

access audit

an empirical study on accessibility of existing buildings

3 

access audit

A thorough audit will look at more than just physical mobility and disability.

James Holmes-Siedle (1996: 9)

3.1 Introduction

This chapter is an empirical study based on the literature study conducted by the author, resulting in field work; assessing specific library buildings completed since 1994 in Gauteng. The assessment was based on set criteria.

3.2 What is an access audit?

The purpose of an Access Audit is to examine an existing building against predetermined criteria that is geared towards measuring the usability of that building specifically by people with disabilities. Usability refers to the manner in which one can navigate the spaces independently (Holmes-Siedle, 1996: 9).

An Access Audit is based upon more than just mobility disability and also includes an assessment for people with sensory disabilities. This is further explained in the criteria section below. Audits can extend as far as assessing the staff attitudes in the building as well as documentation on equality and disability held by the institution.

According to the National Disability Authority (NDA), Access Audits are “...a useful starting point in assessing the current state of accessibility and usability of existing buildings” (NDA, 2010). The results can then be compiled (and compared) to determine firstly the existing conditions, secondly the way forward and thirdly the knowledge that can be taken from the study to implement in future developments. The document used to do the access audits conducted that are discussed in this chapter, is included as appendix 2.

3.3 The need for an Access Audit

“An access audit is one of the first of many steps that can help to improve accessibility and provides the basis for an access improvement plan or strategy” (NDA, 2010). An access audit will gather data that can be used to compare an existing building with an ideal building for analysis purposes. It can facilitate in the compliance checking with legislation and standards set by inclusive design principles.

An access audit can be used to improve the work environment and could increase employment options and client diversity. The results of an access audit are valuable to the owner and management of the building, and can help with any future changes or additions to the building.

For this dissertation the value of the access audit lies in the observations and conclusions that arise from existing buildings, which can be implemented in the design stages of a new project.

3.4 Criteria used for assessment

Access Audits are performed according to criteria that is predetermined and then taken along on the day of the audit (see appendix 2). The Access Audits conducted for this dissertation were based on the following components of the physical building (NDA, 2010):

- external environment
- vertical circulation
- circulation routes and paths
- facilities
- interior environment
- emergency evacuation
- staff attitudes
- colours, contrast and finishes

The NDA recommends the auditor to keep the following (non physical items) in mind when conducting the audit: (see appendix 2).

- Observations of the users and the staff;
- discussions with users;
- an understanding of the day to day operations of the building;
- an understanding of the maintenance and cleaning routines and the effect these have on the operations within the building.

The structure of the access audits conducted is based upon the National Disability Authority of Dublin guidelines for Access Auditing of the Built Environment (NDA, 2010). The NDA of Dublin is recognised on an international level, and consists of comprehensive methods and structure in which to conduct an access audit.

3.5 Buildings that were audited

The focus of this dissertation's access audits are based on library buildings that were completed after the 1994 democratic elections and therefore should be in line with the Bill of Rights. The buildings assessed were limited to library buildings located in the Gauteng province. The two buildings that were audited were the New Alkantrant Library in Lynnwood, Pretoria and the New Law Library, Constitutional Hill, Johannesburg.

3.6 Audit: Alkantrant Library and Multipurpose Hall, Lynnwood, Pretoria

Audit Date: 10 May 2011.

3.6.1 Project info

Architect: Craig Nel Architects (in association with Studio 3)
Project Title: Alkantrant Library
Building Type: Library & multipurpose hall
Location: Lynnwood, Pretoria
Completion Date: 2009
Climate: moderately dry subtropical
Awards: none

