

Appendix 12. Design and plans of the national tuberculosis reference laboratory

While a reference laboratory will usually be integrated into an existing building and space, and planning criteria may vary considerably depending on the specific situation, the case of the National Centre for Tuberculosis Control and the National Tuberculosis Reference Laboratory in Dakar, Senegal, provided the opportunity to construct free-standing buildings on space allocated by the Ministry of Health and Social Affairs. The building complex had to incorporate a reference laboratory, two administrative buildings for the central tuberculosis unit and sufficient space for storage for drugs and laboratory material, because such space was at that time not available elsewhere. The budget ceiling for construction of the entire complex was pre-determined not to exceed US\$ 420,000. The reference laboratory was built to provide what was minimally required as determined by consultation with international experts in mycobacteriology and public health.

Figure 1:

Plan A Site and situation plan

Figure 2:

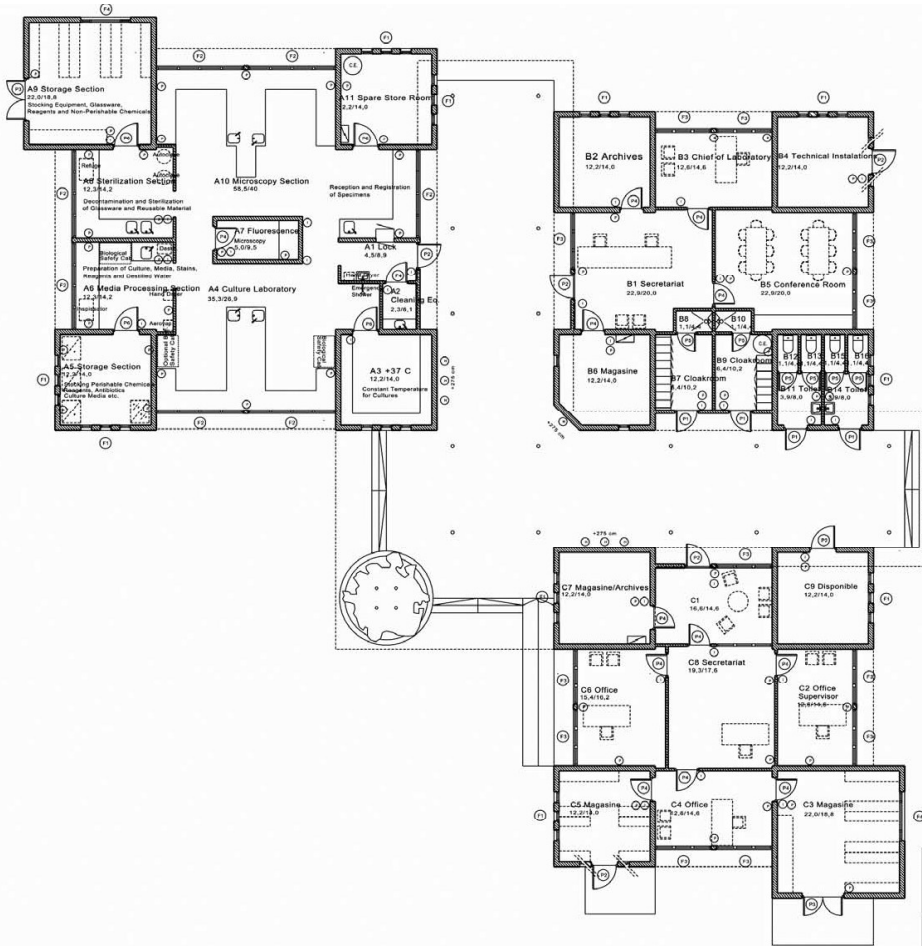
Plan B Elevations north, west, south and east of the tuberculosis reference laboratory

Figure 3:

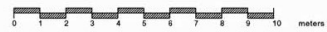
Plan C Details of the tuberculosis reference laboratory

Figure 4: Sketch of laboratory with controlled air flow

Appendix 12. Figure 1 – Plan A



- Switch
- El. outlet
- Wall Light
- ⊕ Hot Water
- ⌞ El. fuses
- Ⓜ Window Aluminium 40X40 CM
- Ⓜ Window Aluminium 335X190 CM
- Ⓜ Window Aluminium 215X190 CM
- Ⓜ Window Aluminium 190X60 CM
- Ⓜ Steel Door 90X210 CM
- Ⓜ Steel Door 100X210 CM
- Ⓜ Steel Door 160X210 CM
- Ⓜ Door Isoplane 90X210 CM
- Ⓜ Door Isoplane 80X210 CM
- Ⓜ Door Isoplane 100X210 CM



