Historic Building Appraisal Albany Fresh Water Service Reservoir Magazine Gap Road, Mid-Levels, H.K.

N371

The Albany Fresh Water Service Reservoir (雅賓利食水配水庫, *Historical* formerly known as Albany Service Reservoir) was built in 1888 – 1889. It *Interest* was constructed as part of the Tai Tam Waterworks Project, which was carried out between 1883 and 1889 under the supervision of James Orange (1857 – 1927).¹ It was the territory's second water supply scheme following completion of the Pok Fu Lam Reservoir in 1863 and its various extensions between 1866 and 1877. The plan was to bring water from the Tai Tam Valley to the City of Victoria, catering for the needs of present-day Central and Wan Chai.² To achieve this, the works required the construction of four key components as follows:

- (a) the creation of an impounding reservoir by constructing a dam across the Tai Tam Valley;
- (b) the boring of a conduit tunnel through the range of hills separating the reservoir from the Wongneichung Gap;
- (c) the construction of a covered masonry and brickwork conduit and road from the tunnel outlet to the filter beds at the Albany Valley; and
- (d) the construction of filter beds and a service reservoir at the end of the conduit at the Albany Valley.

The Tai Tam Reservoir was constructed as part of this scheme. From the reservoir's dam, water was carried by gravity to a gauge basin at the tunnel's inlet. The tunnel, known as Tai Tam Tunnel, ran from the Tai Tam Valley to

² The civil population of the Peak District and the City of Victoria is set out below:

Year	Peak District (civil)	City of Victoria (civil)	Total Population of the Peak & the City of Victoria (civil)
1897	2,008	166,970	168,978
1901	2,224	181,918	184,142
1906	2,249	180,977	183,226
1911	2,304	225,521	227,825

With improved water provision, the urban areas gradually spread to the eastern side of Hong Kong Island. The Tai Tam project eased the water demands of Central, moved the city further to the east, and expanded Hong Kong's urban area.

1

According to government records, James Orange was Assistant Engineer of the Public Works Department from 1882 to 1889. Then in 1890, he joined Leigh & Orange Ltd. ("L&O") as a partner. The firm was first founded in Hong Kong as Sharp & Danby with the partnership of Granville Sharp and William Danby in 1874. Sharp left the partnership in 1880, and later Robert K. Leigh joined in 1882 and James Orange in 1890. Many well-known historic buildings in Hong Kong are the works of L&O, including the Old Dairy Farm Depot (舊 牛 奶 公 司 倉 庫, Grade 1), Ohel Leah Synagogue (猶 太 教 莉 亞 堂, Grade 1), the Old Pathological Institute (舊 病 理 學 院, Declared Monument), Main Building of The University of Hong Kong (香 港 大 學 主 樓, exteriors declared as monument), Main Building of The Helena May (梅 夫 人 婦 女 會 主 樓, exteriors declared as monument) and St. Andrew's Church (聖 安 德 烈 堂, Grade 1).

the Wong Nai Chung or Race Course Valley. From there Tai Tam Conduit (later known as Bowen Aqueduct) that wound its way around the mountains from the outlet of Tai Tam Tunnel at Wong Nai Chung to the filter beds at the Albany Valley, which today is near the upper end of Cotton Tree Drive. After filtration, the water was stored in the nearby Albany Service Reservoir. The construction of Tai Tam Reservoir commenced in 1883,³ whereas that of Bowen Aqueduct was begun in January 1885 and completed in May 1887. Also in May of the same year (1887), tenders were invited for the construction of Albany Filter Beds and Service Reservoir. The works were carried out in 1888 – 1889.

The Albany Service Reservoir was an open service reservoir measuring 150 feet wide and 30 feet deep, and extending over the Albany nullah. The latter carried stream and storm water and comprised a granite arch surrounded by a concrete crown added in 1953 – 1954. The storage capacity of the Albany Service Reservoir was 5.7 million gallons (around 25,912 cu.m.), with a top water level of 383.5 feet above Ordnance Datum (abbreviated as A.O.D.) (around 116.9mPD). Water from Tai Tam Reservoir flowed through Bowen Aqueduct, and was filtered at Albany Filter Beds before entering Albany Service Reservoir. The filtered water stored was then delivered by gravity through cast iron pipes. Before reaching the houses in the lower level of the City of Victoria, the filtered water passed through the then Garden Road Pumping Station and Arbuthnot Road Pumping Station for generating hydraulic power to pump water to the then service reservoirs on Peak Road and a second one south of Belilios Terrace on Robinson Road respectively.⁴

In the 1930s, the laying of cross-harbour pipes was completed. Water from the Shing Mun Valley was filtered at Shek Lei Pui and then conveyed to Hong Kong Island in order to increase the water supply for the island.⁵ The water was brought by Garden Road Pumping Station to Albany Service Reservoir. Since then, water supplies from both Tai Tam via Bowen Aqueduct and from the Shing Mun Valley were used concurrently. On the one hand, the raw water carried by Bowen Aqueduct was filtered at Albany Filter Beds and

³ After the completion of the Tai Tam Waterworks Project, the Pok Fu Lam and Tai Tam Valleys were the two main sources of water supply. According to the *Report on the Water Supply of the City of Victoria and Hill District, Hongkong* of 1896 (paragraph 91 of the report), the storage capacity of the two impounding reservoirs at Pok Fu Lam and Tai Tam was 68 million gallons and 390 million gallons respectively.

⁴ This Peak Road Service Reservoir, also known as Peak Road Tank, was situated at Mid-Levels and catered for the need of the eastern part of the City of Victoria, not the Peak District. This was not the same as the current Peak Road Service Reservoir which was constructed in 1939. Besides, according to a map of 1901, Belilios Terrace was situated on Robinson Road but was later demolished.

⁵ The role of Albany Filter Beds gradually diminished as the water from Shing Mun Reservoir would have been filtered before being transferred to Hong Kong Island.

then stored in the adjoining Albany Service Reservoir. On the other hand, the filtered Shing Mun water was pumped by Garden Road Pumping Station up to Albany Service Reservoir. Before entering Albany Service Reservoir, the flow (流量) of the filtered water was measured by the gauge basin in Albany Pumping Station (雅賓利抽水站), which was built in 1938 – 1939 and later known as Albany Fresh Water Pumping Station (雅賓利食水抽水站).

At present, the water supplied via Albany Service Reservoir is the filtered water treated at either Tai Po Water Treatment Works (大埔濾水廠) or Sha Tin Water Treatment Works (沙田濾水廠), which is conveyed by cross-harbour mains and pumped by steps of pumping stations before reaching this service reservoir. It is still in operation and provides water mainly for part of Sheung Wan, Central and Mid-Levels.

Over the years the source and distribution system for water supplies to Sheung Wan, Central and Mid-Levels have changed. The surviving historical structures of the Tai Tam Group of Reservoirs, Bowen Aqueduct and Albany Service Reservoir have a strong historical linkage, and together they form a group of waterworks installations which has borne witness to the historical development and the water supply of Sheung Wan, Central and Mid-Levels.

The Albany Service Reservoir was an open reservoir until a roof was *Architectural* added in 1953 – 1954. A study of Hong Kong's waterworks in 1948 states:⁶ *Merit*

"With one exception – Albany – all the service reservoirs are covered. This is highly desirable as the water is filtered and chlorinated ready for consumption and should therefore be safe against contamination. The earlier roofs were supported by brick jack-arches carried on masonry piers, but the more recent ones are all of reinforced concrete. Generally they are of a beam and slab construction."

The reservoir was originally a single-compartment structure taking the form of a right-angled trapezium in plan. It occupies an area of about 3,496 sq.m., with a capacity of around 25,912 cu.m.. In terms of both size and capacity, it is the largest of the five century-old service reservoirs surviving in Hong Kong:

⁵ Leonard Jackson, *The Hong Kong Water Works*, The Engineering Society of Hong Kong, Session 1948 – 1949, December 1948 (Vol. II, No. 3) (Hong Kong: The Local Printing Press, Ltd., 1949), p. 49.

