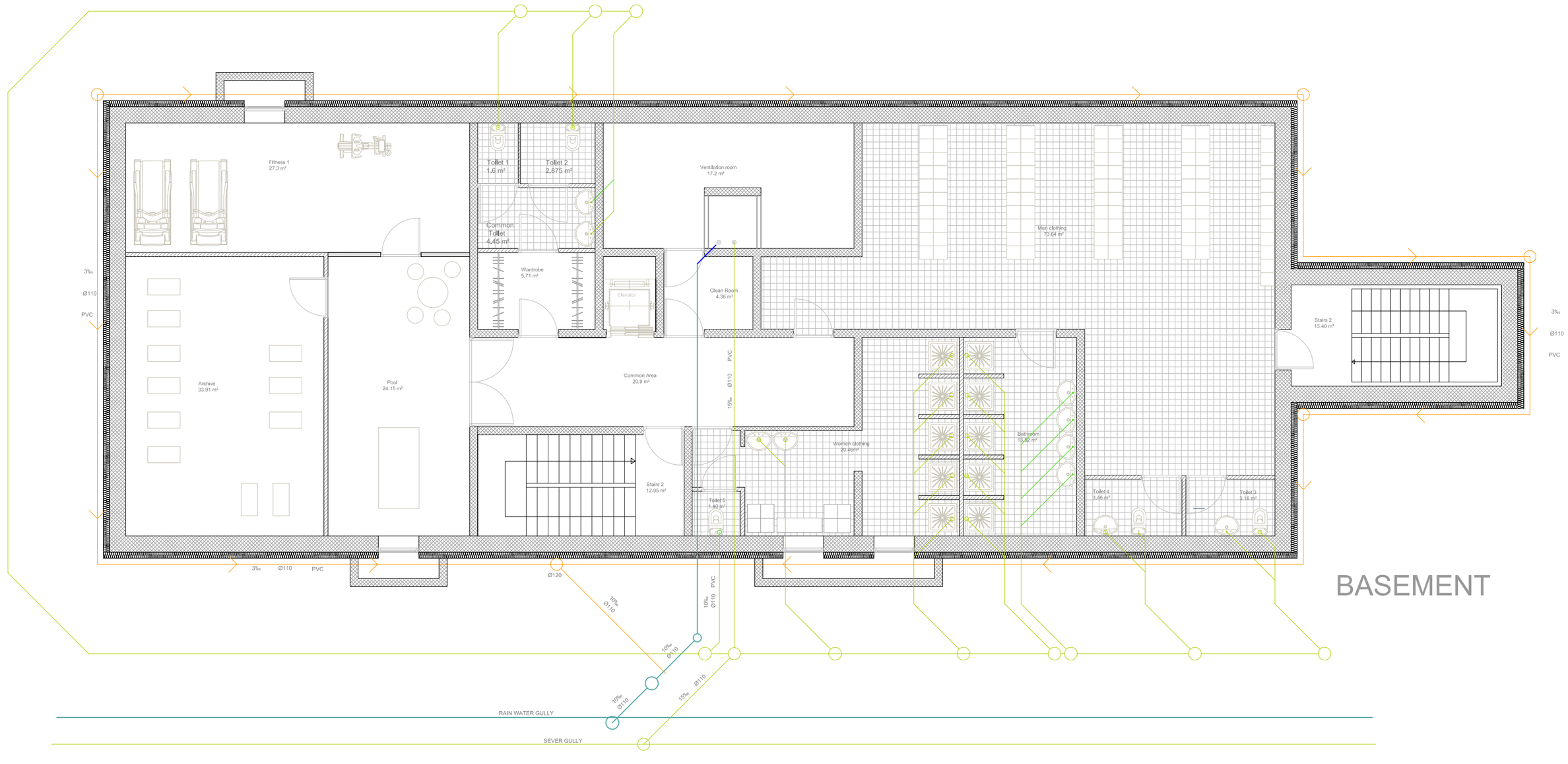

RAIN WATER REGULATIONS

Frost-free depth
Dry pipe 0,3 – 0,4 m to bottom level.
After first sand-catch 0,75 m to bottom
level (bottom of the pipe) = flow level(FL).SBI318

Dimensioning rainwater pipes
Usual dimension - min.100 mm for rainwater pipeline in soil.

