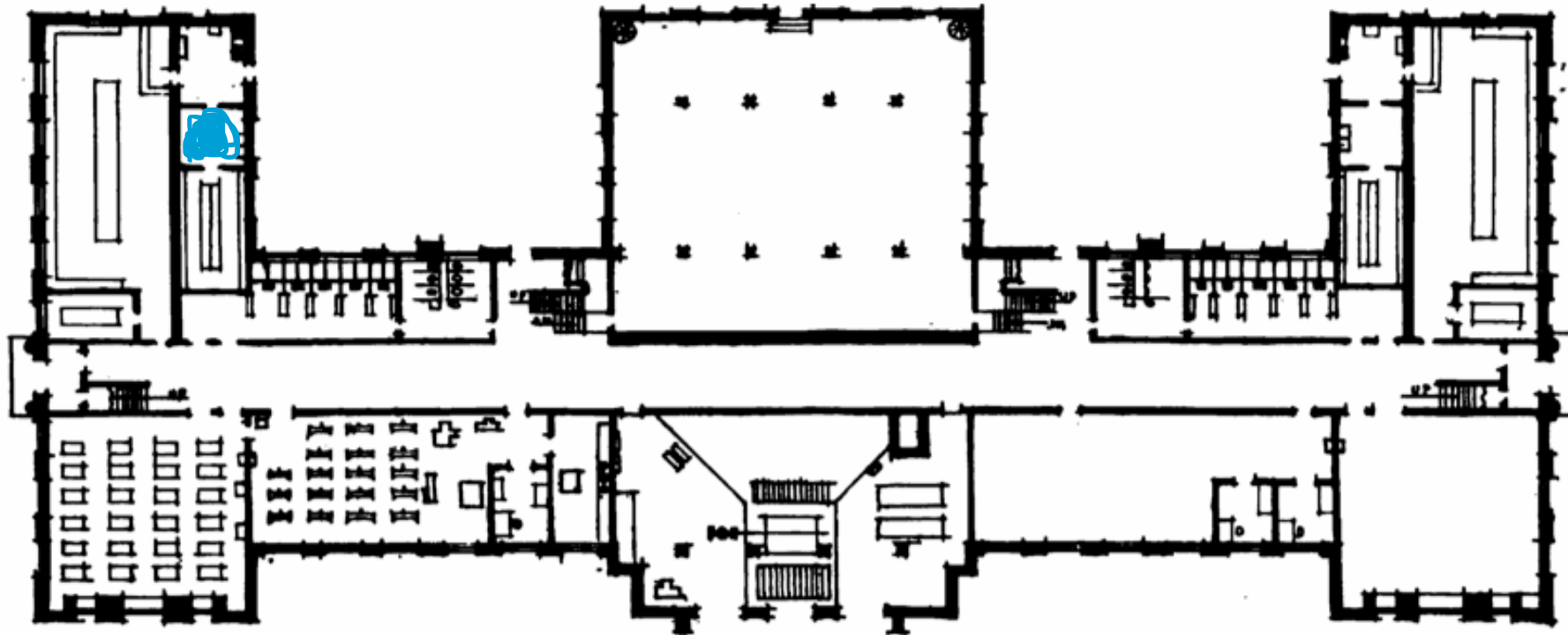


Case Analysis - Wiring Maury High School

By: Stephen Cobb

Basement



BASEMENT.

