Heritage Landmark of the Royal Town of Klang: Balai Bomba Klang Selatan

Normah Sulaiman¹, Robert Powell¹

¹Centre for Modern Architectural Studies and South East Asia, School of Architecture, Building and Design, Taylor’s University Lakeside Campus, Subang Selangor, Malaysia

normah.sulaiman@taylors.edu.my

Abstract. The arrival of the British colony in Kuala Lumpur sparked a radical change in the town in terms of infrastructure and town planning. Due to the British Empire's reign over Malaya in the advent of 20th century, the colonial architectural style has influenced a lot of important building in the royal town of Selangor. Some of the building is abandoned disrespect, disregard and it's frightening. Many deemed historic buildings and structures disappears in exchange for modernity, which is a threat to the townscape and history. The local council of Klang aims to preserve clusters of colonial sights, place of worships, schools, and remnants of a fort that has shaped the town enabling people to be more appreciative towards it. Located in the heart of Klang town, the fire station sits next to another heritage trail icon, Raja Abdullah Warehouse. Without proper documentation and curation, the building significant will remain unknown and eventually disappear. The core of this paper will showcase the building design quality and its importance, as the first attempt to document the Balai Bomba Klang Selatan to assist in conserving its tangible and intangible qualities. The study aims to collate and document the tangible qualities of the fire station to complement the measured drawing exercise.

1. Introduction
Situated closely to Gedung Raja Abdullah is the mix Georgian and Victorian style Balai Bomba Klang Selatan (BBKS) was built in the early 20th century by the British to safeguard Klang town from fires. The fire station is located at the junction of Tengku Diaudin Road and Tengku Kelana Road, overlooking the Klang Bridge (Keong,n.d). In Malaysia language, fire station is known as balai bomba. The word bomba is derived from a Latin word of the meaning pump. The dimension of the BBKS is 32.773mm width x 25.736 mm length and 7646mm height. The total area of the building premise is approximately 824m square.

2. Research Aim
The research aims to obtain information and measured data straight from site and produce them in drawings, portraying the current condition of the building. As a result, to collate and document the tangible qualities of the fire station to complement the measured drawing exercise as reference for future use, such as the building's structural repairs and restoration work.

3. Research Methodology
Field drawing is among one of the method used while measuring the building, it does not need to be acute but simply need to demonstrate how the building looks like with annotations and notes to indicate measurements. The entire building was sketched out and labeled with the codes of the elevations, sections and plan. Measurements were retrieved form one corner of the building to another using professional laser measuring equipment.
4. Original Design Ideas

Georgian style is a highly classical-influenced architectural style. Proportion and balance and the implementation of the classical orders architecture can be well seen in BBKS. Georgian style began when George I inherited the British throne in August 1714 and ended with the death of George III in 1820. On the other hand, Victorian architecture is an “eclectic mode based on the revival of older styles, often in new combinations”. Although the style is named after the reign (1837 – 1901) of Queen Victoria, it was her husband Prince Albert who was the actual promoter of the taste”. Victorian style has wide range combining different styles, but mostly it is characterized by elaborated details.

In Georgian style, the floor plan is bilateral symmetrical, usually cubical or rectangular with a central hall that runs the length of the building in which is prominent in BBKS. The central hall is the space where fire truck is placed and it is still used for the same purpose until now. Besides, the two building blocks, which has the gable in the front façade, is almost the same width, while the four columns are even in numbers to give a balanced effect. The supporting columns of the building are all aligned in parallel as seen through the lines, showing the building is bilaterally symmetrical.

![Figure 1. The bilateral symmetrical floor plan of the building](image)

Originally, the fire station had seven bays in the front façade. The buildings also used to have many large arched windows and doors with transoms at every façade to admit enough natural light, which is also the reason the front façade, was built facing the East. Besides it allowed the occupants of the building to observe the surrounding and ventilate the interior spaces. The plain design of the fire station is due to functionality being the property of the building and the fact it was built during the late Victorian era that characterized simple style.

![Figure 2. Striped brickworks walls and simple ornaments on the façade](image)
The Victorian style can be seen through the use of striped brickwork walls, facades with raised voussours in plasters to imitate stone work and the cornices above the frieze of the walls. The cornices act as horizontal lines that reduce the height of the ceiling visually because the Victorian architecture high ceilings are unfashionable. The building was formerly painted in single colour, because the Georgian style, while only the doors and the windows had darker colour. The engine bay of the fire station also has high ceilings to accommodate the height of fire engine despite the contradicting with Victorian style.

5. Findings and Discussion

5.1 Architectural Features of Balai Bomba Klang Selatan

Victorian style architecture is well known for its spectacularly patterned brickworks, round or square columns, porch roof that stretches above the portico as well as multiple gabled roofs. Each and every one of its characteristic elements has their own specialized construction procedure and application of specific materials. Therefore, it is important for reader to understand how the Victorian style design was applied on the building through multiple construction methods.

5.1.1 Wall

The walls of the fire station are brick walls held together by traditional lime-based mortar which is common in prewar shop houses and other British colonial era buildings in Malaysia. Bricks were used as they were mass produced and thus readily available at the time. Moreover, bricks also offer better heat insulation for the hot climate.

![Figure 3. The uneven part of the wall on first floor of the building represents the arch of the window and its opening can be seen from the exterior of the building](image)

Based on the observation of the fire station, the pattern of the exposed brick on the interior side of the gable resembles a common bond. The common bond suits the definition by Reid, D.A.,(2008) a course of headers replaces every five or six courses of stretchers. The walls are two bricks thick which along with the layers of plastering constitute a 245mm to 250mm wall thickness. This was the standard wall thickness which also provides adequate fortification and security for the building. However, some irregularities can be spotted on BBKS. Beside this is probably due to the bricks being used solely to form a wall and does not carry any aesthetics significance as the exterior of the brick walls are covered with layers of plastering.