	Name of Waterworks Installation	Area (sq.m.)	Capacity (cu.m.)	Year of Completion
(i)	Albany Fresh Water Service Reservoir	3,496	25,912	1888 – 1889
(ii)	Ex-Yaumati Service Reservoir	163	740	1894
(iii)	Peak Fresh Water Service Reservoir	360	1,859	1897
(iv)	Mount Gough Fresh Water Service Reservoir	200	961	1903
(v)	Ex-Sham Shui Po Service Reservoir	1,600	9,900 (reduced to 4,800 in 1951 – 1952)	1904

The Albany Service Reservoir was built of concrete.⁷ The concrete perimeter walls have rubble facing. A division wall was added in 1929, so that water supply would not be disrupted when repair or maintenance was required. But in operation, the water level could be over the height of the division wall. In 1953 – 1954, a roof comprising reinforced concrete slabs and with supporting beams was built. According to record plans, most of the reinforced concrete columns measure 15 inches x 15 inches with some measuring 16 inches x 16 inches or 18 inches x 18 inches, each having a square, tapered capital and a square, tapered base.⁸ Besides, a number of important functional elements, such as vent pipes, ventilators, a stilling well and the inlet, outlet, overflow and washout pipes (the latter being for draining off all the water before the commencement of repair works) still survive on site.

The Albany Fresh Water Service Reservoir is within walking distance of *Group Value* other historic buildings, including the Montgomery Block of the old Victoria Barracks (舊域多利軍營蒙高瑪利樓, Grade 1), and St. Paul's Co-educational College (聖保羅男女中學), and the First Church of Christ Scientist (基督科學教會香港第一分會) (both Grade 2).

The service reservoir was once an integral part of the Tai Tam water supply *Social Value* system. By the year 2021, the Albany Fresh Water Service Reservoir has *& Local* already played a significant role in the provision of safe fresh water for drinking *Interest*

⁷ The firmness of the structure enabled the service reservoir and the adjoining filter beds to survive a great rainstorm in 1889. On 29 and 30 May 1889, about 18,000 cubic yards (about 13,761 cubic metres) of earth were washed away from the slopes of the service reservoir and filter beds. Moreover, some 21,000 cubic yards (about 16,055 cubic metres) of debris were deposited in the service reservoir. Despite that, the concrete structure remained very sound.

⁸ (i) Columns supporting interior drop slabs are 15 inches x 15 inches;

⁽ii) columns supporting beams across the nullah are 18 inches x 18 inches; and

⁽iii) the remaining columns between nullah columns and the west wall, and the exterior columns along the north, east and south walls are 16 inches x 16 inches.

and the improvement of hygiene of Sheung Wan, Central and Mid-Levels for 133 years. It is, therefore, of great social value to the population there. Besides, the roof of the service reservoir has been used as tennis courts by the Ladies' Recreation Club (婦女遊樂會) since the 1950s. Ventilators can be seen in the tennis courts, which serve as a reminder of the existence of this underground waterworks installation. The service reservoir is thus of some social value and interest to the local community, and in particular to the club's members.

The addition of a division wall in 1929, the construction of the reinforced *Authenticity* concrete roof in 1953 – 1954 and replacement of ventilators were the only major alterations, but they have not diminished the authenticity of the 1888 – 1889 structure.

The Albany Fresh Water Service Reservoir was once part of the water **Rarity** supply system of the Tai Tam Group of Reservoirs. It is the oldest surviving service reservoir still in operation in Hong Kong, and the largest of the five century-old examples still surviving today. It has borne witness to the historical development of Sheung Wan, Central and Mid-Levels, and the development of the waterworks installations there. The concrete perimeter walls with rubble lining display a combination of traditional and modern building techniques and materials between the late nineteenth and early twentieth centuries. Besides, a number of important functional elements, such as vent pipes, a stilling well, and the inlet, outlet and washout pipes are all in good condition.

REFERENCES

Archives at Public Records Office, Hong Kong

"Orange, James". Card number, CS-I014-00130485, Carl Smith Collection.

"Orange, James". Card number, CS-I014-00130486, Carl Smith Collection.

"Orange, James". Card number, CS-I014-00130491, Carl Smith Collection.

"Orange, James". Card number, CS-I014-00130492, Carl Smith Collection.

HKMS162-1-26. "Plan of Victoria, Hong Kong, Sheet No. 12 (Map No. 585*)".

MM-0073. "Map of Hong Kong - With British Kowloon, 1888"

Records from the Water Supplies Department

Fisher, F.A. The Hong Kong Waterworks [1970].

Record Drawings on Albany Service Reservoir from Water Supplies Department Repository. 水務署,「大潭水塘有幾堅」,《點滴》,第一百一十五期,二零二一年六月,香港特別行政區 政府水務署網頁<https://www.wsd.gov.hk/filemanager/common/droplet/Droplet_115.pdf>。

Records of the Colonial Office and Hong Kong Government

- "Report of the Director of Public Works for 1892", *Hongkong Legislative Council Sessional Papers*, 1893, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1929", *Hong Kong Administrative Reports*, 1929, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1938", *Hong Kong Administrative Reports*, 1938, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works f or the Year 1939", *Hong Kong Administrative Reports*, 1939, from Hong Kong Government Reports Online.
- "Report on the Water Supply of the City of Victoria and Hill District, Hong Kong", *Hongkong Legislative Council Sessional Papers*, 1896, from Hong Kong Government Reports Online.
- "Report on the Water Supply of Hong Kong dated 30 November 1936", *Hongkong Legislative Council Sessional Papers*, 1937, from Hong Kong Government Reports Online.
- "Minute by Hon. Mr. R.M. Henderson, Director of Public Works", *Hongkong Legislative Council Sessional Papers*, 1937, from Hong Kong Government Reports Online.
- "Government Notification No. 191 dated 7 May 1887." *The Hongkong Government Gazette*, 7 May 1887. Hong Kong: Noronha & Co., 1904.
- "Report on Great Storm of 29th and 30th May, 1889", *Hongkong Legislative Council Sessional Papers*, 1889, from Hong Kong Government Reports Online.
- "Civil Establishments of Hong Kong for the Year 1889", *Hongkong Blue Book*, 1889, from Hong Kong Government Reports Online.
- "Population", Hongkong Blue Book, 1897, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1901, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1906, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1911, from Hong Kong Government Reports Online.

Newspapers

"Mr. James Orange: Farewell Reception", South China Morning Post, 28 March 1908.

"Many Triumphs: A Former Hongkong Architect, Mr. James Orange", *South China Morning Post*, 5 November 1927.

Books, Articles and Other Sources

- Ho, Pui-yin. Water for a Barren Rock: 150 Years of Water Supply in Hong Kong (Hong Kong: The Commercial Press (H.K.) Ltd., 2001).
- "From British Colonization to Japanese Invasion: the 100 years architects in Hong Kong 1841-1941," in *HKIA Journal* (香港建築師學報), Issue 45, 1st Quarter 2006, p.45.
- Jackson, Leonard. "The Hong Kong Water Works", *The Engineering Society of Hong Kong*, Vol. II, No. 3, Session 1948 – 1949, December 1948 (Hong Kong: The Local Printing Press, Ltd., 1949).
- Orange, James. "Tytam Water-Works, Hong Kong", *Minutes of the Proceedings of the Institution of Civil Engineers*, Paper No. 2429, Vol. 100, Part 2, Session 1889 1890 https://doi.org.eproxy.lib.hku.hk/10.1680/imotp.1890.20687>, accessed on 26 May 2021.
- Smith, C.A. Middleton. "Water Supply in Hongkong", *The Far Eastern Review*, Issue No. 10, Vol. XXX, October 1934, pp. 447-459.
- "Our history", website of Leigh & Orange Ltd. https://www.leighorange.com/about/history/, accessed on 6 May 2021.

《香港水道調查報告書》 (臺灣:臺灣總督府外事部,昭和17年10月 (1942年))。

Historic Building Appraisal Peak Fresh Water Service Reservoir Mount Austin Road, The Peak, H.K.