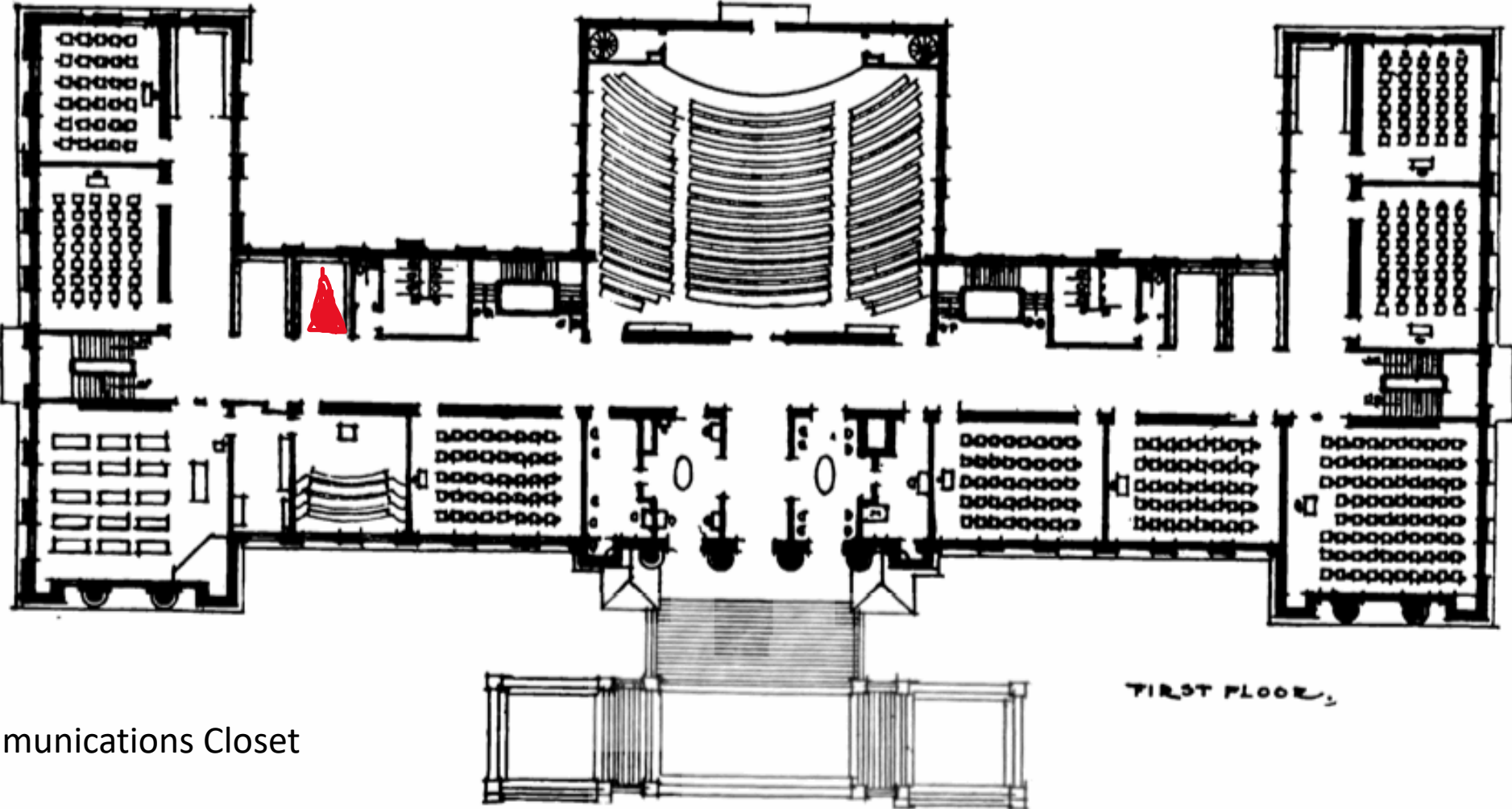
BASEMENT PLAN, MAURY HIGH SCHOOL

(See next page)



