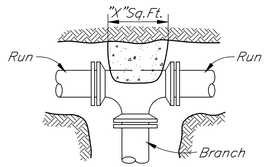


TEE OR DEAD–END CROSS

MINIMUM LENGTH OF RESTRAINED JOINT D.I. PIPE (WITHOUT POLY WRAP) EACH SIDE OF FITTING (FEET)				
PIPE SIZE	6"	8"	12"	16"
Tee Including Thrust Block (See Note 5)	15	20	28	36
Horizontal 90° OR Vertical 45° Down	15	20	28	36
Horizontal 45° OR Vertical 22 1/2° Down	6	8	11	15
Horizontal 22 1/2° OR Vertical 11 1/4° Down	3	4	6	7
Horizontal 11 1/4°	2	2	3	3
Dead End	27	35	50	65

NOTES:

1.) Length Of Restraint Measured From Centerline Of Fitting Requiring Restraint. Length Of Restraint For Vertical Bends Up Are Equal To That For Horizontal Bends.

2.) Length Of Restraint Based Upon 54" Cover, 150 PSI Pressure, And ASTM D2487 Soil Types CL, ML, SC, SM, SP, SW, GC, GM, GP, & GW. For Less Cover, Higher Pressure, Or ASTM D2487 Soil Types PT, OH, CH, MH, & OL, Consult Lebanon Utilities Water Department.

3.) Restraint To Be Accomplished With Romac Series 600 Or Ford/Uni–Flange Series 1300 Friction Clamps For Push–On Joints, Anchoring Coupling For Valves And Adjacent Tees, Romac Gripring Or Megalug Series 1100 For All Mechanical Joints, Or As Approved By Lebanon Utilities Water Department.

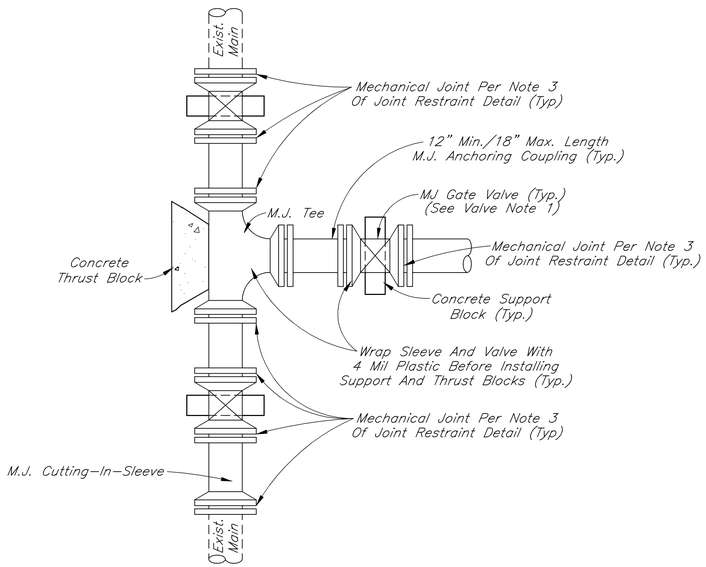
4.) Concrete Thrust Blocks In Lieu Of Mechanical Restraint May Be Used Only With The Written Approval Of Lebanon Utilities Water Department.

5.) Tees And Dead–End Crosses Require Concrete Thrust Blocks In Addition To Branch Restraint Length. "X" Area For Concrete Thrust Blocks Per Detail Shall Be As Follows: 2, 4, 6, & 10 Square Feet For 6, 8, 12, & 16 Inch Pipe, Respectively. Other Than Restraint Of MJ Fittings Adjacent To Tee, No Run Restraint Length Is Required.

6.) Concrete Shall Not Be Allowed To Come In Contact With Any Joint, Flanges, Gaskets, Bolts Or Nuts. Four Mil High Density Polyethylene Plastic Shall Be Used To Cover All Fittings, Piping And Valves Prior To Pouring The Thrust Block.

JOINT RESTRAINT DETAIL

Scale: None

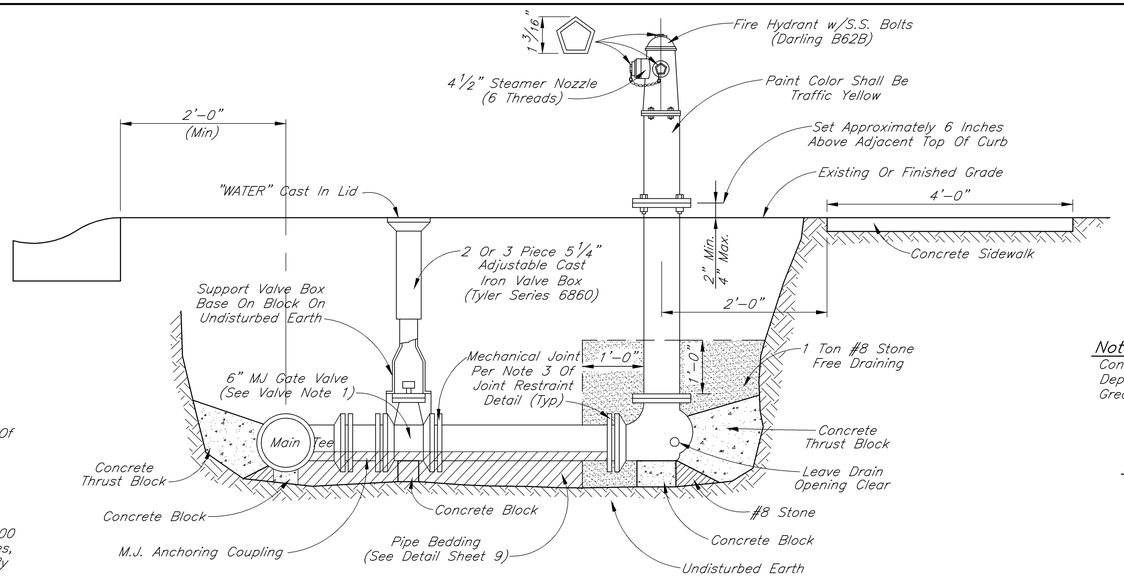


CUTTING–IN–SLEEVE AND TEE CONNECTION

Scale: None

NOTE:

1.) Contractor Must Obtain Written Approval From Lebanon Utilities Water Department In Order To Use Either The Tapping Sleeve And Valve Connection Or The Cutting–In–Sleeve And Tee Connection.



