Budget

Part 1
Total cost of cabling = $1,604.07
- Southwire 1000ft cat5e cable = $178.23
- $178.23\ x\ 19\ =\ \$3,386.37$
- **Total cabling for building is 18,642ft (**5,682 meters = 18,641.73 ft)
- **Total cable per floor**
  - 1,617 meters (3rd Floor)
  - 1,696 meters (2nd Floor)
  - 1,557 meters (1st Floor)
  - 812 meters (basement)
- **Home depot – Southwire 1000ft Cabling**
  - https://www.homedepot.com/p/Southwire-1000-ft-Blue-24-4-CAT5e-CMP-Plenum-Data-Cable-56917749/202316503
  -

Total cost of outlets = 267.84
- Tripp Lite 2 port faceplate $=\ \$1.99$
  - $\$1.99\ x\ 54 = \$107.46$
- Commercial Electric = $2.97
  - $\$2.97 \times 54 = \$160.38$
- **Total outlet and faceplate per floor**
  - 16 outlets & 8 faceplates (basement)
  - 28 outlets & 14 faceplates (1st floor)
  - 32 outlets & 16 faceplates (2nd floor)
  - 32 outlets & 16 faceplates (3rd floor)
- Tripp Lite: https://www.insight.com/en_US/buy/product/N042-001-WH/TRIPP%20LITE/N042-001-WH/Tripp-Lite-Dual-Outlet-RJ45-Universal-Keystone-Face-Plate--Wall-Plate--faceplate/

- Commercial Electric - https://www.homedepot.com/p/Commercial-Electric-Category-5e-Jack-White-5025-WH/206427940
-

Total cost of patch panels – $227.83
- Tripp Lite 24 port patch panel (basement)– $38.92
  - $\$38.92 \times 1 = \$\mathbf{38.92}$
- Tripp Lite 48 port patch panel- $62.97
  - $\$62.97\ \times\ 3 = \$\mathbf{188.91}$

- https://www.newegg.com/Product/Product.aspx?item=N82E16812998069
- https://www.newegg.com/Product/Product.aspx?item=N82E16812998084

Part 2
Equipment room (1st floor)
- Core switch (managed)
- 48 port switches

Telecomm room (Basement)
- 24 port switches

Telecomm room (2nd floor)
- 48 port switches

Telecomm room (3rd floor)
- 48 port switches

Total cost of switches = $1,175.95
Core switch – NETGEAR 12 port managed switch – $1,132.44
- $1,132.44 \times 1 = \$\mathbf{1,132.44}$
- https://express.google.com/u/0/product/8087445967581739019_56551096522601424 48_46586?utm_source=google_shopping&utm_medium=tu_prop&utm_content=eid-lsjeuxoeqt&gtim=CIbXt-rpicjfkgEQ6MGTx_zZp8peGMDT_psEIgNVU0Qo4NzC5gUw-usC&utm_campaign=46586&gclid=EAIaIQobChMIuuKj05Xs4QIV0IKzCh0W6gkmEAkYASA BEgJNsPD_BwE

NETGEAR 24-Port managed switch – $259.99
- $259.99 \times 1 = \$259.99$
- https://www.newegg.com/Product/Product.aspx?Item=N82E16833222025&Description =netgear%20managed%20switch&cm_re=netgear_managed_switch-_-33-222-025-

Product NETGEAR 48-port managed switch – $388.43
- $388.43 \times 3 = \$\mathbf{1,165.29}$
- https://www.newegg.com/Product/Product.aspx?Item=N82E16833122948&Description =48%20port%20gigabit%20switch&cm_re=48_port_gigabit_switch-_-33-122-948-_-Product

Total cost of cabling – $146.36
CAT5e Ethernet Patch cable 10ft (25 pack) - $17.28
- Total price of cabling = $17.28 x 5 = **$86.40**
- 108 patch cables needed
- https://www.cablesys.com/ethernet/cat5e-ethernet-patch-cord-with-24-awg-utp-cable-with-snagless-boot-25-bulk-pack/

Belikn CAT5e Crossover Patch Cable – $14.99 each
- $14.99 x 4 = **$59.96**
- https://www.belkin.com/us/p/P-A3X126-M/

