

On The Precipice Of Change

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis will be made electronically available to the public.

Abstract

Situated centrally, two blocks north of People's Square, in Zhabei District of Shanghai, China, Sihang Warehouse is a place steeped in time. In 1937, during the Sino-Japanese War, when this building was still one of Shanghai's tallest structures, it briefly slowed down the ruthless onslaught of Japanese troops. As a result, it provided a moment of hope and pride for the demoralized Chinese.

Though deeply ingrained in Chinese history and culture through its wartime story, the structure has received little attention from the general public, local government, and investors since the war and through the push for rapid development of Shanghai in the mid-1990s. Zhabei District, where Sihang Warehouse is located, has been designated as one of the most undervalued portions of the downtown core. Recently, it has become the focus of a massive and aggressive revitalization program that aims to establish the region as Shanghai's second economic centre. The building, which once

strengthened the identity of the Chinese people at a critical point in their history, is now in disrepair and soon to be assimilated into a more modern and gentrified vision of the new Zhabei District.

Sihang warehouse is an integral part of Shanghai's collective cultural memory and, arguably, a part of Shanghai's identity. Because Zhabei stands at the precipice of change, the memories of the events that shaped Shanghai's history are under threat of voluntary amnesia. With many of Shanghai's historic districts erased due to rapid expansion, it is crucial to re-establish this building as a relevant edifice in its changing context. Thus, in re-envisioning Sihang Warehouse, a design focus showcasing the wartime narrative of the place could help preserve this important piece of Shanghai's history and serve as a vehicle for conversation between the modern citizens of Shanghai and their predecessors.

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For my family.

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INTRODUCTION

Originally Shanghai was a small market town that became a walled imperial Chinese city in the 17th Century of the Ming Dynasty¹. Its proximity to the ocean and the safe harbour provided by the Huangpu, made the location highly suitable for shipping and trade. In the mid-nineteenth century, as a result of the Opium Wars, the city was forced open. The western powers forced the Chinese government to create an extraterritorial zone where merchants could trade without interference from Chinese authorities. This started off at a small scale, just a row of warehouses and offices along the Huangpu river, and the surrounding area consequently experienced rapid development. By the 1920s, the city was booming. It was occupied by Europeans, North Americans, and the Chinese. The development in the international settlement became a magnet for the development of the surrounding land directly controlled by the Chinese government. The metropolitan

¹ Sin Kiong Wong, ed., *Confucianism, Chinese History and Society* (London: World Scientific, 2012): 228.

Shanghai, which was not extraterritorial and is controlled by the Chinese government, thus grew around the international Shanghai and became economically dependent on the international zone². Because the Chinese did not hold power over the international settlement, it was a city in competition. The Chinese government, apprehensive of the potential to lose control of the city, started developing parts of the city that were previously farmland. One of these parts was Zhabei District, the site of The Battle at Sihang Warehouse, directly across from the International Settlement.

In 1937, when the Japanese arrived in Shanghai as part of their attempt to dominate China in the Second Sino-Japanese War, the metropolitan area, including Zhabei District, became the major target. However, for the Japanese Imperial Army, the main problem was that they needed to conquer Chinese Shanghai while not touching the International Shanghai. This

² Francis L. K. Hsu, *Americans and Chinese: Passages to Differences* (Hawaii: University of Hawaii Press, 1981): 305.

is because they did not wish to provoke war with western powers.

What made Sihang so important to the Chinese is that it sat right at the boundary of Chinese Shanghai, in clear view of the International Settlement. Fifty meters away from the battle, on the other side of the river, was peace. From the Japanese perspective, traditional military tactics could not be used because of the danger of damage to the international settlement. Part of the problem for the Japanese in attacking this building is that it was backed by an area the Japanese could not attack. Furthermore, any attack was subject to international scrutiny due to the battle's proximity and section-like exposure. Sihang Warehouse thus, was a building that was very difficult to attack.

