

LEGEND:  
 I.D. - NOMINAL PIPE SIZE  
 O.D. - OUTSIDE DIAMETER OF PIPE  
 H - COVER ABOVE TOP OF PIPE  
 A - EMBEDDED BELOW PIPE (SEE TABLE)

| I.D.         | A MIN. SOIL | A MIN. ROCK |
|--------------|-------------|-------------|
| 2" & SMALLER | 3"          | 6"          |

**GRANULAR BEDDING**  
 GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 85% PASSING 1/2" (80% PASSING 3/4" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 95% RETAINED ON A #4. TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.

**COMPACTED BACK FILL**  
 COMPACTED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. D1556, OR GRADED AGGREGATE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACK FILL.

**TAMPED BACK FILL**  
 TAMPED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACK FILL.

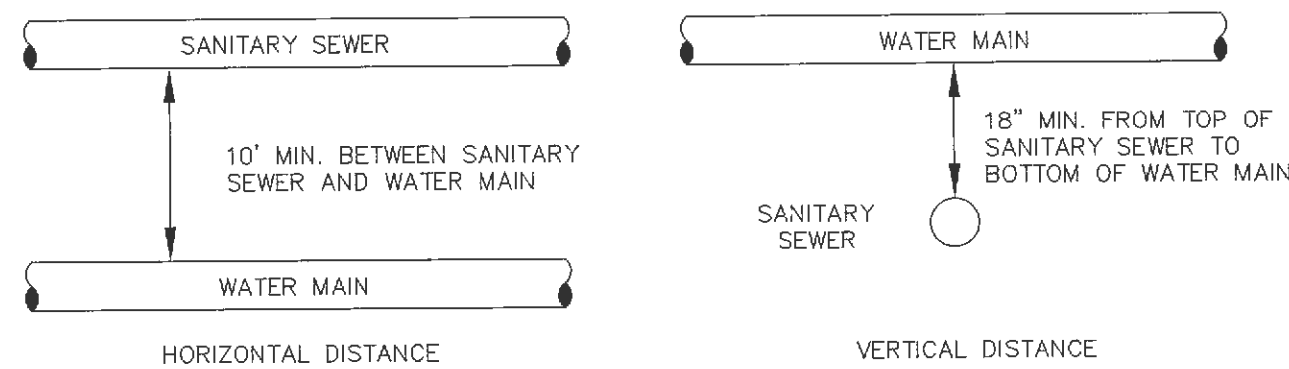
**TRENCH BACK FILL**  
 TRENCH BACK FILL SHALL BE AS REQUIRED IN THE "LAYING AND BACK FILL" SECTION OF THE DETAILED SPECIFICATIONS.

