

HANDS ON #3

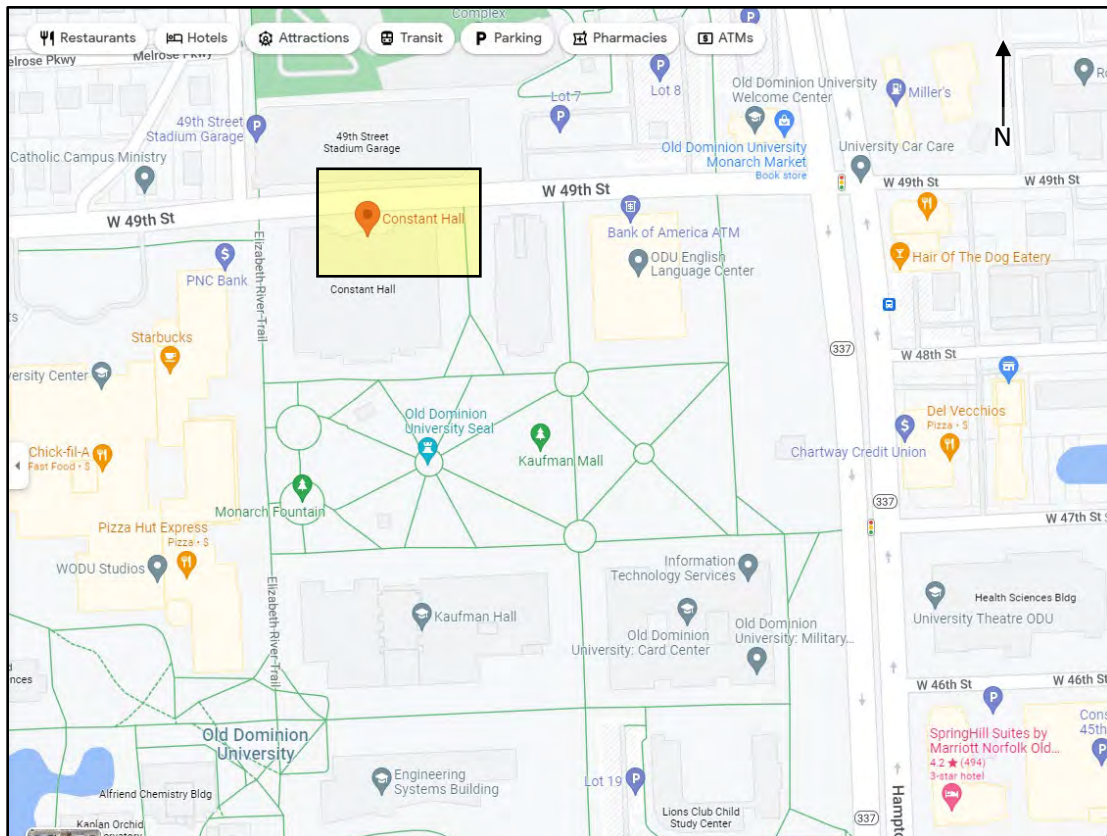
Business information:

Constant Hall address: 2101 Constant Hall, Norfolk, VA 23508

Located on campus at Old Dominion University

Phone Number: (757) 683-4603

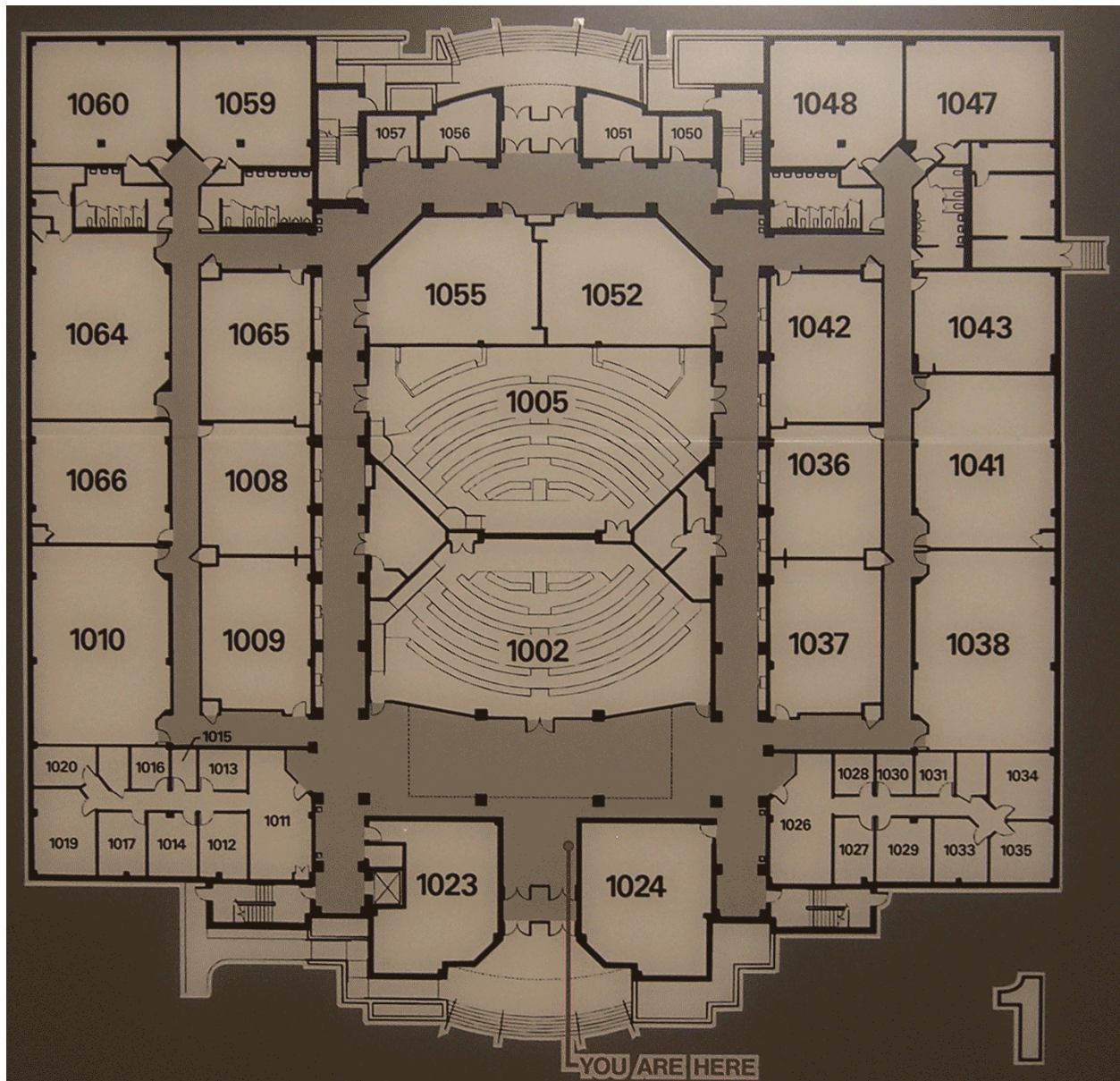
General map of the location:



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Constant Hall Floor Plan

1st Floor



Scale: 6.8 inches (in) = 65 meters (m) = 213.255 feet (width) | 6.3 in = 60.22 m = 197.57218 feet (length) | 9.558823529 m = 1 in