Sihang Warehouse (AKA Four Lines Warehouse, JSS Warehouse, Chinese Mint Godown) was designed by the grandfather of high-rise architecture in Asia, Hungarian

architect Laszlo Hudec (邬达克)³. Built in 1931 in Shanghai, its name, Sihang, means “four banks”, and was a holdings warehouse for four of China's banks. The year that it was built was also the year of Japan's first military “incident” with China since the end of the First Sino-Japanese War in 1895. Six years later, in 1937, Shanghai was the scene of one of the largest and deadliest battles of the Second Sino-Japanese War. Sihang warehouse survived the Shanghai Battle while the rest of the district where it stood was bombed and burned. The building itself was the location of one of Shanghai's most infamous sub-battles called the Sihang Battle. Its historic legacy is akin to the Stalingrad Grain Elevator in World War II and The Alamo for the USA.

Today, Sihang Warehouse is one of Shanghai's few remaining buildings of cultural significance with regards to the Sino-Japanese War. Since 1937 this building

³ Lü Pan, “Invisible Turn To The Future: Commemorative Culture In Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* Thematic Section: 4 (2012): 134.

has structurally changed little and has consequently fallen into disrepair. Having firmly resisted change in the 77 years since battle, this building can be said to straddle two distinct periods of Shanghai's timeline—the early beginnings of the Sino-Japanese War (and later, World War Two) and present day. Until recently, it has mostly been forgotten. However, a recent push for development spurred by the district's government has brought up questions regarding its future.

Before proposing a design for this building, I will examine the building in its current physical and historical context. The first chapter will inspect the building spatially, through maps (both present day and historic) with an additional financial analysis (present and historic) of its physical value in order to better understand its physical context. In the second chapter, the focus shifts to the temporal dimension, focusing on timelines related to the war and the building itself so as to understand

the building's position in time. The third chapter is about the significance of the building, how its relationship to time itself makes it such a powerful place to occupy, and, in turn, its incredibly large value as a commemorative space. Finally, the fourth chapter is about the proposed design of the Sihang Warehouse.



“War memorials are of special significance because they offer insights into the ways in which national cultures conceive of their pasts and mourn the large-scale destruction of life.”

Nuala C. Johnson, “Cast in Stone: Monuments, Geography, and Nationalism,” *Environment and Planning D: Society and Space* 13 (1995): 51–65.

Fig. 0.1
“Bloody Saturday” photo taken by Wang Xiaoting on August 28, 1937 at the site of the bombed North Railway Station in Zhabei, Shanghai (just north of Sihang Warehouse). This photo stirred a strong reaction in Western countries against Japanese aggression in China (Barbara W. Tuchman, *Stilwell and the American Experience in China, 1911–45*. (Bantam Books, 1972): 214).

1 BASIC INFORMATION

Introduction

This chapter analyzes the provincial (Shanghai), district (Zhabei), and neighbourhood scales. While zooming into present-day Sihang Warehouse from the provincial level, wartime information pertaining to the place will be shown simultaneously. This is to show the similarity between its current and wartime states, and builds awareness of any changes that have taken place since the war. The economy of the district and the value of the building itself plays a strong role in how the district developed, and ultimately, the fate of Sihang Warehouse.

This chapter illustrates the physical destruction that took place during the war (both in terms of damage to structures and in displacement of the resident population), the economical readiness of the district for development, and the physical advantages of the site that add to its value.



Shanghai: Current Demographic & Geographic Overview

Shanghai officially became a city in 1927¹ and currently has provincial-level municipality status. It has an area of 6,340 km². Shanghai has had a staggering economic growth of 44.9% between 1995 and 2002 and continues to grow economically³.