**EMBEDDED**  
 THE TYPE OF EMBEDDED TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

**TRACER WIRE REQUIRED ON ALL WATER MAINS**

**WATER MAIN EMBEDDED**  
 NOT TO SCALE

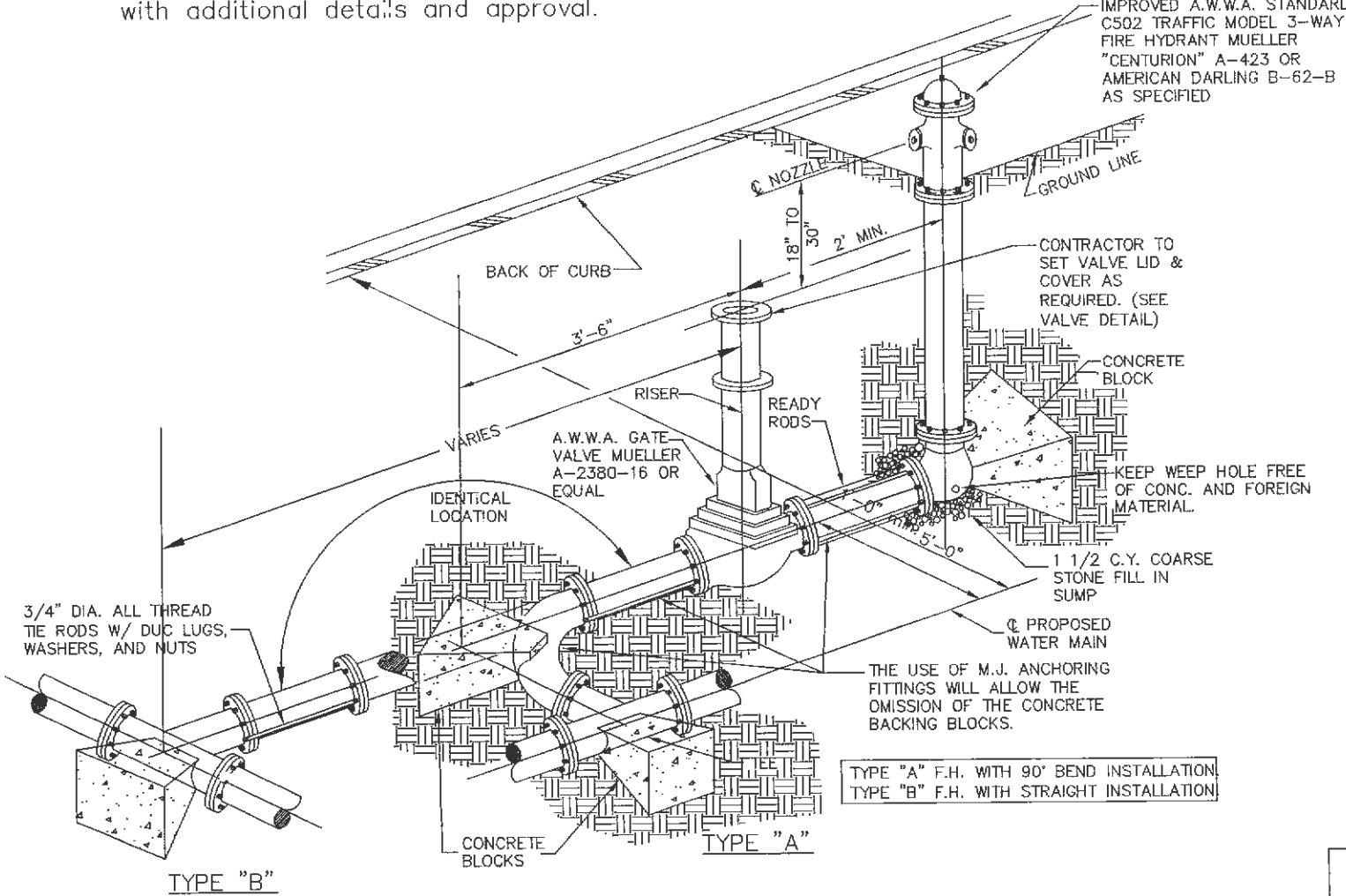
CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**WATER MAIN EMBEDDED**



**TYPICAL WATER AND SEWER SEPARATION**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**WATER AND SEWER SEPARATION DETAIL**

Note: Other connections such as anchor coupling are allowable with additional details and approval.



