**SECTION 2.7**

**TECHNICAL SPECIFICATIONS**

**FOR TEMPORARY WATER MAIN**

**PART 1: GENERAL**

* 1. **Scope of Work**

This specification covers the requirements for the complete installation and removal of temporary water mains including all necessary labor, materials, and equipment as necessary.

**1.2 Applicability**

* Temporary water mains will be required as specified on the plans, specifications or as required by the Owner in order to maintain adequate water supply and fire protection.
* The temporary water main shall be maintained and repaired at all times by the Contractor until the new permanent main is placed in service.
* Temporary water mains may be reused in other phases as construction continues and as directed by the Owner.

**PART 2: QUALITY ASSURANCE**

**2.1 References**

 Temporary water mains shall conform to all applicable requirements of authorities having jurisdiction, including the followings:

* [DWU Standard Technical Specifications for Water & Wastewater Construction, latest edition](http://www.dallascityhall.org/dwu/pdf/DWU_StandardTechSpecs_Water-WastewaterConstruction_aug2011.pdf)
* [City of Dallas NCTCOG Addendum](http://www.dallascityhall.org/dwu/pdf/2011-COD_NCTCOG_addendum.pdf), latest edition
* Public Works Construction Standards by NCTCOG, Latest Edition
* [DWU Standard Drawings for Water and Wastewater Construction, latest edition](http://www.dallascityhall.org/dwu/pdf/StandardDrawings_manual_Oct2012Edition.pdf)
* 30 TAC §290: Public Drinking Water

**2. 2 Submittals**

The Contractor shall furnish the following documents prior to install any temporary water mains:

2.2.1 Material Data:

* Type and size of pipe and appurtenances to be used.

2.2.2 Design Data:

* Depth of cover or embedment to be used, if applicable. Consideration must be given regarding loads, public safety and protection of the pipe when placed in high traffic areas and exposed to freezing temperatures.

2.2.3 Layout Plan:

* Temporary water main layout plan based on proposed construction sequence as approved by the Owner.

**PART 3: PRODUCT**

 All temporary water main and appurtenance shall be new or acceptable used as approved by the Owner

**3.1 Water Mains**

* All temporary water mains shall be NSF/ANSI 61 approved.
* Contractor may selected one of the following pipe materials based on the traffic, weather condition, and construction sequence, as approved by the Owner:
* PVC (Restrained Joint)
* HDPE
* Copper
* Galvanized Iron
* Other approved equal

**3.2 Fitting and Appurtenances**

* All the fitting, valves, fire hydrants and other appurtenances shall be NSF/ANSI 61 approved.
* Glued fittings shall not be permitted.
* Fittings are to be suitable and compatible with the specified pipe materials and class with which they are used.

**3.3 Design Data**

* Temporary water main of 2” (or smaller) can be above ground or buried as approved by the Owner.
* Temporary water mains of larger than 2” shall be buried a minimum depth of 2 feet in order to protect from traffic and freezing conditions.
* Temporary water service shall be connected to the temporary water main for each building or single residential unit. Bull heads shall not be permitted unless otherwise approved by the Owner.
* Each temporary water service shall be supplied with its own individual corporation cock where it connects to the temporary water main.

**3.4 Sizing**

* Minimum size of the temporary main shall be 2” as shown on the plans or as required by the Owner unless otherwise approved.
* Larger than 2” mains may also be required in order to provide interrupted and adequate water supply and fire protection in specific project sites. The sizing of the temporary mains shall depend on the number water services, water demand and fire protection requirements of the services being interrupted.

**3.5 Valves**

* Valves shall be furnished and installed by the contractor on the temporary mains at locations designated by the Owner, so that the temporary mains can be isolated.
* Valves shall be installed at each branch of a temporary water main.
* Before permanently shutting down an existing water main, the valves shall be tested to ensure that they are in proper working order.
* 3/4” corporation stop copper shall be installed at the end of the temporary mains.

**PART 4: EXECUTION**

**4.1 Placement and Operation**

* Water mains shall be placed parallel to each side of the street and as close as possible to the area being serviced.
* When a street must be crossed with temporary water mains, installation will either be by open-cut or surface mount.
* Temporary water mains smaller than 2” in diameter may be surface mounded with temporary cold mix asphalt at all driveways and street crossings or where applicable, as long as it does not pose a safety concern. The Contractor may choose to utilize Pipe and Hose Ramps as manufactured by RubberForm Recycled Products, LLC or approved equal, to meet the safety requirements for small mains, per the manufacturer’s specifications.
* The Contractor shall furnish, place and connect temporary water services from the temporary main to a point beyond each meter box. The services will consist of a service clamp, corporation cock, sufficient length of copper pipe to reach beyond each meter box, copper to iron pipe union, street ell and bushing.
* Temporary water services range from ¾” to 2” in diameter. Temporary water services over 30 feet shall be a minimum of 1” in diameter.
* In the event the temperatures fall, the Contractor shall take steps to prevent temporary mains and services from freezing. Mains that do freeze shall be thawed by the Contractor utilizing an outside heat source. If flushing is done, the run-off shall be directed such that the street or sidewalk icing does not occur.
* Temporary water mains larger than 2” in diameter shall require open-cut or by other than open cut (BOTOC) across any driveways and streets/alleys.
* The following detail illustrates open-cut temporary asphalt paving for water mains larger than 2” in diameter.

**4.2 Flushing, Disinfection, Sampling & Service Transfer**

* After installation, the temporary water main shall be flushed and chlorinated by the Owner and sampled by the Owner. Services shall not be transferred until the temporary main has been checked and approved by the Owner. There will be no additional compensation for delaying in obtaining approval to transfer services.
* Care shall be given during the installation process of temporary potable water supply services to avoid contamination.

**4.3 Removal of Temporary Water Mains**

* After the new permanent main services are in place and in service, the Contractor shall remove and dispose of the temporary mains, services, pipe hose ramps and/or temporary paving as necessary.
* All associate temporary paving and moundings shall be removed from the existing street surfaces.
	1. **Site Restoration**
* Following construction operations, the contractor shall restore the work site to the original conditions or better. Backfill and compact all excavations according to these specifications.

**Part 5: Method of Measurement and Payment**

No measurement or direct payment will be made for temporary water mains unless otherwise specified by the plans and specifications.

**\*\*END OF SECTION\*\***