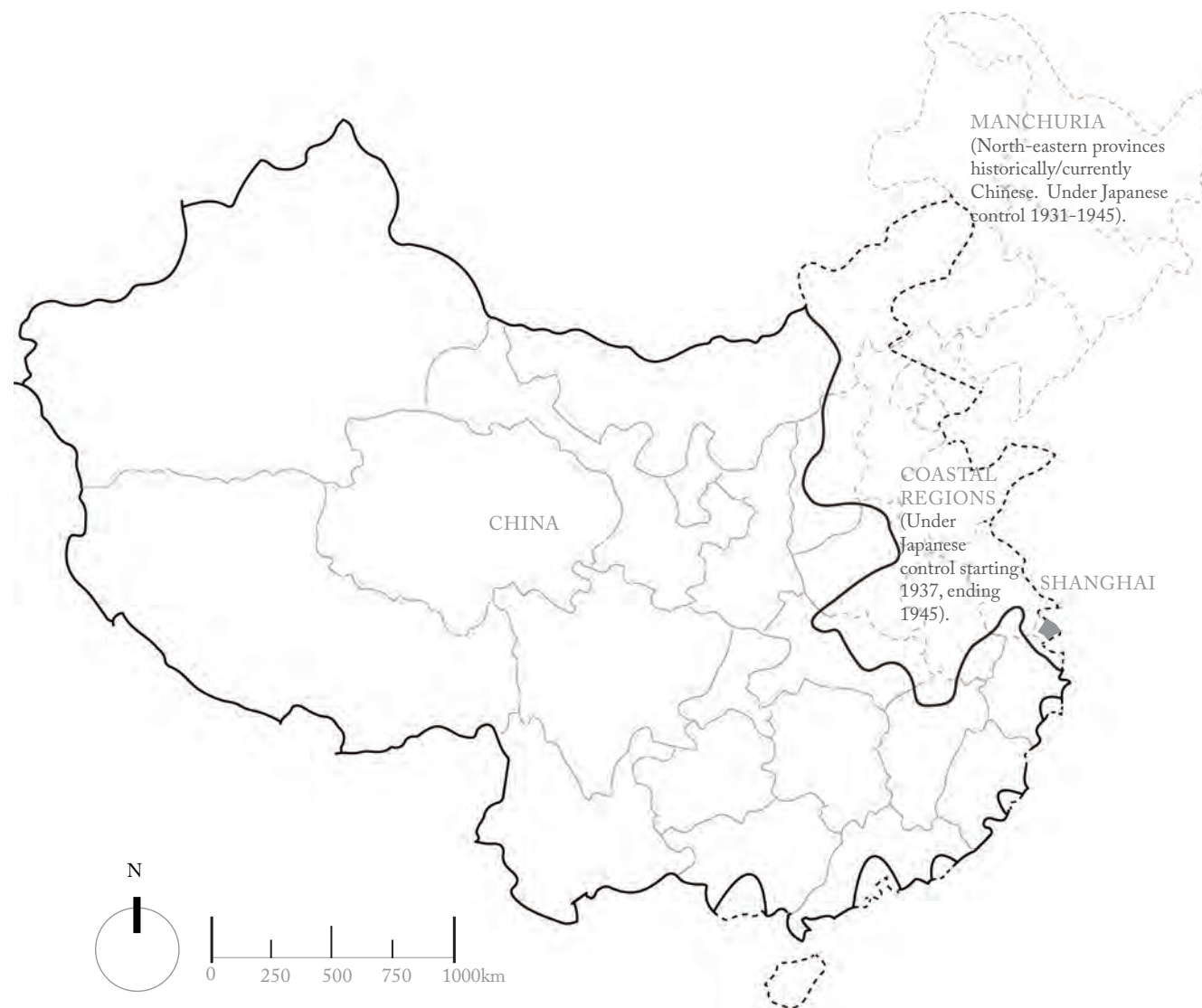
At a glance:

Population: 23.1M
 (Registered Population: 14.21M; Permanent Migrant Population: 9.65 M)⁴
 Coordinates: 31°14'N, 121°29' E⁵
 Average Annual Temperature: 16.2°C (Sub-tropical)⁶
 Yearly Rainfall: 1164.5 mm⁷
 Municipality Area: 6,340.5 km² (2,448.1)⁸

GDP (Billions): 1,687.2 RMB (\$290 CDN)⁹
 GDP Growth: 9.9% (2010)¹⁰
 Per capita disposable income of urban residents (2010): 31,838RMB (\$5815). With ~10% growth year on year.¹¹
 Exports (Billions): \$180.8 US¹²
 Imports (Billions): \$188.1 US¹³
 Per capita GDP (all residents): 73,294 RMB (\$12,601 CDN)¹⁴
 Sino-Japanese Commemorative spaces: Songhu Anti-Japanese War Museum, Linjiang Park in Baoshan District.