The Peak Fresh Water Service Reservoir (山頂食水配水庫, formerly Historical known as Peak Service Reservoir) was completed in 1897. It was the first Interest service reservoir on the Peak, and was once part of a reservoir-based water supply system that was first proposed in 1890 for the area then known as the Peak District.¹ By that time (1890), Pok Fu Lam Reservoir, which was first completed in 1863, had undergone a number of extensions between 1866 and 1877. As a result, its capacity had increased from 2 million to 68 million gallons and could supply up to 2 million gallons of water per day. Besides, Pok Fu Lam Conduit (18 inches x 18 inches) which traversed the hillside at a level of around 500 feet (around 152 metres) above Ordnance Datum (abbreviated as "A.O.D.") had been constructed to replace the original 10-inch main in 1876 - 1877. The conduit was connected to the Gauge Basin (Declared Monument) adjacent to the old Masonry Dam (Grade 2) of Pok Fu Lam Reservoir at one end and Albany Tanks situated on the eastern side of the Glenealy Ravine at Mid-Levels at the other. The completion of the conduit facilitated the delivery of water from Pok Fu Lam to places above the level of Robinson Road by gravity. However, the water was only supplied to Sai Ying Pun, Sheung Wan and Central, but not high up to the Peak where water supplies were reliant upon wells.

Nonetheless, the population of the Peak District had been boosted by the opening of the Peak Tram in 1888. On 30 January 1890, Osbert Chadwick (1844 – 1913), a consulting engineer to the Crown Agents for the Colonies,² submitted a proposal to supply the Peak with filtered water. The scheme involved:

¹ The Peak District was once known as the Hill District. According to "The Peak District Reservation Ordinance, 1904", "Peak District" means "all that area in the Island of Hongkong situated above the 788 feet contour and to the west of a line drawn in a north and south direction through Middle or Cemetery Gap, including the hills known as Mount Cameron, Mount Gough, Mount Kellett and Victoria Peak".

² Osbert Chadwick was educated at the Royal Military Academy at Woolwich, where he was trained as a civil engineer, and was then attached to the Royal Engineers from 1864 to 1873. After resigning his commission, he served as a consulting engineer to the Crown Agents for the Colonies, through which he was sent to Hong Kong in 1881 as special commissioner to report on the sanitation and public health problems of the colony. Chadwick spent several months in Hong Kong. His *Report on the Sanitary Condition of Hong Kong* was published by the Colonial Office in 1882. It recommended measures to improve hygiene, including a system of water supply, a system of sewage disposal and proper drainage, the provision of public toilets, public bathhouses and clean markets, and the establishment of a Sanitary Board (established in 1883). Chadwick returned to Hong Kong in 1890 to follow up his 1882 recommendations. For his construction of the waterworks in Malta, he was made a Companion of the Order of St. Michael and St. George (CMG) in 1886. With the outbreaks of bubonic plagues since 1894, the government was determined to expediate improvements to the sanitary conditions in Hong Kong. Chadwick was, therefore, sent to Hong Kong for a third time in 1902, advising on how to improve the sanitary conditions in Hong Kong. He focused on street sewers, drains and nullahs. Chadwick had contributed to the enactment of the Public Health and Buildings Ordinance 1903.

- (a) the pumping of water up to the Peak from Pok Fu Lam Service Reservoir;
- (b) the relocation of the cast iron tanks, situated in the Glenealy Valley, to the Peak;
- (c) the laying of a 3-inch rising main from the pumping station to the Peak; and
- (d) the laying of distributing mains throughout the Peak District.

According to government records, the works Chadwick proposed were carried out in the early 1890s. Pumping stations were constructed in Garden Road, Arbuthnot Road and Bonham Road so that water could be supplied to places up to and even above the level of Pok Fu Lam Conduit. Bonham Road Pumping Station was built in 1891.³ It pumped the filtered Pok Fu Lam water up to the Peak District. The Peak District thus became dependent on the water delivered by the pumping station, and would be deprived of water supply if the machinery broke down or needed repairs. In 1896, the water consumption in the district was 40,000 gallons per day for a population of about 2,000. Francis A. Cooper, the Director of Public Works at that time, proposed that a covered service reservoir capable of holding 10 days' supply for the entire district, or 400,000 gallons, should be constructed.

In November 1896, tenders were invited for the construction of a service reservoir and a bungalow on Victoria Peak. The Peak Service Reservoir, completed in December 1897, was capable of holding 409,000 gallons (around 1,859 cu.m.), equal to about 10 days' supply for the population of the Peak District. It has a top water level of 1,751 feet A.O.D. (around 533mPD). Cement concrete was widely used in its construction. The exposed parts of the walls were faced with rubble masonry, for which an abundant supply of stone was available on the site, whereas the roof was constructed of "brick arching built in cement mortar supported on brick pillars and arches". ⁴ The construction of quarters for an overseer and workmen in charge of the Peak Service Reservoir and the nearby water mains was completed in December 1897.

³ The pumping station was situated at today's East Gate of The University of Hong Kong which is in between the Main Building (香港大學主樓) and Fung Ping Shan Building (馮平山樓) (the exteriors of both have been declared as monuments).

⁴ R.D. Ormsy, "Annual Report of the Director of Public Works for 1897", Government Notification No. 241, *The Hongkong Government Gazette*, 28 May 1898, p. 475.

After being filtered at Pok Fu Lam Filter Beds, the water from Pok Fu Lam Reservoir was pumped from Bonham Road Pumping Station to the Peak Service Reservoir. Later, in 1914, the land on which the pumping station was situated was handed over to The University of Hong Kong. In the same year (1914), a new pumping station, known as Pok Fu Lam Road Pumping Station, was built to replace Bonham Road Pumping Station, and began pumping water to the Peak on 28 July 1914.⁵

During the years 1892 to 1895, the consumption of water by the population of the City of Victoria and the Peak District varied from 14.6 gallons to 16.8 gallons per person per day. According to the *Annual Report of the Director of Public Works for 1897*, the total quantity of water pumped to the Peak in that year was 15,318,000 gallons, equal to an average daily consumption of 41,967 gallons or 20.74 per person for a population of 2,023. In 1898, the total quantity was 18,180,000 gallons, equal to an average daily consumption of 50,000 gallons or 20 gallons per person for an estimated population of 2,500.

The Peak Service Reservoir completed in 1897, together with Mount Gough Service Reservoir in 1903, contributed to the protection of lives and property from fires. According to the *Report of the Director of Public Works for the Year 1905*, fire hydrants were first installed on the Peak in that year, which was made possible by the Peak and Mount Gough Service Reservoirs and the enhancement of the water pumping and conveyance facilities. A total of 57 fire hydrants were installed on the Peak in that year.⁶

At present, the water supplied via the service reservoir is the filtered water treated at either Tai Po Water Treatment Works (大埔濾水廠) or Sha Tin Water Treatment Works (沙田濾水廠), which is conveyed by the cross-harbour mains, and pumped to Peak Fresh Water Service Reservoir by steps of pumping stations. This service reservoir is still in operation and provides gravity-fed water supplies to the highest residences within the Peak District, including those on Mount Austin Road and Lugard Road at Victoria

⁵ In the 1980s, Pok Fu Lam Road Pumping Station was demolished to make way for road widening, and was replaced by Elliot Fresh Water and Salt Water Pumping Station (西區食水及海水抽水站) which was subsequently renamed as Western Fresh Water and Salt Water Pumping Station in English without changing the Chinese name. This pumping station is situated at part of the site of the old Pok Fu Lam Road Pumping Station opposite to Chiu Sheung School Hong Kong (香港湖商學校), and at the northwest of today's Chow Yei Ching Building (周亦卿樓) of The University of Hong Kong.

⁶ According to this report, the question of providing a system of fire hydrants throughout the Peak District had been considered for a number of years but the difficulty laid in the inadequacy of the pumping and storing facilities. The supply for ordinary purposes might be interrupted should the water be used for fire services. Such difficulty was overcome by the installation of a 3-inch rising main to Mount Gough Service Reservoir, and the installation of a new steam pumping engine and enlarged rising main to Peak Service Reservoir. As a result, 57 hydrants were installed on the Peak in 1905.