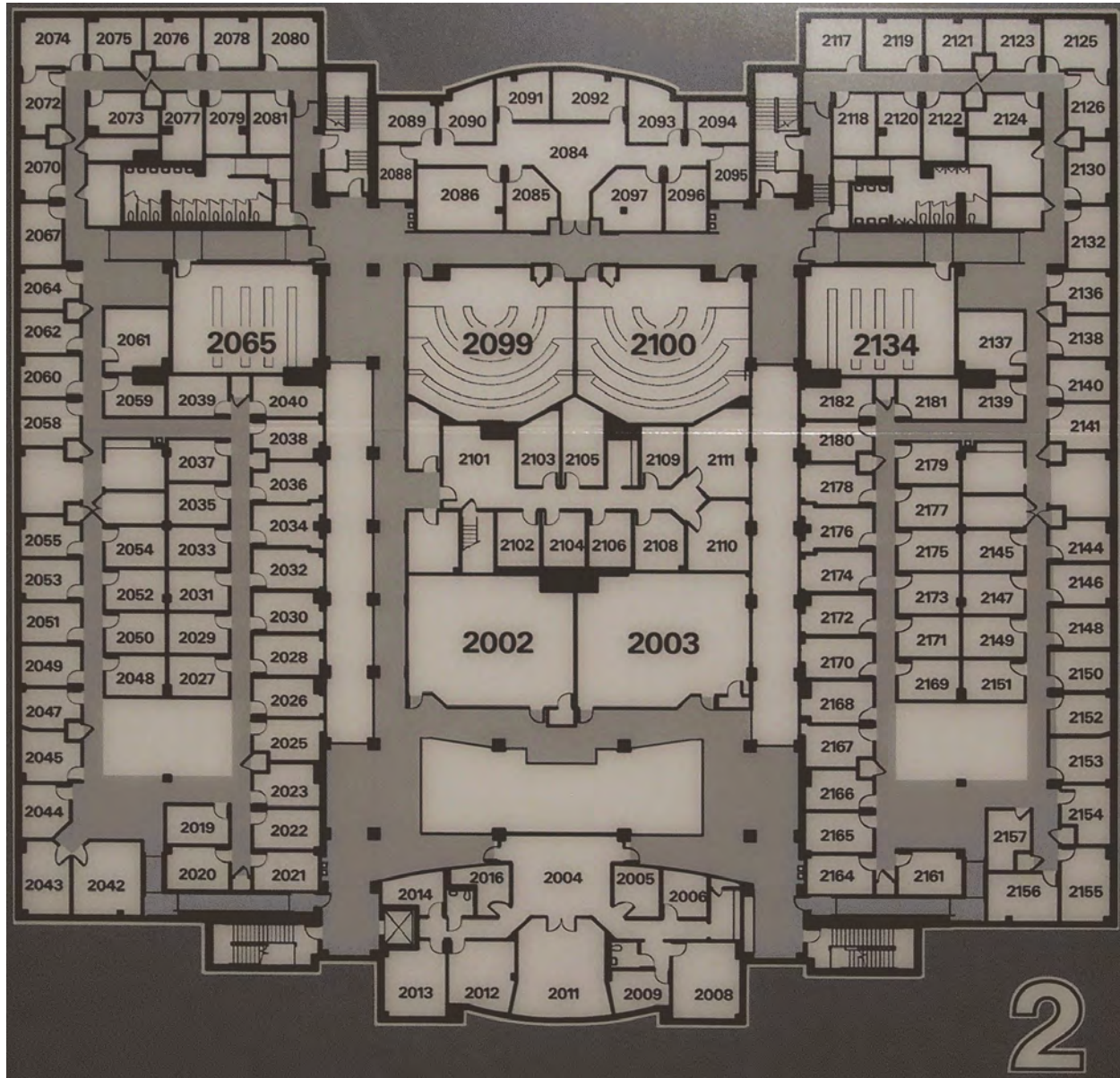
Ceiling Height: 3 m = 9.84252 feet

Total Number of Rooms: 64 (excluding restrooms and ladder wells)

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Constant Hall Floor Plan

2nd Floor



Scale: 6.8in = 65 m = 213.255 feet (width) | 6.3 in = 60.22 m=197.57218 feet (length) |
9.558823529 m = 1 inch