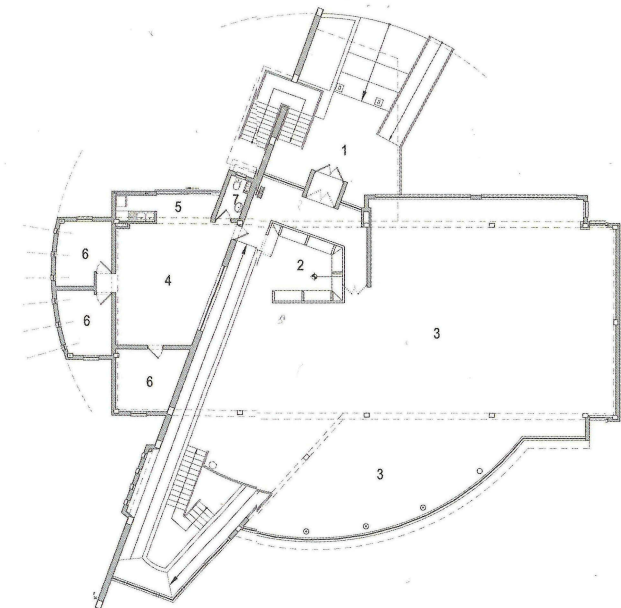
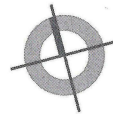
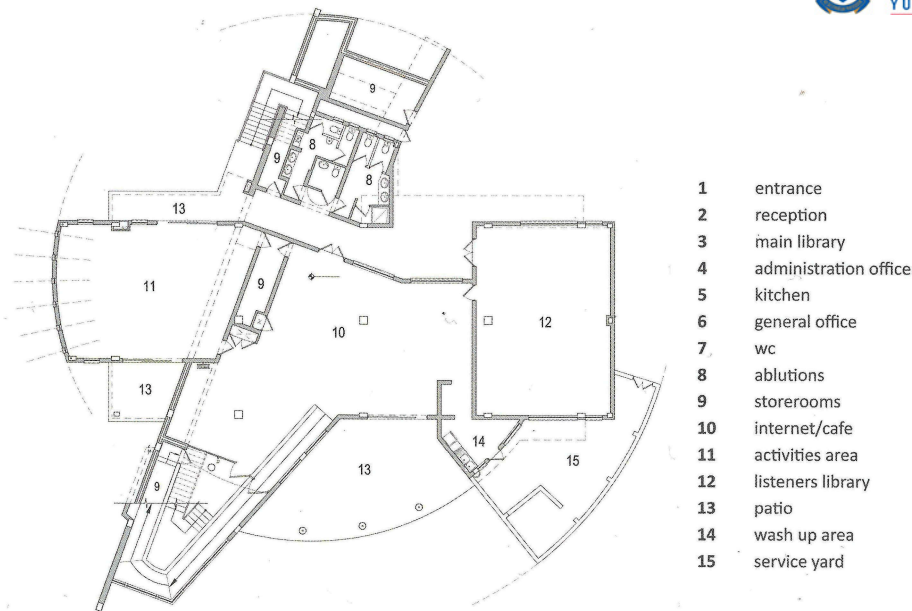
3.6.2 Project description

The new Alkantrant Library in Lynnwood is a result of the redevelopment of the area as business node. This meant that the original Alkantrant library building had to make way for the new development of the Lynnwood Bridge Retail Centre. The new library was constructed just north of the original site and is comparable in size as no new collections were added, with the exception of the multipurpose hall that is used for various programmes and can be rented out.

The library was developed by Atterbury Properties but is now owned by the Tshwane Municipality. The library space makes use of views over lawn area towards the spruit, allowing for large amounts of natural light to enter. Also clerestory windows allow for less lighting requirements on the northern side. The design by Craig Nel Architects is made up of two elements; the circle, which houses the main collection and the 'line', which is the main axis through the building (Matthews, 2011: 114-116). Refer to Illus 3.1.

3.6.3 Summary [main findings]

The Alkantrant Library has a ramp that does not conform to inclusive design guidelines. The ramp does not have a handrail on either side and the landing and ramp length and surface finish is problematic. The library's accessible toilet is located on the lower level and this can only be reached by an extended route. No family room is available. The lighting on the main level is adequate and does not have excessive glare.



illus. 3.1. Floor plans of the Alkantrant Library and multipurpose hall (not to scale)

The Listener's Library contributes to access to information for visitors with visual impairments. The entrance door and counter and adjacent circulation widths do not allow for wheelchair circulation. The library staff is willing and able to assist persons with disabilities. The entrance thresholds do not present any tripping hazards. On the lower level the lighting level and quality is problematic.

