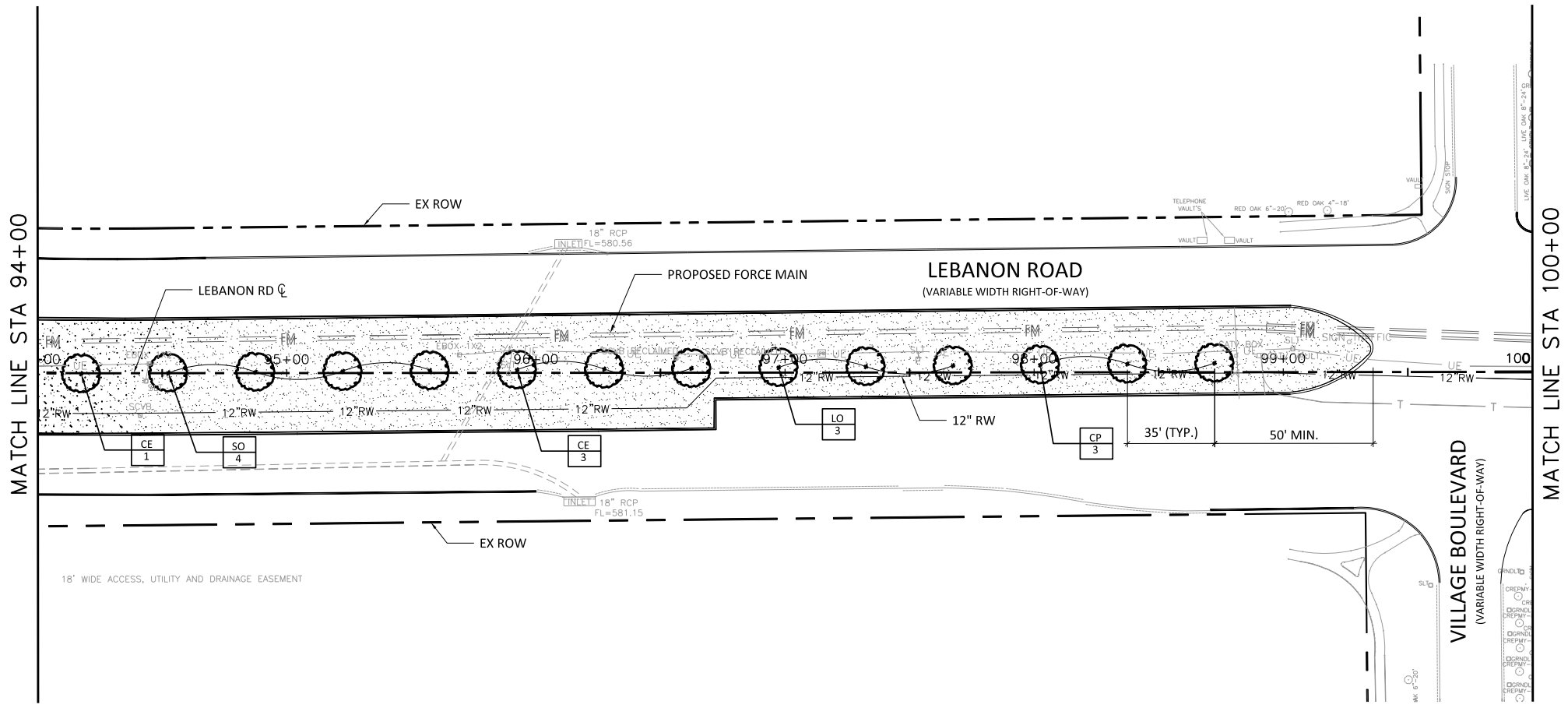
AMENDMENT NO. 3

VERIFY SCALE

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET **LA-02**

SEQ.

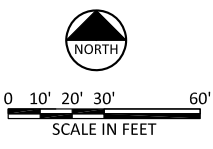


NOTES:

1. REFER TO SHEET LA-13 FOR PLANTING DETAILS, AND SHEET LA-14 FOR DESCRIPTIONS AND SPECIES INFORMATION.
2. ALL TREES TO BE CENTERED IN MEDIAN.
3. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DIMENSIONS SHOWN.
4. WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.

LEGEND

- SOLID TURF GRASS
- STREET / ORNAMENTAL TREES
- TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
- QUANTITY



Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

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 Frisco, Texas 75034  
 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
 Web - www.freese.com

**FRESE & NICHOLS**  
 LANDSCAPE ARCHITECTURE

CITY OF FRISCO, TEXAS

LANDSCAPE ARCHITECTURE

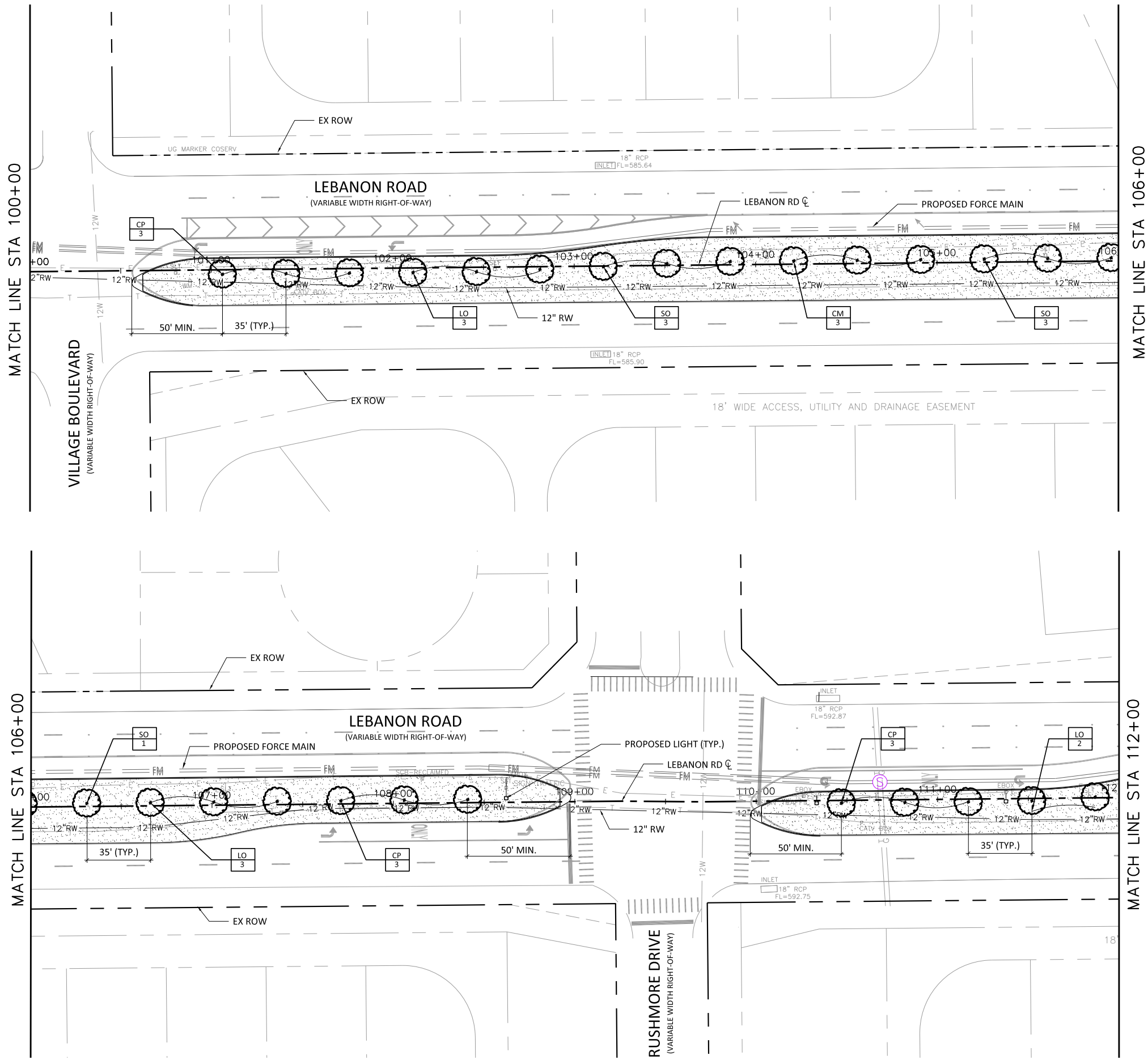
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

**LEBANON ROAD PLANTING PLAN**  
 STA 94+00 TO STA 100+00

| NO.   | ISSUE          | BY  | DATE   | FRJ JOB NO. | DATE   | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME      |
|---|----------------|-----|--------|-------------|--------|----------|-------|----------|---------|----------------|
|   |                |     |        | FRCL15624   | 6/2017 | MLM      | MLM   | YC       | HH      | L-RD-PL-Plant3 |
| 1   | AMENDMENT NO.3 | MLM | 6/2/17 |             |        |          |       |          |         |                |
| VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |                |     |        |             |        |          |       |          |         |                |
| SHEET <b>LA-03</b>  |                |     |        |             |        |          |       |          |         |                |
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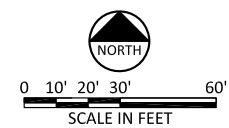
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Plot Date: 6/1/2017 4:17 PM Plot By: 02589 Filename: N:\LA\Drawings\L-RD-PL-Plant4.dwg



- NOTES:
1. REFER TO SHEET LA-13 FOR PLANTING DETAILS, AND SHEET LA-14 FOR DESCRIPTIONS AND SPECIES INFORMATION.
  2. ALL TREES TO BE CENTERED IN MEDIAN.
  3. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DIMENSIONS SHOWN.
  4. WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.

- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



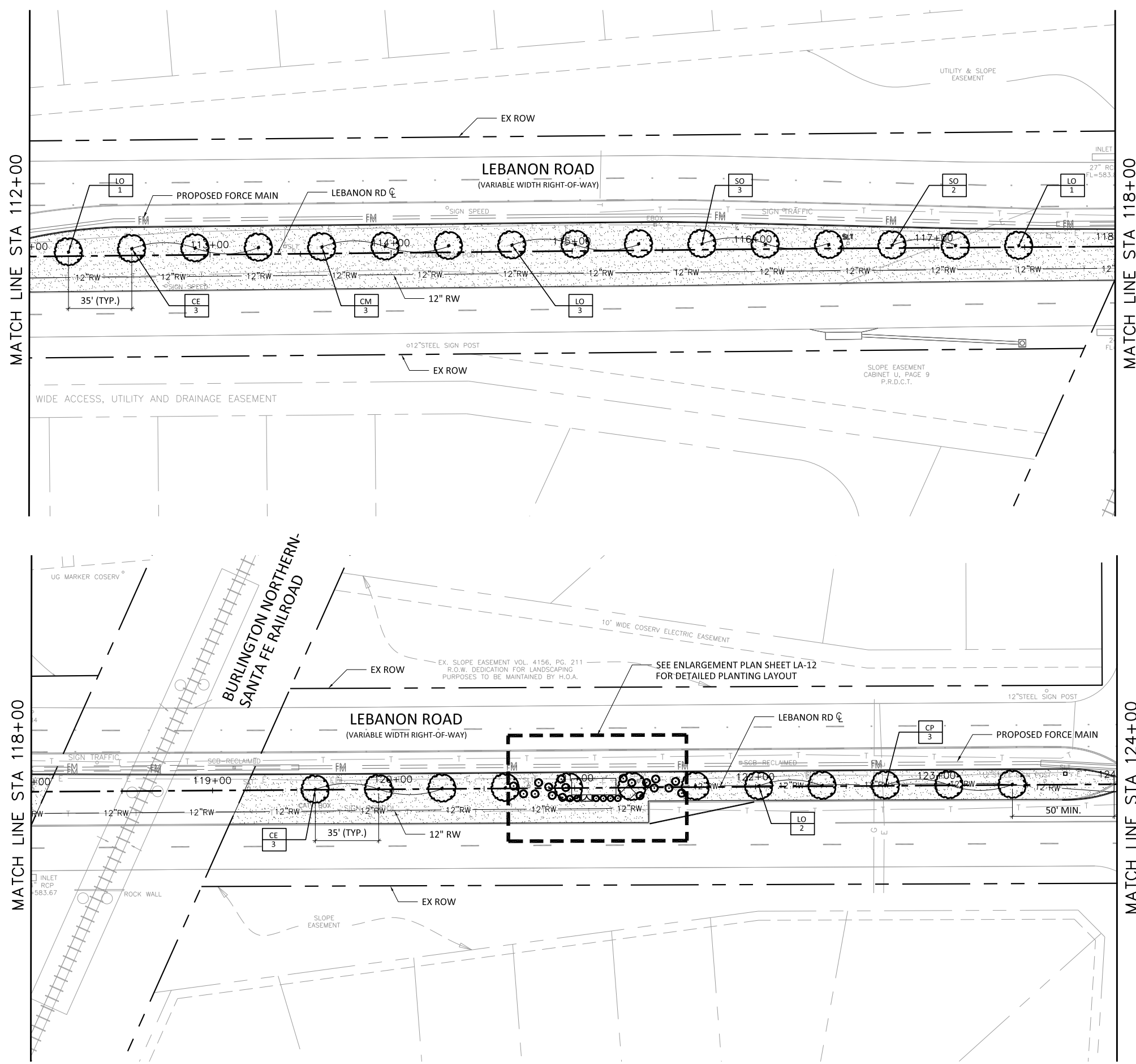
Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144

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 Frisco, Texas 75034  
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 Fax - (972) 624-9202  
 Web - www.freese.com

CITY OF FRISCO, TEXAS  
 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
 STA 100+00 TO STA 112+00

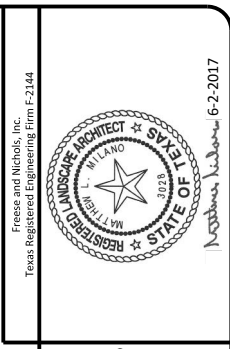
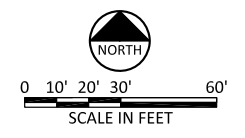
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|       |       |    |      | DATE          | 6/2017  |
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|       |       |    |      | DRAWN         | MLM   |
|       |       |    |      | REVISION      | YC  |
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|       |       |    |      | VERIFY SCALE  | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |
|       |       |    |      | SCALE         | 1   |
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| SEQ.  |       |    |      |               |   |

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 Last Saved: 6/1/2017 4:11 PM Saved By: 02589



- NOTES:
1. REFER TO SHEET LA-13 FOR PLANTING DETAILS, AND SHEET LA-14 FOR DESCRIPTIONS AND SPECIES INFORMATION.
  2. ALL TREES TO BE CENTERED IN MEDIAN.
  3. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DIMENSIONS SHOWN.
  4. WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.

- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



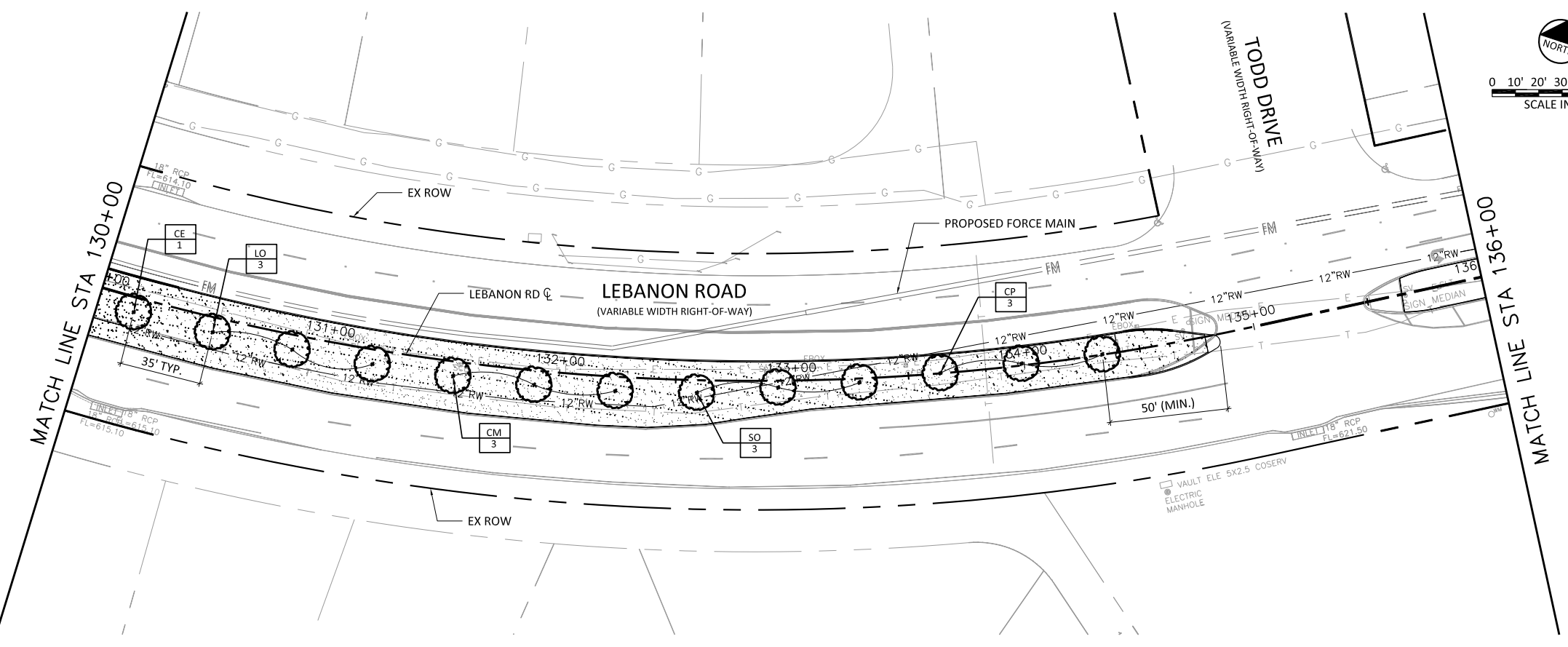
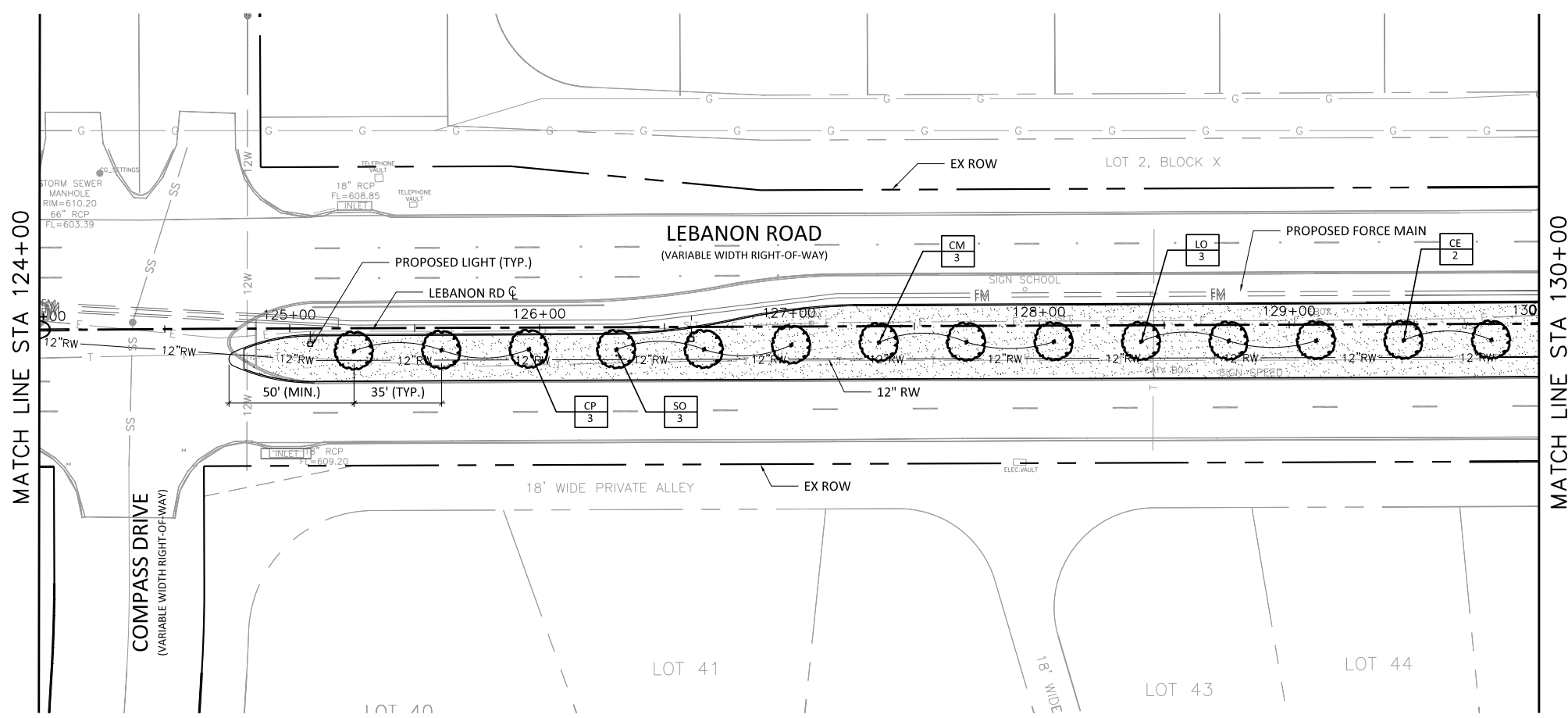
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 LANDSCAPE ARCHITECTURE  
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 Frisco, Texas 75034  
 Phone - (972) 624-9201  
 Fax - (972) 624-9202  
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CITY OF FRISCO, TEXAS  
 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
**STA 112+00 TO STA 124+00**

|   |       |    |      |               |                |
|---|-------|----|------|---------------|----------------|
| NO.   | ISSUE | BY | DATE | FRAN JOB NO.  | FRCL15624      |
|   |       |    |      | DATE          | 6/2017         |
|   |       |    |      | DESIGNED      | MLM            |
|   |       |    |      | DRAWN         | YC             |
|   |       |    |      | REVISED       | HH             |
|   |       |    |      | CHECKED       | HH             |
|   |       |    |      | FILE NAME     | L-RD-PL-Plant5 |
|   |       |    |      | AMENDMENT NO. | 3              |
|   |       |    |      | VERIFY SCALE  | 0              |
| Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |    |      |               |                |
| SCALE 1   |       |    |      |               |                |
| SHEET LA-05   |       |    |      |               |                |
| SEQ.  |       |    |      |               |                |

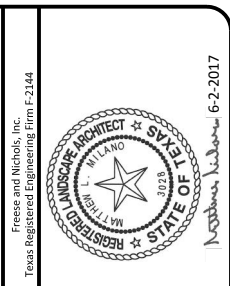
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Plot Date: 6/1/2017 4:29 PM Plot By: 02589 Filename: N:\LA\Drawings\L-RD-PL-Plant6.dwg



- NOTES:
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- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



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 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
**STA 124+00 TO STA 136+00**

| NO. | ISSUE          | BY  | DATE   | FRCL15624 | DATE   | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME      |
|-----|----------------|-----|--------|-----------|--------|----------|-------|----------|---------|----------------|
| 0   | AMENDMENT NO.3 | MLM | 6/2/17 | FRCL15624 | 6/2017 | MLM      | MLM   | MLM      | MLM     | L-RD-PL-Plant6 |
| 1   | VERIFY SCALE   |     |        |           |        |          |       |          |         |                |