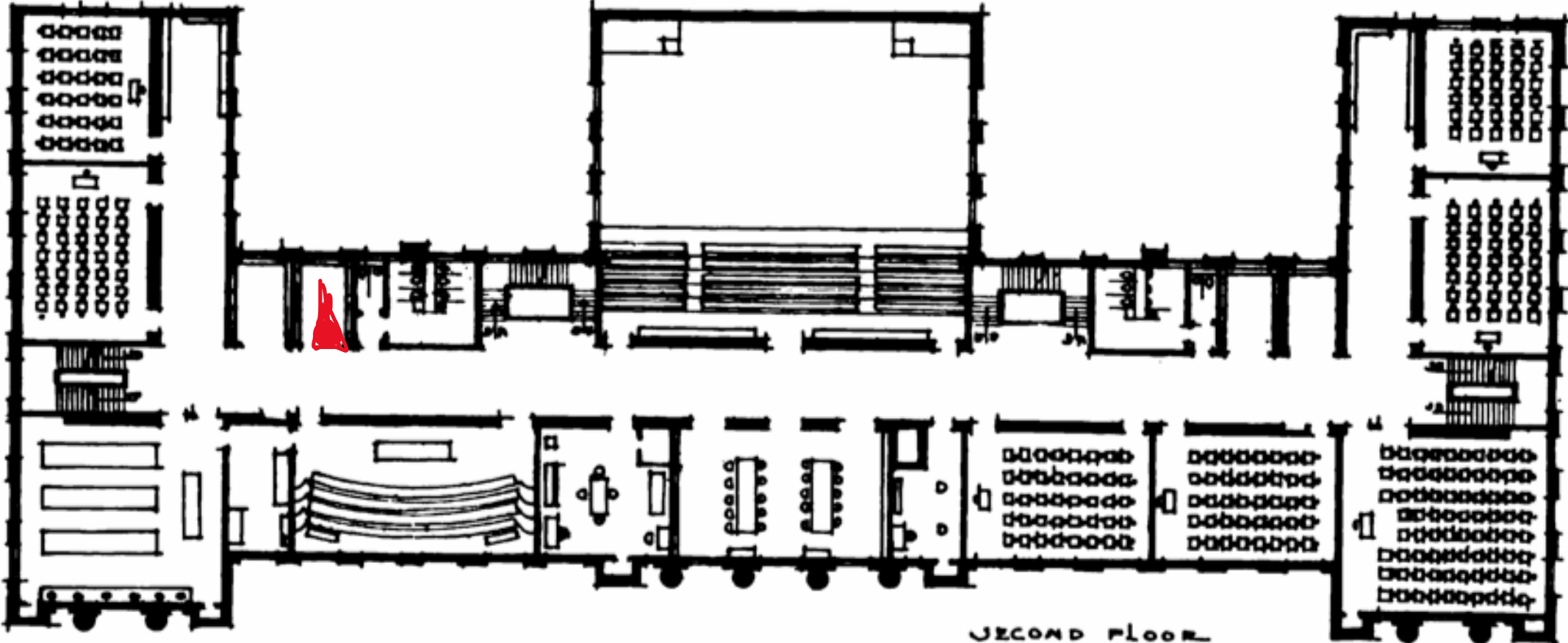
Equipment Room

First Floor



Telecommunications Closet

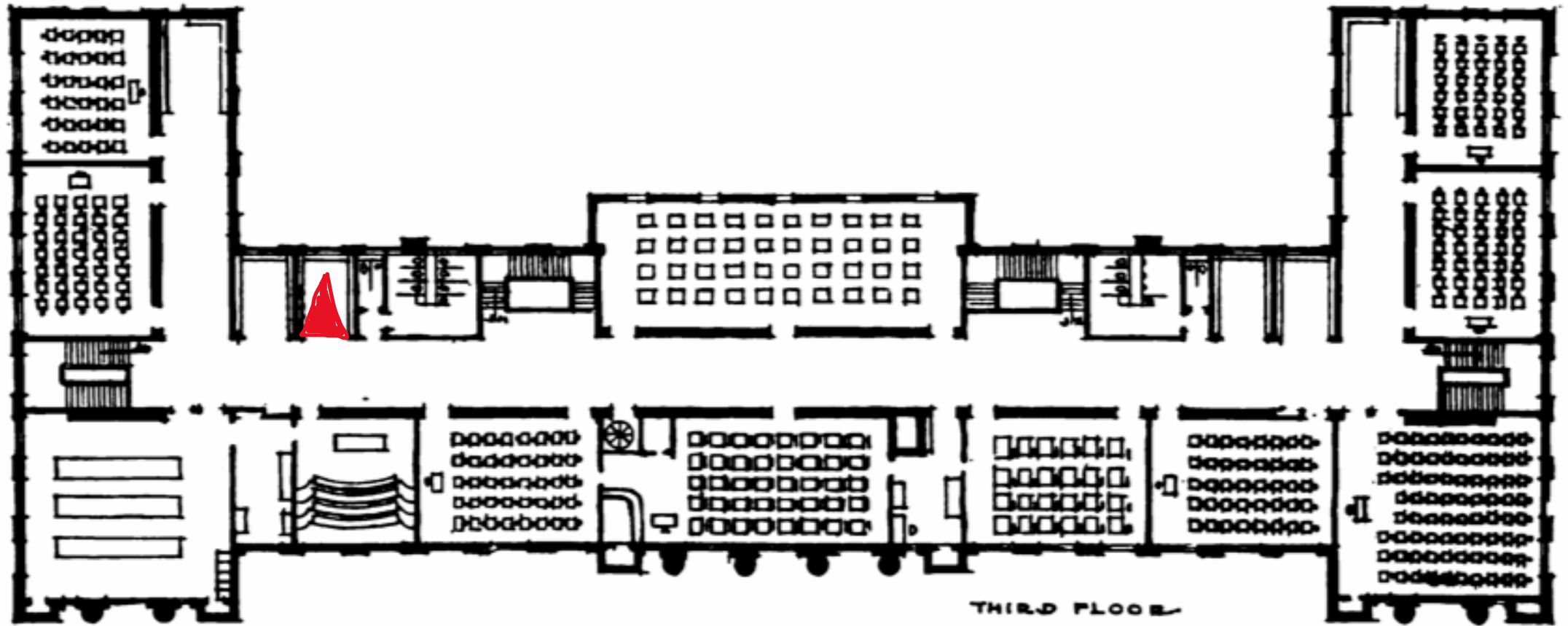
Second Floor



SECOND FLOOR

 Telecommunications Closet

Third Floor



Telecommunications closet

Details

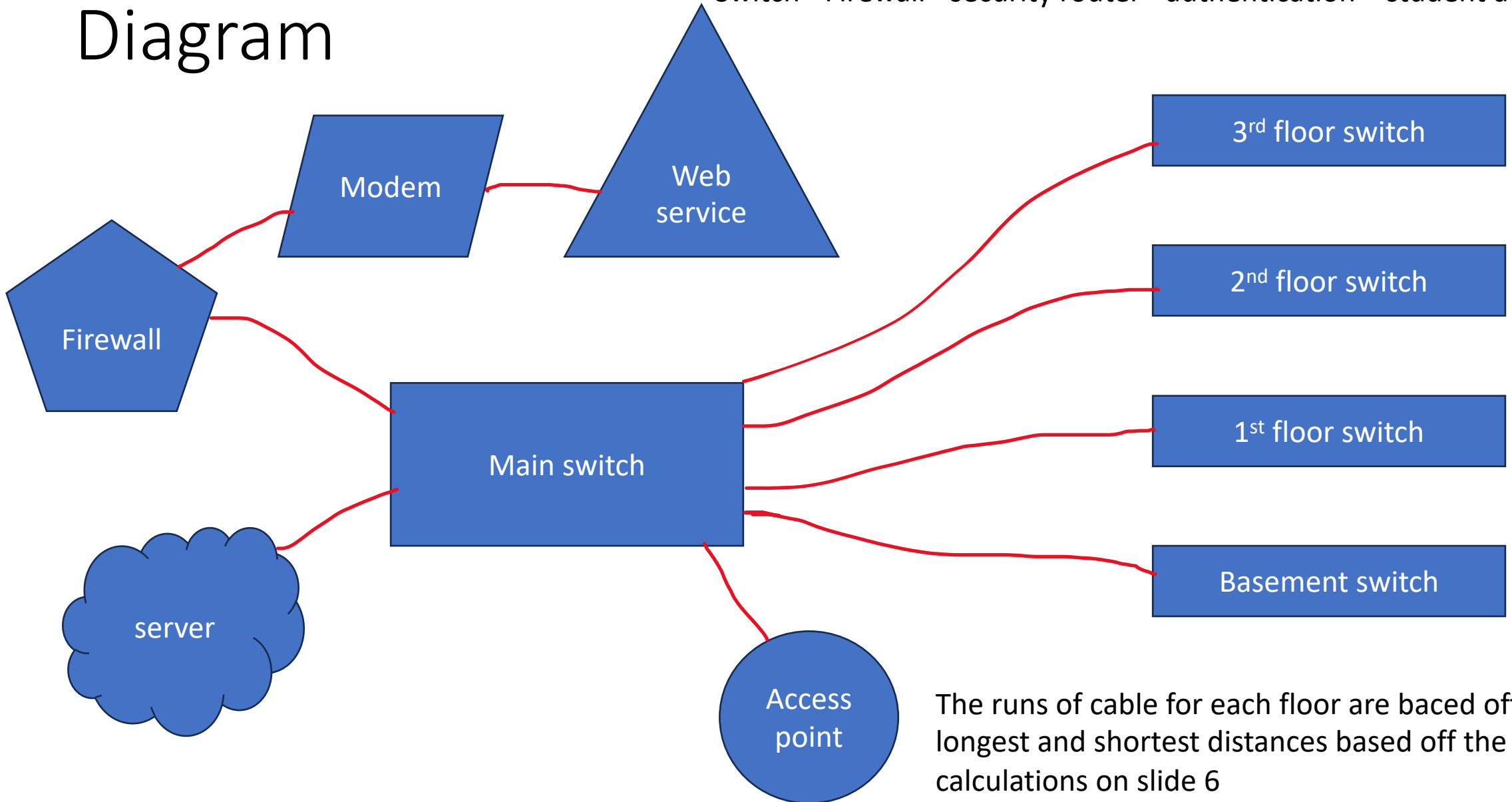
- 23 CM = 95 M
- 1 CM = 4.13
- Equipment room to telecommunications room: 4 cm = 16.52 M
- Longest distance for telecommunications room 1st – 3rd floors: 21 cm
- Shortest distance for telecommunications room 1st – 3rd floors: 2cm
- telecommunications room average 1st – 3rd floors: 11.5cm = 47.50 M
- 1st floor has 22 rooms x 2 = 44; 44 x 47.50 = 2090 Meters of cable
- 2nd floor has 21 rooms x 2 = 42; 42 x 47.50 = 1995 Meters of cable
- 3rd floor same as second = 1995 meters of cable
- About 6100 meters of cable is needed for this network

