15345 - Natural Gas Polyethylene Service Line Installation March 1, 2018	
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1.3.9	**Pipeline** means all parts of those physical facilities through which natural gas moves in transportation, including pipe, valves, and other appurtenances attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.
1.3.13	**Service Line** means a distribution line that transports gas from a common source of supply to a customer. A service line starts at the point of connection to the main and ends at the outlet of the customer meter or at the connection to a customer's piping, whichever is further downstream.
3.1.5	All pipe fusion connections shall be allowed to cool as required by the qualified joining procedures for socket or saddle fusion prior to lowering the pipe into the trench and/or excavation to eliminate stress on the fused connections.
3.1.8	When crossing a heat source, including but not limited to a steam line, installation of PE pipe shall follow the utility crossing detail, **Detail 1: Crossing a Heat Source in Section 15720**.
3.1.9	All PE to PE pipe connections shall be made by socket fusion or saddle fusion. Butt fusion shall be acceptable only for pipe larger than 2 inch nominal diameter and shall be installed per **Section 15720**. All electrofusion fittings not specified in the project drawings shall be approved for use, by the RPR, prior to installation.
3.1.13	All service lines with a nominal diameter of 2 inches and 50 feet in length or longer shall be pigged prior to pressure testing and introducing natural gas to the service line.
3.3.2.3	When pulling the pipeline back through reamed borehole, the tensile loads in **TABLE 2: Maximum Allowable Tensile Loads** below shall not be exceeded. RPR shall be notified one full business day prior to pull back operations and may require on-site presence during pull back operations. An appropriately sized Condux International, Inc break away swivel weak link shall be used during pull back activities. Break away weak link devices other than Condux International products shall be submitted for approval to OWNER prior to use.
3.3.3.2	When plowing in the service line, the tensile loads in **TABLE 2: Maximum Allowable Tensile Loads** shall not be exceeded. To prevent exceeding the maximum allowable tensile loads, an appropriately sized Condux International, Inc break away swivel weak link shall be used.
3.5.4	If the new PE service line is to be installed by a CONTRACTOR and connected to steel main, KUB's Underground Construction shall install the tapping tee and perform the main tap.
3.5.6	Service line connections to PE mains must be allowed to completely cool before pressure testing the service line in accordance with manufacturer's standards and specifications or tapping the main if the service line and main are pressure tested together.
3.5.7	Tapping tee caps shall be tightened according to the manufacturer's specifications.
3.6.5	**TABLE 4: Shut Off Valve and Excess Flow Valve Requirements by Service Type** in the next section illustrates valve requirements for each natural gas service type.

3.7.1	Excess flow valves (EFV) shall be installed with 26 inches of pipe from the outlet of the tapping tee to the fused on EFV connection. **TABLE 4: Shut Off Valve and Excess Flow Valve Requirements by Service Type** illustrates valve requirements for each natural gas service type.
TABLE 4	Added **TABLE 4** to clarify when to use an EFV, shut off valve, or both
3.7.2	EFV size shall be determined by Gas Systems Engineering and is defined in the project drawings. If the existing site conditions have changed between the time the project drawings were developed and the work is to be performed, the installer shall cease work and notify the RPR for clarification prior to continuing work.
3.7.3	If the project drawings do not reflect EFV size, installer shall use **TABLE 4: Shut Off Valve and Excess Flow Valve Requirements by Service Type** to determine if an EFV is required, and if an EFV is required, use the appropriate tables below when installing an EFV for residential (**TABLE 5**) or commercial (**TABLE 6**) service lines. If the parameters for the service requiring the EFV are not covered in **TABLE 5** or **TABLE 6**, contact the RPR for clarification prior to continuing work.
TABLE 8	Changed Protective Sleeve size for 1 1/4 inch and 2 inch risers to be 3 inch Diameter.
3.10.2	In rocky excavation zones, a minimum of 6 inches of clean and well-compacted fill material shall be installed prior to the pipe being lowered into the trench. The pipe is then installed and side filled to the required trench width with clean and compacted fill material. Pipe shall be covered with a minimum of 6 inches of clean and well-compacted fill material prior to final backfill.
3.11.2	RPR shall be notified, at a minimum, one full business day prior to pigging a service line.
3.13.1	A fire extinguisher shall be manned and positioned, upwind, from the purge point at all times during purging.
3.13.3	During purging, the riser shall be grounded to the soil with a minimum of #14 gauge solid or stranded wire with alligator clips/clamps, along with a grounding rod. Attach ground wire to meter valve or purge stack to ensure proper grounding.
Figures	Updated all Figures with 2" Flanged Risers and accompanying Material Lists.
3.15	**MULTI-FAMILY RESIDENTIAL AND COMMERCIAL SERVICES (60 PSIG MAOP – EFV REQUIRED)**
3.15.1	New multi-family residential and commercial service lines shall have a minimum nominal diameter of 1 inch.
3.15.2	All multi-family residential and commercial service lines shall have a shut-off valve of matching nominal diameter installed at the tapping tee.
3.16	**DOWNTOWN (10 PSIG MAOP), MULTI-FAMILY RESIDENTIAL, AND COMMERCIAL SERVICES (NO EFV REQUIRED)**
3.16.1	New downtown, multi-family, and commercial service lines shall have a minimum nominal diameter of 1 inch.
3.16.2	All downtown, multi-family, and commercial service lines shall have a shut-off valve of matching nominal diameter installed at the tapping tee.
3.19.1.3	The riser shall be cut off a minimum of 3 inches below ground and sealed with a cap from **TABLE 10** or hard stopper unless it is in pavement/concrete, then it shall be cut off at grade level and sealed with a hard stopper or foam pack.
3.21.1.3	The NGUS shall be completed in its entirety and submitted in accordance with the NGUS procedure.