Signage in the Alkantrant Library is not well executed and the staff members have added printed pages to assist navigation and to demarcate restricted areas. The signage on stacks is carried over from the previous building and is outdated and unclear.

The floor to wall to ceiling contrast is insufficient and results in difficulty in identifying different planes as navigational tools.

3.6.4 Audit

a) Background

This Access Audit is based upon the criteria and understanding of accessibility as set in Chapter 2 of this dissertation.

b) Aims of the study

The purpose of the audit is to assess the accessibility of the new Alkantrant Library building in Lynnwood, Pretoria. The audit examined horizontal and vertical circulation, interior layout and material choices, facilities, communication, evacuation and signage and legibility. (See appendix 2)

The study aims to identify the positive and negative accessibility aspects found in the library.

c) Building type

According to the NDA's guidelines (2010), the aim of this category is to place the building that has been assessed in a rating of accessibility by means of classification. The categories are:

- complete freedom of movement
- controlled entry & freedom movement
- free entry & controlled movement
- controlled entry & controlled movement

The Alkantrant Library falls into the category of free entry and controlled movement. This implies that the access to the building is easily navigated but that the interior spaces (and lower level) are not freely accessible and independent movement is not possible (see appendix 2).

d) Users of the building

The Library is visited by members of the public and is used daily by the employees. Approximately eight staff members and a diverse spectrum of the public use the library and its auxiliary spaces. The activity normally takes place from 10h00 am until 17h00 pm daily, with the exception of Sundays. The auxiliary spaces and the central location of the library make for a diverse range of users, and it is frequented by many nonresidents of the suburb (de Klerk, 2011 [personal communication]). The library is open to all members of the public. Its close proximity to retirement villages increases the number of elderly persons using the facility. The Library is located within close proximity to one of the CoTMM busses.

An additional component in terms of the programme of the Alkantrant Library is the Listener's Library. The Listener's Library is a collection of audio books, cassettes and other media versions of books. This component of the library attracts many visually impaired people, including elderly persons (Listener's Library, 2011).