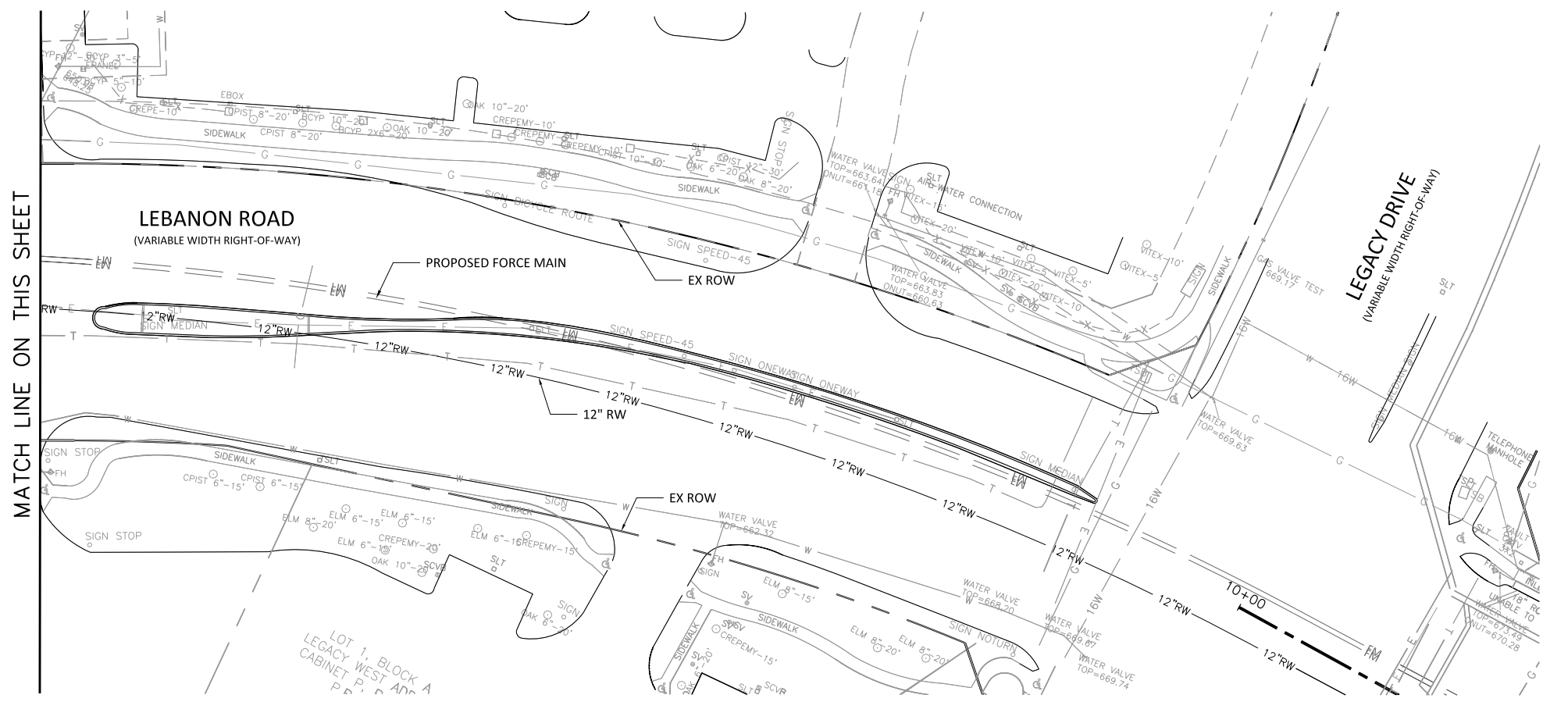
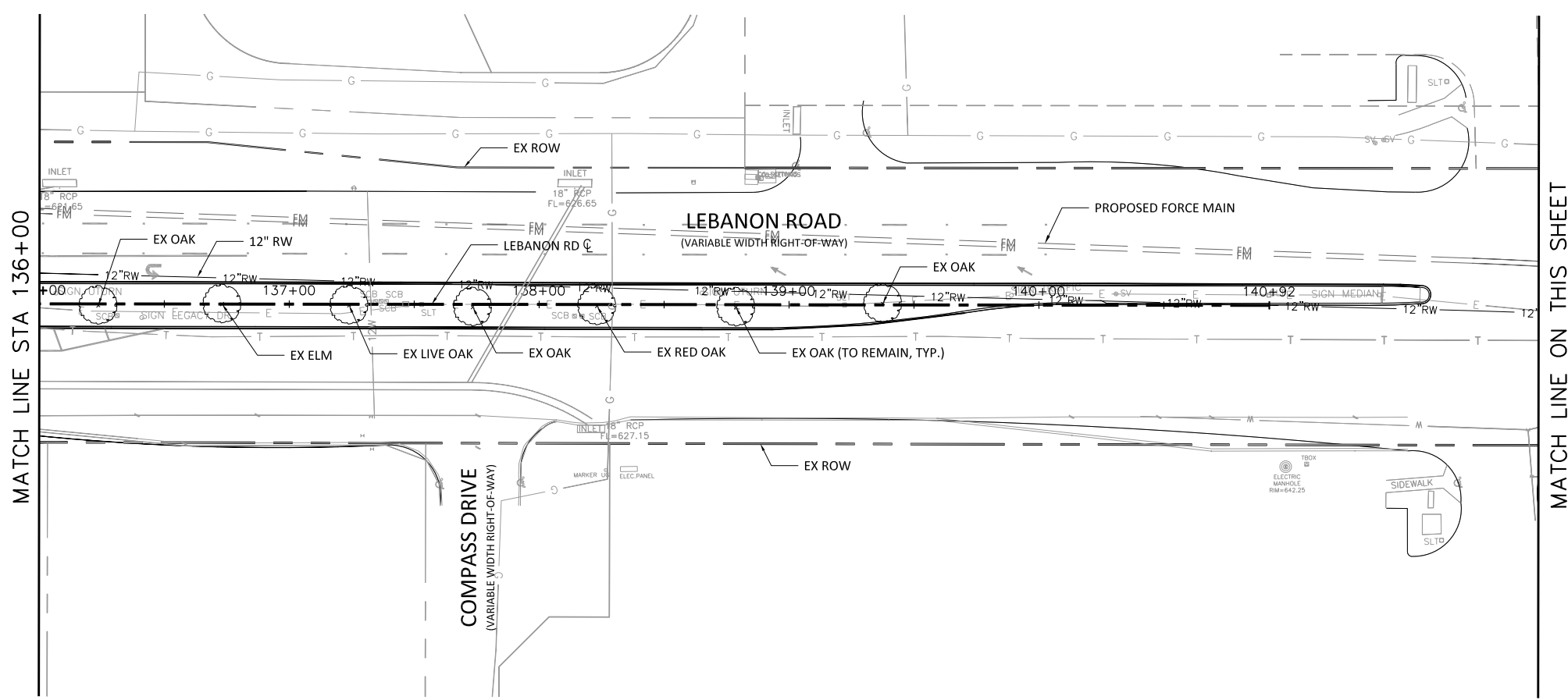
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET **LA-06**

SEQ.

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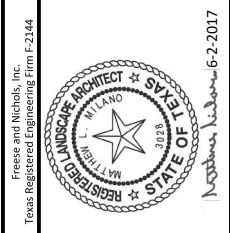
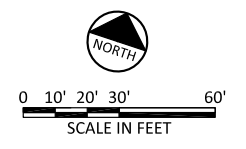
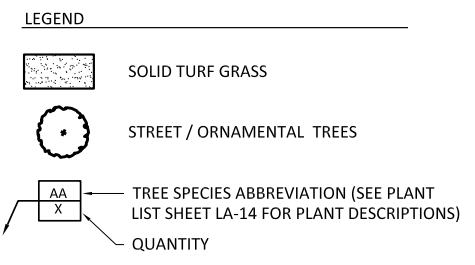
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MATCH LINE ON THIS SHEET

MATCH LINE ON THIS SHEET

- NOTES:
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CITY OF FRISCO, TEXAS

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

LANDSCAPE ARCHITECTURE

**LEBANON ROAD PLANTING PLAN**  
 STA 136+00 TO PHASE 1 BEGIN

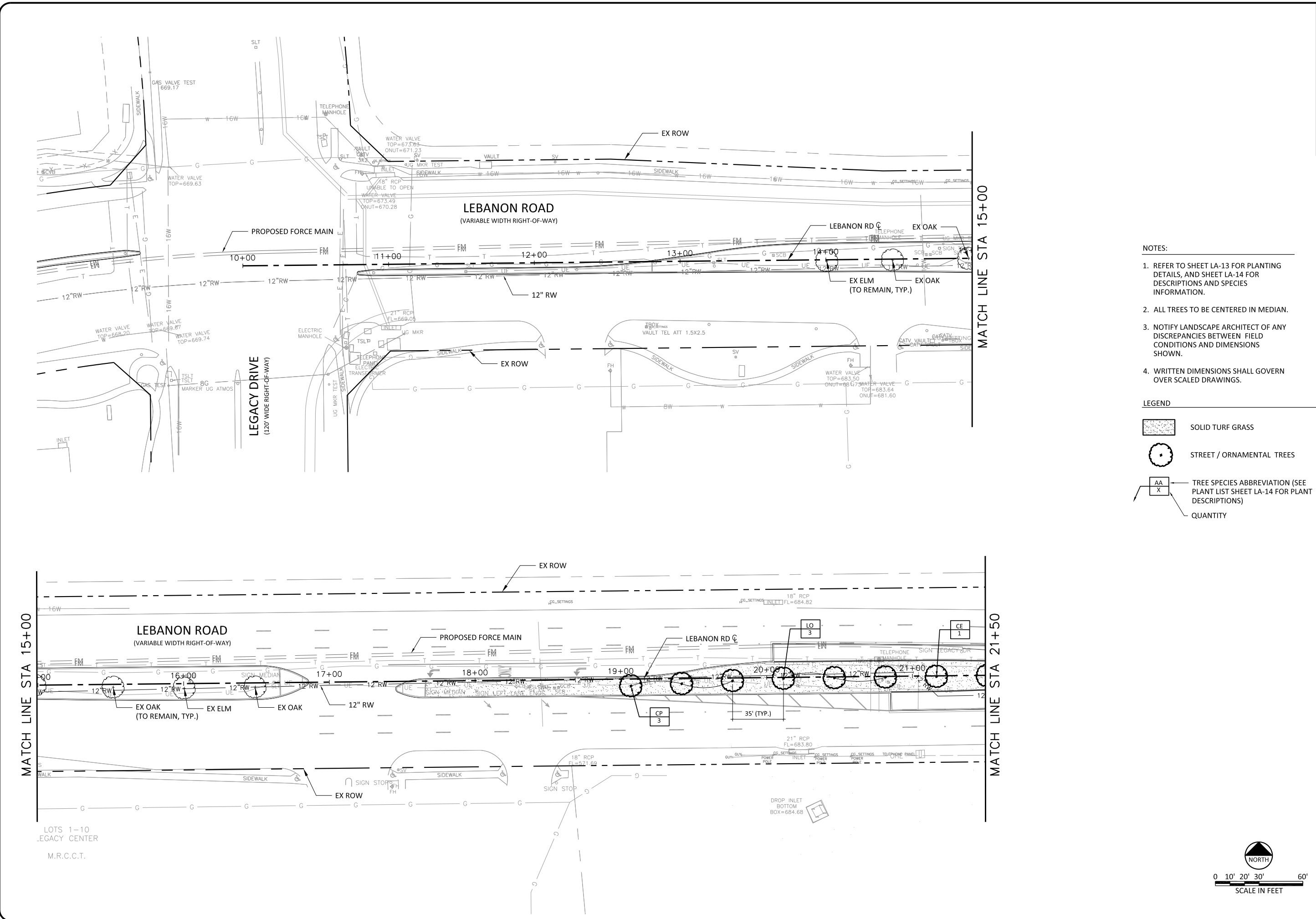
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| 0   | AMENDMENT NO.3 | MLM | 6/2/17 | FRCL5624    | 6/2017 | MLM      | MLM   | MLM      | MLM     | L-RD-PL-Plant7 |
| 1   | VERIFY SCALE   |     |        |             |        |          |       |          |         |                |

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SHEET **LA-07**

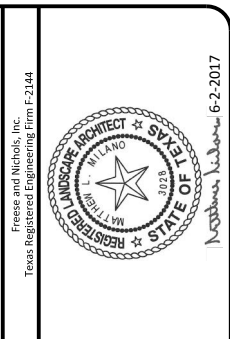
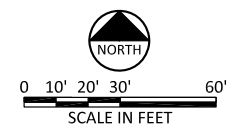


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- LEGEND**
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



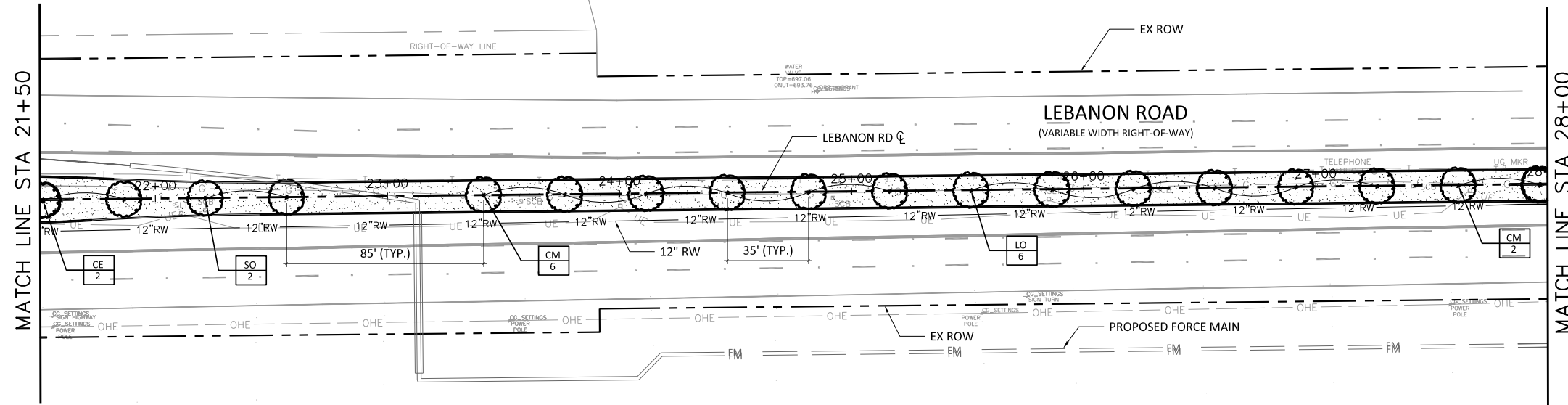
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 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
**PHASE 1 BEGIN TO STA 21+50**

|               |   |        |      |              |
|---------------|---|--------|------|--------------|
| NO.           | ISSUE   | BY     | DATE | FERN JOB NO. |
| 0             | ISSUE   |        |      | FR15624      |
| 1             | ISSUE   |        |      | 6/2017       |
| DESIGNED      | MLM   | YC     |      |              |
| DRAWN         | MLM   | YC     |      |              |
| REVISION      | MLM   | 6/2/17 |      |              |
| CHECKED       | HH  |        |      |              |
| FILE NAME     | L-RD-PL-Plant8  |        |      |              |
| AMENDMENT NO. | 3   |        |      |              |
| VERIFY SCALE  | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |        |      |              |
| SHEET         | LA-08   |        |      |              |
| SEQ.          |   |        |      |              |



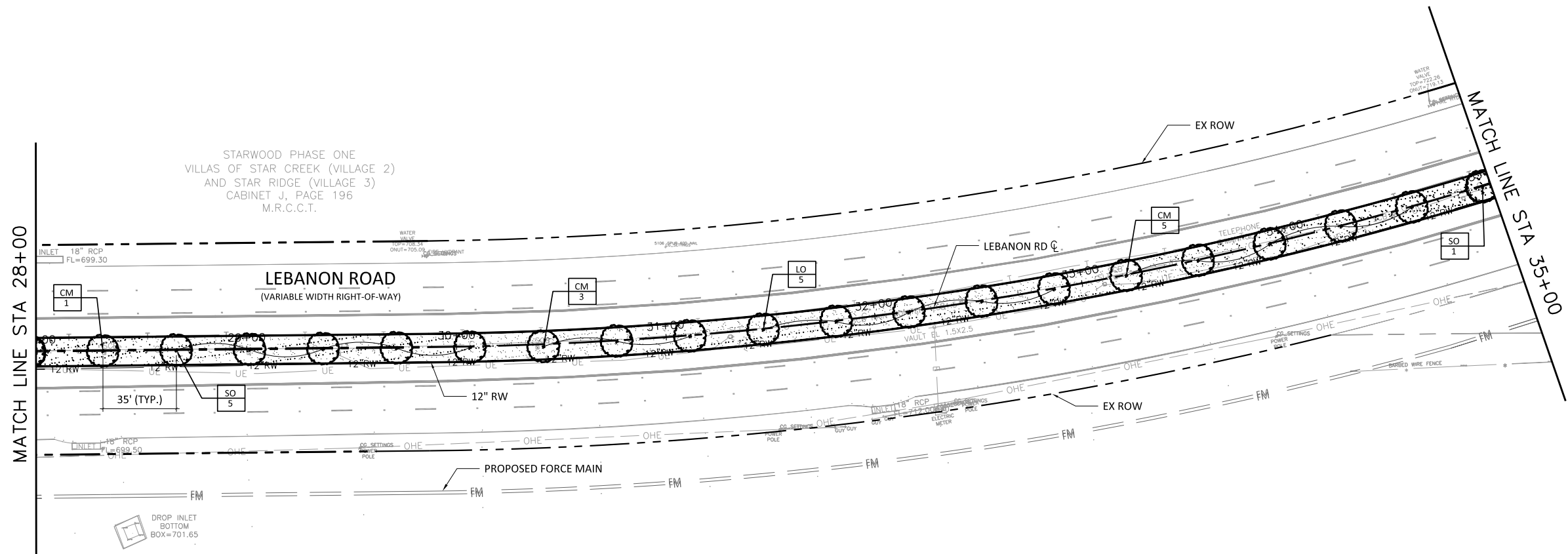
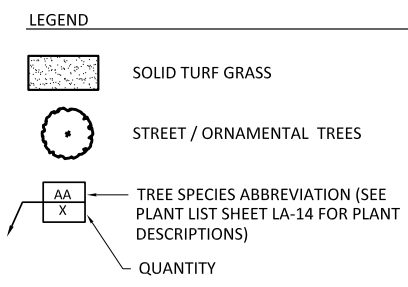
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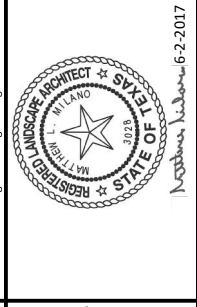
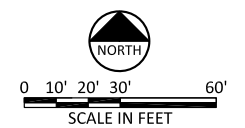
THE RUDMAN PARTNERSHIP  
 VOLUME 3346, PAGE 764  
 D.R.C.C.T.

THE RUDMAN PARTNERSHIP  
 VOLUME 3346, PAGE 764  
 D.R.C.C.T.

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 VOLUME 3346, PAGE 764  
 D.R.C.C.T.



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CITY OF FRISCO, TEXAS  
 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
**PHASE 1 STA 21+50 TO STA 35+00**

| NO. | ISSUE           | BY  | DATE   | REVISED  | FILE NAME      |
|-----|-----------------|-----|--------|----------|----------------|
| 0   | VERIFY SCALE    |     |        |          | L-RD-PL-Plant9 |
| 1   | AMENDMENT NO. 3 | MLM | 6/2/17 | CHECKED  |                |
|     |                 |     |        | DESIGNED |                |
|     |                 |     |        | DRAWN    |                |
|     |                 |     |        | REVISION |                |
|     |                 |     |        | DATE     |                |
|     |                 |     |        | JOB NO.  |                |

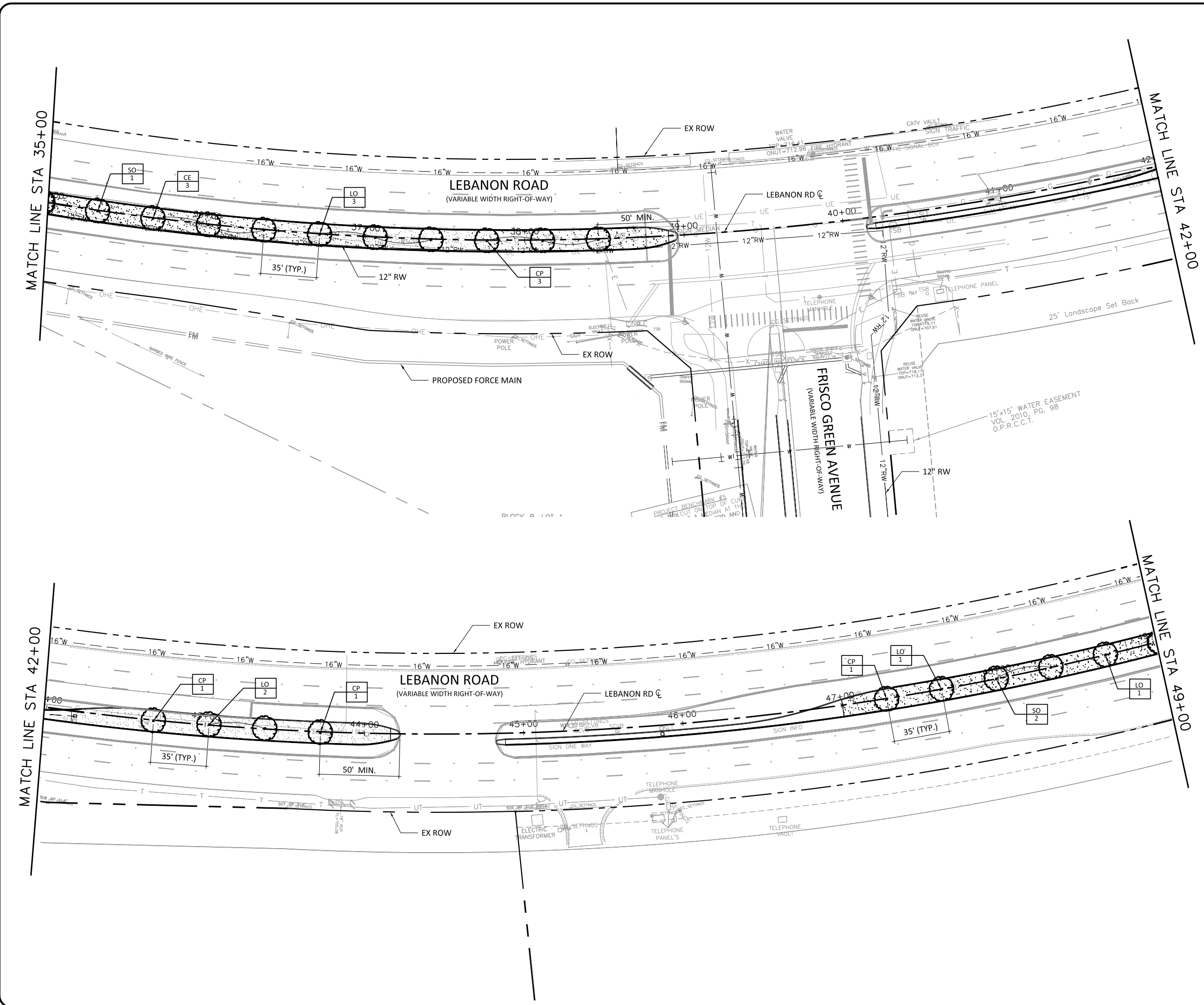
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SCALE IN FEET

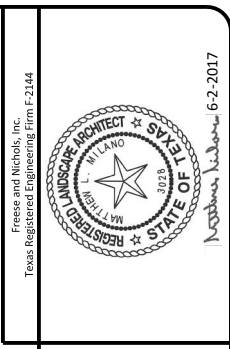
SHEET **LA-09**

SEQ.