Peak (扯旗山) and Mount Kellett.7

Over the years the source and distribution system of the Peak's water supply have changed. The surviving historical structures of Pok Fu Lam Reservoir, Pok Fu Lam Conduit and Peak Fresh Water Service Reservoir have a strong historical linkage, and together they form a group of waterworks installations that testifies to the historical development and the development of water supply on the Peak.

The Peak Fresh Water Service Reservoir is a covered single-compartment *Architectural* structure with a capacity of about 1,859 cu.m. and a top water level of about *Merit* 533mPD. It is rectangular and measures about 24m by 15m in plan, thus occupying an area of about 360 sq.m.. The service reservoir was built of bricks, stone and concrete. It is a piece of civil engineering works displaying a combination of traditional and modern building techniques and materials.

The external of the service reservoir was backfilled to the wall top on the north side, where there is rising ground. Around the rest of the concrete perimeter walls, there are fill slopes and masonry retaining walls against the exterior, with masonry buttresses on both faces of the southeast corner. The exterior of the perimeter walls is faced with rubble masonry work. The internal face of the walls is finished with coursed masonry work. The cove ceiling is supported on a layer of concrete beam, and rows of brick arches and piers. The roof's red brickwork is in stretcher bond. The 24 piers (690mm x 460mm) are arranged in 6 rows on the longer sides of the rectangular structure (the east and west walls) and 4 rows on the shorter sides (the north and south At the top of each pier is a concrete block with a pitched top walls). supporting the end of the arch on either side. The highest point of the height from the floor to the centre of the arch on the south (shorter side) and west (longer side) elevations are around 5.5m and 4.3m respectively.

Apart from the perimeter walls, arches, piers and cove ceiling, a range of features relating to the operation of the service reservoir are visible in the interior. These included vent pipes and ventilators in the roof, the inlet pipes in the north wall, and the outlet and washout pipes (the latter being for draining off all the water before the commencement of repair works) connected to a

⁷ The top water level of Peak Service Reservoir is about 533mPD. The highest point of these places, at which residences can be identified is set out below as examples for reference purposes:

⁽i) Mount Austin Road at around 470mPD;

⁽ii) Lugard Road at around 410mPD,

⁽iii) Plantation Road at around 455mPD; and

⁽iv) Mount Kellett at around 500mPD.

tunnel portal on the exterior of the west wall.

The Peak Fresh Water Service Reservoir has group value with other *Group Value* historic buildings on the Peak, including the Peak Depot (山頂倉庫, Grade 2) of Water Supplies Department, the historic buildings at Matilda and War Memorial Hospital (明德醫院, one Grade 2 and three Grade 3 buildings), Victoria Gap Substation (爐峰峽電力分站, Grade 3), as well as residences such as No. 27 Lugard Road (盧吉道 27 號 Grade 1).

As an underground waterworks installation hidden from public view, the *Social Value* service reservoir itself was of limited social value and interest to the local *& Local* community. Despite that, it was once an extension part of the Pok Fu Lam *Interest* water supply system. It is still in use today, and has continued to play a significant role in the provision of safe fresh water and the safeguarding of the hygiene in the Peak District. It is, therefore, of great social value to the population there.

Over the years, a waterproofing coating has been applied to the flooring, *Authenticity* walls and piers, but this does not diminish the authenticity of the 1897 structure.

The Peak Fresh Water Service Reservoir was once part of the water supply Rarity system of Pok Fu Lam Reservoir. It is one of the oldest surviving service reservoirs in Hong Kong, and the first one in the Peak District. It has borne witness to the historical development of the Peak and marks a very significant milestone in the area's water supply system. Situated on the summit of Victoria Peak, the gravitational water supply zone of the service reservoir covers most of the inhabited places of the Peak District. It is still in operation, and has continued to play a significant role in providing safe fresh water for the residents of the Peak. The concrete perimeter walls with internal rubble facing reinforced with masonry buttresses, and the brick arches and piers display a combination of traditional and modern building techniques and materials between the late nineteenth and the early twentieth centuries. Besides, a number of important functional elements, such as vent pipes, ventilators, the inlet, outlet and washout pipes and an associated tunnel portal are all in good condition.

REFERENCES

Archives at Public Records Office, Hong Kong

HKRS207-12-2. "Plan of the City of Victoria, Hong Kong, 1889"

Records from the Water Supplies Department

Fisher, F.A., The Hong Kong Waterworks [1970]. Record Drawings on Peak Service Reservoir from Water Supplies Department Repository.

Maps of the Hong Kong Government

Crown Lands and Survey Office, P.W.D. Historical maps of 1897 (Map Ref: HH45-7).
Crown Lands and Survey Office, P.W.D. Historical maps of 1922 (Map Ref: 149-SE-07).
Crown Lands and Survey Office, P.W.D. Historical maps of 1922 (Map Ref: 149-SE-08).
Survey and Mapping Office, Lands Department. Basemap of March 1975 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1984 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of June 1989 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1994 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1994 (Map Ref: 11-SW-15B).
Survey and Mapping Office, Lands Department. Basemap of November 1996 (Map Ref: 11-SW-15B).

Survey and Mapping Office, Lands Department. Basemap of 2019 (Map Ref: 11-SW-15B).

Records of the Colonial Office and Hong Kong Government

- "Report By the Surveyor General on the Progress and Present Position of the Tytam Water Works, 25th June, 1884", *Hongkong Legislative Council Sessional Papers*, 1884, from Hong Kong Government Reports Online.
- "Census Report 1891", *Hongkong Legislative Council Sessional Papers*, 1891, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for 1892", *Hongkong Legislative Council Sessional Papers*, 1893, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1898", *Hongkong Legislative Council Sessional Papers*, 1899, from Hong Kong Government Reports Online.
- "Report on the Water Supply of the City of Victoria and Hill District, Hong Kong", *Hongkong Legislative Council Sessional Papers*, 1896, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1905", *Hongkong Legislative Council Sessional Papers*, 1906, from Hong Kong Government Reports Online.
- "Government Notification No. 440 dated 14 November 1896." *The Hongkong Government Gazette*, 14 November 1896. Hong Kong: Noronha & Co., 1904.
- "Report on the Census of the Colony for 1906", Supplement to the Hongkong Government Gazette of 10th May 1907, from Hong Kong Government Reports Online.
- "Annual Report of the Director of Public Works for 1897", Government Notification No. 241 dated

26 April 1898, *The Hongkong Government Gazette*, 28 May 1898, from Hong Kong Government Reports Online.

- "Annual Report of the Director of Public Works for 1897", in Government Notification No. 241 dated 28 May 1898, *The Hongkong Government Gazette*, 1898, , from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1914", *HongKong Government Administrative Reports*, 1914, from Hong Kong Government Reports Online.
- "Population", Hongkong Blue Book, 1901, from Hong Kong Government Reports Online.

Books, Articles and Other Sources

- Ho, Pui-yin. *Water for a Barren Rock: 150 Years of Water Supply in Hong Kong* (Hong Kong: The Commercial Press (H.K.) Ltd., 2001).
- "Our History", website of Lung Fu Shan Environmental Education Centre https://lungfushan.hku.hk/en/content/our-history, accessed on 26 April 2021.
- Project No. 9327WF, "Core Business", website of Water Supplies Department https://www.wsd.gov.hk/en/core-businesses/major-infrastructure-projects/major-projects-under-construction/9327wf/index.html>, accessed on 26 April 2021.

《香港水道調查報告書》 (臺灣:臺灣總督府外事部,昭和17年10月(1942年))。

Historic Building Appraisal Mount Gough Fresh Water Service Reservoir Pollock's Path, The Peak, H.K.