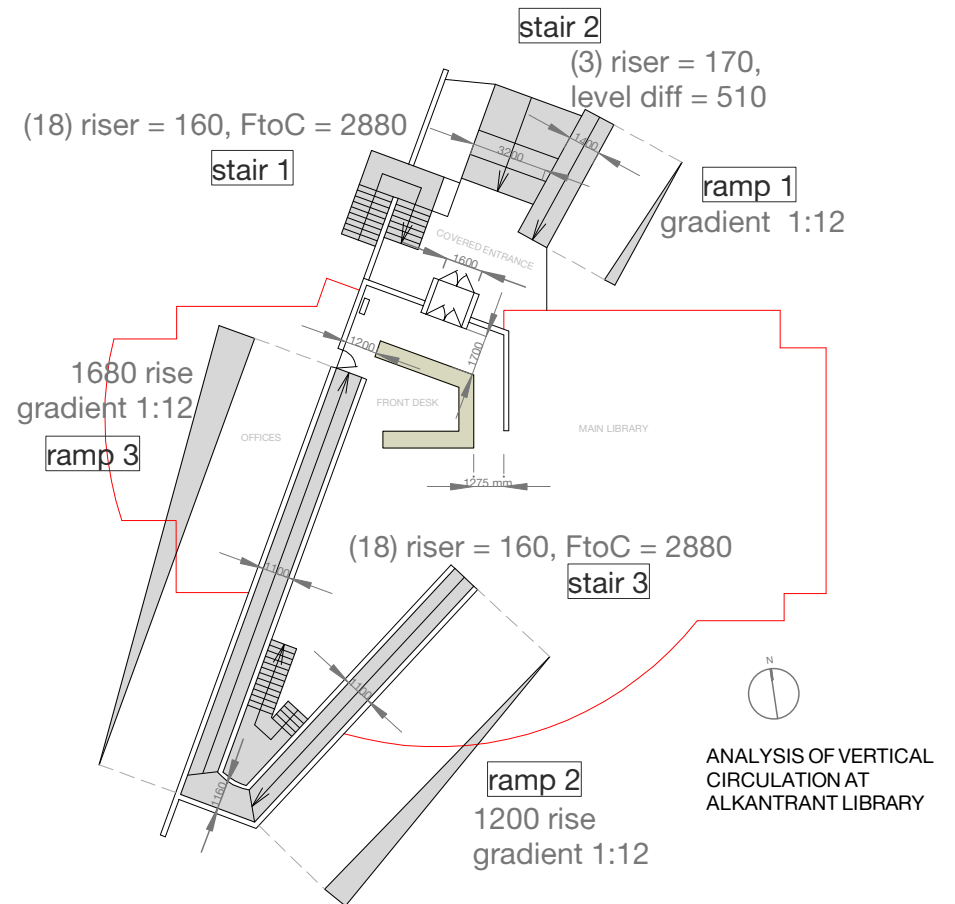
e) Documentation of Audit

Vertical Circulation: handrails

Ramps 2 and 3 do not have handrails on either side. The suggested norm is a handrail on both sides. This presents a challenge for the elderly, the visually impaired and wheelchair users alike seeing as the Listeners Library is located downstairs. Ramp 1 has adequate handrails and balustrades. Stair 1 has good handrail placement and stairs are in nonslip tiles. Stair 3 has an interrupted handrail and sharp corner detail. Stair 2 is only three steps and does not present any challenges. See Illus. 3.2.

Ramps: gradient

Ramps 1, 2 and 3 have a gradient of 1:12 which is the minimum requirement by law. Ramp 3 is a very long distance and rises 1600mm which then needs a landing. At the top end of ramp 3 an opening with a door is in immediate proximity of the end of this ramp. By law and suggested practice it must be placed at least 1200mm away from the end of the ramp. See Illus. 3.2.



illus. 3.2. Ramp, staircase and steps analysis of the Alkantrant Library

Signage

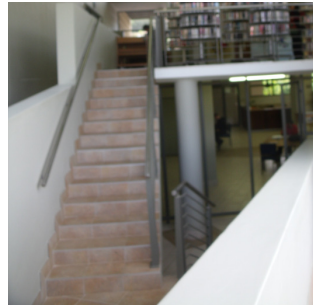
Signage is generally adequate but is lacking in certain areas. Staff have resorted to A4 printed pages as a quick solution to this problem. No community pin-up board is provided and all notices and advertisements are stuck to the main door which creates a visual barrier when entering the library. See Illus. 3.3c.



illus. 3.3a Alkantrant Library Ramp 3



illus. 3.3b Alkantrant Library Ramp 1, stair 1



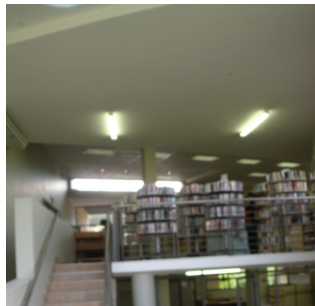
illus. 3.3c Alkantrant Library Stair 3

Lighting

Natural and artificial lighting is adequate and the glass facade is well used for this.



illus. 3.4a Alkantrant Library natural lighting



illus. 3.4b Alkantrant Library artificial lighting



illus. 3.4c Alkantrant emergency signage

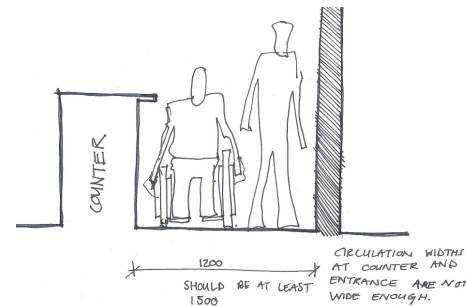
Counter and circulation

Counter design does not allow for easy use by children or wheelchair users. Combined with the narrow space this creates a space that is difficult to navigate. Circulation space at the main entrance and main desk is only 1200mm on the eastern side; this does not allow enough movement space for two persons as indicated in illustration 3.5b.