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- NOTES:
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  - WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DRAWINGS.
- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



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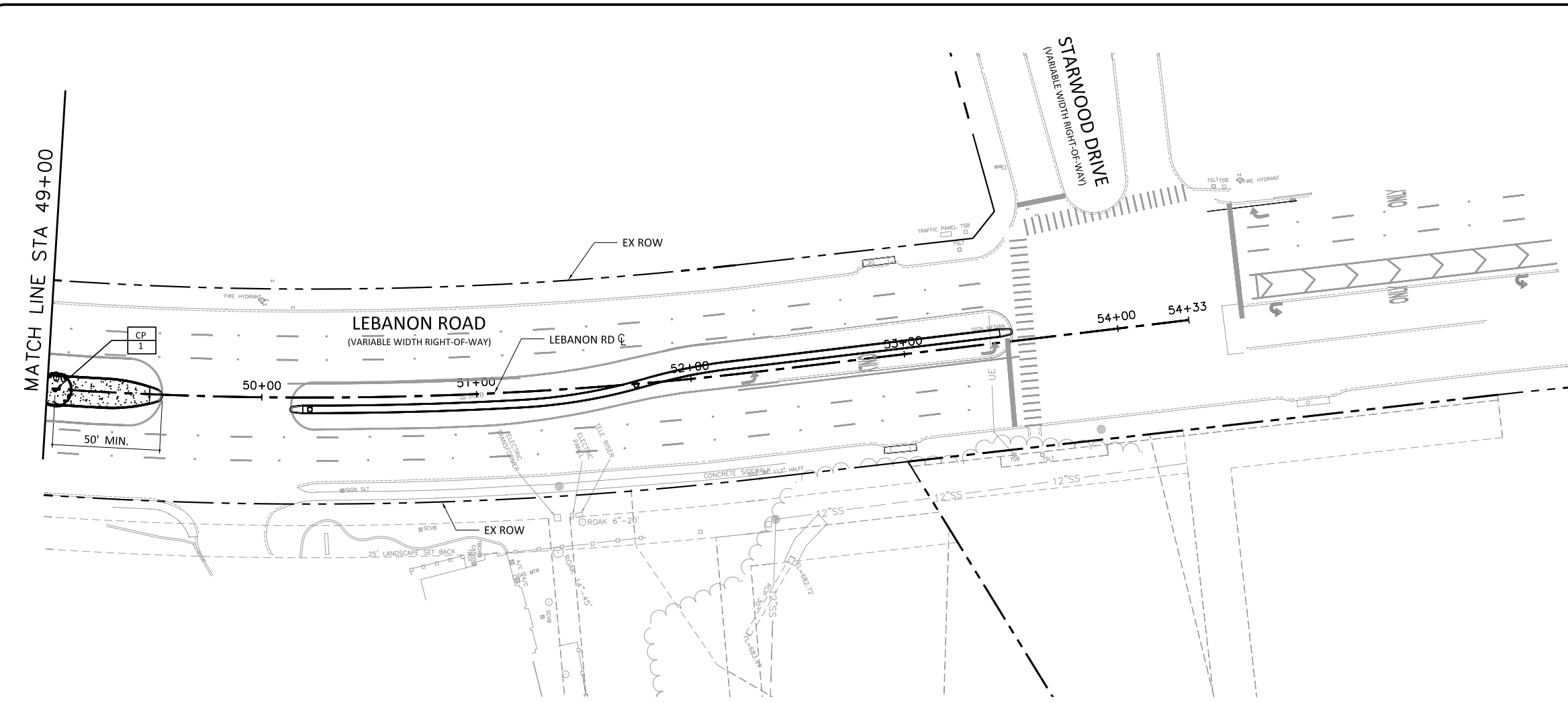
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 LANDSCAPE ARCHITECTURE  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD PLANTING PLAN**  
**PHASE 1 STA 35+00 TO 49+00**

|     |                |     |        |                           |
|-----|----------------|-----|--------|---------------------------|
| NO. | ISSUE          | BY  | DATE   | FRCL5624                  |
| 0   | VERIFY SCALE   | MLM | 6/2/17 | 6/2017                    |
| 1   | AMENDMENT NO.3 | MLM | 6/2/17 | DESIGNED MLM              |
|     | VERIFY SCALE   |     |        | DRAWN MLM                 |
|     |                |     |        | REVISION EAF              |
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Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

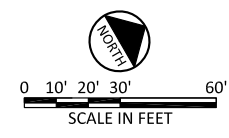
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 Last Saved: 6/1/2017 5:09 PM Saved By: 02589



- NOTES:
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- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



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 Texas Registered Engineering Firm F-2144

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LANDSCAPE ARCHITECTURE

LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
 PHASE 1 STA 49+00 TO END

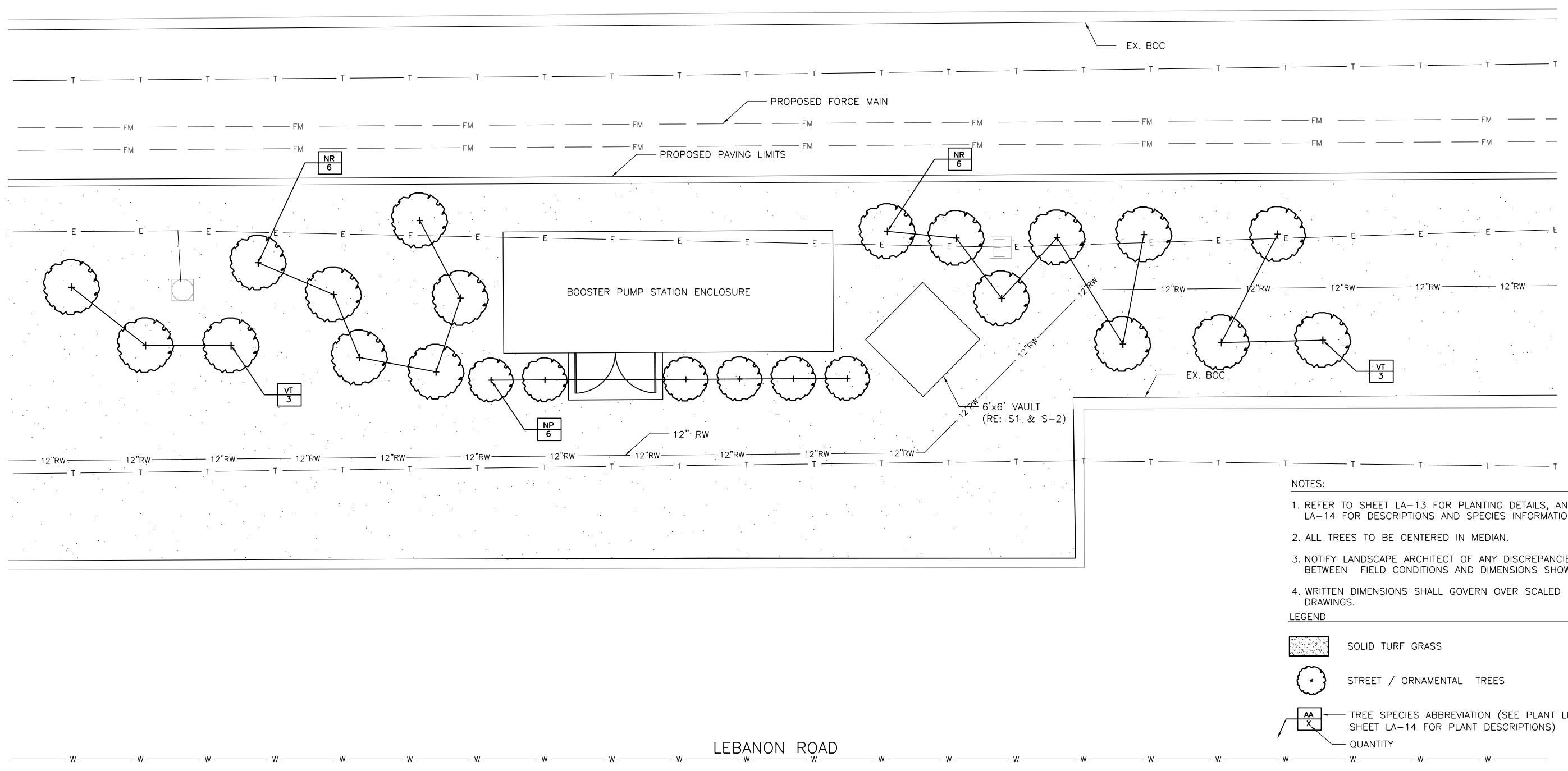
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LANDSCAPE ARCHITECTURE

LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
 PHASE 1 STA 49+00 TO END

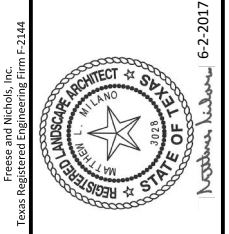
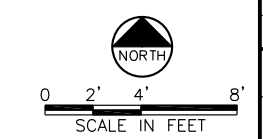
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|   |       |    | 6/2017 | DATE            |
|   |       |    | MLM    | DESIGNED        |
|   |       |    | MLM    | DRAWN           |
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|   |       |    | 6/2/17 | CHECKED         |
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| AMENDMENT NO. 3   |       |    |        |                 |
| VERIFY SCALE  |       |    |        |                 |
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| 1   |       |    |        |                 |
| SHEET   |       |    |        |                 |
| LA-11   |       |    |        |                 |
| SEQ.  |       |    |        |                 |

LEBANON ROAD



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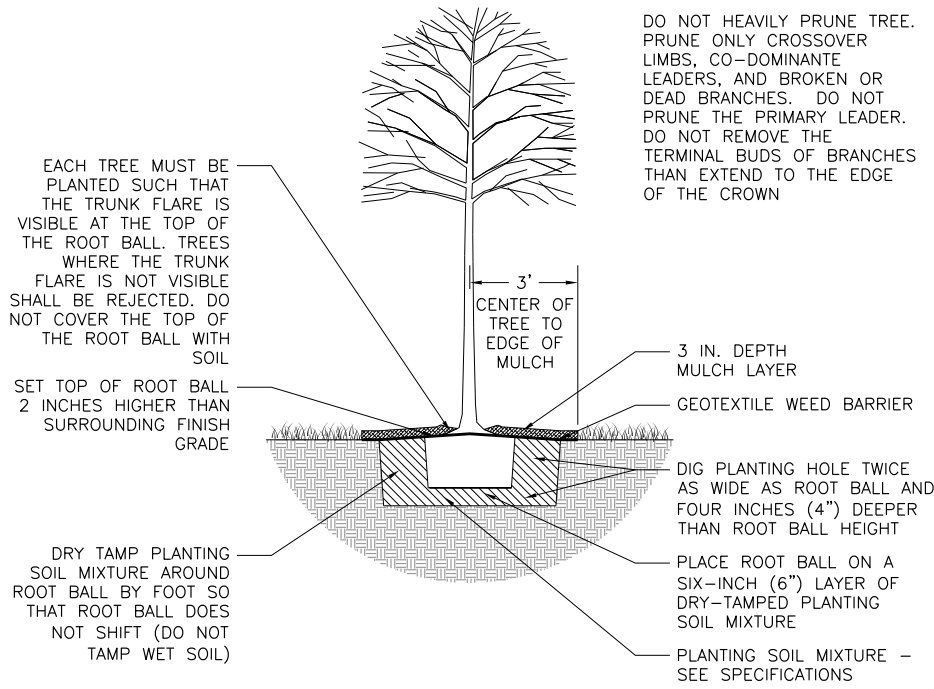
- LEGEND
- SOLID TURF GRASS
  - STREET / ORNAMENTAL TREES
  - TREE SPECIES ABBREVIATION (SEE PLANT LIST SHEET LA-14 FOR PLANT DESCRIPTIONS)
  - QUANTITY



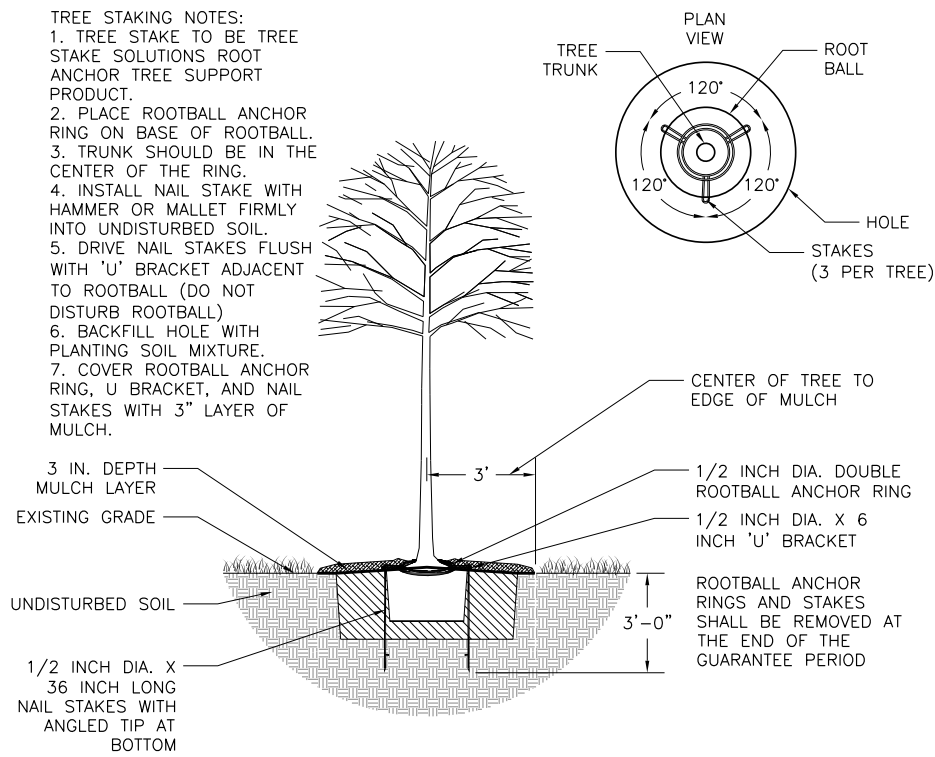
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**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 LANDSCAPE ARCHITECTURE  
**BOOSTER PUMP STATION**  
**LANDSCAPE SITE PLAN**

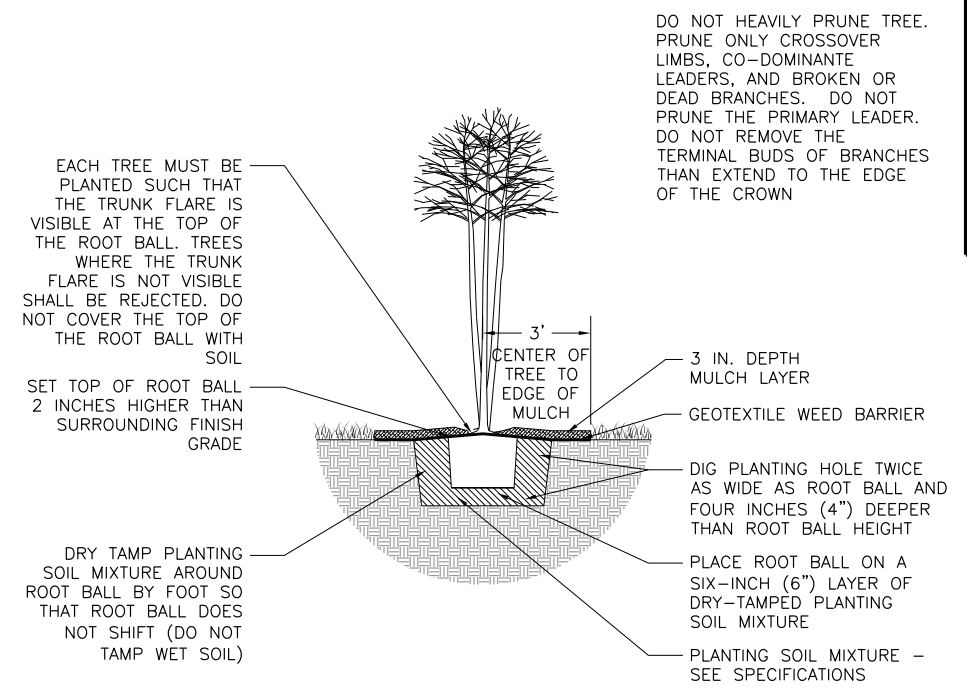
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| NO. | ISSUE | BY | DATE | F&M JOB NO.     | DATE  | DESIGNED | RE | MB | CB |
|     |       |    |      | FRC15624        | 6/2017  |          |    |    |    |
|     |       |    |      | AMENDMENT NO. 3 | 6/2/17  | MLM      |    |    |    |
|     |       |    |      | VERIFY SCALE    | Bar is one inch on original<br>drawing. If this sheet is<br>revised, adjust scales. |          |    |    |    |
|     |       |    |      | SHEET           | LA-12   |          |    |    |    |
|     |       |    |      | SEQ.            |   |          |    |    |    |



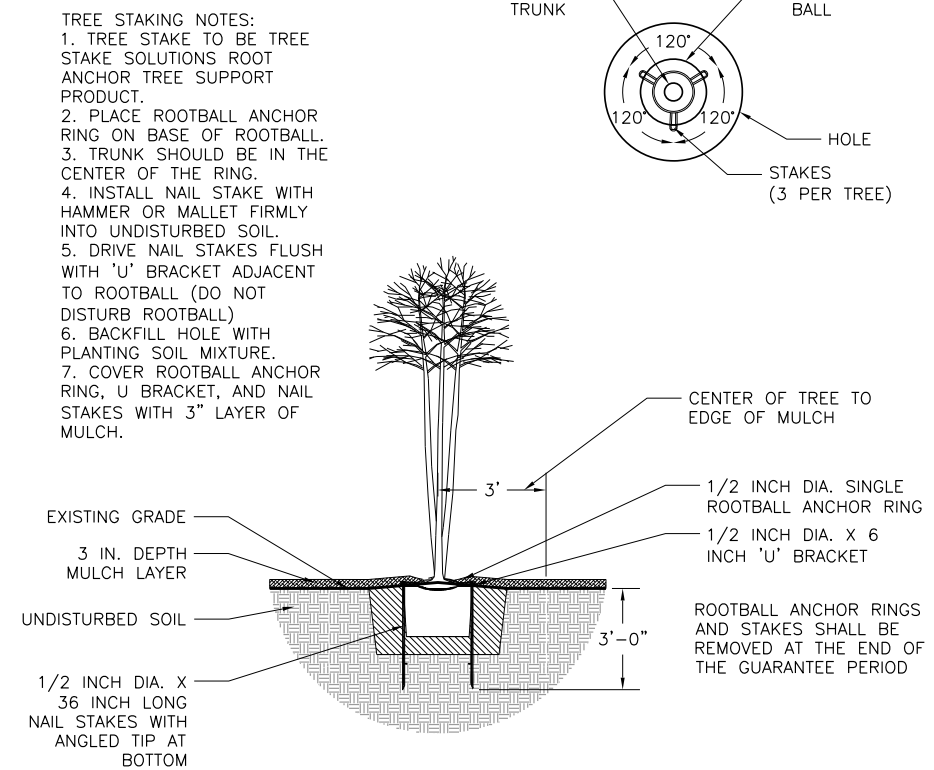
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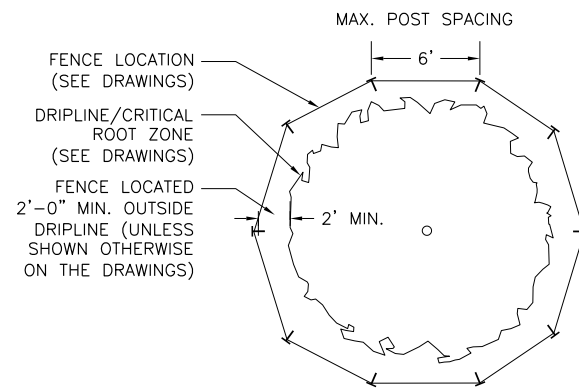
2 LA-09 SHADE TREE STAKING DETAIL NOT TO SCALE



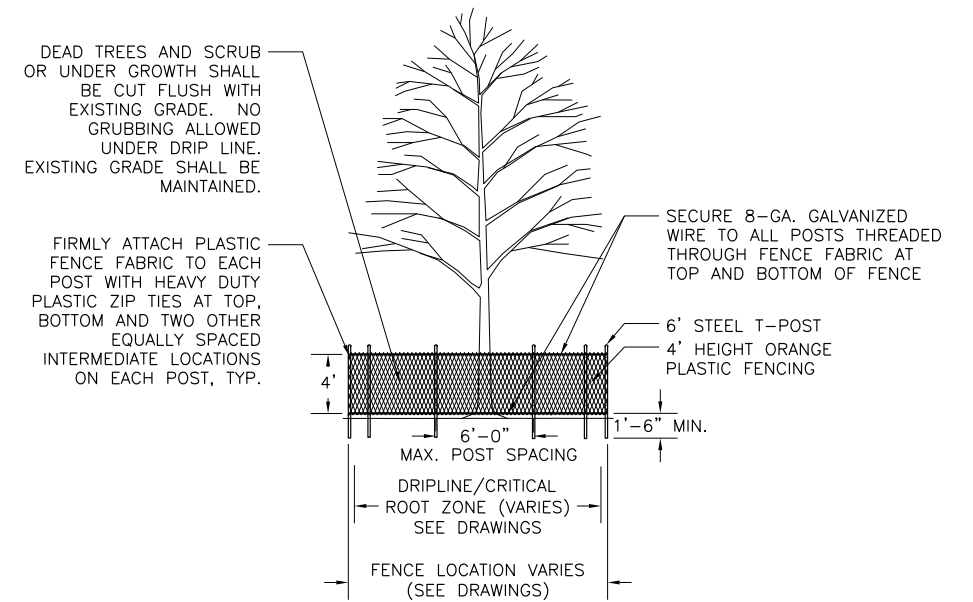
3 LA-09 ORNAMENTAL TREE IN TURF PLANTING DETAIL NOT TO SCALE



4 LA-09 ORNAMENTAL TREE STAKING DETAIL NOT TO SCALE



5 LA-09 TREE PROTECTION FENCE DETAIL - PLAN VIEW NOT TO SCALE



6 LA-09 TREE PROTECTION FENCE DETAIL - ELEVATION VIEW NOT TO SCALE

|     |       |    |        |           |          |       |          |         |                 |
|-----|-------|----|--------|-----------|----------|-------|----------|---------|-----------------|
| NO. | ISSUE | BY | DATE   | FRCL15624 | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME       |
| 0   |       |    | 6/2017 | MLM       | MLM      | EF    | HH       |         | L-RD-PL-Plant13 |
| 1   |       |    | 6/2/17 | MLM       | MLM      | EF    | HH       |         | L-RD-PL-Plant13 |

AMENDMENT NO. 3  
 VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET  
 LA-13  
 SEQ.

| PLANT LIST         |          |  |                         |                                     |           |  |
|--------------------|----------|--|-------------------------|-------------------------------------|-----------|--|
| PLANT ABBREVIATION | QUANTITY | SIZE   | COMMON NAME             | BOTANICAL NAME                      | CONDITION | COMMENTS   |
| LARGE SHADE TREES  |          |  |                         |                                     |           |  |
| CE                 | 27       | 3" CALIPER<br>10'-12' HEIGHT<br>5'-6" SPREAD | CEDAR ELM               | ULMUS CRASSIFOLIA                   | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| CP                 | 45       | 4" CALIPER<br>10' HEIGHT<br>6" SPREAD        | CHINESE PISTACHIO       | PISTACIA CHINENSIS                  | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| LO                 | 61       | 3" CALIPER<br>10'-12' HEIGHT<br>6" SPREAD    | LIVE OAK                | QUERCUS VIRGINIANA                  | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| SO                 | 38       | 3" CALIPER<br>12' HEIGHT<br>6" SPREAD        | SHUMARD OAK             | QUERCUS SHUMARDII                   | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| ORNAMENTAL TREES   |          |  |                         |                                     |           |  |
| CM                 | 29       | 2" CALIPER<br>7' HEIGHT<br>4" SPREAD         | NATCHEZ CRAPE MYRTLE    | LAGERSTROEMIA X FAUREI<br>'NATCHEZ' | CONTAINER | FOUR TO FIVE TRUNKS; FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD |
| VT                 | 6        | 2" CALIPER<br>7' HEIGHT<br>4" SPREAD         | VITEX SHOAL CREEK       | VITEX AGNUS-CASTUS<br>'SHOAL CREEK' | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| EVERGREEN TREE     |          |  |                         |                                     |           |  |
| NP                 | 6        | 10 GALLON<br>5' HEIGHT<br>3' SPREAD          | NEEDLEPOINT HOLLY       | ILEX CORNUTA<br>'NEEDLEPOINT'       | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| NR                 | 12       | 2" CALIPER<br>7' HEIGHT<br>4" SPREAD         | NELLIE R. STEVENS HOLLY | ILEX X 'NELLIE R. STEVENS'          | CONTAINER | FULL DENSE CANOPY; MATCH SELECTIONS FOR UNIFORM HEIGHT AND SPREAD                      |
| TURF               |          |  |                         |                                     |           |  |
| SOD                | 210,555  | SQ. FT.                                      | TIF 419 BERMUDA         | CYNODON DACTYLON<br>'TIF 419'       | -         | SOLID SOD (SEE SPECIFICATIONS)   |

NOTES:  
ALL SIZES SHOWN FOR ALL PLANTS (SUCH AS CALIPER, CONTAINER SIZE, SPREAD, HEIGHT, BRANCHING HEIGHT, ETC.) ARE MINIMUM CRITERIA REQUIRED. A CONTAINER SIZE LARGER THAN THE MINIMUM SIZE CONTAINER INDICATED IN THE PLANT LIST MAY BE NECESSARY TO PROVIDE THE OTHER MINIMUM CRITERIA INDICATED.