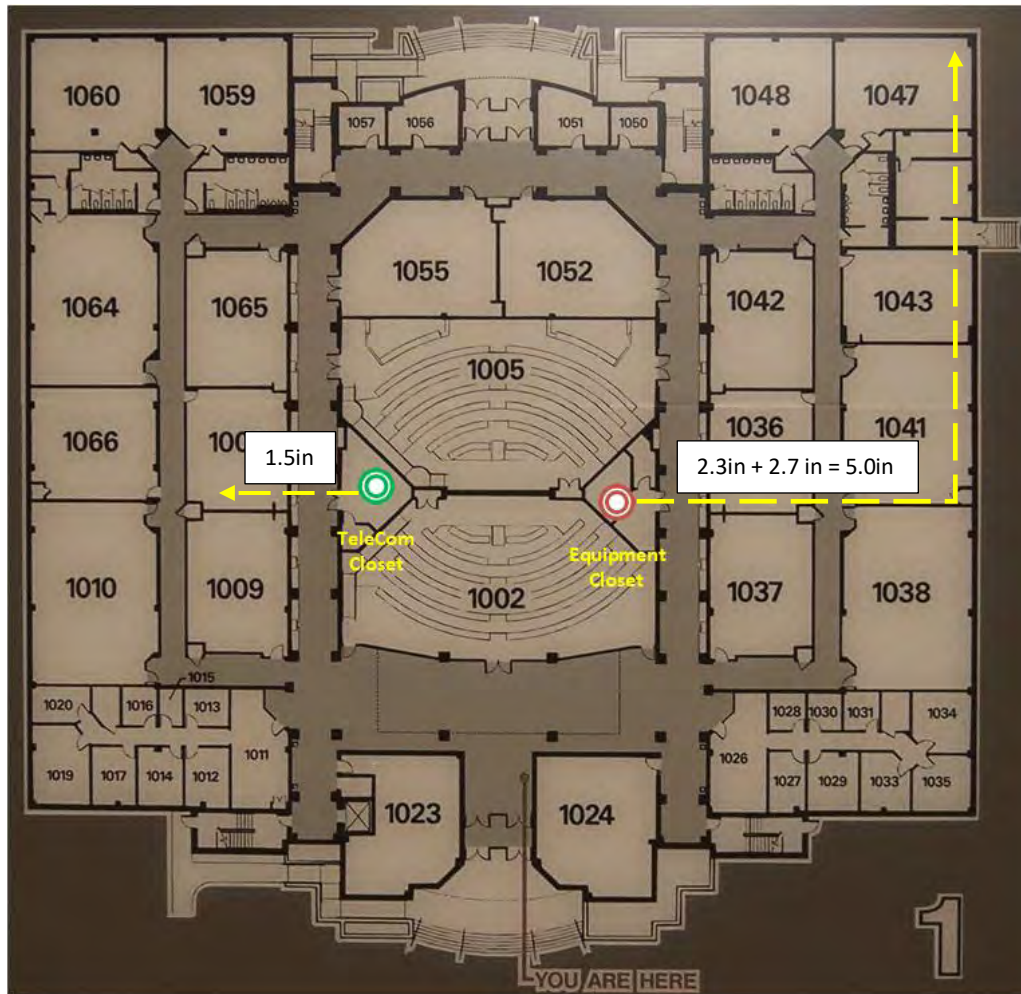
Ceiling Height: 3 m = 9.84252 feet

Total Number of Rooms:148 (excluding restrooms and ladder wells)

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Cat5e Network wire measurements

1st Floor:



Longest Wire Pull = 5.0 in = 47.80 m + 3 m (ceiling height) = 50.8 m

Shortest Wire Pull = 1.5 in = 14.34 m + 3 m (ceiling height) = 17.34 m

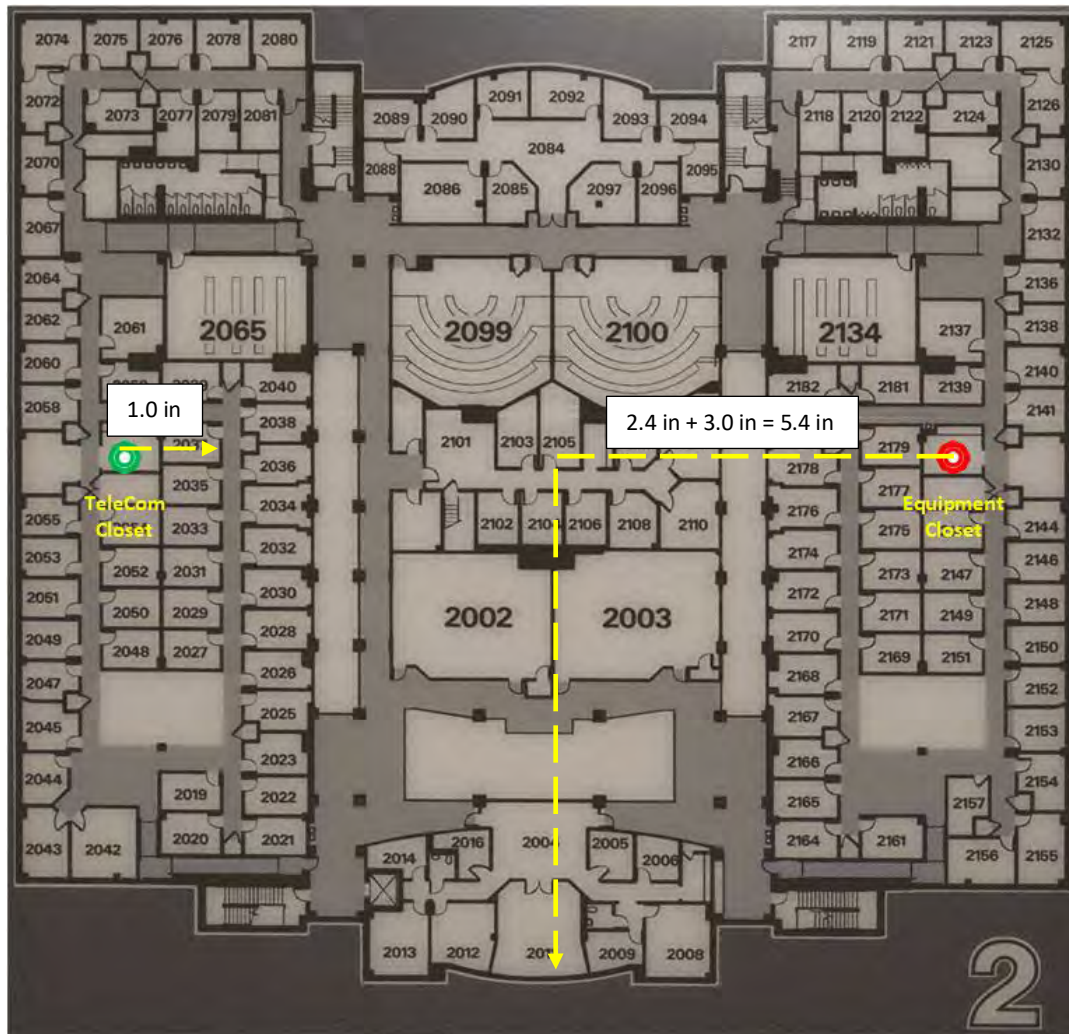
Average Wire Length (Longest+Shortest/2) = 50.8 m + 17.34 m = 68.14/2 = 34.07 m (avg)