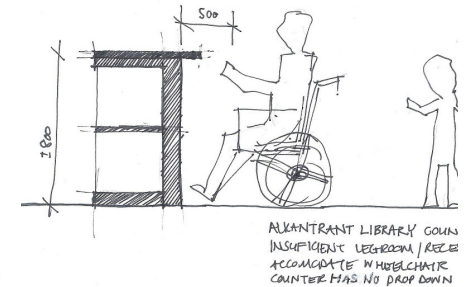
The top end of ramp 3 has only 1200mm circulation space which is inadequate for the turning circle of both a pram and a wheelchair, which are the intended users for the ramp, other than the library trolleys.

Entrance

Entrance level change is adequate for wheelchair users, the elderly and visual impaired persons as it presents no trip hazard. The swing doors are not optimal, but are easily operable with good handles. See Illus. 3.5a.



illus. 3.5a Alkantrant circulation width



illus. 3.5b Alkantrant counter height

f) Conclusion

The Alkantrant Library is not inclusive and does not allow for independent use of its spaces.

- Disabled parking is within close proximity to the entrance and the entrance ramp and stairs are easily navigated.
- Lighting in the main level is adequate.
- Staff are willing to assist and approachable
- The layout of the library is for the larger part logical but placing the toilets on the lower level is questionable.
- The library has insufficient contrast making navigation for visually impaired difficult, despite the existence of the Listener's Library.
- The signage is lacking, but where present it is adequate.
- The main counter is not designed for children and wheelchair users to comfortably borrow or return a book.
- Circulation widths are problematic in areas where gathering of people is expected.
- The ramp extending to the lower level does not allow access for the elderly and wheelchairs as intended.

3.7 Audit: Constitutional Court Law Library of South Africa, Constitution Hill, Johannesburg

Audit Date: 30 June 2011.

3.7.1 Project info

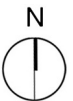
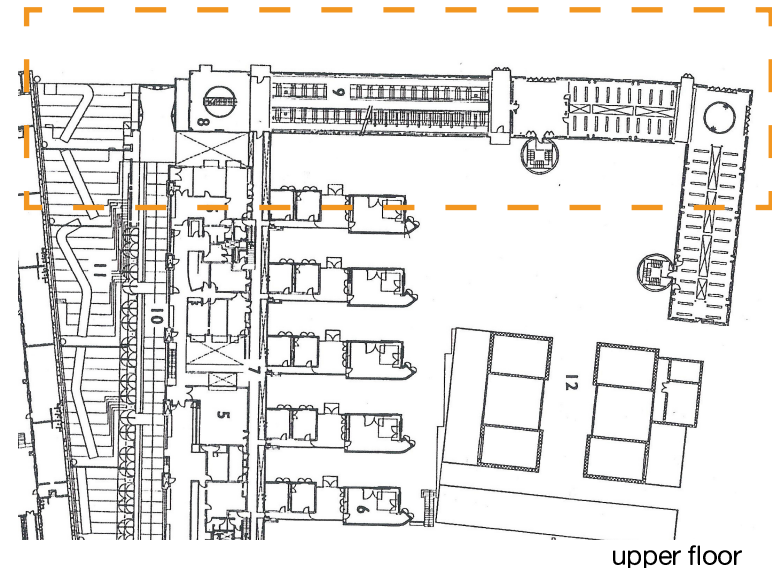
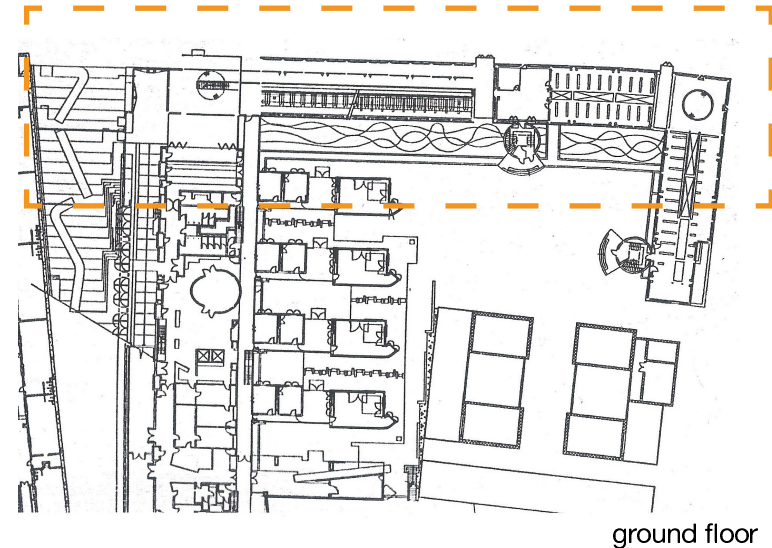
Architect: OMM Design Workshop and Urban Solutions Architects
Project Title: The Law Library of South Africa
Building Type: Library
Location: Constitutional Hill, Johannesburg
Completion Date: 2004
Climate: moderately dry subtropical
Awards: GIA Award of Merit 2005, SAIA award for Excellence 2006