1 Eric N. Danielson, Shanghai and the Yangzi Delta: From Past to Present. (Times Editions, 2004): 9.
 2 Dezan Shira & Associates et al., eds., China Briefing's Business Guide to Shanghai & The Yangtze River Delta (Springer, 2012): 133.
 3 Dezan Shira & Associates et al., eds.: 180.
 4 "Shanghai Population and Family Planning Commission." Accessed September 15, 2013. <http://www.shrkjsw.gov.cn/spfpen/dr/data/2013110/0000066040660434698136.html?openpath=spfpen/data>.
 5 Yueran Qi et al., eds., The Encyclopedia of Shanghai (online) (Shanghai: Shanghai Scientific & Technical Publishers, 2010), <http://zhuanti.shanghai.gov.cn/encyclopedia/en/:15>.
 6 Yueran Qi et al., eds.: 16.
 11-18 Jiantang Ma, ed., "China Statistical Yearbook 2010" (China Statistical Press, 2010).

Fig. 1.1 Map of China showing location of Shanghai.
 Fig. 1.2 Shanghai map with outlined districts. Zhabei District, where Sihang Warehouse is located is filled black. Note Sihang Warehouse approximate location as "X".



Shanghai: Wartime Overview (1937)

The Battle of Shanghai took place in 1937 when the Japanese Imperial Army and Navy attacked the Chinese-governed areas of Shanghai as part of the Imperial drive to access China's vast natural and human resources. Prior to 1937, before the Japanese attacked Shanghai, the violence of the War had been relatively contained to northeastern China (Manchuria). The Battle of Shanghai lasted three months, one week, and six days, taking place between August 13, 1937 and November 26, 1937. The Japanese were victorious.

The Battle of Shanghai was the one of the First Major Battles of the Second Sino-Japanese War. At the time, the area of Shanghai was about one tenth its current size⁴ and its population was 3.75 million⁵. During the war it was estimated that over 1 million people fled⁶.