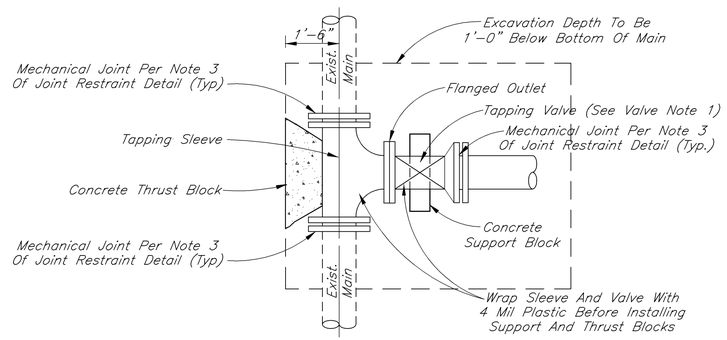
TYPICAL HYDRANT INSTALLATION DETAIL

Scale: None

NOTE:

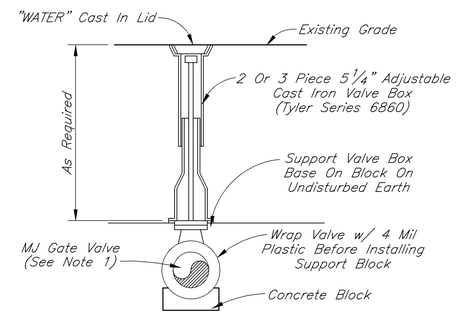
1.) Hydrants Shall Be Provided At Each Street Intersection And At Intermediate Points Between Intersections Or As Directed By The Lebanon Utilities Water Department Or The Lebanon Fire Department.

2.) Generally, Hydrants Shall Be Spaced Per The Requirements Of Appendix III–B Of The Uniform Fire Code. In Addition, When Any Portion Of A Building Is In Excess Of 150 Feet From A Water Supply On A Public Street, On–Site Fire Hydrants And On–Site Mains Shall Be Provided As Outlined By Section 903.2 Of The Uniform Fire Code.



TAPPING SLEEVE AND VALVE CONNECTION

Scale: None



Note:

Consult Lebanon Utilities Water Department For Valves With Bury Depth In Excess Of 10 Feet. Use Longer Model For Depth Greater Than Minimum.

TYPICAL VALVE INSTALLATION DETAIL

Scale: None

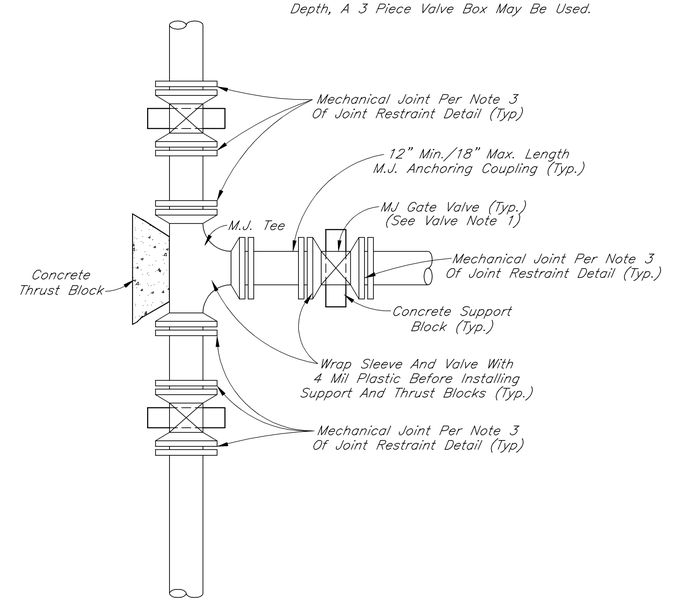
NOTES:

1.) All Gate Valves Shall Be Either American Flow Control 2500, U.S. Pipe Metroseal 250, Waterous Company Series 500 Or Mueller A–2360.

2.) All Gate Valves Shall Be Assembled With Factory Installed Stainless Steel Bolts.

3.) All Valves Shall Open Counterclockwise.

4.) Lebanon Utilities Water Department Prefers The Use Of A 2 Piece Valve Box. When Needed Due To Increased Depth, A 3 Piece Valve Box May Be Used.



STANDARD NEW WORK BRANCH CONNECTION

Scale: None

REVISIONS		
Rev. No.	Description	Date

DAVID LAHEY REGISTERED No. PE19700063 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	5-4-2006 DATE
APPROVED	UTILITIES MANAGER	6-20-2006 DATE
APPROVED	WATER/WASTEWATER OPERATIONS MANAGER	5-4-2006 DATE

CITY OF LEBANON

WATER MAIN DETAILS & NOTES

SHEET 10 OF 18

J:\3056.961\06\AUTOCAD\ENVIR\2004_Standards_Update\Stand10.dwg 03-01-06 AT 10:34 1 DDK