3.7.2 Project description

The Constitutional Court complex is one of the architectural manifestations of democracy in South Africa. The whole building is supposed to represent the human rights of the democracy. The Law Library was opened in 2005 after the opening of the Constitutional Court in 2004 (Joubert, 2009: 116).

The library can be seen as a wing of the main building and it forms a long narrow structure on the opposite side of the court chambers. See illustration. 3.6. The library houses 40 000 volumes at its present state, and the design allows for the collection to expand to 400 000 volumes (Constitutional Court, 2011). It also houses access to Internet and electronic resources, especially of international origin (ibid.). The public reading room is one of the main gathering spaces in the library and is (with prior arrangement) open to the public.

The design of the library consists of a grouping of ramps with shelves along the ramps. The stacks have adjustable feet to accommodate the angle of the ramp. The library houses study spaces, lounge type reading spaces and views over the neighbourhood and internal courtyard. The interior is comprised of meranti timber and concrete with ample glass to allow shaded natural light to enter (Joubert, 2009: 116). The alternate means of vertical circulation is a timber and steel staircase from the foyer, situated in a circular cut in the floor slabs. See Illus 3.7c.



illus. 3.6 Floor plans of the Constitutional Court with Law Library indicated (not to scale)

3.7.3 Summary [main findings]

Access to the Constitutional court complex is accessible and circulation routes and entrances are adequate. Special care has been taken in the inclusion of lifts for wheelchair users where ramps were not an option. Access to the library itself is level with the surface of the gallery foyer space that connects to the court complex. The counter does not allow for easy access by wheelchair users.

Natural lighting results in glare on timber surfaces in upper levels due to the gloss finish used. The timber and steel staircase has adequate handrail and balustrade detailing, but the open risers will be problematic for some users.

Book stacks are higher than 1500mm, which means top shelves must be accessed by assistance. Stack signage is adequate and category signage is legible.

3.7.4 Audit

a) Background

This Access Audit is based upon the criteria and understanding accessibility as set in Chapter 2 of this dissertation.

b) Aims of the study

The purpose of the audit is to assess the accessibility of the Law Library of South Africa in Constitutional Hill, Johannesburg. The audit examined horizontal and vertical circulation, interior layout and material choices, facilities, communication, evacuation and signage and legibility. (See appendix 2)

The study aims to identify the positive and negative accessibility aspects found in the library.

c) Building type

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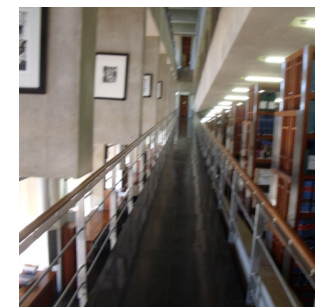
d) Users of the building

Though seen as a public law library, the library at Constitutional Hill is not open to all members of the public. Access is limited to law related professions "...for research by other courts, independent state institutions, legal academics, practising lawyers and other constitutional law researchers" (Constitutional Court, 2010) and students in this field for reference purposes.

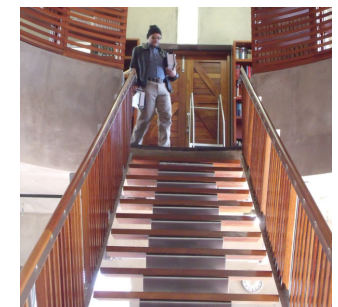
Public access is limited to tour groups, special arrangements and open days. Theoretically the complex is open to the entire public as a tangible manifestation of the constitution. Users fall within all age groups and include a wide range of foreign visitors. The complex makes provision for private parking, bus and taxi stops and is in close proximity to the Gautrain Station.