Total Cable Length = 34.07 m (avg length) * 64 (rooms) * 2 (cables) = 4360.96 m

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Cat5e Network wire measurements

2nd Floor:



Longest Wire Pull = 5.4 in = 51.62 m + 3 m (ceiling height) = 54.62m

Shortest Wire Pull = 1.0 in = 9.56 m + 3 m (ceiling height) = 12.56 m

Average Wire Length (Longest+Shortest/2) = 54.62 m + 12.56 m = 67.18/2 = 33.59 m (avg)

Total Cable Length = 33.59 m (avg length) * 148 (rooms) * 2 (cables) = 9942.64 m

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Equipment and supplies needed to wire Constant Hall with Cat 5e Ethernet Cable:

Wall plates = 212

Patch Panels = 7

Switches = 19

RJ-45 connectors (male) = 1000 (large number to make small patch cables for patch panel (cheaper) and for mistakes)

Cable Tags = 500

Cat 5E Cable (1st floor + 2nd floor) = 14303.6 m = 46927.82 ft

Price list of equipment

Equipment and cost				
Device	Product Name	Total Needed	Cost Each	Total Price
Wall Plates	Ethernet Wall Plate, 2 Port Cat6 Keystone Female to Female - White	212	\$7.89	\$1,672.68
Patch Panel	TRENDnet 24-Port Cat6 Unshielded Patch Panel, Wallmount or Rackmount, Compatible with Cat3,4,5,5e,6 Cabling, For Ethernet, Fast Ethernet, Gigabit Applications, Black, TC-P24C6	19	\$40.99	\$778.81
Switches	TP-Link 24 Port gigabit PoE switch 24 PoE+ Port @192W, w/ 4 SFP Slots Smart Managed Limited Lifetime Protection Support L2/L3/L4 QoS, IGMP and LAG IPv6 and Static Routing (T1600G-28PS)	19	\$349.95	\$6,649.05
RJ-45 Connectors (male)	IDEAL 100-Pack Cat5e Rj45 Modular Plug	10	\$49.48	\$494.80