Dimensioning roof gutters and down pipes
Downpipes onto pavements, the lower 2 metres should be of a robust material such as cast iron, stainless steel or hot-galvanized zinc so that they can ithstand such mechanical forces as icks etc.SBI92-94

Dry pipeline
Advantage: save excavation work and rainwater wells.
Disadvantage: They are easily blocked because they have no sand catch – this can be a problem if the building is close to trees
Dry pipes should be sited close to the building because the laying depth is only 0,3-0,4 m to the bottom of the pipes.SBI318

Cascade well
Rainwater connection does not have to be led to the base of the well – it is permitted to join the well at a higher level. Such as well is then known as a cascade.
IL = inlet level must be stated.
Compared with an standard well a cascade has the advantage of saving excavation work. SBI175

Run-off from balconies
It is usual to drain balconies if they are wider than 1,5 m. Balconies in buildings higher than 3-4 storeys should always be drained. Balconies with a width less than 1,5 m and under 3 storeys can be drained using spouts, or the rainwater can drip over the edge. In windy rainy weather the rainwater may be blown back onto the balcony below.SBI98

Materials
Materials used for drain systems should be VA approved, have a CE approved concrete product label or DS (Danish Standards) label. This demand does not apply to roof guttering or rainwater downpipes, but it does apply to all pipes and wells in soil.
manufacturers. SBI151

WASTE WATER REGULATIONS

Frost-free depth
0,75 m to the bottom run of the drain pipe. SBI318

Pipe dimension
Minimum 75 mm in soil, but none are produced under 100 mm. SBI 60
In buildings:
From sink (SI) min. 25 mm often 32mm SBI219
From kitchensink (KSI) min. 40 mm,often 50mm SBI229
From floor drain (FD) in buildings (not in soil) 75 mm SBI220
From toilet (WC) min. 110 mm(standard)

Inspection well:
Dimension for family house 1,0 m
Other buildings, the dimension is 1,25 m SBI 173
Inspection / access wells are normally made of concrete
Levels are given in the same way as inspection wells SBI173

Where two pipes crosses each other
there should be at least 0,2 m distance between rainwater and wastewater pipes that cross.
This rule does not apply to drain pipes.SBI322
Double branch pipes must not be used. SBI314
A change of direction of 90 deg in laid pipe should be done as shown in the sketch – with a straight run between the bends of 300 mm.
Pipe from WC and KSI should be led directly to manhole / access well - if possible. SBI311

Fire considerations.
SBI258. The risk of fire and smoke spread should be considered – in accordance with. BR 95 §6.4.1 part.10 and 6.4.3 part.1.
If cast iron piping is used then there is no problem in relation to fire. The disadvantage of cast iron pipe is, of course, it's weight. It is a very heavy material and the pipes often requre more space than plastic piping. If plastic piping is used then fire demands must be considered – one possible solution would be the use of fire collars. SBI258

Noise from drain systems.
Building regulations for small dwellings §7.1.6 and BR 95 §9.2.4 part. 2 state that the noise level of service installations must not rise above 30Db in habitable rooms and kitchens – this does not apply to bathroom) SBI 274

Materials
Materials used for drain systems must either be VA approved or CE labelled. SBI151

DRAIN WATER REGULATIONS

Frost- free depth
In heated buildings with ground slab the frost-free depth is 0,60 m.
If the building is not heated then the frost-free depth is 0,75m..
The capillary barrier layer in buildings with basements must be drainable.
The bottom run must be placed under the topside of the capillary barrier layer.
The bottom level should be at least o,3 under the part of the construction that is to be kept dry. SBI104

Branch pipes
One of their uses is for pressure equalization to prevent radon gas entering the building.

Drain pipe dimensions
Min 70 mm according to type used and soil conditions – normally 80 mm
SBI 109

Cleaning
300 mm well as shown SBI110

WASTE WATER, 15‰ slope

SI sinck pipe Ø32 mm
KSI kitchen sinck pipe Ø50 mm
WC toilet pipe Ø110 mm

RAIN WATER, 10‰ slope
The water from the roof (rain water d rain) go inside to the duct to the shaft until the drain on the street.
A (roof) = 220 m2
Rain water pipe Ø110mm

PERIMETER DRAIN, 3‰ slope
Ø80 mm

VIA UNIVERSITY COLLEGE
SCHOOL OF TECHNOLOGY AND BUSINESS - Horsens

PROJECT: New Administration Building for NIELS NISSEN A/S	SCALE:1:100	
SUBJECT: SEWER PLAN CREATED BY: Cristina Miret Román	CLASS: CAHS 72	BDS_Sw