603 MUNI CONSTRUCTION SPECIFICATION FOR THE INSTALLATION OF DUCTS

603.05.03 Sand Bedding

ADD in the following:

Gradation requirements for sand bedding is outlined in GSSS 1010, Table 2A.

603.05.06 Mortar

ADD in the following:

Gradation requirements for Mortar Sand is outlined in GSSS 1010, Table 2A.

603.05.08 Ducts and Fittings

DELETE Table 1 "Ducts and Fittings:

ADD in new Table 1 "Rigid Ducts and Fittings"

TABLE 1 - RIGID DUCTS AND FITTINGS

Duct and Fitting Description	Type	Direct Buried	Concrete Encased	Subsurface Installation		Embedded of Work	Surface Mounted	CSA Standard
				In Ground	In Liner			
PVC	Rigid	X	X	X	X	X	X	C22.2 No. 211.2
Polymeric PVC	Rigid	X type DB2	X type EB1/DB2		X type DB2	X type EB1/DB2		C22.2 No. 211.1
RE	Rigid	X heavy wall	X thin, standard, heavy wall	X heavy wall	X standard, heavy wall	X thin, standard, heavy wall	X standard, heavy wall	C22.2 No. 211.3
Galvanized Steel	Rigid	X		X	X		X	C22.2 No. 45

603.07.19 Quality Control

603.07.19.02 Proof of Performance Testing and Inspection

ADD in the following:

The Contractor shall ensure that all ducts including those that will be left for future use are free from debris, water, breakage or distortion or distortion by pulling a mandrel through the ducts.

603.07.05.02 Earth Excavation

ADD in the following:

The edge of the excavation for the utility is to be cut in a straight line. The excavation shall not extend beyond the specified limits of the utility cut. The trench shall be excavated to a depth of 1.0 metre below final road grade when parallel with roadway and a depth of 1.2 metres below final grade at road crossing.

All care is to be taken to ensure that undermining of the adjacent pavement/road base materials does not occur. Where necessary, bracing, shoring, and/or sheeting shall be used to support the sides of the excavation and to prevent any movement that could damage other services, adjacent pavements, etc. This support system shall be removed as backfilling proceeds. Appropriate restoration of all services encountered is the responsibility of the applicant.

All surplus excavated material shall be removed from the site. The utility cut shall be kept free of water at all times.

603.07.06 Flexible Ducts

DELETE the entire subsection.

603.07.07 Rigid Ducts, Concrete Encased

DELETE second paragraph:

ADD in the following:

Alignment of ducts along the right-of-way shall be as shown on the contract drawings.

Minimum cover for ducts shall be as follows in both earth and rock:

1. Parallel to roadway - 1.0 metres
2. Crossings - 1.2 metres

Maximum depth to underside of ducts shall be 1.8 metres in all locations.

603.07.08 Rigid Ducts, Direct Buried

ADD in the following:

The duct shall be embedded in compacted granular material for 50 mm above conduit and a minimum of 100 mm below the conduit and installed to the manufacturer's specifications.

603.07.16 Backfilling

ADD in the following:

Under roadways, having M.R. designation, the utility cut is to be backfill using native material from the top of bedding to the bottom of granular subbase level. "Unshrinkable fill" which conforms to OPSS 578 shall be used for backfill from the bottom of the granular subbase level to the bottom of the adjacent pavement and/or proposed pavement ensuring all voids are filled. In deep strength asphalt, the balance to within 140 mm of finished asphalt grade shall also be backfilled using "Unshrinkable Fill".

The backfilled utility cut must be covered for at least 24 hours with steel plates of sufficient thickness to support traffic during this period. The edge of the existing pavement is to be painted with SS-1 emulsified asphalt or equipment, prior to placing 50 mm lifts of binder asphalt and a 40 mm lift of surface asphalt to the level of the existing pavement.