What is needed | Total cost \$24,481

1000 FT CAT7 CAT-7 SHIELDED PURPLE CABLE 10GB STRANDED NO CONNECTORS	https://www.ebay.com/itm/223292531506	936 x 21	19,956
RJ45 Cat5e Modular Plugs/Connectors for Solid Wire - Qty 100	https://www.cablesandkits.com/ethernet/rj45-connectors/cat5e-ethernet-connectors/rj45-plug-100/pro-645/?tid=ppc-c-36-p-645-d-2023-12-08&utm_campaign=(ROI)+Smart+Shopping+-+Big+4+-+Ethernet&utm_source=google&utm_medium=cpc&utm_term=&hsa_kw=&hsa_acc=1821731459&hsa_grp=&hsa_ad=&hsa_mt=&hsa_v_er=3&hsa_net=adwords&hsa_tgt=&hsa_cam=18188851911&hsa_src=x&gad_source=1&gclid=CjwKCAiAmsurBhBvEiwA6e-WPDUbj8VZLoSjzujhWweKk2W6gqZxeiKlCxmMlssny_r3XO6Px8t8gxoc2u0QAvD_BwE	21.19 x 3	63.30
NETGEAR 52-Port PoE Gigabit Ethernet Smart Switch (GS752TPP) - Managed, Optional Insight Cloud Management, 48 x PoE+ @ 760W, 4 x 1G SFP, Desktop or Rackmount, and Limited Lifetime Protection	https://www.amazon.com/NETGEAR-52-Port-Gigabit-Ethernet-GS752TPP/dp/B07C4WCR8K/ref=asc_df_B07C4WCR8K/?tag=hyprod-20&linkCode=df0&hvadid=319972287270&hvpos=&hvnetw=g&hvra nd=12046860126275683809&hvpone=&hvptwo=&hvqmt=&hvdev=c &hvdvcmdl=&hvlocint=&hvlocphy=9008554&hvtargid=pla-571025399744&psc=1&mcid=91d750d0400c36b0bb7de956edcbb5a e&gclid=CjwKCAiAmsurBhBvEiwA6e-WPB46JSO4WmLQP62oxMZjDzuXGhG95QOpjINUS27ciE4j9L7oJ5_5x oCfUkQAvD_BwE	899 x 4	\$3596
VCE 2 Port Keystone Wall Plate UL Listed (10- Pack), Single Gang Wall Plates for RJ45 Keystone Jack and Modular Inserts, White	https://www.amazon.com/Listed-VCE-Keystone-Modular-Inserts/dp/B07JFWRSTY?source=ps-sl-shoppingads-lpcontext&ref_=pfpls&smid=A130RVB6PSAL46&th=1	10 x 7	\$70
Verizon Fios Gigabit Connection: up to 940Mbps/880Mbps	https://www.verizon.com/home/internet/fios-fastest-internet/multi-gig/?cmp=KNC_H_P_COE_GAW_FIOS_2023_03_BP-14020&abr=CMOGBRGE0&c=A005128&kpuid=go_cmp-19816122695_adg-150638879207_ad-682960242647_kwd-899590650881_dev-c_ext-prd-sig-CjwKCAiAmsurBhBvEiwA6e-WPN-tFNfXinYrUzUerJSOKggVn3iv_IVE3482aFnbCXfZzJ0Zn_kbGBoC8h4QAvD_BwE&utm_source=google&utm_term=go_cmp-19816122695_adg-150638879207_ad-682960242647_kwd-899590650881_dev-c_ext-prd-mca-sig-CjwKCAiAmsurBhBvEiwA6e-WPN-tFNfXinYrUzUerJSOKggVn3iv_IVE3482aFnbCXfZzJ0Zn_kbGBoC8h4QAvD_BwE&gad_source=1&gclid=CjwKCAiAmsurBhBvEiwA6e-WPN-tFNfXinYrUzUerJSOKggVn3iv_IVE3482aFnbCXfZzJ0Zn_kbGBoC8h4QAvD_BwE		214.99 a month
Fortinet FortiGate-60E-POE 1 Year Unified Threat Protection (UTP) - FC-10-FG60P-950- 02-12	https://www.firewalls.com/fc-10-fg60p-950-02-12.html?utm_campaign=Google+Shopping&utm_medium=cpc&utm_source=google&gad_source=1&gclid=CjwKCAiAmsurBhBvEiwA6e-WPP8wqp91dQk34Y6plpqaQoLCCmYmOepy_4Vt8SIELSBR81YQf91DXRoCttMQAvD_BwE	1	\$580.27

Diagram

Use VLAN to control access to students and staff access.
Switch - Firewall - security router - authentication – student access



The runs of cable for each floor are based off the longest and shortest distances based off the calculations on slide 6