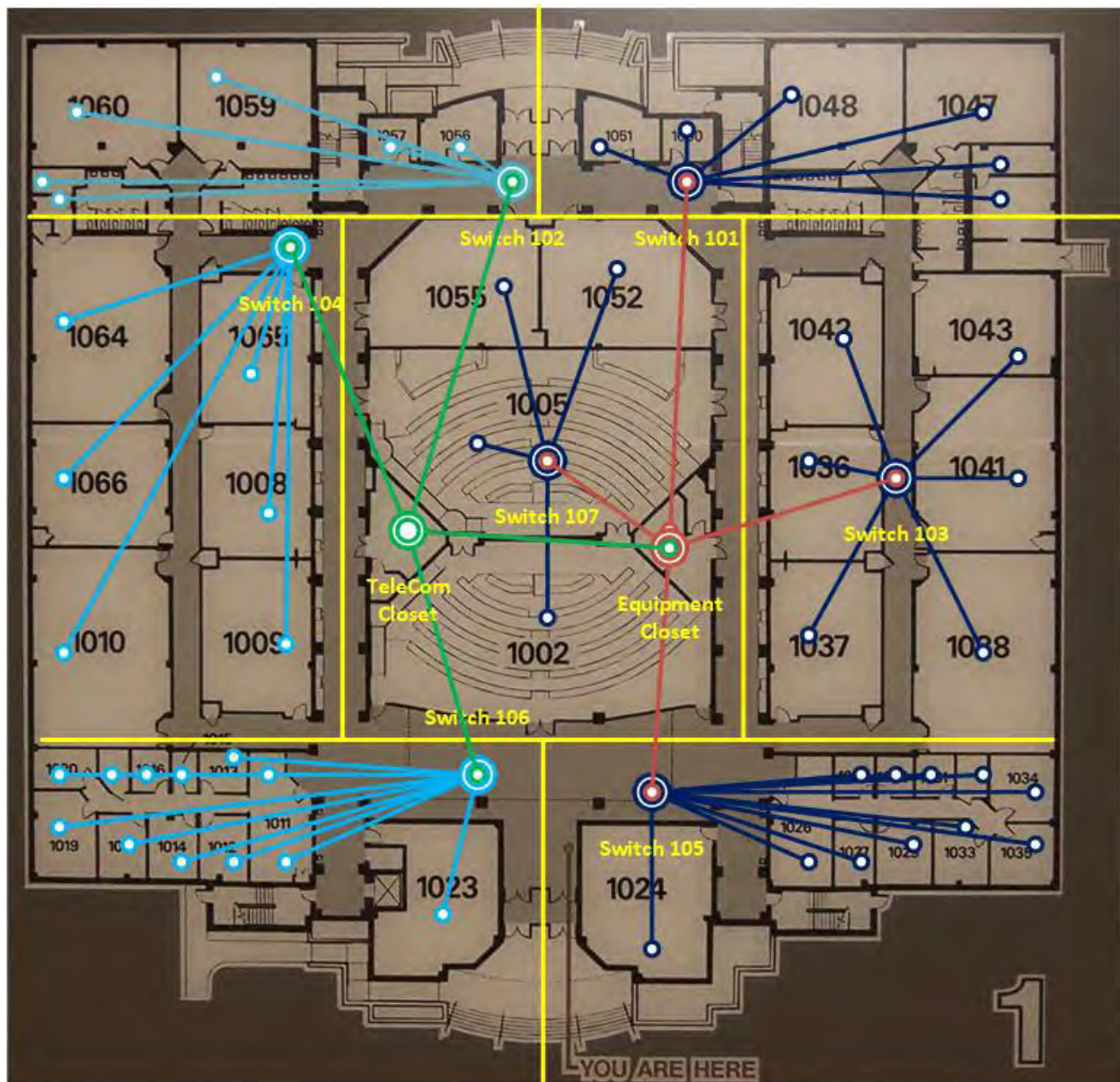
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Cat 5e Cable	<u>fast Cat. Cat5e Ethernet Cable 1000ft - 24 AWG, CMR, Insulated Bare Copper Wire Internet Cable with FastReel - 350MHZ / Gigabit Speed UTP LAN Cable - CMR (White)</u>	48	\$137.50	\$6,600.00
Cable Tags	<u>120 Pieces Self-Adhesive Cable Label Colorful Wire Labels Waterproof Wire Identification Labels Cord Wire Tags for Electronics Computers Cable Management, 12 Colors</u>	5	\$11.59	\$57.95
Sub-total				\$16,253.29
Tax (0.06 x sub-total)				\$975.20
TOTAL				\$17,228.49

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Constant Hall Cat5e Network Wire Diagram Plan

1st Floor



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Constant Hall Cat5e Network Wire Diagram Plan

2nd Floor