CITY OF FRISCO – LANDSCAPE AND TREE PROTECTION NOTES:

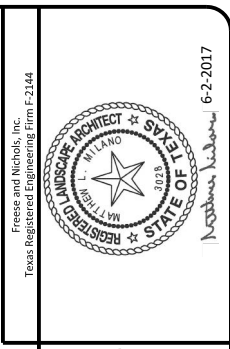
- INSPECTIONS:
- NO EXCAVATION SHALL OCCUR IN CITY R.O.W. WITHOUT A R.O.W. PERMIT--CONTACT PUBLIC WORKS DEPARTMENT.
  - THE CONTRACTOR SHALL MARK ALL WATER LINES, SEWER LINES, AND TREE LOCATIONS PRIOR TO CALLING FOR ROW PERMIT.
  - THE LANDSCAPE INSTALLATION SHALL COMPLY WITH APPROVED LANDSCAPE DRAWINGS PRIOR TO FINAL ACCEPTANCE BY THE CITY AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY. CONTACT DEVELOPMENT SERVICES LANDSCAPE ARCHITECT FOR A LANDSCAPE INSPECTION.
  - WATER METERS, CLEANOUTS AND OTHER APPURTENANCES, SHALL BE ACCESSIBLE, ADJUSTED TO GRADE, CLEARLY MARKED WITH FLAGGING, AND COMPLIANT WITH PUBLIC WORKS DEPARTMENT STANDARDS PRIOR TO CALLING FOR LANDSCAPE AND FINAL R.O.W. INSPECTIONS.

- LANDSCAPE STANDARDS:
- PLANTINGS AND LANDSCAPE ELEMENTS SHALL COMPLY WITH ENGINEERING STANDARDS, PUBLIC R.O.W. VISIBILITY REQUIREMENTS.
  - UNLESS OTHERWISE SPECIFIED, TREES SHALL BE PLANTED NO LESS THAN 6' FROM CURBS, AND 4' FROM SIDEWALKS, UTILITY LINES, AND SCREENING WALLS. THE CITY HAS FINAL APPROVAL FOR ALL TREE PLACEMENTS.
  - A THREE FOOT RADIUS AROUND A FIRE HYDRANT SHALL REMAIN CLEAR OF PLANT MATERIALS PURSUANT TO THE FIRE CODE.
  - STREET TREES, WHERE REQUIRED, SHALL BE (10') MINIMUM FROM THE EDGE OF A STORM SEWER CURB INLET BOX AND THE EDGE OF THE ROOT BALL SHALL BE (4') MINIMUM FROM THE WATER METER.
  - ALL PLANTS SHALL BE GROWN AND HARVESTED IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004)
  - TREE PLANTING SHALL COMPLY WITH DETAILS HEREIN AND THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) STANDARDS.
  - TREE PITS SHALL BE TESTED FOR WATER PERCOLATION. IF WATER DOES NOT DRAIN OUT OF TREE PIT WITHIN 24-HOURS, THE TREE SHALL BE MOVED OR DRAINAGE SHALL BE PROVIDED.
  - NATIVE SITE TOPSOIL IS TO BE PROTECTED FROM EROSION OR STOCKPILED.
  - NATIVE SITE TOPSOIL SHALL BE LABORATORY TESTED BY AN ACCREDITED LABORATORY AND AMENDED PER SAID LABORATORY'S RECOMMENDATIONS.

- IRRIGATION STANDARDS:
- ANY CHANGES TO THESE APPROVED IRRIGATION DRAWINGS SHALL BE AUTHORIZED BY THE DEVELOPMENT SERVICES LANDSCAPE ARCHITECT.
  - CONTACT DEVELOPMENT SERVICES FOR IRRIGATION PERMIT PRIOR TO INSTALLING THE IRRIGATION SYSTEM.
  - IRRIGATION OVERSPRAY ON STREETS AND WALKS IS PROHIBITED.
  - MAINLINES, VALVES, OR CONTROL WIRES SHALL NOT BE LOCATED IN THE R.O.W.
  - ET IRRIGATION CONTROLLERS SHALL BE PROGRAMMED AND ADJUSTED TO NOT EXCEED THE LANDSCAPE WATER ALLOWANCE (LWA) PRIOR TO APPROVAL OF LANDSCAPE INSTALLATION.
  - VALVES SHALL BE LOCATED A MINIMUM OF (3') AWAY FROM STORM SEWERS AND SANITARY SEWER LINES AND 5 FEET FROM CITY FIRE HYDRANTS AND WATER VALVES.
  - THE BORE DEPTH UNDER STREETS, DRIVE AISLES, AND FIRE LANES SHALL PROVIDE (2') OF CLEARANCE (MINIMUM).
  - IRRIGATION HEADS THAT RUN PARALLEL AND NEAR PUBLIC WATER AND SANITARY SEWER LINES; SHALL BE FED FROM STUBBED LATERALS OR BULL-BEADS. A MINIMUM 5-FOOT SEPARATION IS REQUIRED BETWEEN IRRIGATION MAIN LINES AND LATERALS THAT RUN PARALLEL TO PUBLIC WATER AND SANITARY SEWER LINES.
  - NO VALVES, BACKFLOW PREVENTION ASSEMBLIES, QUICK COUPLERS ETC. SHALL BE LOCATED CLOSER THAN 10' FROM THE CURB AT STREET OR DRIVEWAY INTERSECTIONS.

- MAINTENANCE STANDARDS:
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT, MAINTENANCE, AND VIGOR OF PLANT MATERIAL IN ACCORDANCE WITH THE DESIGN INTENT AND AS APPROPRIATE FOR THE SEASON OF THE YEAR.
  - LANDSCAPE AND OPEN AREAS SHALL BE FREE OF TRASH, LITTER AND WEEDS.
  - ALL TREES AND SHRUBS SHALL BE MAINTAINED IN ACCORDANCE WITH THE ENGINEERING DESIGN STANDARDS - PUBLIC R.O.W. VISIBILITY REQUIREMENTS.
  - TREE MAINTENANCE SHALL BE IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300 AND THE STANDARDS OF THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA).
  - TREE STAKING MATERIALS, IF USED, SHALL BE REMOVED AFTER (1) GROWING SEASON AND NOT MORE THAN (1) YEAR AFTER INSTALLATION AS APPROVED BY THE OWNER. STEEL TREE STAKES, WIRES, AND HOSES ARE PROHIBITED.

- TREE PROTECTION NOTES
- CONTACT DEVELOPMENT SERVICES FOR A TREE REMOVAL PERMIT AT 972-292-5300 PRIOR TO REMOVAL OR TRANSPLANTING OF ANY TREES.
  - ALL TREES WHICH ARE TO REMAIN ON SITE SHALL BE PROTECTED WITH A (4') TALL BRIGHTLY COLORED PLASTIC FENCE, OR SILT FENCE, PLACED AT THE DRIP LINE OF THE TREES.
  - PRIOR TO THE PRE-CONSTRUCTION MEETING OR OBTAINING A GRADING PERMIT, ALL TREE MARKINGS AND PROTECTIVE FENCING SHALL BE INSTALLED BY THE CONTRACTOR AND SHALL BE INSPECTED BY THE DEVELOPMENT SERVICES LANDSCAPE ARCHITECT.
  - NO EQUIPMENT SHALL BE CLEANED, OR HARMFUL LIQUIDS DEPOSITED WITHIN THE LIMITS OF THE ROOT ZONE OF TREES WHICH REMAIN ON SITE.
  - NO SIGNS, WIRES, OR OTHER ATTACHMENTS SHALL BE ATTACHED TO ANY TREE TO REMAIN ON SITE.
  - VEHICULAR AND CONSTRUCTION EQUIPMENT SHALL NOT PARK OR DRIVE WITHIN THE LIMITS OF THE DRIP LINE.
  - GRADE CHANGES IN EXCESS OF 3 INCHES (CUT OR FILL) SHALL NOT BE ALLOWED WITHIN A ROOT ZONE, UNLESS ADEQUATE TREE PRESERVATION METHODS ARE APPROVED BY THE CITY.
  - NO TRENCHING SHALL BE ALLOWED WITHIN THE DRIP-LINE OF A TREE, UNLESS APPROVED BY THE CITY.
  - ALL REMOVED TREES SHALL BE CHIPPED AND USED FOR MULCH ON SITE OR HAULED OFF-SITE.
  - ALL TREE MAINTENANCE TECHNIQUES SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300 INDUSTRY IDENTIFIED STANDARDS. IMPROPER OR MALICIOUS PRUNING TECHNIQUES ARE STRICTLY PROHIBITED.



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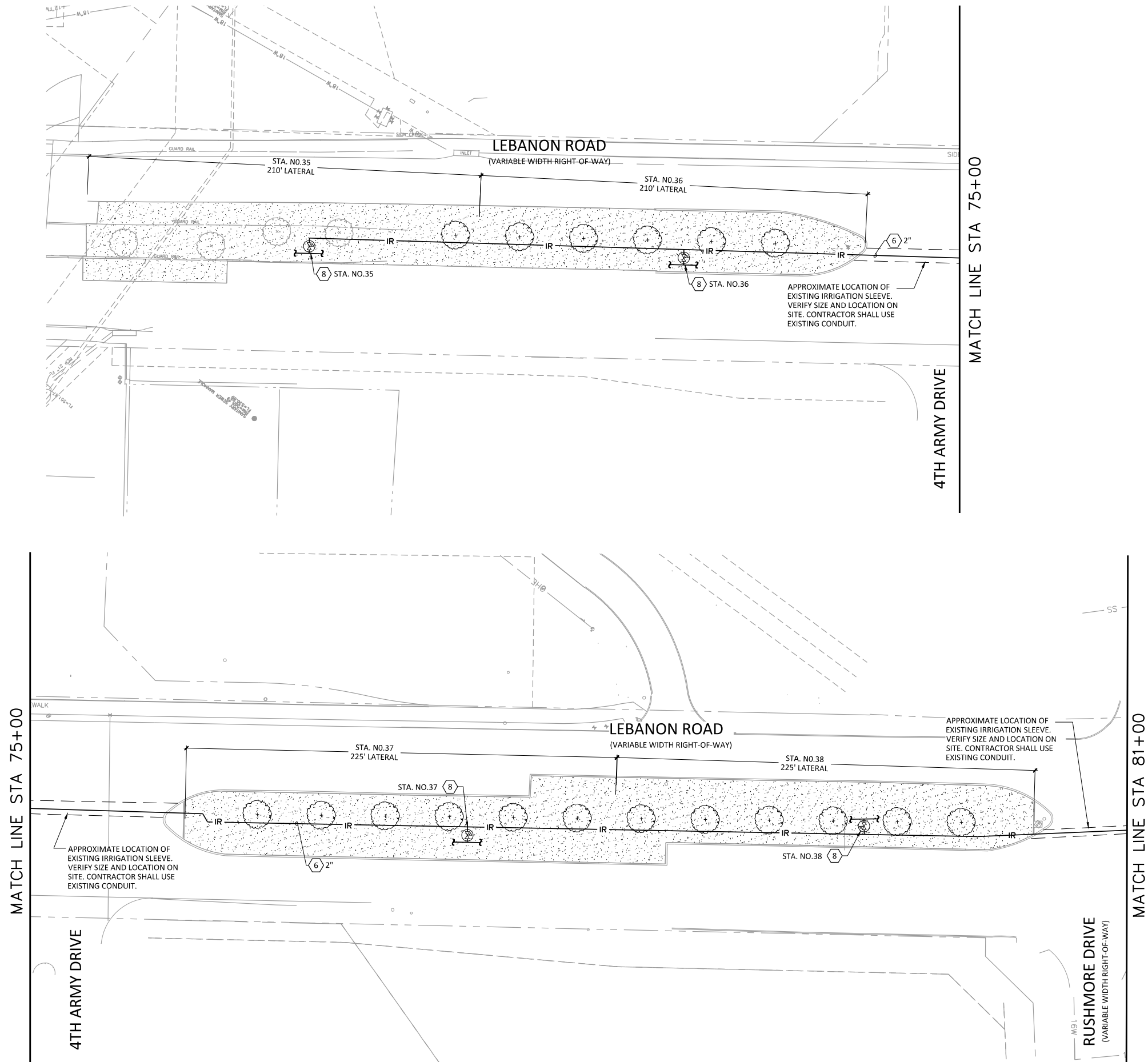
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 LANDSCAPE ARCHITECTURE  
**PLANT LIST AND LANDSCAPE NOTES**

|     |       |    |      |             |        |          |       |                 |         |                 |
|-----|-------|----|------|-------------|--------|----------|-------|-----------------|---------|-----------------|
| NO. | ISSUE | BY | DATE | FRN JOB NO. | DATE   | DESIGNED | DRAWN | REVISION        | CHECKED | FILE NAME       |
|     |       |    |      | FRCL15624   | 6/2017 | MLM      | EF    |                 | HH      | L-RD-PL-Plant14 |
|     |       |    |      |             |        |          |       | AMENDMENT NO. 3 |         |                 |
|     |       |    |      |             |        |          |       | VERIFY SCALE    |         |                 |
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SHEET  
**LA-14**

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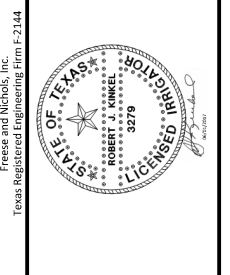
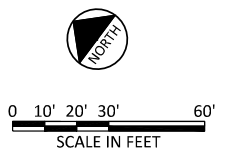


- NOTES BY SYMBOL "⊠"**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
  - 2" ISOLATION VALVE (1/2 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
  - AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE. LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 51" ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE. STABILIZING PAD SET FLUSH WITH FINAL GRADE.
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**LEGEND**

|  |   |
|--|---|
|  | WATER METER IN METER VAULT  |
|  | BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE |
|  | ISOLATION VALVE IN VALVE BOX  |
|  | CONTROL VALVE IN VALVE BOX  |
|  | IRRIGATION SUPPLY MAIN  |
|  | IRRIGATION SYSTEM CONTROLLER  |
|  | TURF GRASS AREA   |
|  | SIDEWALK  |

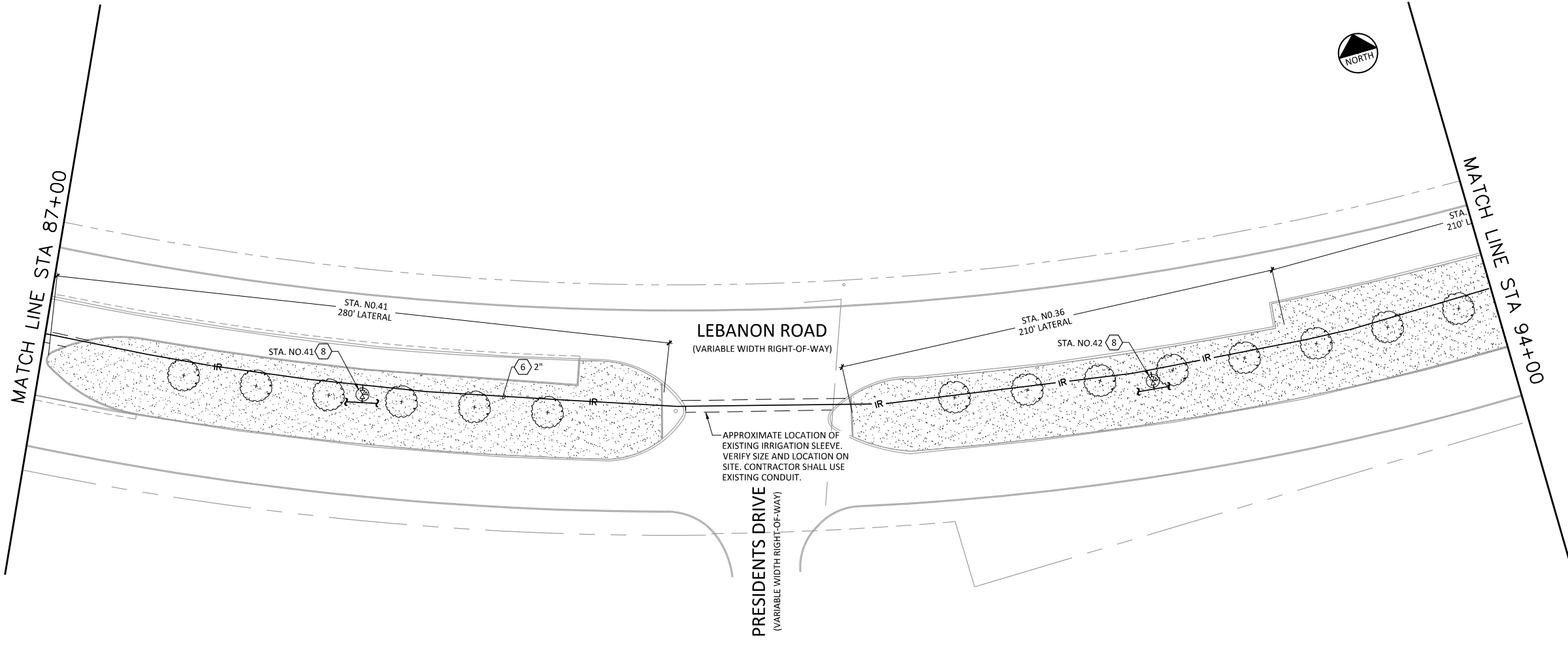
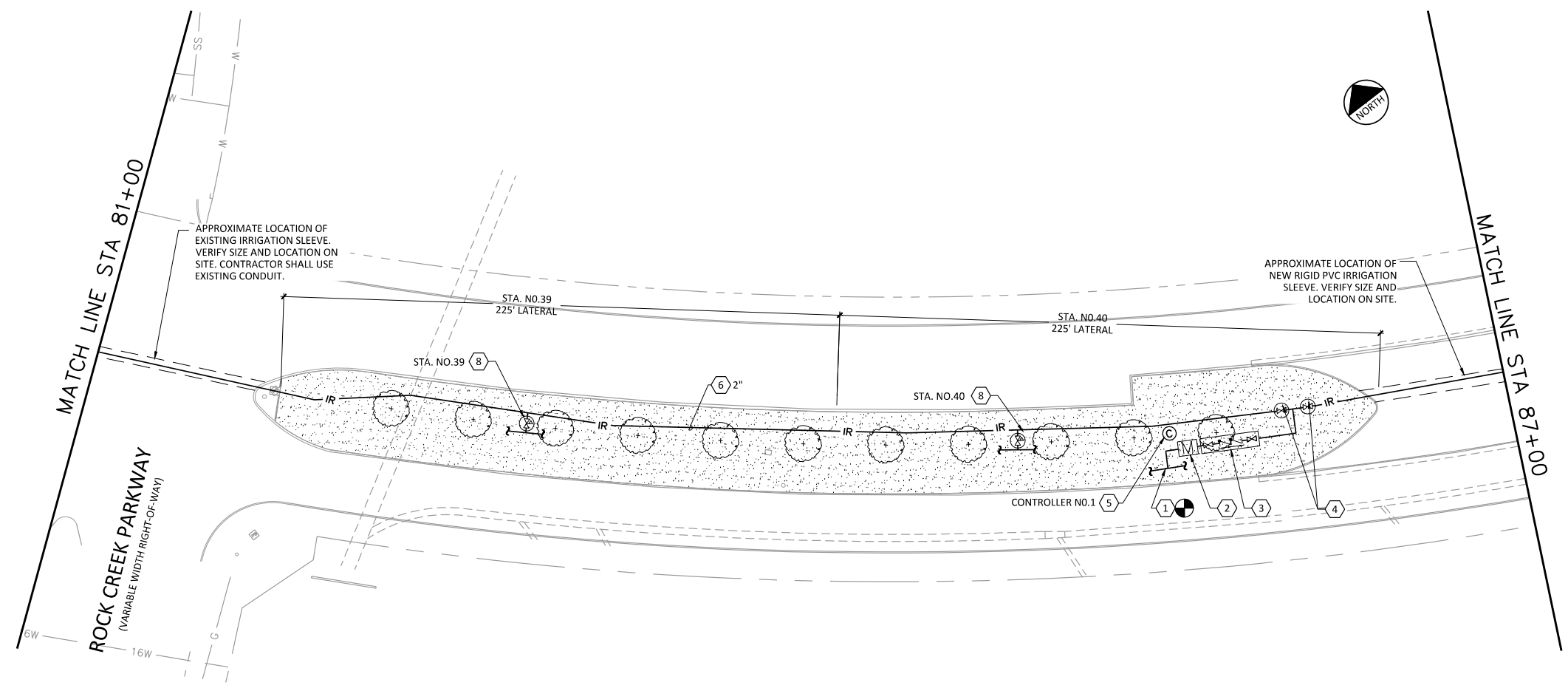