The Mount Gough Fresh Water Service Reservoir (歌賦山食水配水庫, *Historical* formerly known as Mount Gough Service Reservoir) on the Peak was *Interest* completed in 1903.¹ It was the second service reservoir built in the Peak District subsequent to the completion of the Peak Fresh Water Service Reservoir in 1897. Situated on the summit of Victoria Peak (扯旗山), the Peak Service Reservoir provided water by gravity for the highest residences in the Peak District. However, satisfying the water needs of the increasing population on the Peak,² in particular during the summer months, was achieved only with great difficulty, and not without several breakdowns in supply. Steps were thus taken to add a second rising main from Bonham Road to Victoria Peak. But the Peak's water supply remained in an unsatisfactory state until the completion of Mount Gough Service Reservoir, which was regularly replenished by Bowen Road Pumping Station.

Tenders were invited for the construction of Mount Gough Service Reservoir in July 1901. The excavation for site formation was completed at the close of 1902. A considerable amount of rock was met with in the course of the work. In parallel, the 3-inch wrought iron main from Bowen Road Pumping Station to Mount Gough Service Reservoir was also laid. The service reservoir was brought into operation in October 1903. The properties on Barker Road and Magazine Gap Road, for instance, were then supplied from this source. The water from this service reservoir supplied the eastern part of the Peak District.

From the dam of Tai Tam Reservoir, water was carried by gravity to a gauge basin at the tunnel inlet to Tai Tam Tunnel, which ran from the Tai Tam Valley to the Wong Nai Chung or Race Course Valley. From there, water was conveyed onwards by the Tai Tam Conduit (later known as the Bowen Aqueduct) that wound its way around the mountains from the outlet of Tai Tam

² The civil population of the Peak District and the City of Victoria:

Year	Peak District (civil)	City of Victoria (civil)	Total Population of the Peak & the City of Victoria (civil)
1897	2,008	166,970	168,978
1901	2,224	181,918	184,142
1906	2,249	180,977	183,226
1911	2.304	225 521	227.825

¹ The first service reservoir in the Peak District, namely the Peak Fresh Water Service Reservoir (formerly known as the Peak Service Reservoir) was completed in 1897.

Tunnel at Wong Nai Chung to the filter beds at the Albany Valley, which today is near the upper end of Cotton Tree Drive. The construction of Tai Tam Reservoir commenced in 1883, whereas that of Bowen Aqueduct was begun in January 1885 and completed in May 1887. Some of the raw water carried by Tai Tam Tunnel and Bowen Aqueduct, after filtered at the Bowen Road Filter Beds, was then pumped by Bowen Road Pumping Station up to Mount Gough Service Reservoir. The latter has a top water level of around 1,518.25 feet A.O.D. (around 462mPD) and a capacity of around 211,500 gallons (around 961.5 cu.m.).³

The Mount Gough Service Reservoir completed in 1903, together with Peak Service Reservoir in 1897, contributed to the protection of lives and property from fires. According to the *Report of the Director of Public Works for the Year 1905*, a total of 57 fire hydrants were first installed on the Peak in that year, which was only made possible by the Peak and Mount Gough Service Reservoirs and the enhancement of the water pumping and conveyance facilities.⁴

At present, the water supplied via this service reservoir is treated at either Tai Po Water Treatment Works (大埔濾水廠) or Sha Tin Water Treatment Works (沙田濾水廠), which is conveyed by cross-harbour mains and pumped by steps of pumping stations before reaching the service reservoir. The service reservoir is still in operation and provides water by gravity mainly for the neighbouring area, including Barker Road, Severn Road, Peak Road and Gough Hill Road.⁵

Over the years the source and distribution system of the Peak's water supply have changed. The surviving historical structures of the Tai Tam Group of Reservoirs, Bowen Aqueduct and Mount Gough Fresh Water Service Reservoir have a strong historical linkage, and together they form a group of waterworks installations that testify to the historical development and the water supply of the Peak District in general and the Mount Gough neighbourhood in

³ Water was filtered at Bowen Road Filter Beds, instead of going into the Albany Valley at the aqueduct's end. But the water drawn off from Bowen Aqueduct before reaching the Albany Valley was not from the original Tytam water works design in 1888. The Bowen Road Filter Beds, Service Reservoir and Pumping Station were built around 1900 after the height extension works of the Tai Tam Reservoir dam were completed.

⁴ According to this report, the question of providing a system of fire hydrants throughout the Peak District had been considered for a number of years but the difficulty laid in the inadequacy of the pumping and storing facilities. The supply for ordinary purposes might be interrupted should the water be used for fire services. Such difficulty was overcome by the installation of a 3-inch rising main to the Mount Gough Service Reservoir, and the installation of a new steam pumping engine and enlarged rising main to the Peak Service Reservoir. As a result, 57 hydrants were installed on the Peak in 1905.

⁵ Peak Fresh Water Service Reservoir provides water by gravity for the houses situated higher than the Mount Gough Fresh Water Service Reservoir.

particular.

The Mount Gough Fresh Water Service Reservoir is a single-compartment *Architectural* structure and is rectangular in plan. It occupies an area of about 200 sq.m. *Merit* (25m x 8m), and has a capacity of around 961.5 cu.m. The external of the service reservoir was backfilled to the wall top on the south side, while almost all of the perimeter wall with coursed stone facing is exposed on the north side. The cove ceiling is made of concrete encasing 13 number of rolled steel joists in the shorter span, which in turn are supported on 26 brick columns arranged in two rows of 13 each and with granite slabs as the column heads. According to record drawings, each brick pier measures 14 inches x 19 inches and is plastered. The construction is a combination of traditional and modern building techniques and materials. The combined outlet, inlet and washout valve chamber is located in the centre of the north side. Some modifications to the pipework and ventilators were carried out in 1973, 2008 and 2020.

The Mount Gough Fresh Water Service Reservoir is within walking *Group Value* distance of other historic buildings, including, the Residence of the Chief Secretary for Administration (Victoria House) (政務司司長公館, Grade 2), the Maternity Block of the old Victoria Hospital (舊域多利醫院產科大樓), the Peak Police Station (山頂警署) and Gough Hill Substation (歌賦山變壓站) (all Grade 3).

Since its completion in 1903, as an underground waterworks installation *Social Value* hidden from public view, Mount Gough Fresh Water Service Reservoir itself *& Local* was of limited social value and interest to the local community. Despite that, it *Interest* was once an extension part of the Tai Tam water supply system. It is still in use today, and has played a significant role in supplying safe fresh water to the neighbourhood and safeguarding the hygiene there. It is therefore of great social value to the local population.

Although there was no maintenance record, it is believed that the 100mm *Authenticity* thick concrete floor panels were overlaid on top of the original floor in the 1970s. Ventilators were also replaced in 2020. Apart from these, no major works that would have diminished the authenticity of the 1903 structure can be identified.

The Mount Gough Fresh Water Service Reservoir was once part of the *Rarity* water supply system of the Tai Tam Group of Reservoirs. It is still in

operation today, and has continued to play an important role in providing safe fresh water for the Peak's residents. It has borne witness to the historical development of those areas, and the development of waterworks installations there. The concrete perimeter walls with rubble facing display a combination of traditional and modern building techniques and materials in Hong Kong between the late nineteenth and early twentieth centuries. Besides, a number of important functional elements, such as vent pipes, and the inlet, outlet and washout pipes are all in good condition.

REFERENCES

Archives at Public Records Office, Hong Kong

HKRS207-12-2. "Plan of the City of Victoria, Hong Kong, 1889"

Records from the Water Supplies Department

Fisher, F.A.. The Hong Kong Waterworks [1970].

Record Drawings on Mount Gough Service Reservoir from Water Supplies Department Repository.

Maps of the Hong Kong Government

Crown Lands and Survey Office, P.W.D. Historical maps of 1897 (Map Ref: HH45-7).
Crown Lands and Survey Office, P.W.D. Historical maps of 1922 (Map Ref: 149-SE-07).
Crown Lands and Survey Office, P.W.D. Historical maps of 1922 (Map Ref: 149-SE-08).
Survey and Mapping Office, Lands Department. Basemap of March 1975 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1984 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of June 1989 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1994 (Map Ref.: 11-SW-7C).
Survey and Mapping Office, Lands Department. Basemap of April 1994 (Map Ref: 11-SW-15B).
Survey and Mapping Office, Lands Department. Basemap of November 1996 (Map Ref: 11-SW-15B).

