**Cabling**

Our plan is to install a demarcation point extension from the first floor to our entrance facility via plenum rated multi-mode fiber cable directly into our firewall. From here, the same plenum fiber connects to our core switch in our equipment room where 2 fiber trunks span to our distribution switches separately located in telecommunication rooms TR2A and TR2B. These distribution switches connect with fiber to each of our access switches vertically through our TRs and horizontally to the appropriate switch according to how our network bandwidth is load balanced.

Horizontal cabling is organized with cable hangers attached to existing building infrastructure with plenty of room for cable expansion, which are plenum rated and provide easy cable management. Our access switches use Category 6 plenum rated cables to reach client work areas and access jacks within each office, all of which comply with TIA/EIA 568 standards. These jacks connect to Category 6 work area cables for each office, providing all employees with a reliable, fast network connection.

**Total Cable Lengths**

|  |  |  |
| --- | --- | --- |
| Placement | Type | Total Length |
| Work Area | Category 6 | 1691 meters |
| Horizontal | Category 6 | 11697 meters |
| Backbone | Multi-mode Fiber | 345 meters |

**Work Area Cable**

|  |  |  |
| --- | --- | --- |
| Cable | Description | Image |
| RJ45 Cat6 UTP Ultra-Thin Patch Cable - Premium Fluke® Patch Cable Certified - CMR Riser Rated | Category 6 cables of various lengths per office provide client node access within each office |  |

* Measurements are in **meters**, disregard the table headers showing feet

**Floor 1**

A calculator with numbers and text

Description automatically generated

**Floor 2**

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**Floor 3**

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**Floor 4**

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**Floor 5**

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**Horizontal Cabling**

|  |  |  |
| --- | --- | --- |
| Cable | Description | Image |
| 304.8 meters 4 Pair CAT6 Solid U/UTP 550Mhz 23AWG CMP Plenum Bulk Cable | Plenum rated Category 6 cabling is bought in bulk to cover the 11697 meters required for the entire company |  |
| <https://www.infinitecables.com/products/loop-cable-hanger-5-inch-plenum-rated> | Plenum rated hangers keep horizontal cable runs organized and allow plenty of room for adding cables for company expansion |  |
| <https://www.infinitecables.com/products/1-beam-clamp-75lb-load-1-4-20-thread-10-pack> | Clamps attach to building infrastructure and can hold the cable hangers |  |
| <https://www.infinitecables.com/products/screw-1-4-20-pan-head-quadrex-zinc-pack-of-25> | Screws secure the cable hangers to the clamps |  |

**Floor 1**

**A table of numbers and letters

Description automatically generated with medium confidence**

**Floor 2**

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**Floor 3**

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**Floor 3/4**

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**Floor 4/5**

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**Backbone Cabling**

|  |  |  |
| --- | --- | --- |
| Cable | Description | Image |
| OM4 Multimode 50 Micron Indoor (Corning ClearCurve) - OFNP Plenum Fiber Bulk Cable (per meter) - 12-Strand | Plenum rated fiber cable bought in bulk to cover 345 meters |  |
| 3m LC/PC 12-Fiber OM4 Multimode Simplex 50 micron - 900um Pigtail - Color Coded | Spliced pigtails allow our fiber cable to connect with our fiber patch panels and backbone switches |  |

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\*Distribution switches located in TR2A and TR2B to save on fibre cabling costs and increase security