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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
**BEGIN TO STA 81+00**

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| NO. ISSUE   | BY | DATE | DESIGNED | DATE   | DRAWN | REVISION | DATE | FILE NAME        |
|   |    |      |          | 6/2017 | MRB   | 06/01/17 |      | IR-RD-PL-Plant1A |
| ADDENDUM NO. 3<br>Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |    |      |          |        |       |          |      |                  |
| VERIFY SCALE<br>0 1   |    |      |          |        |       |          |      |                  |
| SHEET <b>IR-1</b>   |    |      |          |        |       |          |      |                  |
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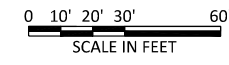


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- WATER METER IN METER VAULT
- BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
- ISOLATION VALVE IN VALVE BOX
- CONTROL VALVE IN VALVE BOX
- IRRIGATION SUPPLY MAIN
- IRRIGATION SYSTEM CONTROLLER
- TURF GRASS AREA
- SIDEWALK



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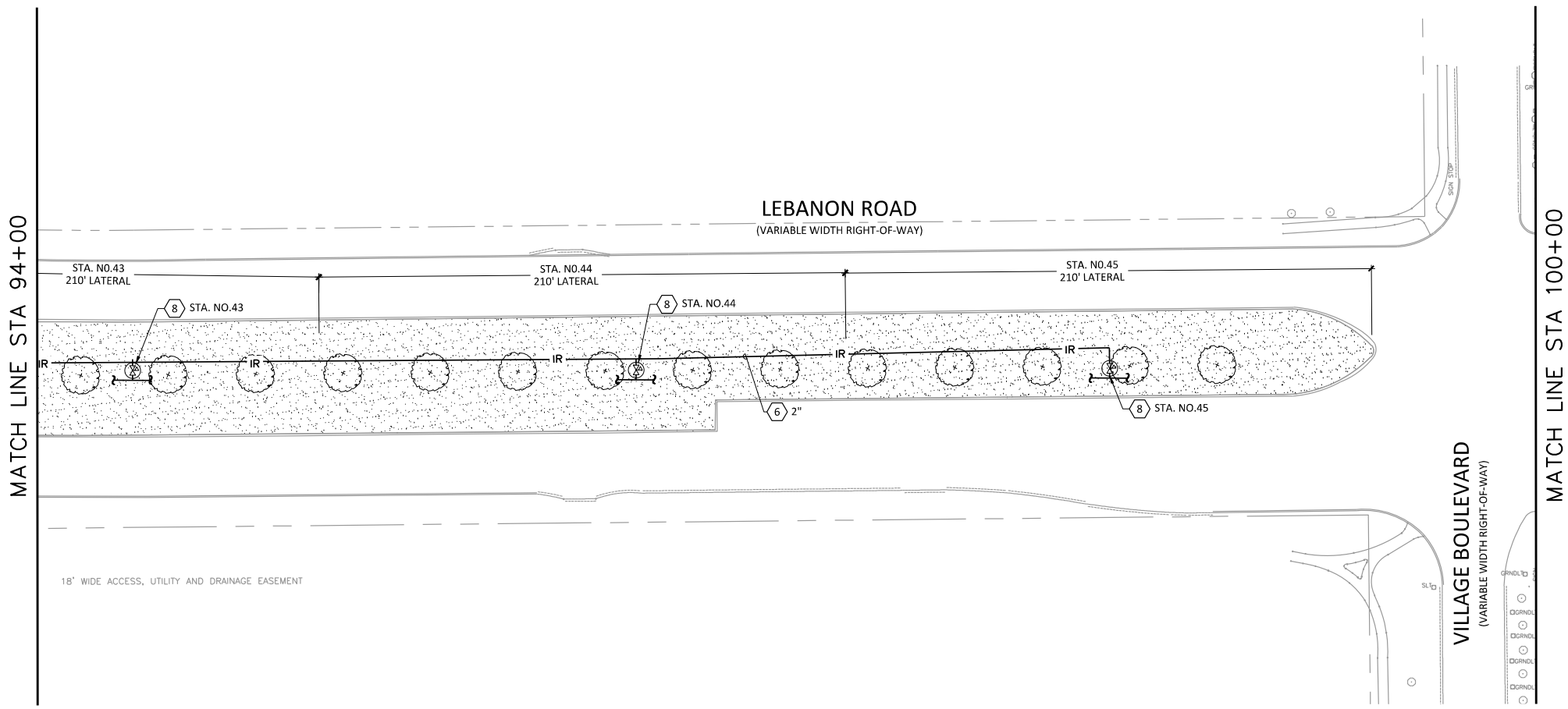
CITY OF FRISCO, TEXAS

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
 STA 81+00 TO STA 94+00

|  |       |    |      |             |          |      |        |          |     |       |     |         |     |
|--|-------|----|------|-------------|----------|------|--------|----------|-----|-------|-----|---------|-----|
| NO.  | ISSUE | BY | DATE | FEN JOB NO. | FRCL5624 | DATE | 6/2017 | DESIGNED | RIK | DRAWN | MRB | CHECKED | STV |
| <p style="font-size: x-small;">ADDENDUM NO. 3<br/>         Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.</p> |       |    |      |             |          |      |        |          |     |       |     |         |     |
| <p><b>IR-2</b></p>   |       |    |      |             |          |      |        |          |     |       |     |         |     |





**NOTES BY SYMBOL "⊕"**

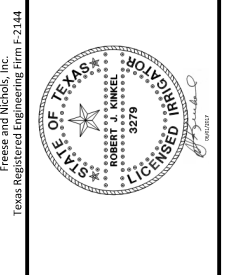
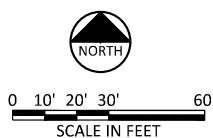
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- BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
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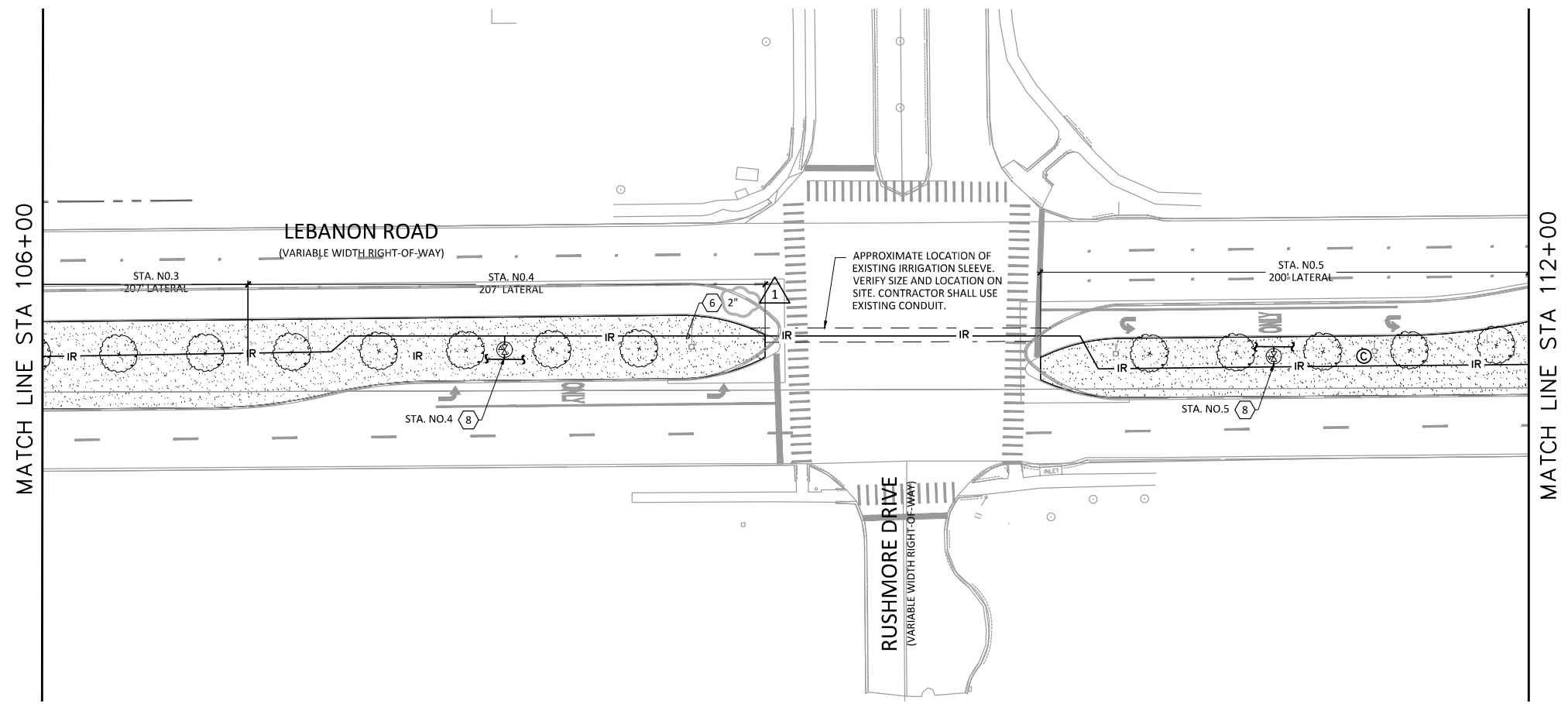
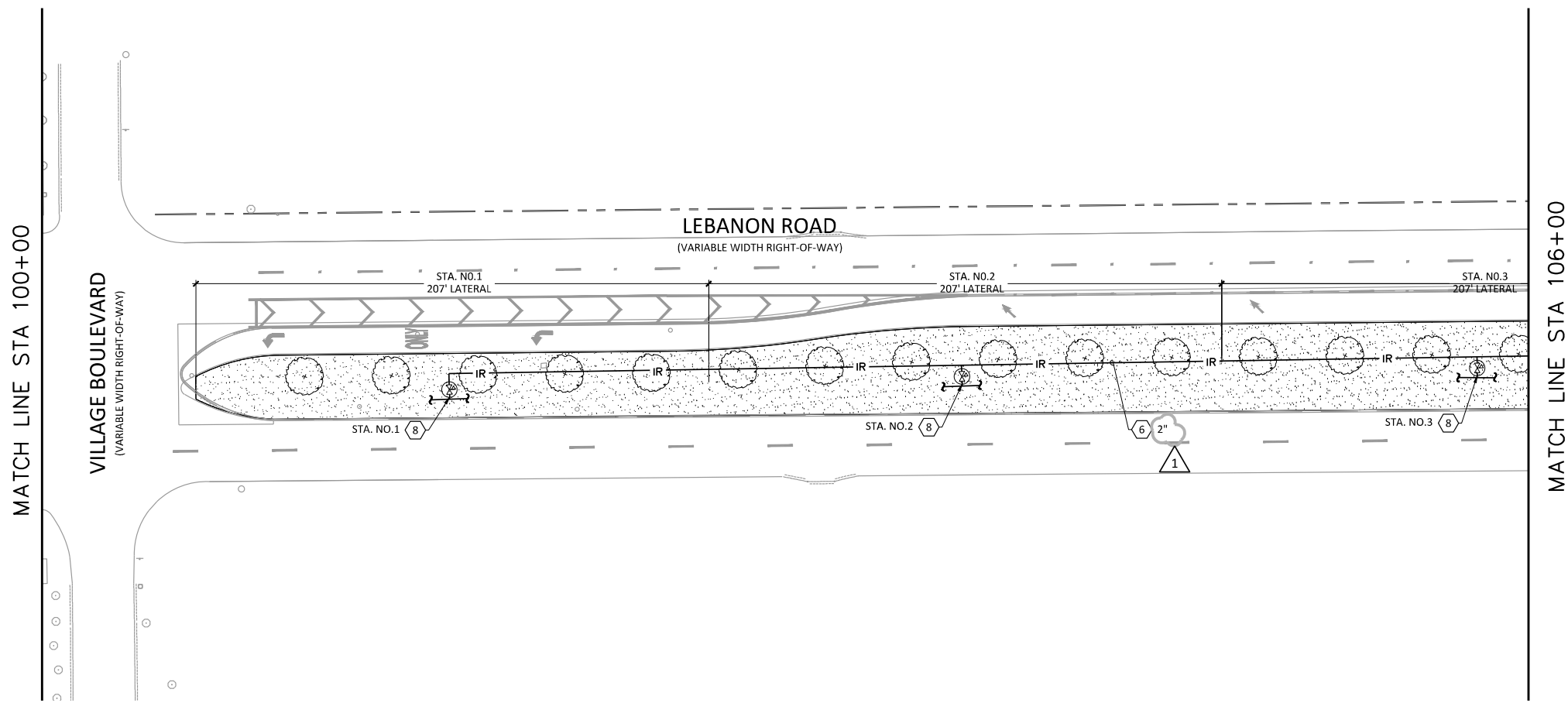
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

**LANDSCAPE IRRIGATION  
 LEBANON ROAD IRRIGATION PLAN  
 STA 94+00 TO STA 100+00**

|             |    |          |                  |
|-------------|----|----------|------------------|
| NO. / ISSUE | BY | DATE     | F&N JOB NO.      |
|             |    |          | FRCL15624        |
|             |    | 6/2017   | DATE             |
|             |    |          | DESIGNED         |
|             |    |          | MRB              |
|             |    |          | MRB              |
|             |    | 06/01/17 | DATE             |
|             |    |          | REVISION         |
|             |    |          | STV              |
|             |    |          | FILE NAME        |
|             |    |          | IR-RD-PL-Plant3A |

SHEET **IR-3**

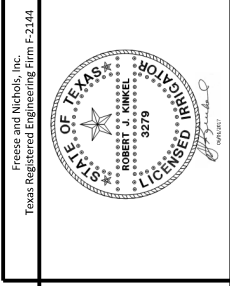
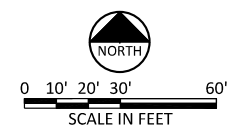
SEQ.



- NOTES BY SYMBOL**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
  - 2" ISOLATION VALVE (¼ TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
  - AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE, LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 5' ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE STABILIZING PAD SET FLUSH WITH FINAL GRADE.
  - IRRIGATION SYSTEM WATER SUPPLY MAIN. SLEEVE PIPE WITH RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - DRIP LINE IRRIGATION SYSTEM ZONE FOR TURF AREAS AND TREE RINGS. PROVIDE RAINBIRD DRIP LINE, DRIP SYSTEM FOR TURF AND TREE RINGS IN THIS AREA. SLEEVE RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - STATION CONTROL VALVE WITH PRESSURE REGULATOR IN VALVE BOX. PROVIDE WIRING AS REQUIRED BACK TO CONTROLLER. ADJUST NUMBER OF CONTROL VALVES TO SUIT DESIGN REQUIREMENTS OF THE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LOCATE CONTROL VALVES NO FURTHER THAN PERMITTED BY THE MANUFACTURER OF THE CONTROLLER.

- GENERAL NOTES:**
- PROVIDE COMPLETE LANDSCAPE IRRIGATION SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS. DRAWINGS ARE GENERALLY SCHEMATIC AND PERFORMANCE BASED. PROVIDE DETAILED DRAWINGS AS REQUIRED BY THE SPECIFICATIONS.
  - LOCATE AND UTILIZE EXISTING PVC SLEEVES BETWEEN ISLANDS FOR PIPING AND LOW VOLTAGE CONDUCTORS.
  - LAYOUT AND DETAILS OF DRIP IRRIGATION SYSTEMS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE DETAILS INCLUDED IN THIS SET OF DRAWINGS.

- LEGEND**
- Water Meter in Meter Vault
  - Backflow Preventer in Accordance with AHJ in Above Ground Enclosure
  - Isolation Valve in Valve Box
  - Control Valve in Valve Box
  - IR - Irrigation Supply Main
  - ⊙ - Irrigation System Controller
  - Turf Grass Area
  - Sidewalk

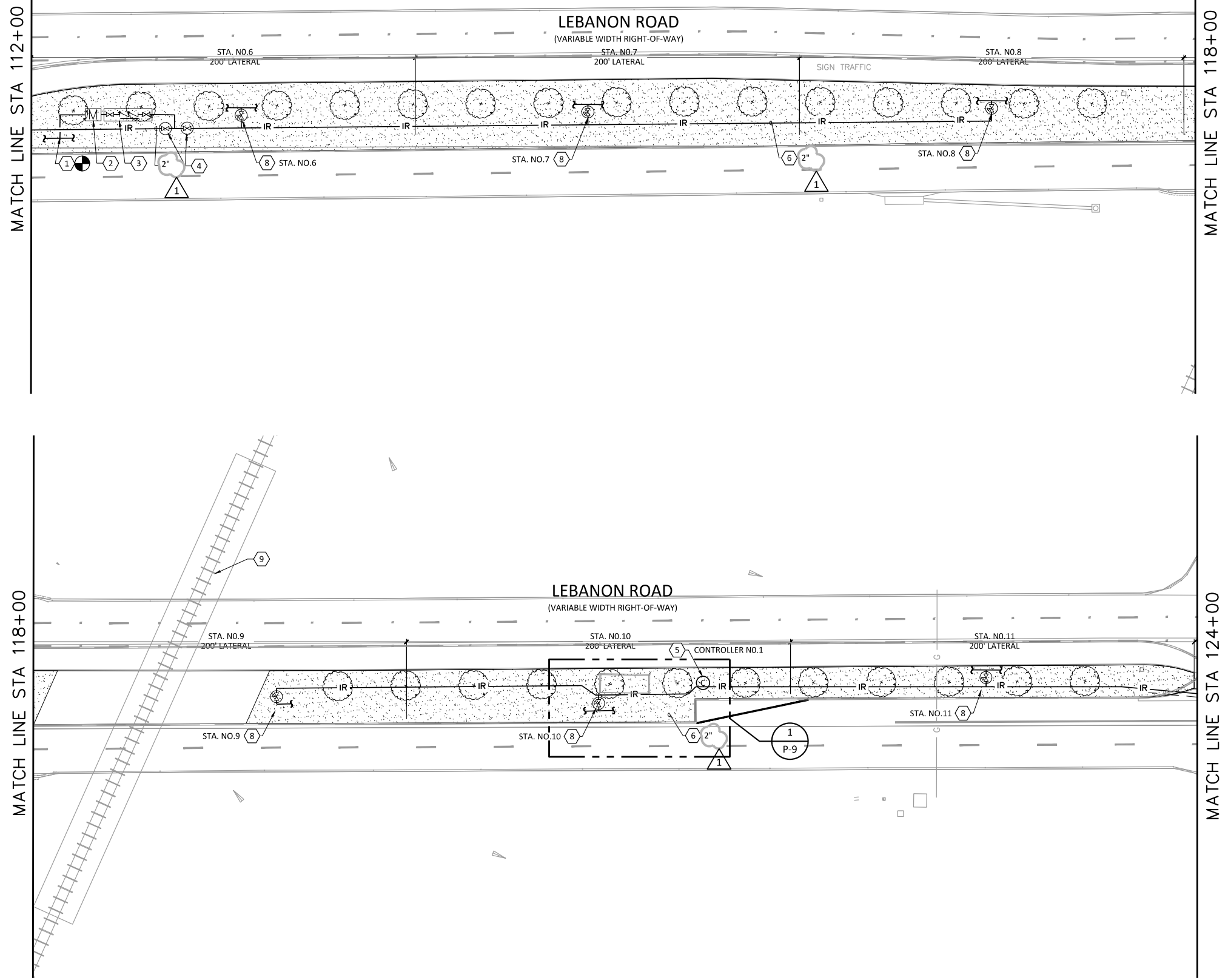


**FREESSE NICHOLS**  
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CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
 STA 100+00 TO STA 112+00

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| NO.  | ISSUE | DATE | DESIGNED | DRAWN | REVISION | CHECKED | RIK             |
|  |       |      | 6/2017   | MRB   | MRB      |         |                 |
| ADDENDUM NO. 3   |       |      |          |       |          |         | FILE NAME       |
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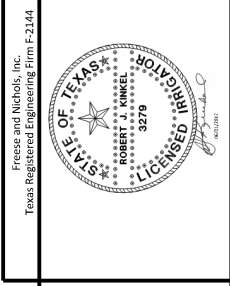
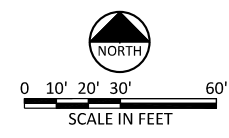
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- NOTES BY SYMBOL**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
  - 2" ISOLATION VALVE (1/4 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
  - AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE, LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 5'1" ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE STABILIZING PAD SET FLUSH WITH FINAL GRADE.
  - IRRIGATION SYSTEM WATER SUPPLY MAIN. SLEEVE PIPE WITH RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - DRIP LINE IRRIGATION SYSTEM ZONE FOR TURF AREAS AND TREE RINGS. PROVIDE RAINBIRD DRIP LINE, DRIP SYSTEM FOR TURF AND TREE RINGS IN THIS AREA. SLEEVE RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - STATION CONTROL VALVE WITH PRESSURE REGULATOR IN VALVE BOX. PROVIDE WIRING AS REQUIRED BACK TO CONTROLLER. ADJUST NUMBER OF CONTROL VALVES TO SUIT DESIGN REQUIREMENTS OF THE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LOCATE CONTROL VALVES NO FURTHER THAN PERMITTED BY THE MANUFACTURER OF THE CONTROLLER.
  - VERIFY EXISTING RAILROAD ROW AND DO NOT PROVIDE PIPING WITHIN THAT AREA.

- GENERAL NOTES:**
- PROVIDE COMPLETE LANDSCAPE IRRIGATION SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS. DRAWINGS ARE GENERALLY SCHEMATIC AND PERFORMANCE BASED. PROVIDE DETAILED DRAWINGS AS REQUIRED BY THE SPECIFICATIONS.
  - LOCATE AND UTILIZE EXISTING PVC SLEEVES BETWEEN ISLANDS FOR PIPING AND LOW VOLTAGE CONDUCTORS.
  - LAYOUT AND DETAILS OF DRIP IRRIGATION SYSTEMS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE DETAILS INCLUDED IN THIS SET OF DRAWINGS.