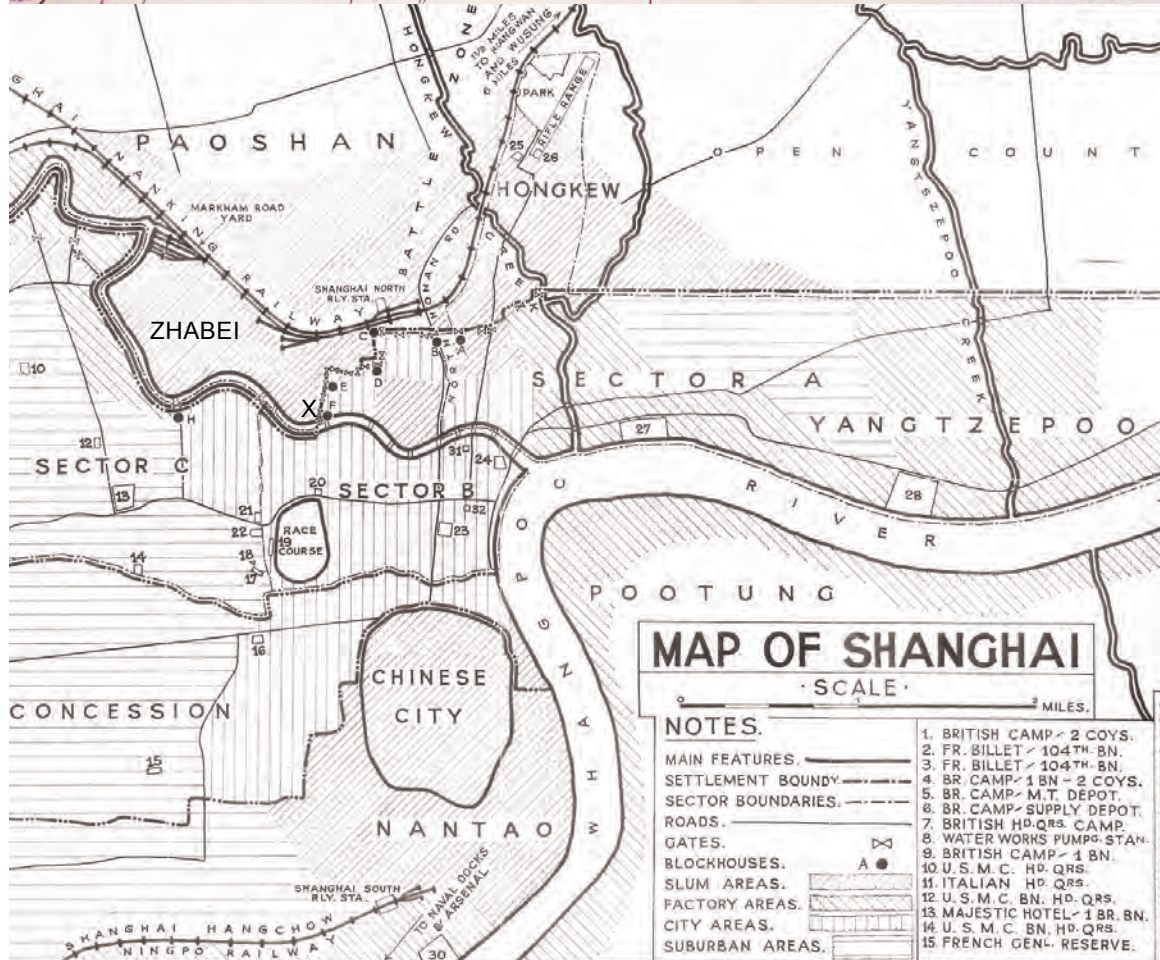
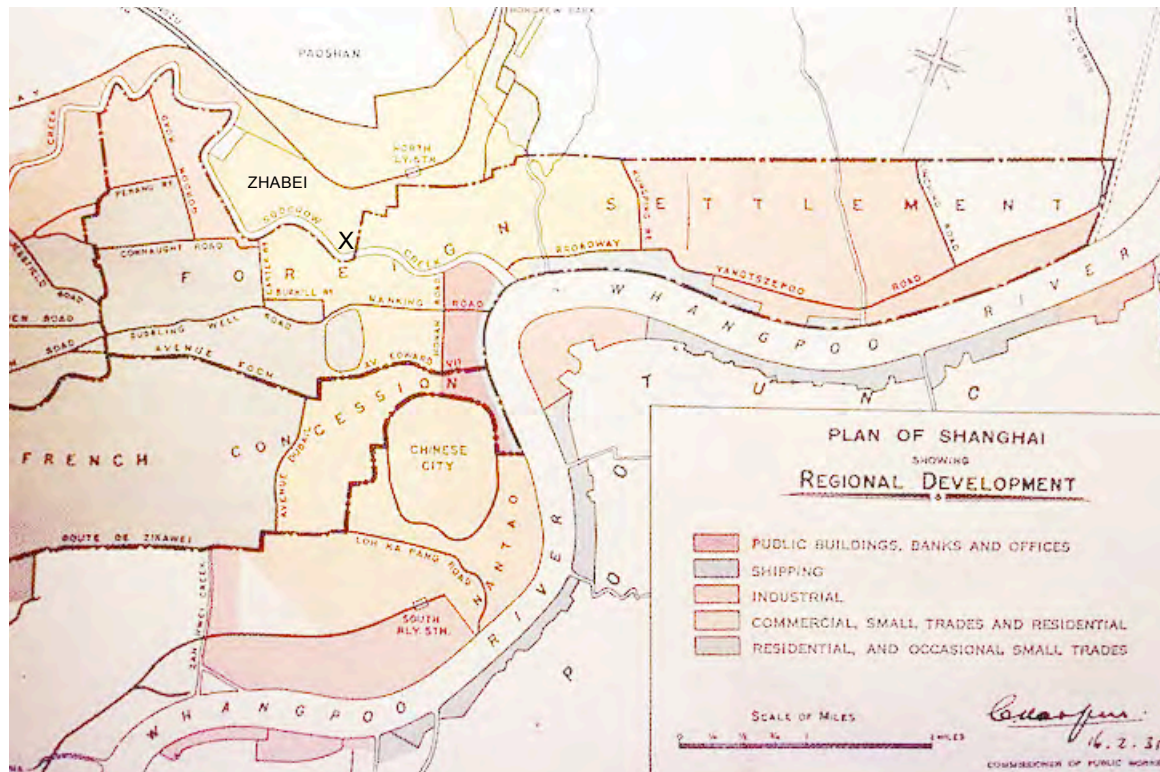
⁴ Dezan Shira & Associates et al., eds., *China Briefing's Business Guide to Shanghai & The Yangtze River Delta* (Springer, 2012): 133..

⁵ Alice Rottmann, *Resistance, Urban Style: The New Fourth Army and Shanghai: 1937-1945* (Berkeley: University of California Press, 2007): 105.