NATIONAL REFERENCE LABORATORY - SENEGAL		SCALE:	DATE:
PLAN			1994
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			PLAN No:

Figure 2:

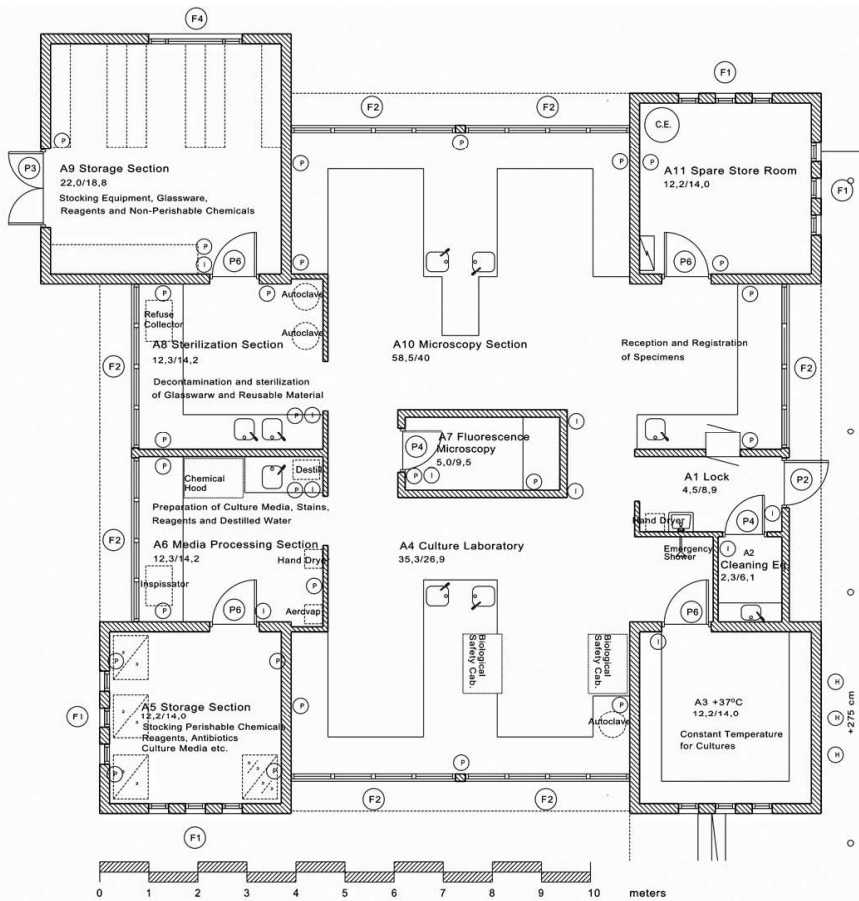
Plan B Elevations north, west, south and east of the tuberculosis reference laboratory



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LABORATOIRE CENTRAL DE LA TUBERCULOSE AU SENEGAL - 50		11,000.00	
FAÇADE		100.00	
			
P. Ingénierie et conseil S.A. 10, Avenue Pasteur Dakar Dakar, Sénégal Téléphone : 33 33 38 38 38 Email : p.ingenierie@p.ingenierie.com		P. Architecture et conseil S.A. 10, Avenue Pasteur Dakar Dakar, Sénégal Téléphone : 33 33 38 38 38 Email : p.architecture@p.architecture.com	
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Figure 3:

Plan C Details of the tuberculosis reference laboratory



- Switch
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NATIONAL REFERENCE LABORATORY - SENEGAL PLAN OF LABORATORY MADE BY LHL FOR IUATLD	SCALE:	DATE: 1994
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Figure 4. Depending on available resources, a tuberculosis reference laboratory may be constructed in a way that the air flow is controlled in the entire laboratory. The establishment of direction of air flow requires careful planning and construction.

The sketch of a laboratory with directional air flow illustrates two basic concepts in bio-containment of class III organisms, i.e., directional air flow and the concept of interlocking doors. Interlocking doors are doors that cannot be opened simultaneously. While one door (door 1) is open, the other one (door 2) is prevented from being opened by a locking mechanism.

The sketch for this laboratory was kindly provided by Isabel N de Kantor, ScD, Buenos Aires, Argentina.

Figure 4: Sketch of laboratory with controlled air flow

