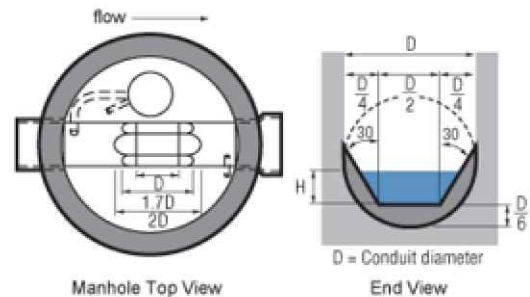
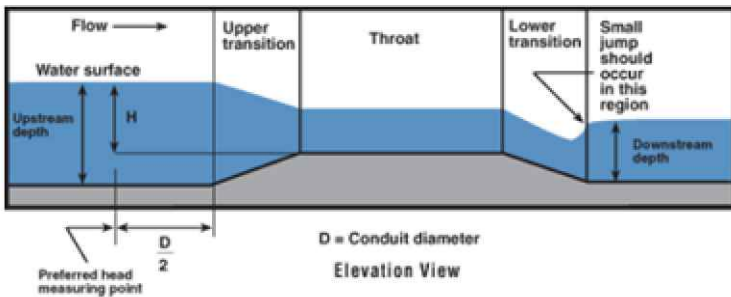


IF FLUME SIZE AND THE UPSTREAM PIPE'S NOMINAL DIAMETER DO NOT MATCH, ALLOW SPACE FOR GRADUAL TRANSITION APPROACH

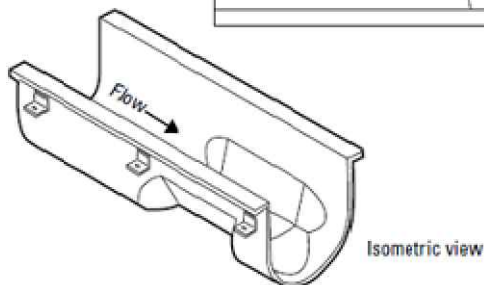
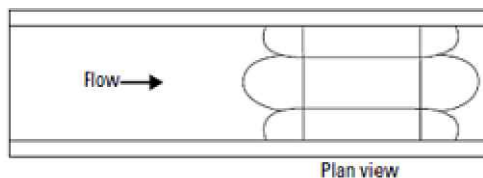
MOUNT ULTRA SONIC SENSOR $D/2$ DISTANCE UPSTREAM OF THE UPPER TRANSITION OF THE FLUME

SIZE MANHOLE STRUCTURE TO FIT A FULL SIZED (OR $3D+1$) PALMER BOWLUS FLUME OF THE SELECTED DIAMETER (5' MANHOLES UP TO 15" PALMER BOWLUS FLUME)

1. FLUME SIZING AND LOCATION OF INSTALLATION MUST BE APPROVED BY THE CITY OF JOLIET BEFORE CONSTRUCTION.
2. THERE MUST BE 25 DIAMETERS LENGTH OF STRAIGHT PIPE UPSTREAM OF THE FLUME AND 10 DIAMETERS LENGTH OF STRAIGHT PIPE DOWNSTREAM OF THE FLUME, FREE OF BENDS, DROP MANHOLES, JUNCTIONS, DIAMETER CHANGES, AND TURBULENCE.
3. THE UPSTREAM SLOPE MUST BE LESS THAN THE MAXIMUM SLOPE FOR THE SELECTED SIZE FLUME. THE DOWNSTREAM SLOPE MUST BE GREAT ENOUGH TO MAINTAIN A SUBMERGENCE RATIO OF LESS THAN 85%.
4. INSTALLATION OF THE FLUME AND METER SENSOR SHALL BE PER MANUFACTURER'S SPECIFICATIONS. SOME GENERAL NOTES INCLUDE:
 - 4.1. FLUME MUST BE LEVEL IN ALL DIRECTIONS.
 - 4.2. FLUME MUST BE ANCHORED (USING THREADED ROD) TO THE BENCH BEFORE GROUTING TO ENSURE FLOATING DOES NOT OCCUR.
 - 4.3. THERE MUST BE A GRADUAL SMOOTH TRANSITIONAL TAPERED APPROACH BETWEEN THE UPSTREAM PIPE AND THE FLUME.
 - 4.4. THE ULTRASONIC SENSOR MUST BE LEVEL IN ALL DIRECTIONS AND MOUNTED $D/2$ DISTANCE UPSTREAM OF THE UPPER TRANSITION.
 - 4.5. THE ULTRASONIC SENSOR MUST BE PROPERLY CALIBRATED AND OBSERVED BY CITY REPRESENTATIVE. (NOTE: $H = \text{DEPTH} - D/6$)



Permanent Type



PALMER BOWLUS FLUME

CITY OF JOLIET, ILLINOIS
SEWER FLOW MONITORING
(GRAVITY)
PALMER BOWLUS FLUME
INSTALLATION
SAN-08

DATE: OCT. 2017