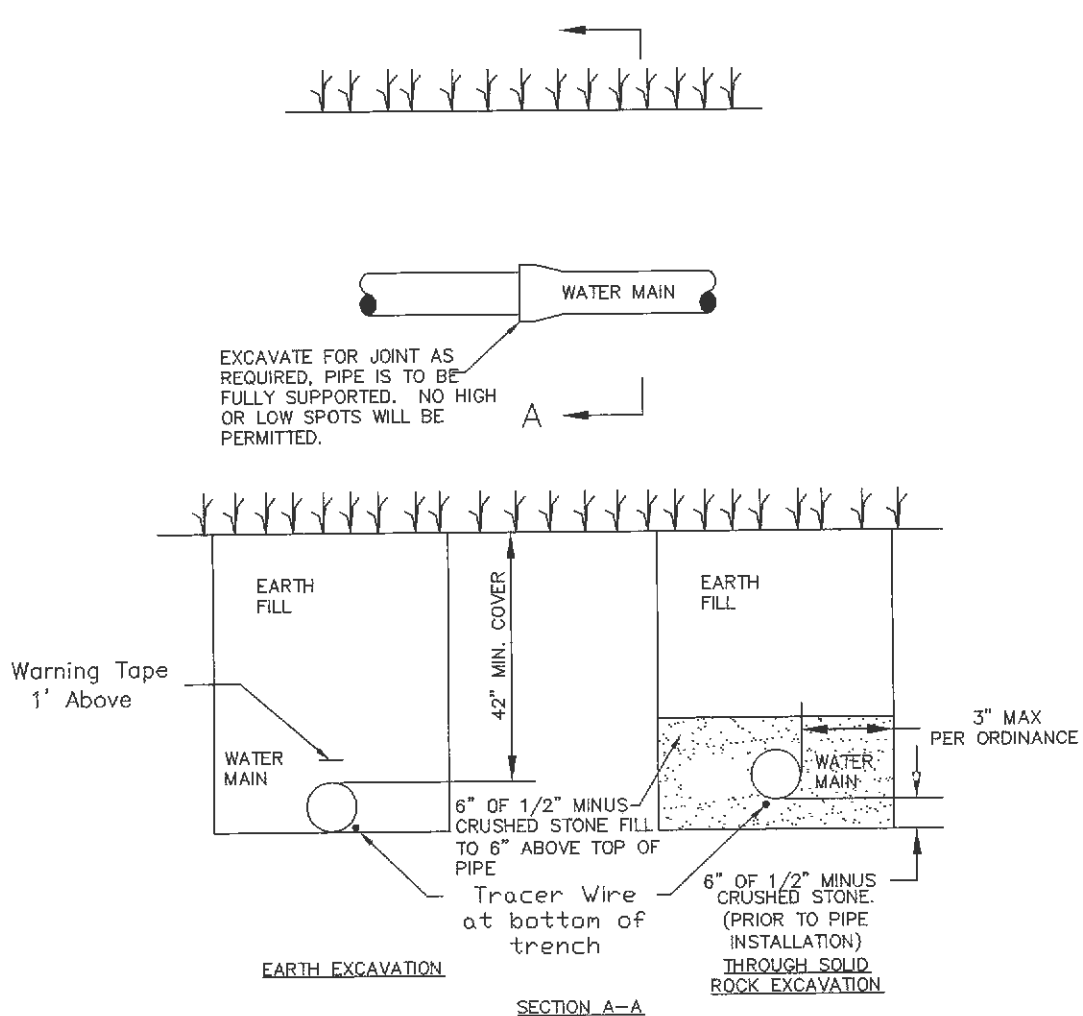
**FIRE HYDRANT DETAIL**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**FIRE HYDRANT DETAILS**

**ENGINEERING SURVEYING**  
 221 Point West Blvd.  
 St. Charles, MO 63801  
 636-928-5559  
 FAX 928-1718

**DISCLAIMER OF RESPONSIBILITY**  
 I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

| ADD     | REVISION       |
|---------|----------------|
| ADD 1   | 5-6-14         |
| ADD 2   | 5-13-14        |
| 5-13-14 | CITY COMMENTS  |
| 5-30-14 | CITY COMMENTS  |
| 6-5-14  | REAR DRIVE P&Z |



**TYPICAL WATER MAIN INSTALLATION DETAILS**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**WATER MAIN INSTALLATION DETAIL**

Ductile Iron Pipe installation shall follow the Ductile Iron Research Association (DIPRA) guide line.  
 The Installation of PVC Pipe shall follow the Uni-Bell PVC Pipe Association Handbook of PVC Design and Construction.

**Developer / Owner:**  
 O'FALLON FIRE PROTECTION DISTRICT  
 119 EAST ELM STREET  
 O'FALLON, MO 63366-2600  
 636-272-3493

**REFERENCE DETAILS**

**P+Z No.** 16-14  
**City No.** 14-169

**Page No.** 12 of 21