- LEGEND**
- Water Meter in Meter Vault
  - Backflow Preventer in Accordance with AHJ in Above Ground Enclosure
  - Isolation Valve in Valve Box
  - Control Valve in Valve Box
  - Irrigation Supply Main
  - Irrigation System Controller
  - Turf Grass Area
  - Sidewalk



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CITY OF FRISCO, TEXAS  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
**LEBANON ROAD IRRIGATION PLAN**  
**STA 112+00 TO STA 124+00**

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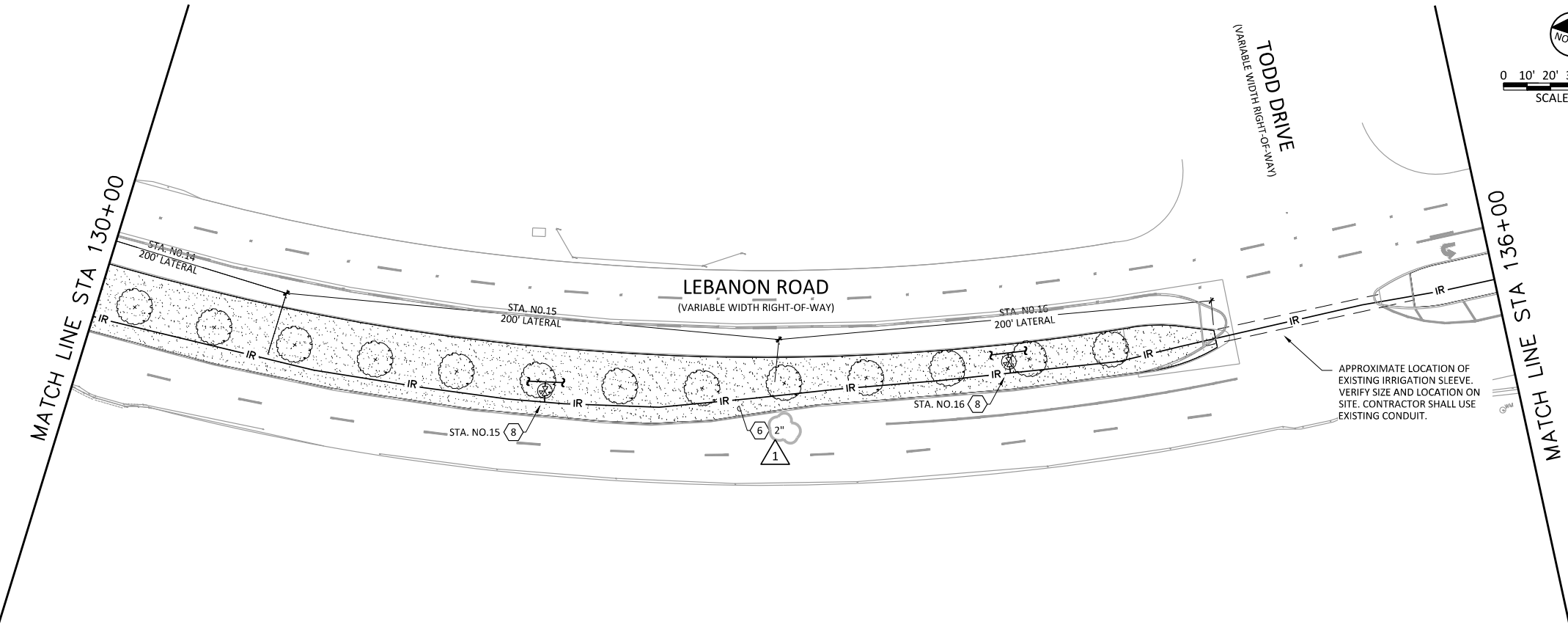
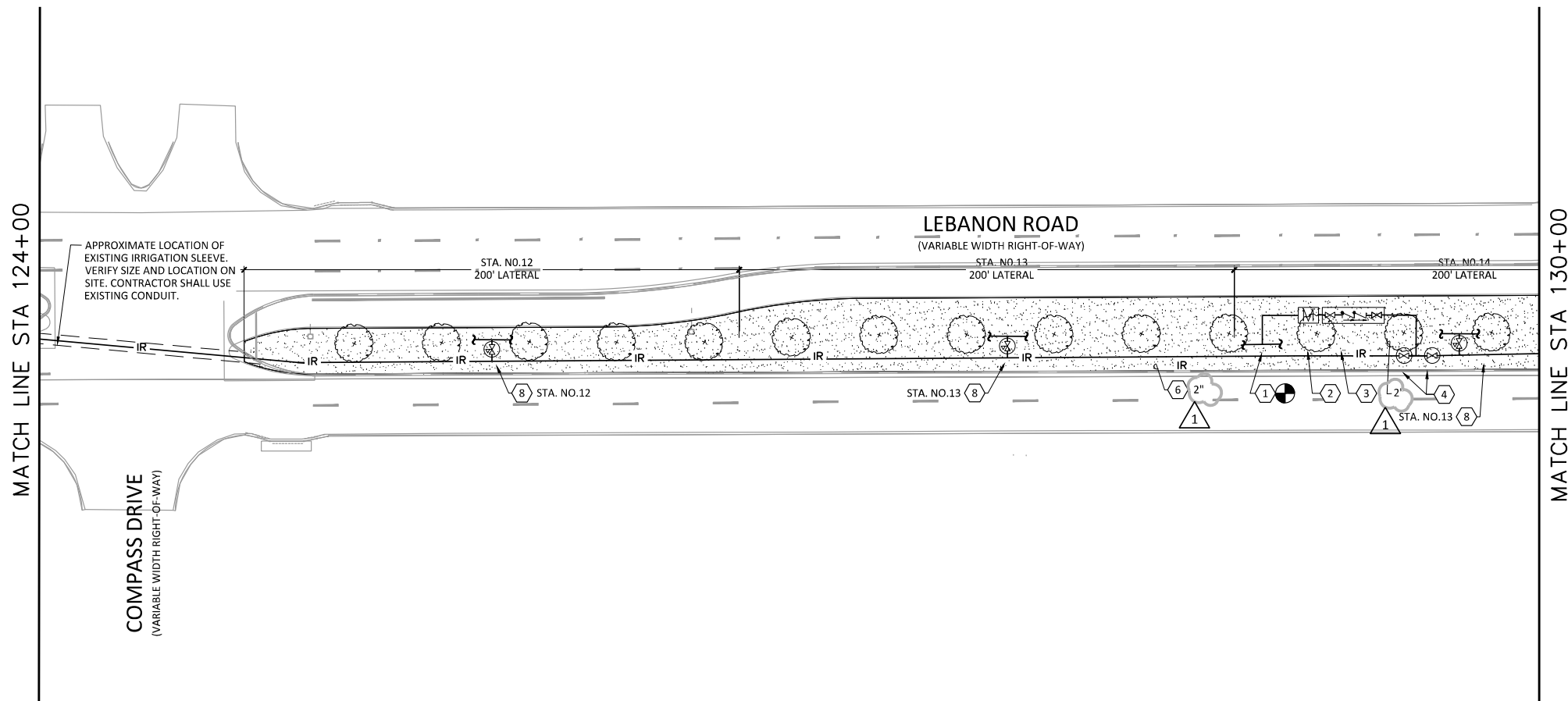
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| FR15624 | DATE | DESIGNED | DRAWN | REVISION | CHECKED | RIK |
| 6/2017  | MRB  | MRB      | MRB   | 06/01/17 | MRB     | MRB |

ADDENDUM NO. 3  
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SCALE 1" = 10'

SHEET **IR-5**

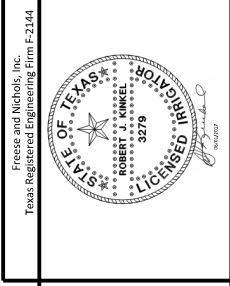
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- NOTES BY SYMBOL "1"**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
  - 2" ISOLATION VALVE (1/4 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
  - AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE, LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 5'1" ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE STABILIZING PAD SET FLUSH WITH FINAL GRADE.
  - IRRIGATION SYSTEM WATER SUPPLY MAIN. SLEEVE PIPE WITH RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - DRIP LINE IRRIGATION SYSTEM ZONE FOR TURF AREAS AND TREE RINGS. PROVIDE RAINBIRD DRIP LINE, DRIP SYSTEM FOR TURF AND TREE RINGS IN THIS AREA. SLEEVE RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - STATION CONTROL VALVE WITH PRESSURE REGULATOR IN VALVE BOX. PROVIDE WIRING AS REQUIRED BACK TO CONTROLLER. ADJUST NUMBER OF CONTROL VALVES TO SUIT DESIGN REQUIREMENTS OF THE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LOCATE CONTROL VALVES NO FURTHER THAN PERMITTED BY THE MANUFACTURER OF THE CONTROLLER.

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  - LOCATE AND UTILIZE EXISTING PVC SLEEVES BETWEEN ISLANDS FOR PIPING AND LOW VOLTAGE CONDUCTORS.
  - LAYOUT AND DETAILS OF DRIP IRRIGATION SYSTEMS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE DETAILS INCLUDED IN THIS SET OF DRAWINGS.

- LEGEND**
- WATER METER IN METER VAULT
  - BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
  - ISOLATION VALVE IN VALVE BOX
  - CONTROL VALVE IN VALVE BOX
  - IRRIGATION SUPPLY MAIN
  - IRRIGATION SYSTEM CONTROLLER
  - TURF GRASS AREA
  - SIDEWALK



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CITY OF FRISCO, TEXAS  
 LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
 LANDSCAPE IRRIGATION  
 LEBANON ROAD IRRIGATION PLAN  
 STA 124+00 TO STA 136+00

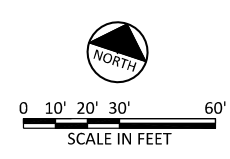
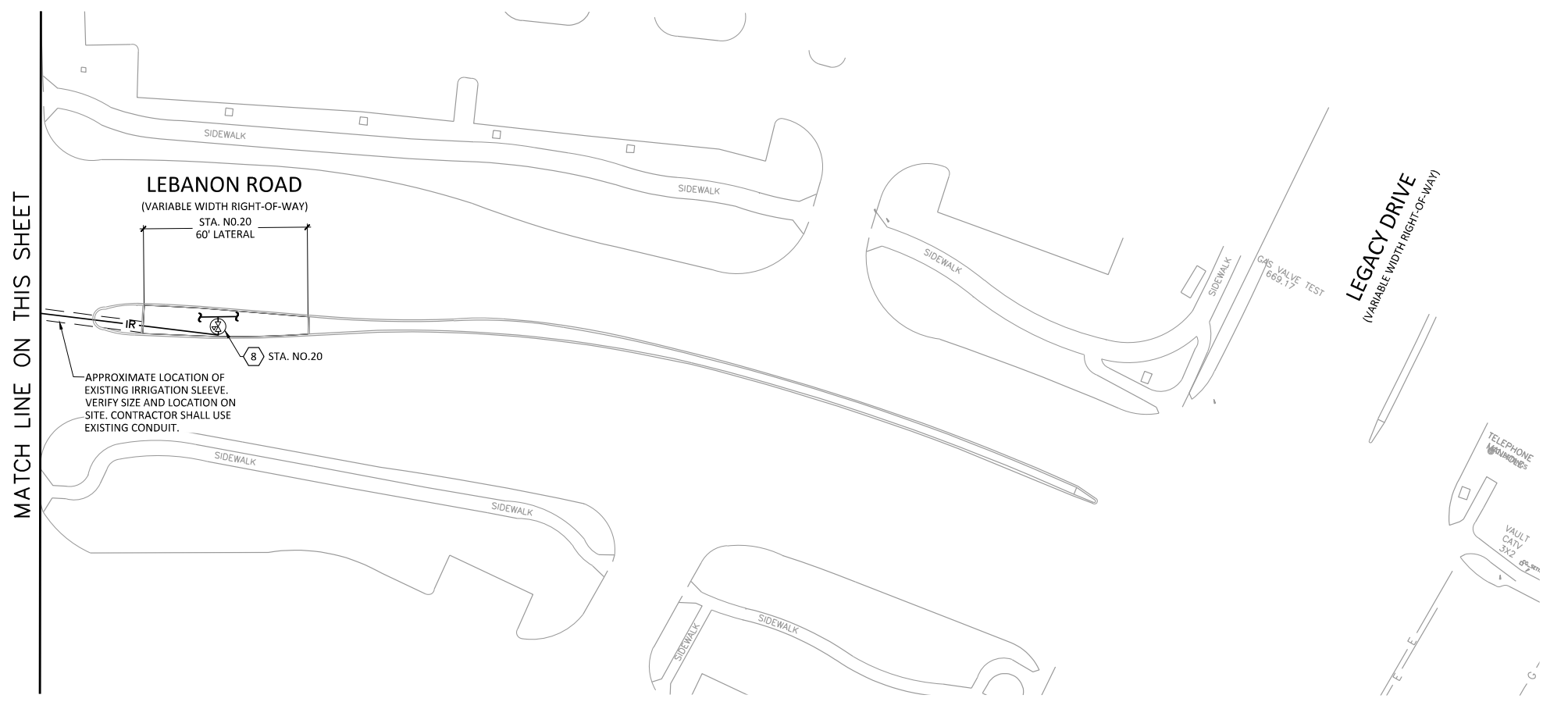
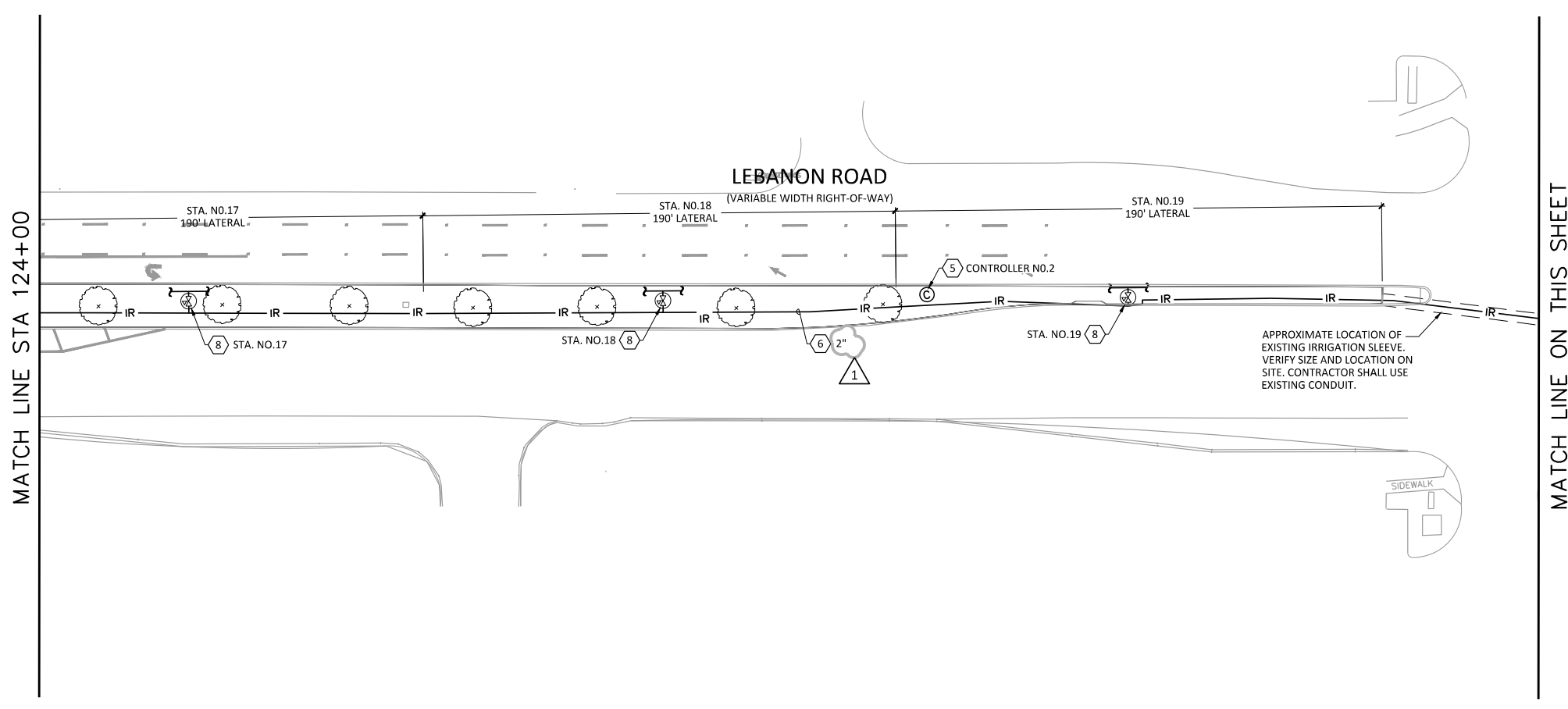
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| F&N JOB NO. |                                | FRCL15624       |     |                 |
| DATE        |                                | 6/2017          |     |                 |
| DESIGNED    |                                | MRB             |     |                 |
| DRAWN       |                                | MRB             |     |                 |
| REVISED     |                                | MRB             |     |                 |
| CHECKED     |                                | RIK             |     |                 |
| FILE NAME   |                                | IR-RD-PL-Plant3 |     |                 |

SHEET **IR-6**  
 SEQ.

1. 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
2. 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
3. 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
4. 2" ISOLATION VALVE (1/4 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
5. AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE, LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 5'1" ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE STABILIZING PAD SET FLUSH WITH FINAL GRADE.
6. IRRIGATION SYSTEM WATER SUPPLY MAIN. SLEEVE PIPE WITH RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
7. DRIP LINE IRRIGATION SYSTEM ZONE FOR TURF AREAS AND TREE RINGS. PROVIDE RAINBIRD DRIP LINE, DRIP SYSTEM FOR TURF AND TREE RINGS IN THIS AREA. SLEEVE RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
8. STATION CONTROL VALVE WITH PRESSURE REGULATOR IN VALVE BOX. PROVIDE WIRING AS REQUIRED BACK TO CONTROLLER. ADJUST NUMBER OF CONTROL VALVES TO SUIT DESIGN REQUIREMENTS OF THE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LOCATE CONTROL VALVES NO FURTHER THAN PERMITTED BY THE MANUFACTURER OF THE CONTROLLER.

- GENERAL NOTES:**
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- LEGEND**
- WATER METER IN METER VAULT
  - BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
  - ISOLATION VALVE IN VALVE BOX
  - CONTROL VALVE IN VALVE BOX
  - IRRIGATION SUPPLY MAIN
  - IRRIGATION SYSTEM CONTROLLER
  - TURF GRASS AREA
  - SIDEWALK

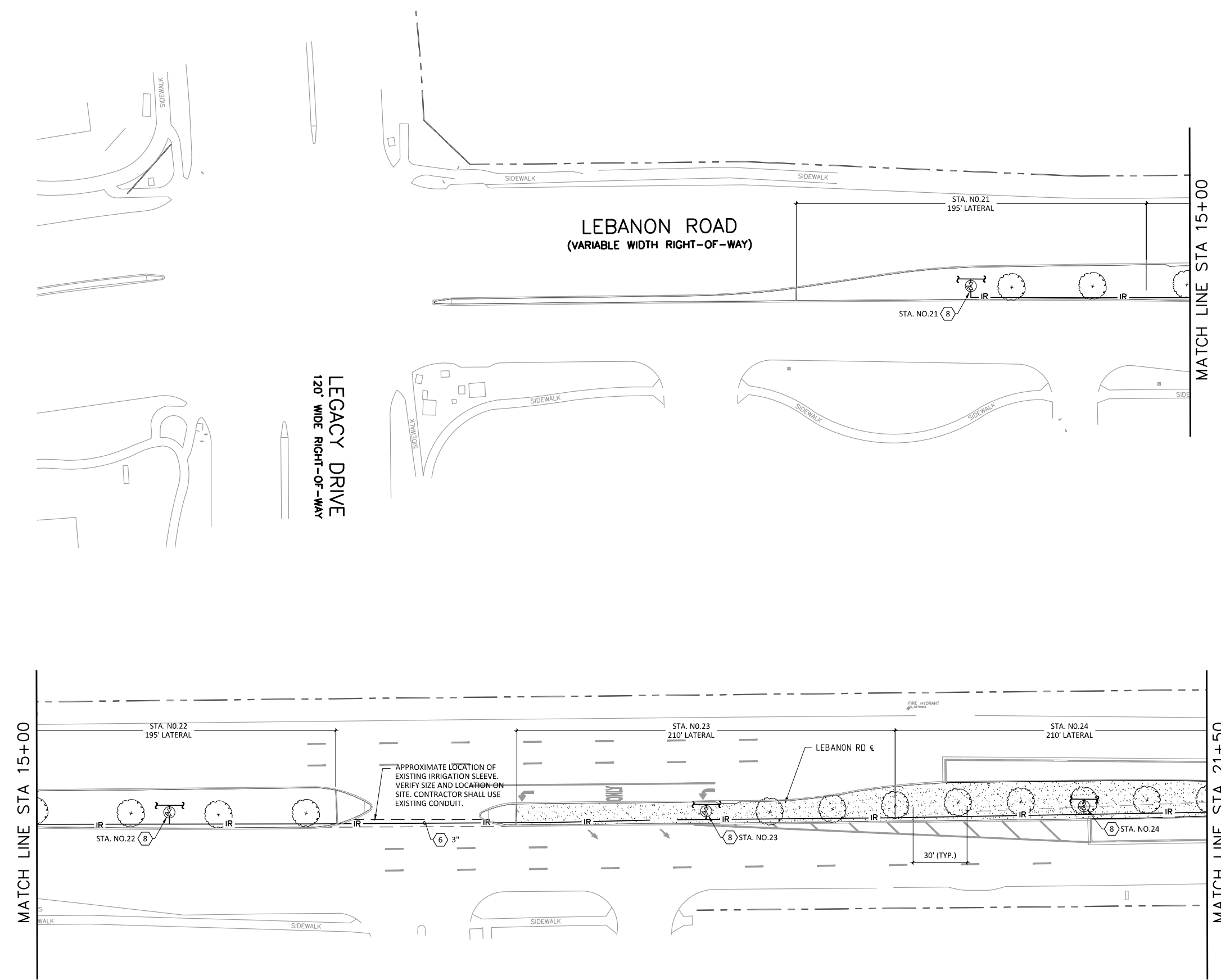


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| 1   | ADDENDUM NO. 3 |        |        |       |          |         |                 |
|     | VERIFY SCALE   |        |        |       |          |         |                 |

Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale.

