

Exhibit 4.0-1

City of Mountain Home, Idaho

Fiber Optic Installation Standards

Design and Installation Standards for Outside Plant (OSP) Construction:

Fiber Duct:

Design:

Fiber Count / Cable Type	DN	Standard
≥ 864 Fiber Cable	2"	HDPE SDR11, Ribbed Inside, Smooth Outside, Orange
≤ 576 Fiber & Drops > 100'	1¼"	HDPE SDR11, Ribbed Inside, Smooth Outside, Orange
≤ 12 Fiber Drop Cable ONLY	¾"	HDPE SDR13.5, Smooth Inside & Outside, Orange, limited to 100'

Installation:

- Duct shall be installed with the top of the duct 36" below finished grade, and in no case less than 30" and no more than 40" below finished grade without approval
- Duct installed in trenches shall be properly bedded flat, pulled straight, and held tight while being properly back filled in lifts as required by soil conditions
- Duct installed in trenches or via plow shall have a 'warning' marker tape installed 12 vertical inches above the duct
- Duct installed without tonable or armored cable shall be installed with a tonable member or 14 AWG copper wire the length of the duct accessible for connecting locating equipment
- Minimum duct bend radius shall not exceed 25 times the OD (Example: 3.5' for 1.25" duct)
- Duct couplings shall only be installed as required and shall be properly installed and watertight
- Duct of the same size installed in a common path shall each be marked with a unique stripe of color the length of the common path to provide individual duct identification
- Installed empty duct shall be properly capped and sealed at each end until populated

Fiber Cable:

Fiber Count	Fiber Type	Jacket Type
≥ 144*	12F Ribbon	Single Jacket, Single Armored, Bonded
12 < 144*	Loose Tube	Single Jacket, Single Armored, Bonded
≤ 12	Loose Tube	Flat Drop, Tenable

\* 144 count fiber preferred cable type is ribbon but may be either ribbon or loose tube.

- All manufacturer's specifications shall be carefully followed during installation including tension and bending limitations
- Visibly damaged cable shall not be installed
- Cable conductors shall be properly bonded, grounded, and terminated to maintain tonability
- No less than 50' of excess cable shall be stored at any 90° or greater directional change, and in intermediate vaults at intervals not to exceed 3,000'

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Micro duct and cable: Micro duct and cable are only allowed in special circumstances and must be preapproved by the fiber department prior to installation.

Fiber Closures:

Fiber Count	MAX Cable Ports	MAX Cable OD	Closure Type*
≤ 12 Single	4	Flat Drop	Coyote DTC
≤ 192 Single/864 Ribbon	6 ports/16 drop	1"	450C
≤ 576 Single/1152 Ribbon	6 ports/16 drop	1"	450D
≤ 648 Single/2592 Ribbon	Varies	1" – 1.4"	600D

\* All closures Commscope FOSC type with storage basket and ground lugs, except Coyote Low Count Closures.

- Closures shall be installed per manufacturer’s specifications and watertight
- Closures shall be properly bonded, grounded, and terminated to maintain tonability
- No less than 50’ of excess cable shall be stored with any connected closure
- Locate pedestals with grounding rods shall be installed and bonded to any closure 3,000’ or more away from the next closure with a locate pedestal

Fiber Vaults:

Installation Type	Vault Size (IN)	Vault Specifications*
600D Closure	36x60x36 deep	Split Lid, TIER 22
450C or 450D Closure	30x48x24 deep	Split Lid, TIER 22
Coyote DTC or Multiport Service Terminal (MST)	17x30x18 deep	TIER 22
Passthrough (multi cable separation)	14x19x12 deep	HDPE, non-rated

\* Lids to include bolts for security and be labeled with ‘Fiber Optics.’

- Vaults shall be installed with tops flush to grade
- No vault sidewall or lid shall be cut, drilled, or modified to allow any root, duct, cable, wire, rod, or anything else to penetrate such sidewall or lid
- Vaults shall be properly bedded on no less than 1” of pea gravel
- Vaults shall be properly backfilled as required by soil conditions to avoid shifting or settling
- Fiber closures, terminations, and appurtenances shall be properly installed, supported, or secured in the vault in line with any manufacturer’s recommendations