Survey and Mapping Office, Lands Department. Basemap of 2019 (Map Ref: 11-SW-15B).

Records of the Colonial Office and Hong Kong Government

- "Report By the Surveyor General on the Progress and Present Position of the Tytam Water Works, 25th June, 1884", *Hongkong Legislative Council Sessional Papers*, 1884, from Hong Kong Government Reports Online.
- "Census Report 1891", *Hongkong Legislative Council Sessional Papers*, 1891, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for 1892", *Hongkong Legislative Council Sessional Papers*, 1893, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1898", *Hongkong Legislative Council Sessional Papers*, 1899, from Hong Kong Government Reports Online.
- "Report on the Water Supply of the City of Victoria and Hill District, Hong Kong", *Hongkong Legislative Council Sessional Papers*, 1896, from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1905", *Hongkong Legislative Council Sessional Papers*, 1906, from Hong Kong Government Reports Online.
- "Government Notification No. 440 dated 14 November 1896." The Hongkong Government Gazette,

14 November 1896. Hong Kong: Noronha & Co., 1904.

- "Annual Report of the Director of Public Works for 1897", Government Notification No. 241 dated 26 April 1898, *The Hongkong Government Gazette*, 28 May 1898, from Hong Kong Government Reports Online.
- "Annual Report of the Director of Public Works for 1897", in Government Notification No. 241 dated 28 May 1898, *The Hongkong Government Gazette*, 1898, , from Hong Kong Government Reports Online.
- "Report of the Director of Public Works for the Year 1914", *HongKong Government Administrative Reports*, 1914, from Hong Kong Government Reports Online.
- "Population", Hongkong Blue Book, 1897, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1901, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1906, from Hong Kong Government Reports Online.

"Population", Hongkong Blue Book, 1911, from Hong Kong Government Reports Online.

Books, Articles and Other Sources

- Ho, Pui-yin. *Water for a Barren Rock: 150 Years of Water Supply in Hong Kong* (Hong Kong: The Commercial Press (H.K.) Ltd., 2001).
- "Our History", website of Lung Fu Shan Environmental Education Centre https://lungfushan.hku.hk/en/content/our-history, accessed on 26 April 2021.
- Project No. 9327WF, "Core Business", website of Water Supplies Department https://www.wsd.gov.hk/en/core-businesses/major-infrastructure-projects/major-projects-under-construction/9327wf/index.html>, accessed on 26 April 2021.

《香港水道調查報告書》 (臺灣:臺灣總督府外事部,昭和17年10月(1942年))。

Historic Building Appraisal Shek Kip Mei Health Centre No. 2 Berwick Street, Sham Shui Po, Kowloon

The Shek Kip Mei Health Centre (石硤尾健康院)(referred to as *Historical* "SKMHC" hereafter), is a two-storey building that was designed and built for use *Interest* as a polyclinic, which included a general out-patient clinic (referred to as "GOPC" hereafter), a chest clinic with X-ray department, a maternal and child health centre (referred to as "MCHC" hereafter), and midwives' quarters¹, and was officially opened by Parkin Wong (黃伯芹)², President of the Shamshuipo Kaifong Welfare Association (深水埔街坊會), on 29 November 1957.³ When built, it was situated within the Shek Kip Mei resettlement area, which today is known as the Shek Kip Mei Estate.

The construction of the SKMHC was indispensable with the catastrophic Shek Kip Mei Fire of 1953 and was made possible by funds donated by the Shek Kip Mei Six Villages Fire Emergency Relief Committee (石硤尾六村火災急 賑委員會)⁴ (referred to as "the Committee" hereafter) under the chairmanship of Parkin Wong, which was formed shortly after the fire. After offering urgent relief assistance to the fire victims, there was still a balance of \$267,830 available.⁵ Hence the Committee petitioned the Hong Kong government for a grant of land for the purpose of building a school but this was turned down by the government authorities concerned. Instead, it was suggested that the erection of a dispensary in the new Shek Kip Mei resettlement area would benefit everybody who lived in the area. Eventually, this proposal was supported by the Social Welfare Officer and Director of Medical and Health Services in 1954, and would be run by the Medical and Health Department (reorganised as the Department of Health since 1989).⁶

By 1954, a total of ninety-eight two- and three-storey temporary bungalows and eight six-storey resettlement blocks were constructed on the cleared part of the fire-stricken area by the government in order to rehouse large numbers of

¹ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 37.

² 〈石硤尾健康院,開幕典禮紀盛〉,《華僑日報》,1957年11月30日。 Parkin Wong was a well-known gentry in Sham Shui Po who founded the Shamshuipo Kaifong Welfare Association in 1949, which was the exemplar of the Kaifong Welfare Association followed by other localities in Hong Kong. To appraise his devotion in philanthropy, Parkin Wong was awarded an OBE in 1955.

³ "New Health Centre in Kowloon", South China Morning Post, 30 November 1957.

⁴ Shek Kip Mei Six Villages consist of Shek Kip Mei Upper Village, Shek Kip Mei Lower Village, Pak Tin Upper Village, Pak Tin Lower Village, Woh Tsai Upper Village and Woh Tsai Lower Village.

⁵ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 8.

⁶ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 6.

victims. ⁷ In the following eight years, twenty-one more seven-storey resettlement blocks were built in what was then known as the Shek Kip Mei resettlement area. By April of 1957, before the opening of the SKMHC, the population of this area had reached 37,000.⁸ In view of the area's foreseeable high population density, the government recognised that medical services would undoubtedly be needed and facilities should be provided in or near the Shek Kip Mei resettlement area.⁹ Furthermore, as suggested by the Director of Medical and Health Services in 1954, it should be a polyclinic with diversified services including not only general out-patient facilities but also a maternal and child health clinic, chest clinic, school health clinic, and dental clinic, together with a births and deaths registry.¹⁰ The SKMHC eventually included a GOPC, a chest clinic and X-ray department, an MCHC and midwives' quarters.¹¹

Due to lack of space in the Shek Kip Mei area, the only reasonable site not requiring excessive site formation works was at the northwest foot of Mission Hill, which was being occupied by a two-storey temporary bungalow. The site's proximity to the Shek Kip Mei area and convenience for local residents were both key considerations, especially since a substantial contribution to the overall cost of the SKMHC was met by funds provided for the benefit of Shek Kip Mei fire victims. Following the demolition of the previous bungalows, the construction work carried out by the Public Works Department began in March 1957 and was completed in November of the same year.¹² The actual cost of the SKMHC was \$380,378, of which \$267,830 was provided by the Committee.¹³ In view of the Committee's generous contribution to the SKMHC, the word "government" was omitted from the building's name and it was therefore named the "Shek Kip Mei Health Centre".¹⁴

The GOPC housed on the G/F of the southern part of the SKMHC provides community-based primary healthcare services, which in the past were aimed mainly at the Shek Kip Mei resettlement population but today meet the needs of the elderly, low-income individuals, and patients with chronic diseases in the

⁷ Government Records Office, Under the Same Roof https://www.grs.gov.hk/ws/online/utsr/part2/tc/f.htm#ad-image-2>, accessed on 3 May 2021.

⁸ 'Distribution of the Population in Resettlement Estates', *Hong Kong Statistics 1947-1967*, Hong Kong: Census & Statistics Department, Hong Kong, 1969, p. 174.

⁹ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 7.

¹⁰ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 8.

¹¹ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 28 and 37.

¹² Director of Public Works, Annual Departmental Report for the financial year 1956-1957 & 1957-1958, Hong Kong: The Government Press, 1957, p. 8; 1958, p.9.

¹³ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 52, 54.

¹⁴ HKRS156-1-4407, Proposed Clinic at Shek Kip Mei, Kowloon, 20 April 1954 – 13 June 1969, encl. 44.

locality.¹⁵ It also provides nursing services such as drug injections and wound dressing.