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- NOTES BY SYMBOL**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
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  - 2" ISOLATION VALVE (¼ TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
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- LEGEND**
- WATER METER IN METER VAULT
  - BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
  - ISOLATION VALVE IN VALVE BOX
  - CONTROL VALVE IN VALVE BOX
  - IRRIGATION SUPPLY MAIN
  - IRRIGATION SYSTEM CONTROLLER
  - TURF GRASS AREA
  - SIDEWALK

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 Texas Registered Engineering Firm F-2144

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CITY OF FRISCO, TEXAS

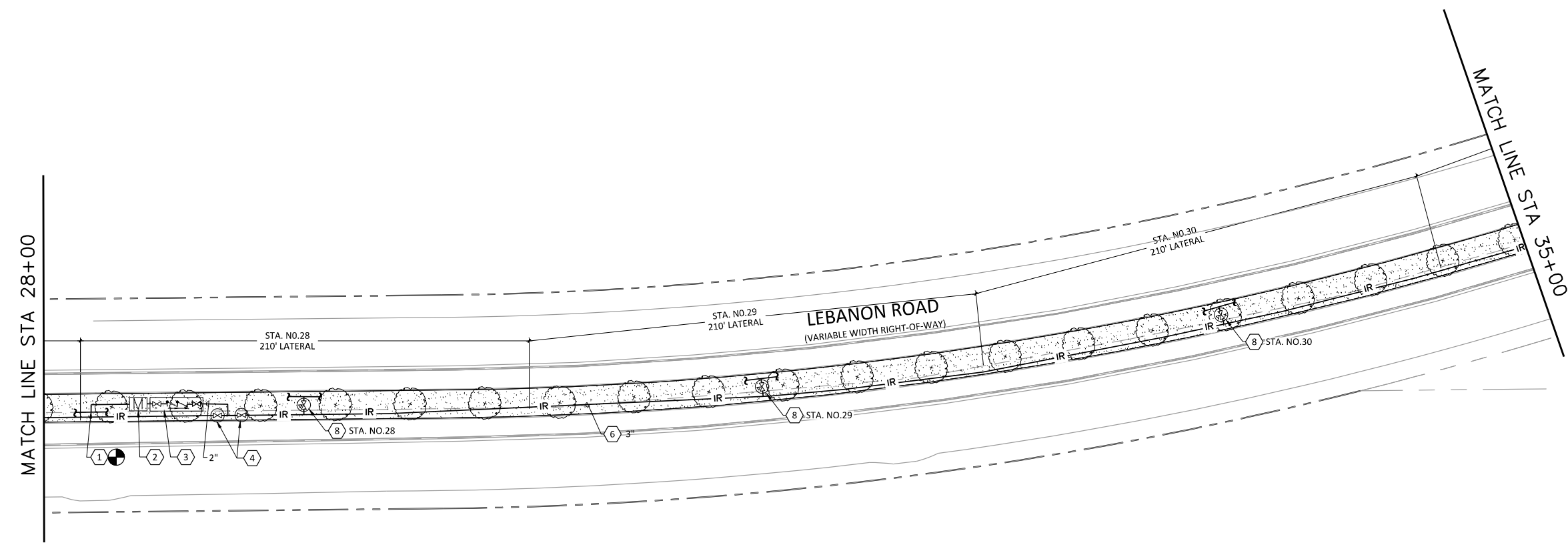
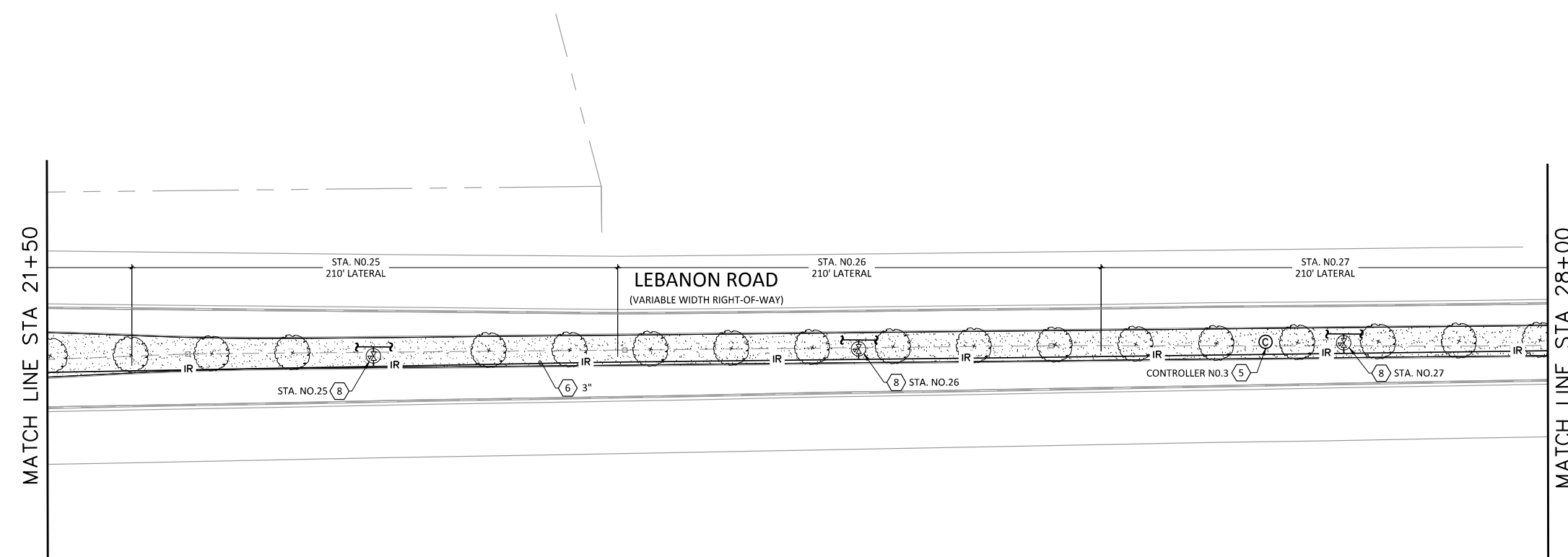
LANDSCAPE IRRIGATION

**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**

**LEBANON ROAD IRRIGATION PLAN**  
 PHASE 1 BEGIN TO STA 21+50

|   |       |      |          |        |          |         |                 |
|---|-------|------|----------|--------|----------|---------|-----------------|
| NO.   | ISSUE | DATE | DESIGNED | DRAWN  | REVISION | CHECKED | STV             |
|   |       |      | FRCL1624 | 6/2017 | MRB      |         |                 |
| ADDENDUM NO. 3  |       |      |          |        |          |         | STV             |
| VERIFY SCALE  |       |      |          |        |          |         | FILE NAME       |
| Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |      |          |        |          |         | IR-RD-PL-Plant5 |
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| SEQ.  |       |      |          |        |          |         |                 |

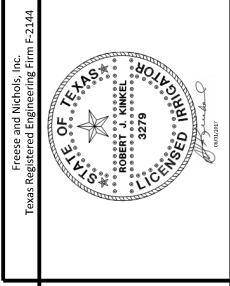
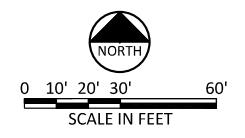
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- NOTES BY SYMBOL**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14
  - 2" ISOLATION VALVE (1/4 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
  - AMBIENT LIGHT POWERED IRRIGATION CONTROLLER. DIG LEIT-2ET. PROVIDE QUANTITIES REQUIRED BY THE NUMBER OF STATIONS NECESSARY. PROVIDE WEATHER STATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN STANDARDS. PROVIDE A 12 INCH WIDE SQUARE X 8" THICK REINFORCED CONCRETE (4000 PSI) STABILIZING PAD BENEATH POLE, LEVEL WITH SURROUNDING FINISHED GRADE. PROVIDE WEATHER STATIONS MOUNTED A MINIMUM OF 5'1" ABOVE FINISHED GRADE ON A 1-1/2" INCH DIA. GALVANIZED STEEL PIPE WITH THREADED TOP CAP. DRILL INTO PIPE FOR CONDUCTORS AND REAM THE HOLE SMOOTH AND SEAL WITH 25 YEAR CLEAR FLEXIBLE CAULK. MOUNT THE POLE IN AN 18 INCH X 18 INCH X 12 INCH THICK REINFORCED CONCRETE STABILIZING PAD SET FLUSH WITH FINAL GRADE.
  - IRRIGATION SYSTEM WATER SUPPLY MAIN. SLEEVE PIPE WITH RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - DRIP LINE IRRIGATION SYSTEM ZONE FOR TURF AREAS AND TREE RINGS. PROVIDE RAINBIRD DRIP LINE, DRIP SYSTEM FOR TURF AND TREE RINGS IN THIS AREA. SLEEVE RIGID PVC BENEATH WALKS, DRIVES AND ROADWAYS.
  - STATION CONTROL VALVE WITH PRESSURE REGULATOR IN VALVE BOX. PROVIDE WIRING AS REQUIRED BACK TO CONTROLLER. ADJUST NUMBER OF CONTROL VALVES TO SUIT DESIGN REQUIREMENTS OF THE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LOCATE CONTROL VALVES NO FURTHER THAN PERMITTED BY THE MANUFACTURER OF THE CONTROLLER.

- GENERAL NOTES:**
- PROVIDE COMPLETE LANDSCAPE IRRIGATION SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS. DRAWINGS ARE GENERALLY SCHEMATIC AND PERFORMANCE BASED. PROVIDE DETAILED DRAWINGS AS REQUIRED BY THE SPECIFICATIONS.
  - LOCATE AND UTILIZE EXISTING PVC SLEEVES BETWEEN ISLANDS FOR PIPING AND LOW VOLTAGE CONDUCTORS.
  - LAYOUT AND DETAILS OF DRIP IRRIGATION SYSTEMS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE DETAILS INCLUDED IN THIS SET OF DRAWINGS.

- LEGEND**
- WATER METER IN METER VAULT
  - BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE
  - ISOLATION VALVE IN VALVE BOX
  - CONTROL VALVE IN VALVE BOX
  - IRRIGATION SUPPLY MAIN
  - IRRIGATION SYSTEM CONTROLLER
  - TURF GRASS AREA
  - SIDEWALK



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CITY OF FRISCO, TEXAS  
 LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
 LANDSCAPE IRRIGATION  
 LEBANON ROAD IRRIGATION PLAN  
 PHASE 1 STA 21+50 TO STA 35+00

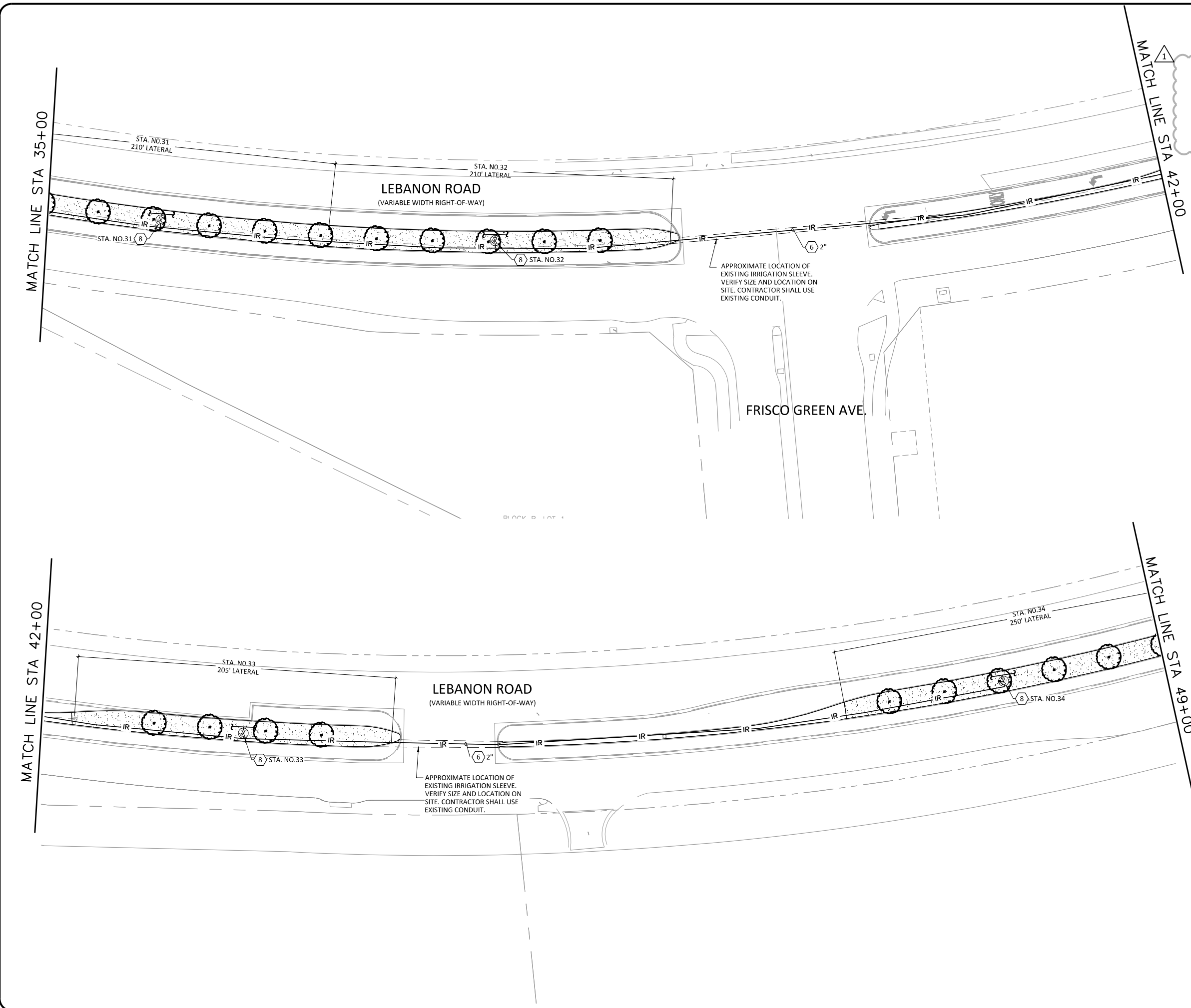
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| ADDENDUM NO. 3 |          | 05/25/17 | MRB     |                 |
| DESIGNED       | DATE     | REVISION | CHECKED | STV             |
| 6/2017         | 6/2017   |          |         |                 |
| RIK            | DATE     | REVISION | CHECKED | STV             |
| MRB            | 05/25/17 |          |         |                 |
| DESIGNED       | DATE     | REVISION | CHECKED | STV             |
| RIK            | 6/2017   |          |         |                 |
| MRB            | 05/25/17 |          |         |                 |
| DESIGNED       | DATE     | REVISION | CHECKED | STV             |
| RIK            | 6/2017   |          |         |                 |
| MRB            | 05/25/17 |          |         |                 |
| DESIGNED       | DATE     | REVISION | CHECKED | STV             |
| RIK            | 6/2017   |          |         |                 |
| MRB            | 05/25/17 |          |         |                 |

Bar: is one inch on original drawing, if not one inch on this sheet, adjust scale.

SCALE 1" = 60'

SHEET IR-9  
 SEQ.

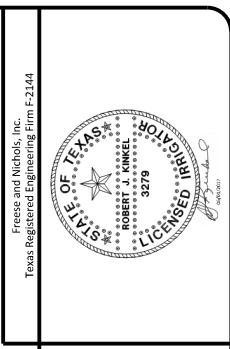
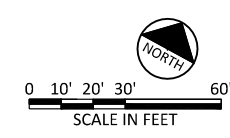
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- NOTES BY SYMBOL**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
  - 2" REUSE WATER METER AND METER VAULT PROVIDED BY THE CITY.
  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
  - 2" ISOLATION VALVE (1/2 TURN FULL-PORT, BALL VALVE) IN 9" DIAMETER VALVE BOX.
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  - CONTROL VALVE IN VALVE BOX
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  - IRRIGATION SYSTEM CONTROLLER
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  - SIDEWALK



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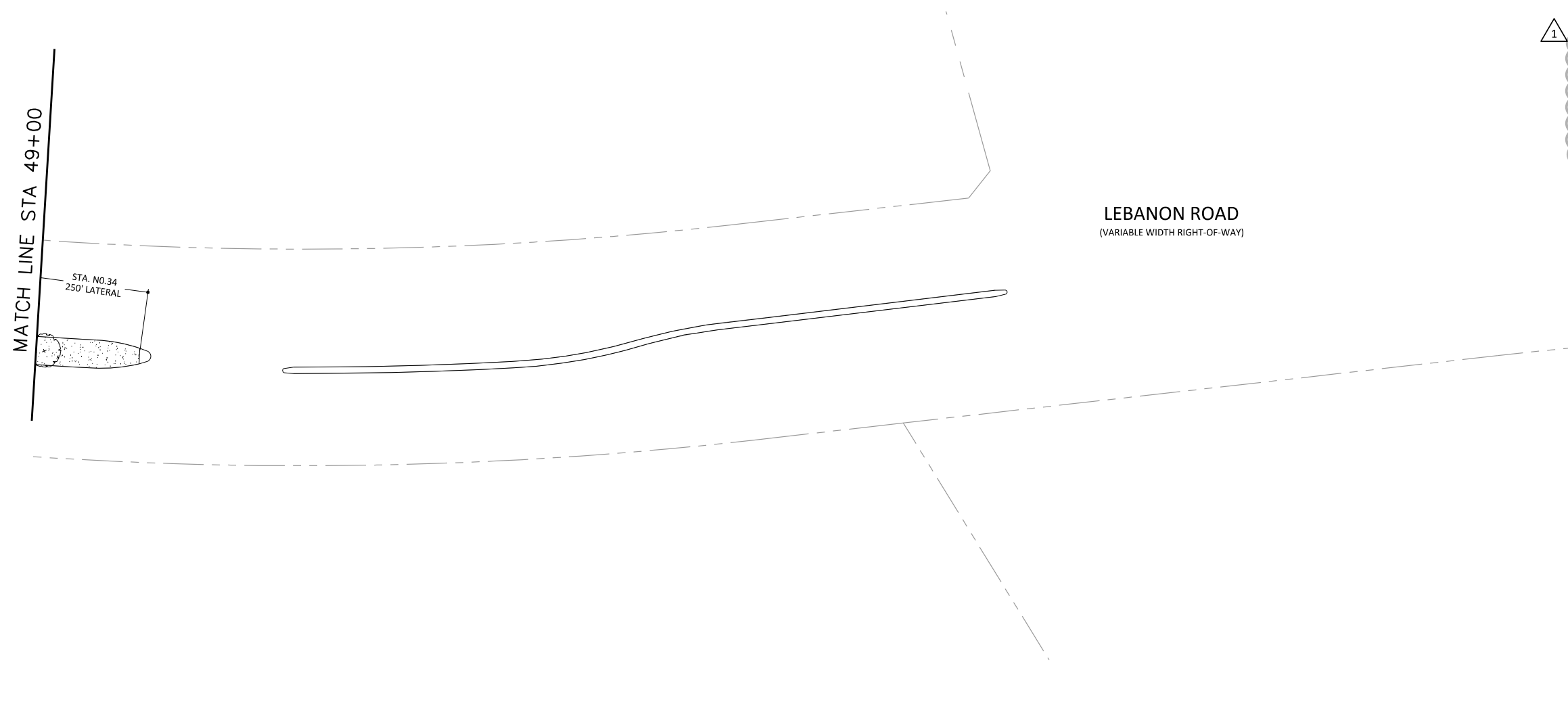
CITY OF FRISCO, TEXAS  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
 PHASE 1 STA 35+00 TO 49+00

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| NO. | ISSUE          | DATE     | BY  | DATE     | FILE NAME       |
| 1   | ADDENDUM NO. 3 | 06/01/17 | MRB | 06/01/17 | IR-RD-PL-Plant7 |
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Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale.

IR-10

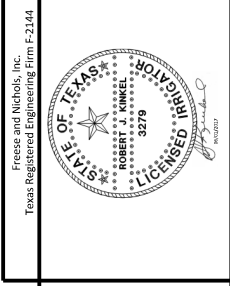
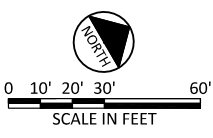




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  - ISOLATION VALVE IN VALVE BOX
  - CONTROL VALVE IN VALVE BOX
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  - IRRIGATION SYSTEM CONTROLLER
  - TURF GRASS AREA
  - SIDEWALK



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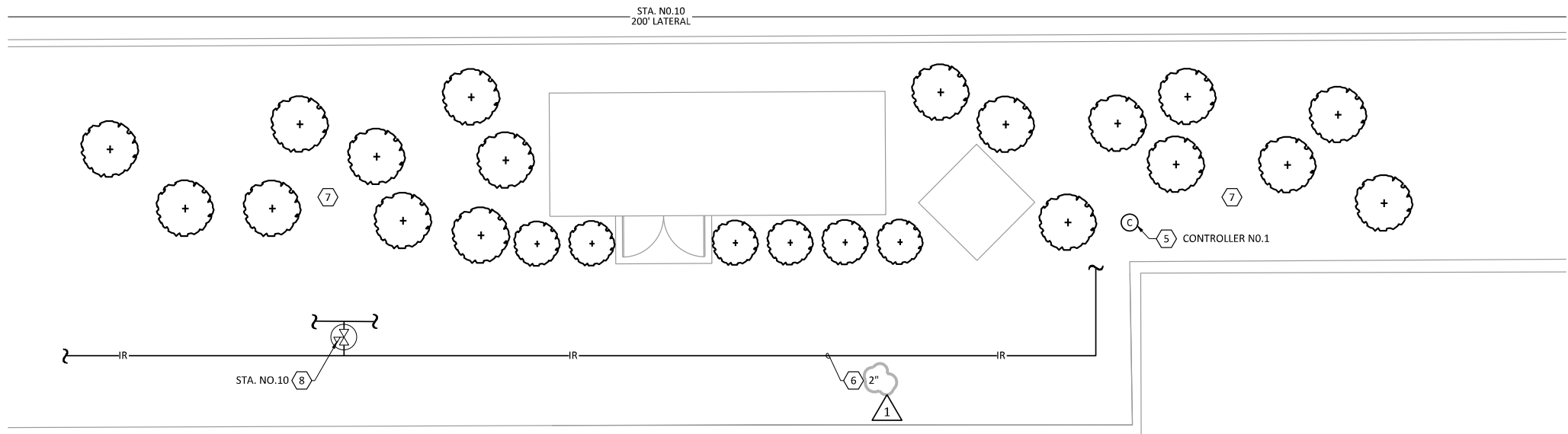
CITY OF FRISCO, TEXAS  
**LEBANON ROAD IMPROVEMENTS AND FORCE MAIN**  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
 PHASE 1 STA 49+00 TO END

|     |       |          |     |      |                 |
|-----|-------|----------|-----|------|-----------------|
| NO. | ISSUE | DATE     | BY  | DATE | FRAN JOB NO.    |
|     |       |          |     |      | FRC15624        |
|     |       | 6/2017   |     |      | DATE            |
|     |       |          | MRB |      | DESIGNED        |
|     |       |          | MRB |      | DRAWN           |
|     |       |          | MRB |      | REVISION        |
|     |       | 06/01/17 |     |      | CHECKED         |
|     |       |          |     |      | RIK             |
|     |       |          |     |      | FILE NAME       |
|     |       |          |     |      | IR-RD-PL-Plant8 |

ADDENDUM NO. 3  
 VERIFY SCALE  
 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

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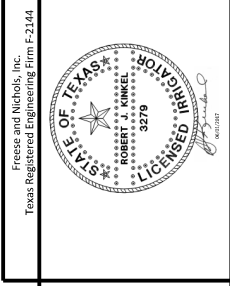
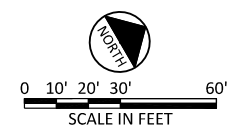
# LEBANON ROAD



- NOTES BY SYMBOL "1"**
- 2" IRRIGATION SYSTEM RAW WATER SUPPLY TAP INTO CITY MAIN BY THE CITY, PER TCEQ, AHJ AND CITY OF FRISCO STANDARDS. VERIFY EXACT LOCATION PRIOR TO BEGINNING CONSTRUCTION.
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  - 2" BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ IN ABOVE GROUND ENCLOSURE. RE: DETAIL 4/IR-14.
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  - LAYOUT AND DETAILS OF DRIP IRRIGATION SYSTEMS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE DETAILS INCLUDED IN THIS SET OF DRAWINGS.