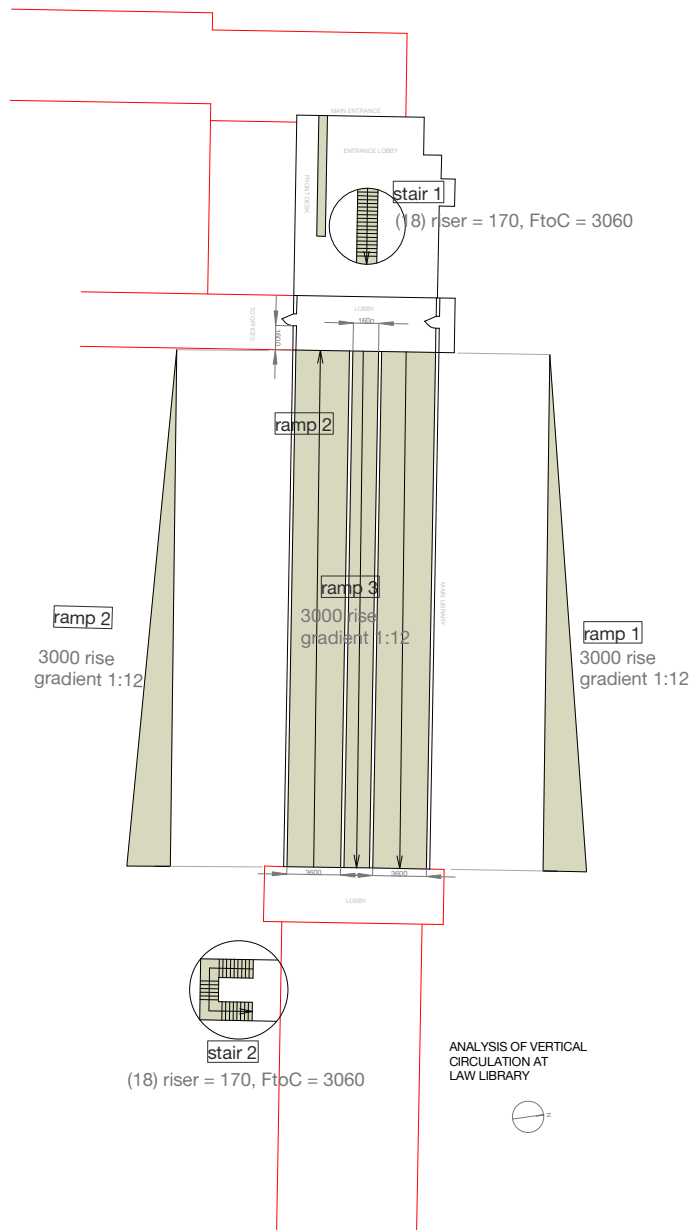
illus. 3.7a Law Library Ramp 1



illus. 3.7b Law Library Ramp



illus. 3.7c Law Library Stair



illus. 3.8 Law Library ramp and stair analysis

e) Documentation of the Audit

Lighting

Hanging light fitting and desk lamps provide adequate overall lighting and task lighting. Natural light is utilised, but is unfiltered from the inner court yard and presents a glare problem on the glossy finish timber flooring. See illustration 3.10c.

Ramps and staircases

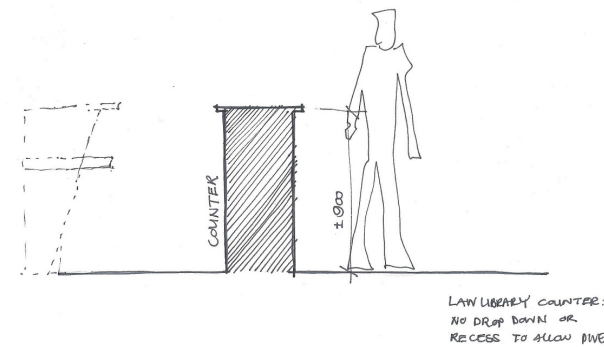
The Law Library floors consist of three ramps with 1:12 gradients. Ramp 1 and ramp 3 are the same width and have book stacks at regular intervals. The ramp length is 36 000mm and rises 3000mm to the next landing (illus. 3.8). This distance of ramp is uninterrupted and has no landings. Ramp 1 and 3 have a handrail on the one side against the facade. Ramp 2 is the same gradient but has no bookstacks and has handrails on both sides. The floor material on the ramp is nonslip.