5.1.2 Doors and Windows

The windows and doors of the building are one of the elements that gave the building a Victorian fashion in the original design, wooden framed double hung windows and doors were placed deliberately to achieve balance on the façade and overall composition. The doors were topped with fanlights a trait consistent with many Victorian buildings (Waite, 1972). Solid parts of the composition, such as the end gable walls were accented with circular gable windows placed
precisely at the center. Almost all of the original windows and doors were eventually replaced with newer ones such as aluminum framed tinted window and the glass louvered window to better serve its occupants.

The double hung doors with glass panes are very common in Victorian architecture. Fanlights are often placed on top of the windows and doors to create an arched shape. This create a contrast to primarily polygonal and linear composition of the building. The concept was also applied to original façade of the building utilizing elliptical arches as entryways for the apparatus bay. These arches were eventually modified to suit modern fire engines and make way for the installation of rolling doors. The circular gable windows with fixed louvers are decorated with a design motive similar to the ornaments found elsewhere on the building such as the gable lining. It should be noted that the louvers are not operable. Aside from aesthetic purposes the gable windows also provides ventilation support.

5.1.3 Columns

Columns of identical design can be seen from the façade placed in between the engine bay entryways where they collectively support the roof overhang. A number of the columns are partly engaged and formed part of the façade wall where they provide load bearing support the roof structure (Curl, 1973). Standing in pairs on a pedestal, they are in Roman Tuscan order characterized by its lack of any fluting on shaft. They are arranged orderly to put a symmetrical emphasis on the façade dividing the façade wall into sections.

Figure 4. Axonometric drawing of the door

Figure 5. Column placement of BBKS
5.1.4 Ornamentation

Similar to many Victorian styled government buildings, the fire station is embedded with some ornamentations particularly on the façade albeit much simpler in comparison to Victorian style private houses (Waite, 1972). The ornamentations can be seen on the building are mainly lines of varying width to help define the form of a structure such as the roof. No foliation motives are used. Ornamentations are concentrated on the faced where the triangular shape of the end gable wall are lined with cornices giving it a more defined shape as well as keeping water off the wall. The lower portion of the façade is lined with plaster in mock rustication.

![Figure 6. Simpler ornamentations compared to other Victorian style buildings](image)

5.2 Changes in facade of Balai Bomba Klang Selatan

The building was modified to acclimatize with the tropical weather of Malaysia, which is hot and humid with many days of rain. Victorian architecture is also a widely popular in most institutional buildings of early English schools such as Victoria Institution, Methodist Boy’s School and Convent Bukit Nana. Other buildings such as National Art Gallery which is now transformed into Majestic Hotel Kuala Lumpur have similar architectural style. The fire station was repainted several times throughout the years. From the old picture, it was originally white in colour. It later painted red and white and most recently it is painted in orange, brownish red and white. The two main entrances of the front façade were changed from arch-shaped to rectangular shaped openings. This is to accommodate the taller and larger modern day fire engine.

![Figure 7. The original colour and building design](image)
5.3 Materiality of Balai Bomba Klang Selatan

From an interview with the building personnel, A.Rawop mentioned that originally BBKS is constructed with Tabby (cement), a building material consisted of lime, sand, water, and crushed oyster shells. The process depended on slave labor to crush and burn the oyster shells to supply lime which was later combined with sand and water in wood forms to hold the shape until the material hardened. It was used as a substitute for mortar which was rare and expensive because of the absence of local clay. Cementitious coatings and most modern paints and stone consolidate are porous and will allow moisture to penetrate the walls where evaporation is concentrated at cracks where any salts present crystallize, causing decay. He also mentioned that conventional oil and water based paint will deteriorate the material causing irreversible damage.

6. Conclusion

Findings from the study shows that the developed Victorian style architecture BBKS holds both functionality and decorations in one. The measured drawing exercise of BBKS showcased the significant of the building design quality and its importance for conservation. The building color is being maintained bright orange to highlight its architectural elements. BBKS reflected the buildings adaptability to be very unique. This Victorian building is still being used for its original purpose from previous years up to today and it’s not being resigned to a museum from the past like many other heritage building.

References

[1] Abdul Rawop, S. (2014,January 20). Interviewed by Saufi Azlee
[2] Avery,D. (2003). The Georgian Dynasty In Georgian & Regency Architecture (p11). London: Chaucer
[3] Balai bomba dan penyelamat. (n.d) Retrieved from http://www.newpages.com.my/en/company/15819/Balai_Bomba_dan_Penyelemat__@_Kota_Raja.htm

[4] Bicknell, A.J. (2005). Victorian architectural details: Designs for over 700 stairs, mantels, doors, windows, and other decorative elements. Dover Publications.

[5] Cantin, M. (2006). Brickwork Restoration: How to Work with Lime. Retrieved from http://www.masonrymagazine.com/1-06/limemortar.html

[6] Ching, F. (2012) Introduction to Architecture

[7] Ching, D.K. (2007). Proportion and Scale in Architecture: Form, Space & Order (3rd ed., p310) J: John Wiley & Sons

[8] Curl, S.S (1973). Victorian architecture: Its practical aspects. David &Charles

[9] Gullick, J.M (2004). Into the Twentieth Century: In a History of Selangor 1766 – 1932 (2nd ed., p194). Kuala Lumpur, Malaysia