The chest clinic accommodated in the northern part of the SKMHC is the fourth dedicated facility of its type established by the government's tuberculosis service since 1947 and the third earliest still operating after the Kowloon Chest Clinic (九 龍 胸 肺 科 診 所) and Wanchai Chest Clinic opened in 1951 and 1954, respectively.¹⁶ Tuberculosis was a serious health problem in Hong Kong's early The combined effects of the mass influx of refugees and post-war years. associated overcrowding produced a tuberculosis infection rate in the community higher than perhaps other parts of the world. As satisfactory home isolation was impracticable and hospital isolation was impossible due to the shortage of hospital beds, free ambulatory chemotherapy (非卧床化學療法)¹⁷ provided by the government chest clinics soon became the spearhead of the therapeutic response to the tuberculosis problem from 1950 onwards. Also, the work of the radiography section was critical to the diagnosis of tuberculosis and the chest clinic at SKMHC was equipped with a dedicated X-ray department on the G/F. After consultation with medical officers on the 1/F, patients are instructed to have a radiological examination in the facility downstairs.

There was a tuberculosis almoner (施賬員) service that was responsible for all social work in connection with patients attending the clinics. The almoner's work included conducting interviews with patients to record their social and economic backgrounds, the distribution of drugs, and provision of assistance in grants or in kind to patients who gave up work in order to undergo treatment.¹⁸ Accommodation for the almoners was provided on the 1/F in the past but the service has ceased operation nowadays. Currently, trained healthcare workers in the public health unit housed on the same floor are responsible for providing directly observed tuberculosis treatment and health educational and promotional activities in relation to tuberculosis control, lung

¹⁵ HKRS156-1-4784, Clinics in Resettlement Estates - General Question On, 30 Nov 1955 – 10 Jun 1970, encl. 18;Hospital Authority, General Out-patient Clinics <https://www.ha.org.hk/visitor/ha_visitor_index.asp?Content_ID=10052&Lang=ENG&Dimension=100&Ver=HTML >, accessed on 2 May 2021.

¹⁶ The first public service for tuberculosis was established at the Harcourt Health Centre. "Tuberculosis control in Hong Kong", Extracted from *Government Chest Service Annual Report 2000*, https://www.chp.gov.hk/en/resources/29/86.html, accessed on 26 Mar 2021.

¹⁷ According to Annual Report of Medical and Health Department, 1957-1958, treatment of ambulatory chemotherapy was given in courses each lasting three months and was carried on for periods varying between the lower limit of six months and two and a half years or longer. It usually consisted of a combination of two or sometimes three of the standard drugs PAS, INAH and Streptomycin. However, as about 3 quarters of the Tuberculosis patients did not complete the whole course of anti-tuberculosis treatment, the use of directly observed treatment has been implemented since 1970. Tuberculosis gradually became under control and the figures dropped gradually. In 1979, short course service programme (6 months) was implemented for treating tuberculosis patients.

¹⁸ Director of Medical and Health, Annual Departmental Report for the financial year 1957-1958, Hong Kong: The Government Press, 1958, p.41.

diseases, and aspects of general health.

The MCHC located on the 1/F of the southern part of the SKMHC was one of the four new health centres built in resettlement areas in accordance with the agreement of the "Plan of Operations for A Maternal & Child Welfare Programme This undertaking, which was signed by the Hong Kong in Hong Kong". government, the World Health Organization, and the United Nations Children's Fund in 1954,¹⁹ aimed to reduce preventable death and illness among mothers and children by expanding maternal and child health services, and to utilise the expanded facilities to serve the needs of the resettlement population. The MCHC at the SKMHC was operated on a full-time basis providing dedicated maternal health services including ante- and post-natal care, child health services including both infant and toddlers' welfare, immunization and dietary supplements, and health education through conducting talks, group discussions, demonstrations, exhibitions with the active participation of mothers and children. It ceased operation in 2001 when the new West Kowloon MCHC was opened.²⁰

The SKMHC was one of the centres providing free domiciliary midwifery services to ease the long queues of pregnant women in the obstetrics departments of hospitals in the 1950s.²¹ It had a staff of three resident midwives with quarters provided until 1965 when home delivery was discontinued by the government and maternity beds for the area became available at the Li Po Chun Health Centre on Arran Street, Mongkok. The midwives' quarters were later altered to provide additional accommodation for the MCHC. When the MCHC ceased operation, all the accommodation in the southern part of the 1/F became staff facilities and was use as storage by different parties.

Located at the foot of Mission Hill on its north-western side, the SKMHC is *Architectural* accessed from Berwick Street via two separate staircases leading to the entrances *Merit* on its western side. It is a two-storey linear block structure in reinforced concrete with a short block projecting from the centre of the western façade forming a truncated T-shape in plan. The northern part, including the projecting

¹⁹ Plan of action included the establishment of four new health centres in areas where squatters were being resettle, namely Chai Wan, Ngau Tau Kok. Homantin and Shek Kip Mei. WHO committed to provide technical advice and assistance useful to the project while UNICEF committed to provide for use within the project equipment and supplies up to a value of US\$41, 000. The Hong Kong Government committed to provide all personnel, buildings, materials, supplies, and equipment necessary for the project except those committed by UNICEF. Sources: HKRS1394-1-34, *Maternal & Child Health Scheme*, 23 Feb 1954 – 16 May 1979, encl. 26 & 80.

 ²⁰ Department of Health, Annual Report of Department of Health, 1999-2000, Hong Kong: The Government Press, 2000, 183.

Department of Health, *Annual Report of Department of Health*, 2000-2001, Hong Kong: The Government Press, 2001, p195.

²¹ Director of Medical and Health, Annual Departmental Report for the financial year 1957-1958, Hong Kong: The Government Press, 1958, p.52.

block, is the chest clinic, with the X-ray department on the G/F. The southern part houses a GOPC on the G/F and the MCHC on the 1/F.

The building possesses modernist and functional expression in its elevation as represented by the use of simple lines and planes, and features such as projecting canopies, thin capping, and a free-edged feature wall spanning both storeys at the southern end of the building. Its pure form is demonstrated in a photo taken from Berwick Street in 1957.²² Large opening windows along the main elevations to the east and west allow for maximum cross-ventilation and natural lighting, while small windows with projecting square surrounds are incorporated in the design for the staircases and ancillary rooms at southern end of the building. The western façade of the MCHC is set back with a deep canopy providing shade and thermal comfort for the interior. A covered walkway leading to the entrance of the GOPC is provided. Right next to it, there is a cement concrete grille with a geometric pattern. The entrances have stone parapets with metal grilles, and such stone finishes were a common architectural feature of the early post-war period. The nine ventilation holes above the side entrance of the GOPC and the clinic's name in its original characters on the same façade are still intact.

In terms of spatial planning, the building was intended to provide separate entrances for direct access to the different clinics. In order to cope with large numbers of visitors, the layout of each clinic was designed with a 'one-way traffic system' to maintain a smooth and continuous circulation of visitors and to carefully control their movement. Large waiting areas are provided for each clinic and rooms are arranged along double-loaded corridors. Toilets are mainly located in the middle and ends of each floor. The consultation rooms, dispensary, and shroff of the GOPC are accommodated adjacent to the waiting area to minimise the movement of visitors. For the chest clinic, a semi-open entrance hall is located in the projecting block and is flanked by a dispensary, the waiting area of the X-ray department, and a stairway to the 1/F. The facilities for radiography, including the radiologist room, film sorting room, drying room, dark room, film store, and a large film filing room, are still arranged linearly for smooth and efficient operation. The SKMHC is one of the two existing clinics in Hong Kong to still use conventional film developing technology.²³ A doubledoor hatch with two compartments installed between the dark room and the Xray room for exchanging exposed and unexposed films is still in use. The 1/F

²² Government Records Office, Under the Same Roof https://www.grs.gov.hk/ws/online/utsr/part2/tc/f.htm#ad-image-8>, accessed on 3 May 2021.

²³ The other one is the Wanchai Chest Clinic on Kennedy Road.

is equipped with two waiting areas, a blood and treatment room, the general office for registration, consultation rooms, the public health unit, staff office, and staff room. There is a low wall with a fixed wooden bench in the larger waiting area, which was previously used as separate waiting space for almoners.