- LEGEND**
- Water Meter in Meter Vault
  - Backflow Preventer in Accordance with AHJ in Above Ground Enclosure
  - Isolation Valve in Valve Box
  - Control Valve in Valve Box
  - Irrigation Supply Main
  - Irrigation System Controller
  - Turf Grass Area
  - Sidewalk



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CITY OF FRISCO, TEXAS

LEBANON ROAD IMPROVEMENTS AND FORCE MAIN

LANDSCAPE IRRIGATION

LEBANON ROAD IRRIGATION PLAN

ENARGED PLAN

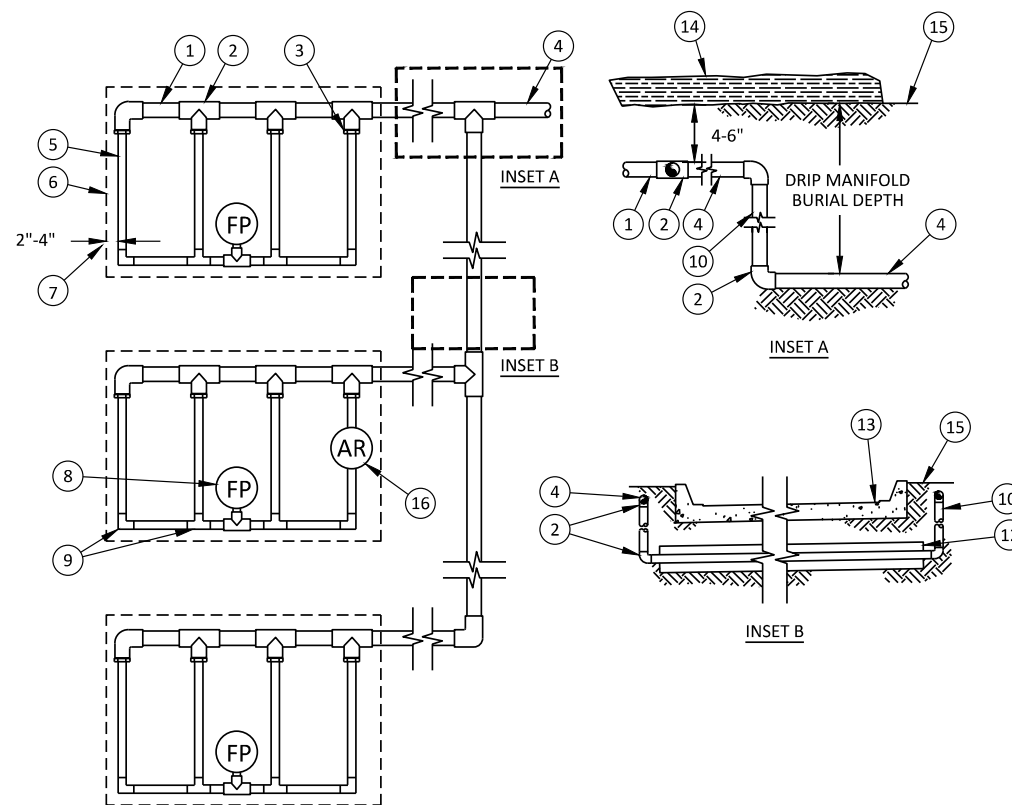
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| ADDENDUM NO. 3 |           | 06/01/17 | MRB |                  |
| DESIGNED       | FRCL15624 | 6/2017   |     |                  |
| DRAWN          | MRB       |          |     |                  |
| REVISION       | MRB       |          |     |                  |
| CHECKED        | RIK       |          |     |                  |
| VERIFIED       | RIK       |          |     |                  |

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SCALE 1" = 60'

SHEET IR-12

SEQ.



- ① PVC SUPPLY HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
- ④ PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑤ SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL)  
 POTABLE: XFS DRIPLINE  
 NON-POTABLE: XFSP DRIPLINE
- ⑥ PERIMETER OF AREA
- ⑦ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑧ FLUSH POINT (TYPICAL) - SEE RAIN BIRD XFS DETAILS FOR FLUSH POINT INSTALLATION
- ⑨ BARB X BARB INSERT TEE OR EL: RAIN BIRD XFF-TEE OR RAIN BIRD XFF-ELBOW (TYPICAL)
- ⑩ PVC RISER PIPE
- ⑪ PVC SUPPLY MANIFOLD
- ⑫ PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
- ⑬ PAVEMENT AND CURB
- ⑭ TURF OR MULCH
- ⑮ FINISH GRADE
- ⑯ 1/2" AIR RELIEF VALVE: RAIN BIRD MODEL: ARV050 SEE RAIN BIRD XFS DETAILS FOR AIR RELIEF INSTALLATION

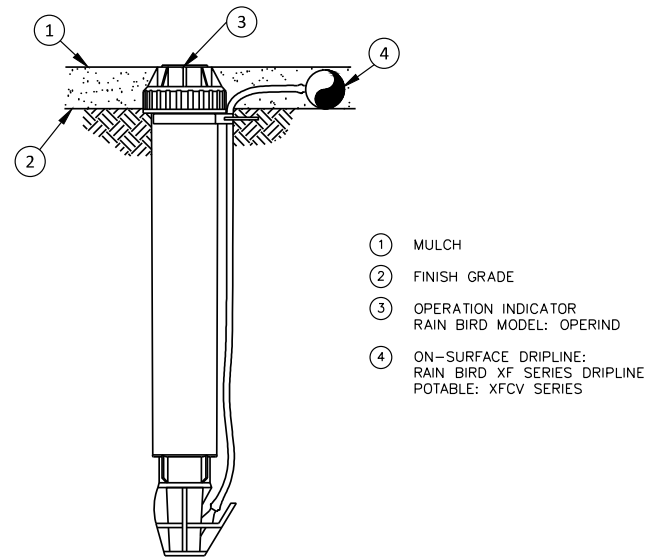
- NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
  2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
  3. INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIP LATERAL.
  4. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

① XFCV SUB-SURFACE DRIPLINE  
 N.T.S. TYPICAL ISLAND LAYOUT

| XFS Dripline Maximum Lateral Lengths (Feet) |                    |     |                    |     |                    |     |
|---|--------------------|-----|--------------------|-----|--------------------|-----|
| Inlet Pressure psi                          | 12" Spacing        |     | 18" Spacing        |     | 24" Spacing        |     |
|   | Nominal Flow (gph) |     | Nominal Flow (gph) |     | Nominal Flow (gph) |     |
|   | 0.6                | 0.9 | 0.6                | 0.9 | 0.6                | 0.9 |
| 15  | 273                | 155 | 314                | 250 | 424                | 322 |
| 20  | 318                | 169 | 353                | 294 | 508                | 368 |
| 30  | 360                | 230 | 413                | 350 | 586                | 414 |
| 40  | 395                | 255 | 465                | 402 | 652                | 474 |
| 50  | 417                | 285 | 528                | 420 | 720                | 488 |
| 60  | 460                | 290 | 596                | 455 | 780                | 514 |

CITY OF FRISCO, TEXAS  
 LANDSCAPE IRRIGATION  
**LEBANON ROAD IRRIGATION PLAN**  
**IRRIGATION DETAILS I**

|  |       |          |     |                   |
|--|-------|----------|-----|-------------------|
| NO.  | ISSUE | DATE     | BY  | FILE NAME         |
|  |       |          |     | IR-RD-PL-DETIAL03 |
| ADDENDUM NO. 3   |       | 06/01/17 | MRB |                   |
| VERIFY SCALE   |       |          |     |                   |
| Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |          |     |                   |
| SHEET <b>IR-13</b>   |       |          |     |                   |
| SEQ.   |       |          |     |                   |



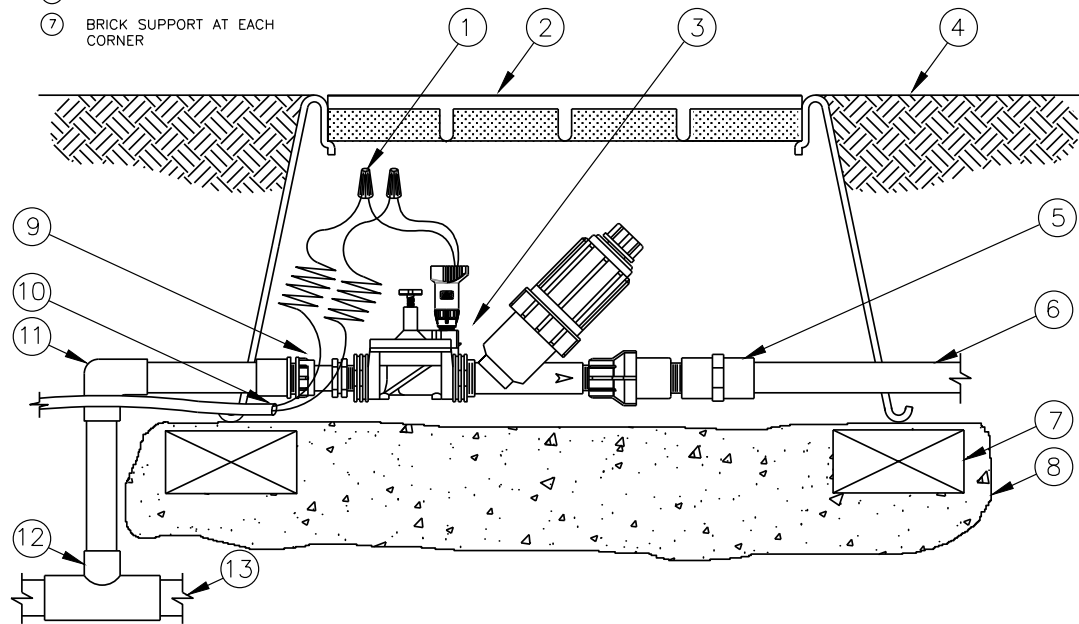
- 1 MULCH
- 2 FINISH GRADE
- 3 OPERATION INDICATOR  
RAIN BIRD MODEL: OPERIND
- 4 ON-SURFACE DRIPLINE:  
RAIN BIRD XF SERIES DRIPLINE  
POTABLE: XFCV SERIES

NOTE:

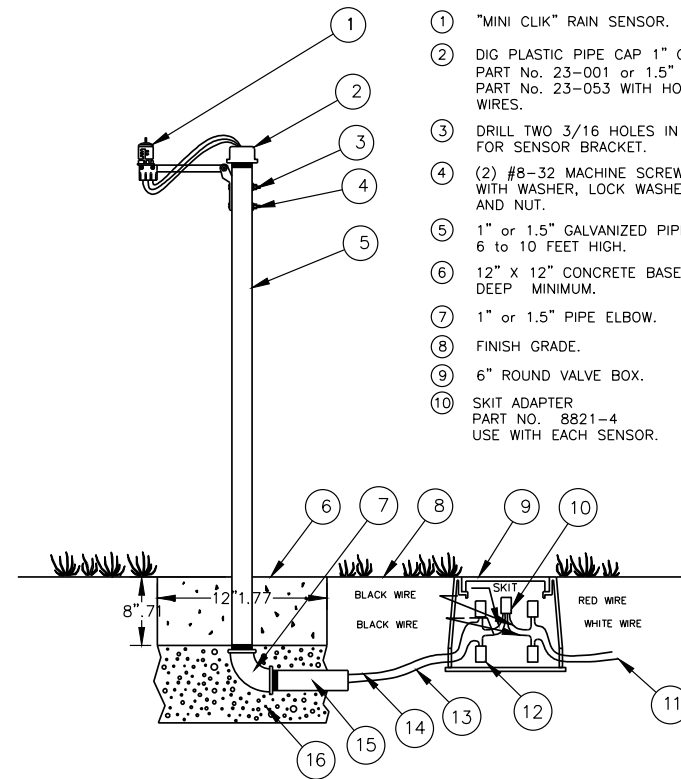
1. USE XERIMAN TOOL XM-TOOL TO INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/4 PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

1 DRIP OPERATION INDICATOR  
N.T.S.

- 1 WIRE CONNECTORS
- 2 VALVE BOX WITH COVER  
12" SIZE
- 3 DIG LEIT 3/4" REMOTE  
CONTROL VALVE  
ASSEMBLY MODEL  
P52-075 (30 PSI)
- 4 FINISH GRADE TOP
- 5 3/4" FEMALE NPT  
COUPLING X SLIP
- 6 PVC LATERAL LINE
- 7 BRICK SUPPORT AT EACH  
CORNER
- 8 PEA GRAVEL SUMP  
MINIMUM 3"
- 9 SWIVEL FITTING DIG  
MODEL 23-004 1" F X  
3/4" M
- 10 CONTROL WIRE TO  
OTHER VALVE
- 11 PVC SCH 40 90 DEGREE
- 12 SCH 40 TEE
- 13 MAIN SUPPLY LINE

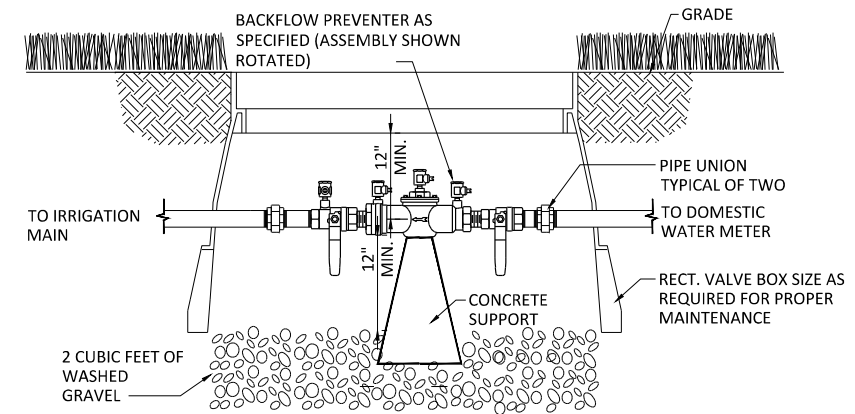


3 DRIP STATION ASSEMBLY FOR LEIT SYSTEM  
N.T.S.



- 1 "MINI CLIK" RAIN SENSOR.
- 2 DIG PLASTIC PIPE CAP 1" CAP  
PART No. 23-001 or 1.5" CAP  
PART No. 23-053 WITH HOLE FOR  
WIRES.
- 3 DRILL TWO 3/16 HOLES IN PIPE  
FOR SENSOR BRACKET.
- 4 (2) #8-32 MACHINE SCREWS  
WITH WASHER, LOCK WASHER  
AND NUT.
- 5 1" or 1.5" GALVANIZED PIPE  
6 TO 10 FEET HIGH.
- 6 12" x 12" CONCRETE BASE 8"  
DEEP MINIMUM.
- 7 1" or 1.5" PIPE ELBOW.
- 8 FINISH GRADE.
- 9 6" ROUND VALVE BOX.
- 10 SKIT ADAPTER  
PART NO. 8821-4  
USE WITH EACH SENSOR.
- 11 TO CONTROLLER OR VALVE.
- 12 (4) DRY SPLICE CONNECTORS.
- 13 NORMALLY CLOSED WIRE FROM SENSOR.
- 14 COMMON WIRE FROM SENSOR.
- 15 1" or 1.5" NIPPLE.
- 16 GRAVEL.

2 WEATHER STATION ASSEMBLY (COLUMN MOUNTED)  
N.T.S.



4 UNDERGROUND BACKFLOW PREVENTER DETAIL  
N.T.S.

Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144



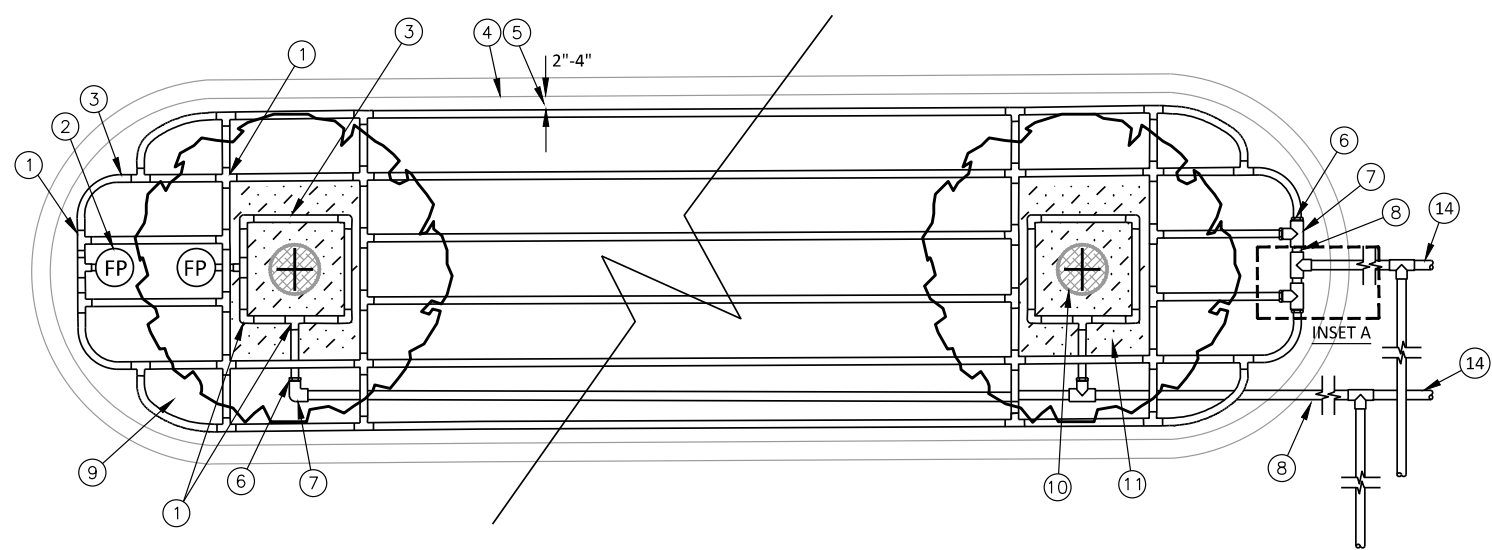
**FREES & NICHOLS**  
6136 Frisco Square Blvd, Suite 200  
Frisco, Texas 75034  
Phone - (972) 624-9201  
Fax - (972) 624-9202  
Web - www.freese.com

CITY OF FRISCO, TEXAS  
LEBANON ROAD IMPROVEMENTS AND FORCE MAIN  
LANDSCAPE IRRIGATION  
LEBANON ROAD IRRIGATION PLAN  
IRRIGATION DETAILS II

|  |       |          |          |       |          |         |     |
|--|-------|----------|----------|-------|----------|---------|-----|
| NO.  | ISSUE | DATE     | DESIGNED | DRAWN | REVISION | CHECKED | RIK |
|  |       |          | 6/2017   | MRB   | MRB      |         |     |
|  |       |          |          | MRB   | MRB      |         |     |
|  |       | 06/01/17 |          |       |          |         |     |
|  |       |          |          |       |          |         |     |
| ADDENDUM NO. 3   |       |          |          |       |          |         |     |
| VERIFY SCALE   |       |          |          |       |          |         |     |
| Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale. |       |          |          |       |          |         |     |
| SHEET IR-14  |       |          |          |       |          |         |     |
| SEQ.   |       |          |          |       |          |         |     |

| NO.       | ISSUE | DATE   | DESIGNED | DRAWN | REVISION | CHECKED | FILE NAME        |
|-----------|-------|--------|----------|-------|----------|---------|------------------|
| FRCL15624 |       | 6/2017 | MRB      | MRB   |          |         | IR-RD-PL-DETAL01 |
|           |       |        |          |       | 06/01/17 |         |                  |

|      |     |   |
|------|-----|---|
| BY   | MRB | ADDENDUM NO. 3  |
| DATE |     | VERIFY SCALE  |
|      |     | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |

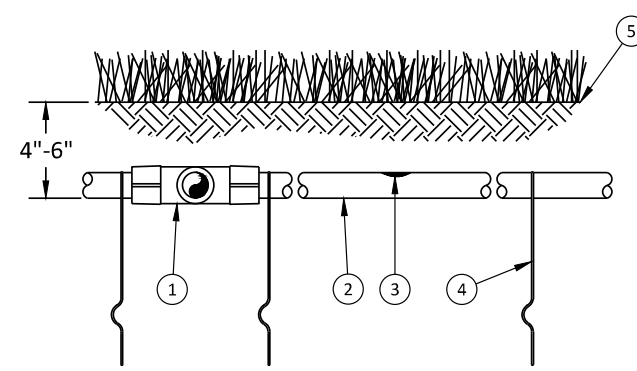


NOTES:

- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
- LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
- PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
- AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.
- WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

- BARB X BARB INSERT EL, TEE OR CROSS:  
RAIN BIRD XFF-ELBOW (TYPICAL)  
RAIN BIRD XFF-TEE (TYPICAL)  
RAIN BIRD XFD-CROSS (TYPICAL)
- FLUSH POINT (TYPICAL)  
SEE RAIN BIRD DETAIL "XFD FLUSH POINT"
- ON-SURFACE DRIPLINE PIPE:  
RAIN BIRD XF SERIES DRIPLINE  
POTABLE: XFD DRIPLINE
- PARKING ISLAND CURB
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PARKING ISLAND CURB
- BARB X MALE FITTING:  
RAIN BIRD XFD-MA FITTING (TYPICAL)
- PVC SCH 40 TEE OR EL (TYPICAL)
- PVC SUPPLY MANIFOLD
- SHRUB OR GROUND COVER BED
- TREE (TYPICAL)
- MULCH BED FOR TREE
- 2-3 INCHES DEPTH OF MULCH
- FINISH GRADE
- PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- PVC RISER PIPE

1 SUB-SURFACE DRIPLINE PARKING ISLAND WITH TREES  
N.T.S.

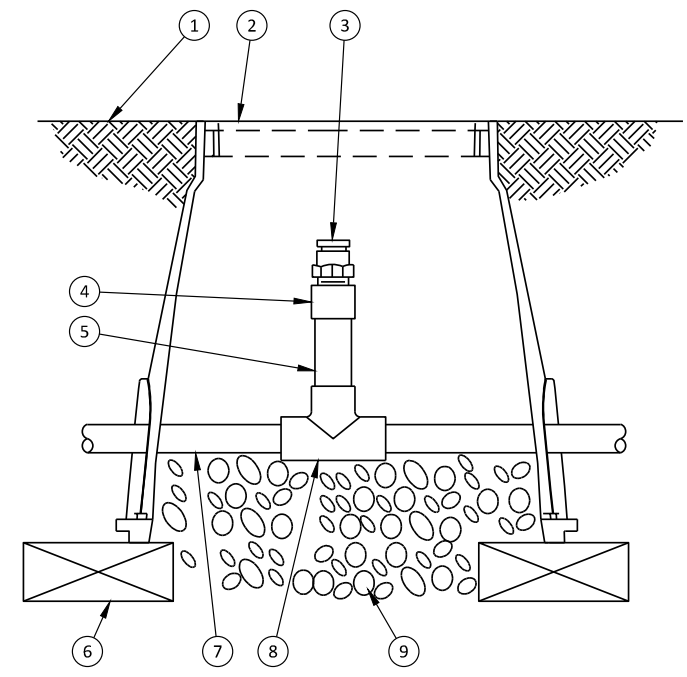


- EASY FIT COMPRESSION TEE:  
RAIN BIRD MDCFTTEE
- SUB-SURFACE DRIPLINE:  
RAIN BIRD XF SERIES DRIPLINE  
POTABLE: XFS DRIPLINE  
NON-POTABLE: XFSF DRIPLINE
- INLINE DRIP EMITTER
- TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYPICAL)
- TURF/FINISH GRADE OR SHRUB BED WITH MULCH

NOTES:

- PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
- AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.
- INSERTION PLOW AND TRENCHED INSTALLATIONS DO NOT REQUIRE TIE DOWN STAKES.

2 SUB-SURFACE DRIPLINE BURIAL  
N.T.S.



- FINISH GRADE
- SUBTERRANEAN EMITTER BOX:  
RAIN BIRD SEB 7XB
- 1/2" AIR RELIEF VALVE:  
RAIN BIRD ARV050  
TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
- PVC SCH 40 FEMALE ADAPTER
- PVC SCH 80 RISER
- BRICK (1 OF 2)
- PVC HEADER PIPE
- PVC SCH 40 TEE
- 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

3 SUB-SURFACE DRIPLINE 1/2" AIR RELIEF VALVE IN PVC HEADER  
N.T.S.