Part 3

Firewall - NETGEAR ProSafe Firewall- **$109.99**

- $109.99 x 1 = $109.99
- https://www.amazon.com/NETGEAR-ProSafe-FVS336G-Firewall-FVS336G-300NAS/dp/B00O4UJHFG/ref=sr_1_17?keywords=firewall&qid=1556206989&s=gateway&sr=8-17
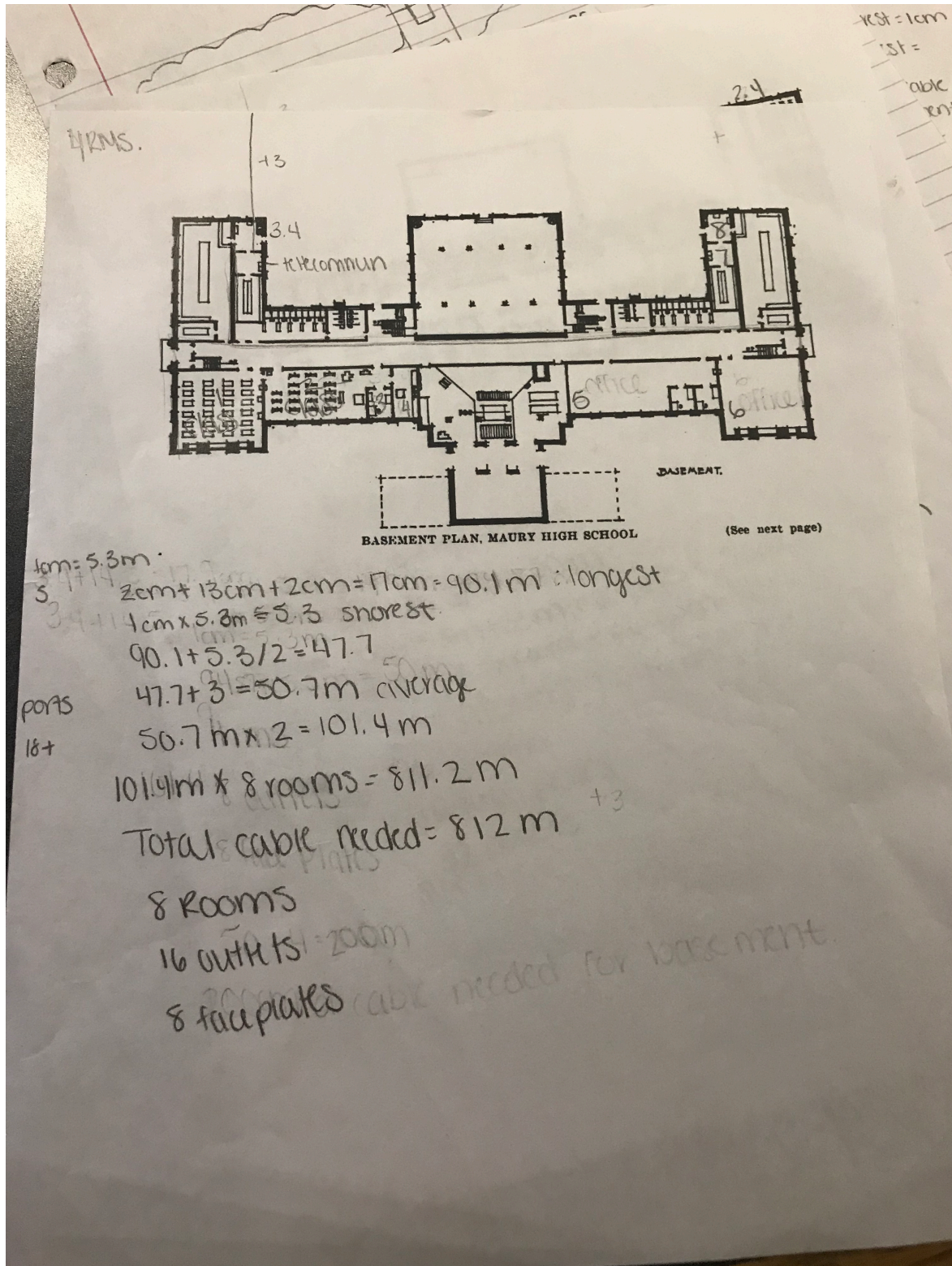
Students:

- Access will be restricted.
- Students won't be able to access
    - Porn sites
    - Twitter
    - Facebook
    - Instagram
    - Unsecure sites
- Students will be able to access
    - YouTube
    - Google
    - Yahoo
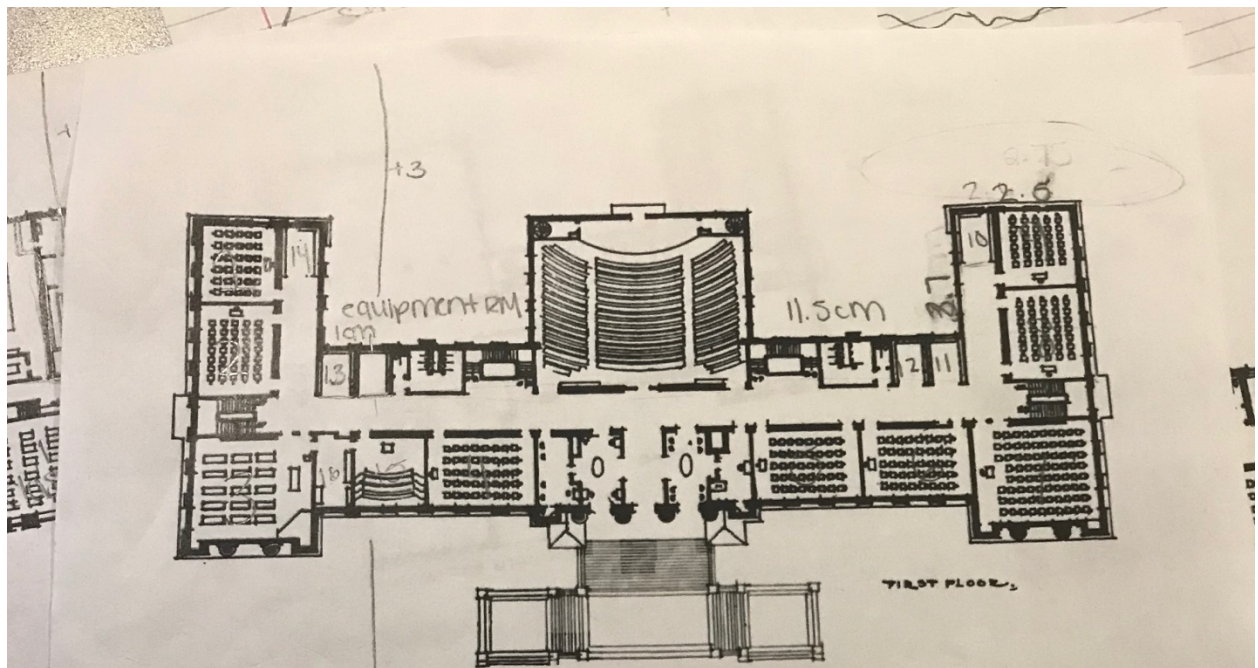   - Educational sites

Staff

- Access will be restricted.
- Staff won't be able to access
    - Porn sites
    - Unsecure sites
- Staff will be able to access
    - Emails
    - YouTube
    - Google
    - Yahoo
    - Educational sites

**Total cost for Maury High School = $4,913.81**

Floor plans

4 RMS.

+3

3.4

— telecommun

6 office

6 office

+3

BASEMENT.

BASEMENT PLAN, MAURY HIGH SCHOOL   (See next page)

1cm = 5.3m.

2cm + 13cm + 2cm = 17cm = 90.1m : longest

1cm x 5.3m = 5.3 shorest

90.1 + 5.3/2 = 47.7

47.7 + 3 = 50.7m average

ports

50.7 m x 2 = 101.4 m

16+

101.4m x 8 rooms = 811.2 m

Total cable needed = 812 m   +3

8 Rooms

16 outlets

8 faceplates   cable needed for basement.