Before the cessation of the MCHC's service, facilities including interview rooms, a demonstration room, treatment room, baby watching room, comprehensive observation room, staff office, and breast-feeding room were provided.

The layout and provision of facilities at the SKMHC reflect functional considerations and it has seen changes over the years in response to the changing operational needs.

Internally, horizontal pivot fanlight windows were installed in the consultation rooms and staff rooms to enhance natural ventilation, while those at the GOPC were blocked at some point in the past. Previously, with the exception of the dark room, film store and radiologist's room that saw the first installation of air-conditioning, temperature regulation at the SKMHC was provided by over-head fans, but the entire building is now air-conditioned. Some furniture like wooden cupboards, shelves, and benches are believed to be original. There are recesses on the internal walls to accommodate fire extinguishers. Some original metal windows had metal grilles welded to them, while others were replaced with aluminium ones. Metal railings were added to the flat roof on the 1/F and roof level. Air-conditioning units and metal cages were mounted on existing windows. Also, the covered walkway at the GOPC's entrance was extended.

As it has been a government polyclinic in the densely populated Shek Kip *Social Value* Mei public housing area, the SKMHC is of social value and interest to the local *& Local* community. Since its opening in late 1957, the SKMHC is believed to have *Interest* served not only the residents of the Shek Kip Mei resettlement area but also adjacent neighbourhoods such as the Tai Hang Tung resettlement area, Pak Tin Estate, and tenement houses along Tai Po Road, all of which lacked access to a well-established government clinic; and witnesses the collaboration between the government areas and increasing public awareness of the provision of medical and health services for grassroots communities during the post-war period.

For over half a century, the SKMHC has been part of the public healthcare

service network of Sham Shui Po District, in particular for the elderly of the Shek Kip Mei neighbourhood.²⁴ The domiciliary midwifery service provided before is still remembered by some aged locals.²⁵

The SKMHC is within walking distance of other historic buildings like the *Group Value* ex-Sham Shui Po Service Reservoir (前深水埗配水庫) (Proposed Grade 1); Mei Ho House (美荷樓), the Former North Kowloon Magistracy (前北九龍 裁判法院), the Building of The Garden Company, Limited (嘉頓有限公司 建築) (all Grade 2); and Saint Francis of Assisi's Catholic Church and English Primary School (聖方濟各堂及英文小學).

The SKMHC, a two-storey linear block reinforced concrete structure of **Rarity**, modernist and functional design. Its construction followed the Kowloon Chest **Built Heritage** Clinic (1951), Lee Kee Memorial Dispensary (李基紀念醫局) (1952), **Value &** Wanchai Polyclinic (1954), and North Lamma General Out-patient Clinic (北南 Y 普通科門診診所) and Tai Po Jockey Club Clinic (大埔賽馬會診所) (both 1957). The moderate internal alterations and refurbishments, lack of maintenance of external wall finishes, as well as some additions and installations to the exterior over the years somewhat diminished the authenticity of the building.

²⁴ Architectural Service Department, Technical Feasibility Statement for development of a community health centre building in Shek Kip Mei, August 2015, p. 1.

²⁵ Heritage of Mei Ho House, "The Gate if Life or Death: Past and Present of Obstetric Services", *Post 41*, Issue 11, Jan-Apr 2020, pp4-5 https://www.yha.org.hk/wp-content/uploads/post41/HMHH_Post-41_11.pdf>, accessed on 3 May 2021.

REFERENCES

Archives at Public Records Office, Hong Kong

- HKRS156-1-4407, *Proposed Clinic at Shek Kip Mei, Kowloon*, covering dated 20 April 1954 13 June 1969.
- HKRS156-1-4784, *Clinics in Resettlement Estates General Question On*, covering dated 30 Nov 1955 10 Jun 1970.
- HKRS365-1-27-6, Hong Kong's Medical Services A Boy Receiving Injection at Shek Kip Mei Clinic, 1958.
- HKRS1394-1-34, Maternal & Child Health Scheme, covering dated 23 Feb 1954 16 May 1979.

Records from Department of Health

Architectural Service Department, *Technical Feasibility Statement for development of a community health centre building in Shek Kip Mei*, August 2015.

Records of the Hong Kong Government

- Department of Health, Annual Report of Department of Health, 1999-2001, Hong Kong: The Government Press, 2000-2001.
- Director of Medical and Health, Annual Departmental Report for the financial year 1955-1962, Hong Kong: The Government Press, 1955-1962.
- Director of Public Works, Annual Departmental Report for the financial year 1955-1958, Hong Kong: The Government Press, 1956-1958.
- Census & Statistics Department, Hong Kong Statistics 1947-1967, Hong Kong: Census & Statistics Department, Hong Kong, 1969.

Newspapers

- 'New Government Health Centre to be Built', South China Morning Post, 5 Jan 1957.
- 'Shek Kip Mei to have New Health Centre', South China Morning Post, 27 Nov 1957.
- 'New Health Centre in Kowloon', South China Morning Post, 30 Nov 1957.

'Social Hygiene', South China Morning Post, 3 Jun 1958.

'25 Years Ago', South China Morning Post, 25 Nov 1982.

〈港府計劃興建石硤尾健康院〉,《香港工商日報》,1957年1月28日。

〈何文田健康院建築工程完成 - 石硤尾健康院將動工〉,《工商晚報》, 1957 年 3 月 10 日。

〈石硤尾健康院落成,設備新型下旬開幕〉,《華僑日報》,1957年11月8日。

〈石硤尾健康院,本月廿九開幕〉,《香港工商日報》,1957年11月17日。

〈石硤尾健康院,定廿九日揭幕〉,《華僑日報》,1957年11月25日。

- 〈石硤尾健康院,定廿九日開幕〉,《大公報》,1957年11月27日。
- 〈石硤尾健康院,定本周五開幕〉,《香港工商日報》,1957年11月27日。
- 〈石硤尾健康院,開幕典禮紀盛〉,《華僑日報》,1957年11月30日。
- 〈石硤尾健康院,昨舉行揭幕禮〉,《香港工商日報》,1957年11月30日。
- 〈石硤尾健康院,登門接生不收費〉,《華僑日報》,1957年12月11日。

Books, Articles and Other Sources

- Alan Smart, *The Shek Kip Mei Myth, Squatters, Fires and Colonial Rule in Hong Kong, 1950-1963* (Hong Kong: Hong Kong University Press, 2006).
- Hong Kong Housing Authority, *Out of the Flames....the Story of Shek Kip Mei* (Hong Kong: Hong Kong Housing Department, 1977).
- Yip Ka-che, Wong Man-kong, and Leung Yuen-sang ed., *A Documentary History of Public Health in Hong Kong* (Hong Kong: The Chinese University Press, 2018).
- 深水埗區議會,《從深水步到深水埗》(香港:深水埗公民教育委員會),1998年。
- 羅婉嫻,《香港西醫發展史1842-1990》(香港:中華書館), 2018年。
- Department of Health, HKSAR, *Historical summary of TB and services in Hong Kong* <<u>https://www.info.gov.hk/tb_chest/en/contents/c13.htm</u>>, accessed on 2 May 2021.
- Government Records Office, *Under the Same Roof* <<u>https://www.grs.gov.hk/ws/online/utsr/part2/tc/f.htm#ad-image-2></u>, accessed on 3 May 2021.
- Heritage of Mei Ho House, "The Gate if Life or Death: Past and Present of Obstetric Services", *Post 41*, Issue 11, Jan-Apr 2020, pp4-5 <<u>https://www.yha.org.hk/wp-content/uploads/post41/HMHH_Post-41_11.pdf</u>,> accessed on 3 May 2021.
- Hospital Authority, *General Out-patient Clinics* <https://www.ha.org.hk/visitor/ha_visitor_index.asp?Content_ID=10052&Lang=ENG&Dimens ion=100&Ver=HTML>, accessed on 2 May 2021.
- "Tuberculosis control in Hong Kong" extracted from *Government Chest Service Annual Report* 2000, Centre for Health Protection https://www.chp.gov.hk/en/resources/29/86.html, accessed on 26 Mar 2021.