Stair 2 has two landings and handrails on both sides with closed risers. Stair 2 has open risers and no landing and continues up 18 stairs to the next level and presents difficulty for some people.

Counter and circulation

The Law Library's counter is 900mm high and has no recessed vertical panel or a drop down section. The counter is problematic even for shorter people. Circulation around the entrance and counter is ample, because no passage like space exists. See illus. 3.9a. The foyer is freely movable and the floor surface is covered in one material (Law-Viljoen, 2008: 29).

The main entrance is on the same level as the internal courtyard from which you enter.



illus. 3.9a Law Library counter



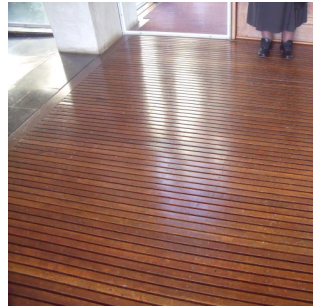
illus. 3.9b Law Library counter



illus. 3.10a Law Library entrance signage



illus. 3.10b Law Library emergency signage



illus. 3.10c Law Library glare problem on floor

Signage

Signage is of legible type face and adequate. Standard pictogram style signage is used elsewhere. See illus. 3.10a and 3.10b.

f) Conclusion

The Law Library of South Africa is not inclusive and does not allow for independent use of its spaces.

- Natural lighting utilised during day time and artificial lighting provides the additional required lighting.
- Entrance level form gallery space, the library foyer and reception is on one level with good flooring contrast and spatial changes identifiable.
- Main entrance signage is small, but clear and typeface is legible.
- Standard signage pictograms are used for fire exits, fire houses and extinguisher points.
- Stack numbering is printed A4 identification and is legible.
- Circulation widths on average measure to acceptable distances and would allow a person in a wheelchair to pass a walking person and be turn around. Circulation in between stacks is limited, but stacks are grouped in maximums of three, thus turning around is not necessary.
- Entry to the library is on level surface.
- Circulation within the library is of adequate width and is logical in layout.
- Floor to wall contrasts are adequate.
- Gloss finish varnished timber flooring has high glare factor in daytime with natural lighting.
- Counter is at a higher level and does not allow wheelchair bound users

- to properly reach and interact over the counter.
- Ramps for circulation are only equipped with handrails on both sides, but ramps with stacks have handrails on one side only.
- The area with stacks on ramps does not have any landings, and the gradient is not near 1:25 so it cannot be considered flat.
- Staff members are not approachable and do not seem to have any training in handling people with disabilities.

3.8 Conclusion

The Access Audits conducted on the Alkantrant and New Law Library yielded similar results; both buildings fall in the category of classification; free entry & controlled movement. This result is mainly due to interior design and layout inadequacies. Secondly, a result of poor colour and material choice. Thirdly, poorly detailed stairs, steps and staircases with inadequate or lacking balustrades and handrails.

The Access Audits have revealed that recent buildings still do not fully comply with legislation and do not meet suggested practice. The critical assessment of these two libraries have yielded expected results. The inclusivity of public buildings remain questionable.

A project like the Alkantrant Library has specifically included a ramp in the design, yet the ramp does not meet the required specifications. The Law Library presents a different situation, ramps are navigational but present difficulty between stacks. Also, stacks are tall and it is near impossible to reach the top shelf, even as a standing short person.

Both the buildings that were audited were freely accessible (entrance), but presented challenges and problem areas once inside. Spaces do not allow for independent movement and present hazards and result in inaccessible building components.

This Empirical Study has confirmed the initial responses of inclusivity and now serve as a reference point on which to build, in order to realise the premise of an inclusive public building.