FIRST FLOOR

equipment RM
1cm
11.5cm

left column:
width- 18cm

95/18 ≈ 5.3

5.3 m = 1cm

shorest = 1cm

longest =

6 m cable
= basement,
2nd floor

28 + 10% = 31
ports needed

middle/right:
11.5cm + 3.7cm + 2.5 cm = 17.7 cm = 93.81 m

1cm = 5.3 m

5.3 m + 93.81 m / 2 = 49.55 m ≈ 49.6 m

49.6 m + 6 m = 55.6 m : average +

14 rooms

55.6 m x 14 rooms = 778.4 m ≈ 778 m

778 m x 2 = 1,556.8 = 1,557 m

total cabling = 1,557 m

14 face plates
28 outlets

SECOND FLOOR

Telcom   12cm

+3
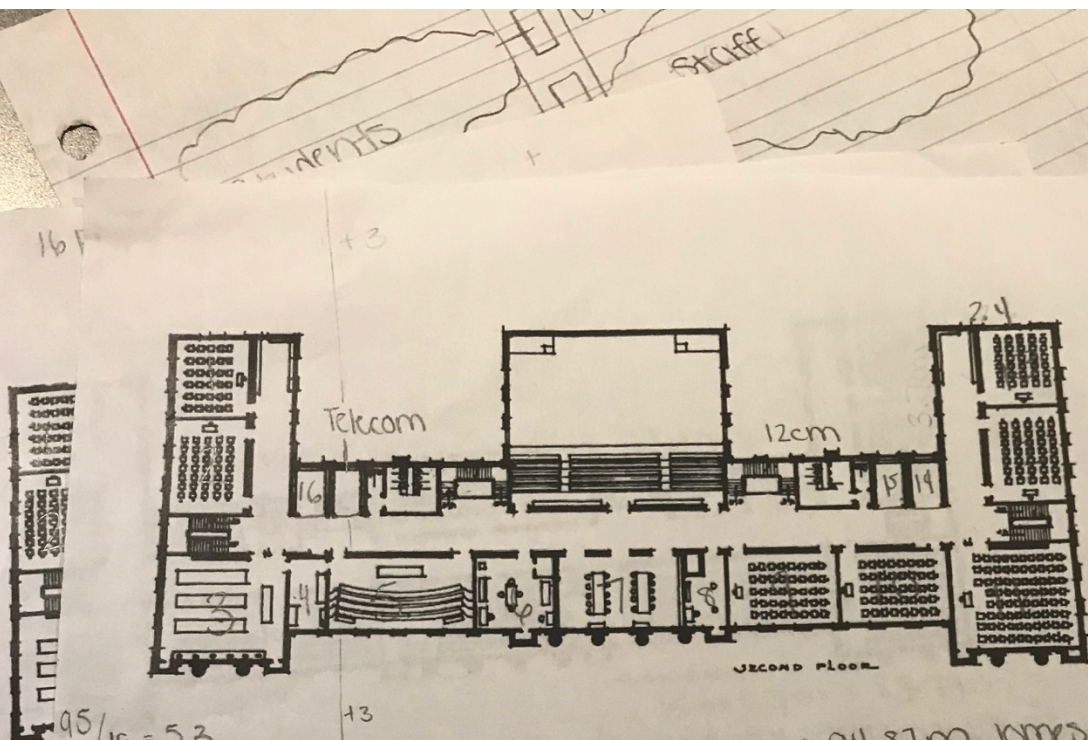
95/18 = 5.3

1cm = 5.3m

11.8cm + 3.7cm + 2.4cm = 17.9cm → 94.87m longest

3m○

shortest : 1cm   1cm = 5.3m shortest

aller   94.87+5.3/2 = 50 m per outlet   +5
36 p longest : 17.9cm   50m + 3m = 53m; average   5.3m x 2 = 106 m
                          106 m x 16 rooms = 1,696 m

32+1090 = 35.2   total cabling = 1,696 m
atleast
36 ports   16 Rooms
                         16 face plates
                         32 outlets
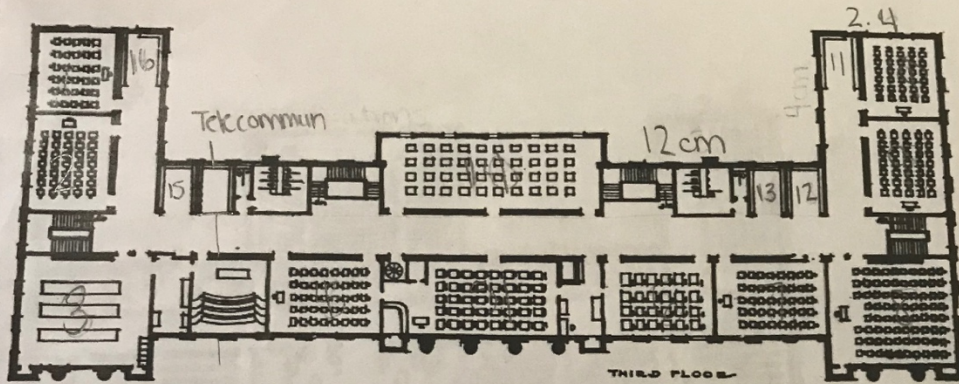   800 meters of cable for 2nd floor

16 RM

+6

THIRD FLOOR

15.8 × 5.3m = 83.74m

12 cm + 2.8m + 1cm = 15.8cm = 83.74 m : longest

3m celling

1cm × 5.3m = 5.3m : shortest

at least
36 ports

83.74+5.3/2 = 44.52 m

44.52 m + 3m + 3m = 50.52 m   average

50.52 × 2 = 101.04

101.04 × 16 rooms = 1,616.64m ≈ 1,617m

Total cable needed = 1,617m   +6

16 ROOMS

32 Outlets

16 face plates

Part 2

2nd Floor
Telecomm Closet
Switch
48 port

3rd Floor
Telecomm Closet
Switch
48 port

1st Floor
Equipment
Room
Core Switch
48 port Switch

Basement
Telecomm Closet
Switch
24 port

Part 3

watonblack,

Part 3

Students

DMZ

Lan

Staff

wan2

wan1   wan

Internet