⁶ Etham Nagler, "The Problem of Food and Shelter For Refugees in Shanghai," *China Quarterly* 3, no. 1 (Winter -1938

1937): 67.

Fig. 1.3
Map of China showing the areas of Japanese control pre-1937 and near the end of the Second Sino-Japanese War. Note that Chinese-governed Shanghai was under Japanese control post the Battle of Shanghai in 1937. Japan attacked major port cities along China's coast.



Zhabei District: Demographic Overview

In 1937, “Zhabei was the target of 136 attacks, 48 shellings and 98 aerial bombings”⁷. The 29.18 square kilometer district⁸ was 95% destroyed⁹. Zhabei’s population dropped from 700,000 in 1930 to 54,600 by 1938¹⁰ (its population dropped to less than 8% of its pre-war population).

With nearly all of its buildings bombed, burned, or otherwise reduced to ashes, Sihang Warehouse was one of the few in the district that survived the scorched earth policy that both the Chinese and Japanese were adopting.

Population of Zhabei:

Pre-War: 700,000¹¹

Post-Battle of Shanghai (1938): 54,600

At end of World War II (1945): 216,900

One year after the War (1946): 299,591

1948: 548,400

Current (2010 Census): 830,476^{12,13}.

12 Shanghai Government Site, “上海人口分布呈现城市化发展和郊区化安居态势,” Shanghai Statistics, accessed December 9, 2011, <http://www.stats-sh.gov.cn/fxbg/201109/232747.html>.

13 “上海市2010年第六次全国人口普查主要数据公报,” accessed March 12, 2014, <http://www.stats-sh.gov.cn/sjfb/201105/218819.html>.

Fig. 1.4
1930s map of Shanghai’s development showing Zhabei as a Commercial, Small Trade, and Residential area. Note “X” marks location of Sihang Warehouse.

Fig 1.5
1935 map showing distribution of foreign forces and defenses in Shanghai, note that Sihang Warehouse is located at the intersection between the slum and city areas of Zhabei. Note “X” marks location of Sihang Warehouse.

7 Cai Liang, “Jingdai Zhabei de Subeiren (1900-1949)” (East China Normal University, MA Thesis, 2006): 25.

8 “Shanghai Zhabei - Zhabei District Love - Zhabei District Profile,” accessed September 15, 2013, <http://www.shzb.gov.cn/zhabei/shzb/zbqq/zbqk/u1ai40607.html&usg=ALkJrh0Brrlv5kQTmh3MOWVqD88AMj2zg>.

9 Christian Henriot, “A Neighbourhood under Storm Zhabei and Shanghai Wars,” European Journal of East Asian Studies 9, no. 2 (2010): 314.

10-23 Christian Henriot, “A Neighbourhood under Storm Zhabei and Shanghai Wars,” European Journal of East Asian Studies 9, no. 2 (2010): 291-319. P316.



“Thousands of tons of steel, from the air, from artillery, and from naval cannon, rained down on [Zhabei], which military experts said received the heaviest concentration of fire power ever laid on one piece of earth.”

Edgar Snow, *The Battle For Asia* (Cleveland: The World Publishing Company, 1942):50.

Fig. 1.6
Aerial view of Shanghai in 1939 highlighting Zhabei district.
Note the destruction north of Suzhou Creek as opposed to the international settlement south of the creek.



Zhabei District: Origins & Geographic Overview

Zhabei is a district in central Shanghai consisting of approximately 830,500 people or roughly 4% of Shanghai's population. Zhabei (闸北) was originally named after the two floodgates (Zhá 闸 meaning floodgate) that were built there in 1675 and 1735 so the district is known as the district north (Běi 北) of the floodgate¹⁴.

Suzhou Creek was bustling with merchants, shipbuilders, and blacksmiths as early as the reign of Qing Dynasty Emperor Jiaqing (1796-1820) when the land north of Suzhou Creek was still farmland. Following the Opium wars (1839 to 1842), when Shanghai became an open port, development commenced on the farmland north of Suzhou Creek¹⁵.

The development of Zhabei was supported by the Jiangsu Province, which at the time had jurisdiction over Shanghai. Government support was granted as a

way to prevent the (American and British) International Settlement from spreading out of control of Chinese authority.

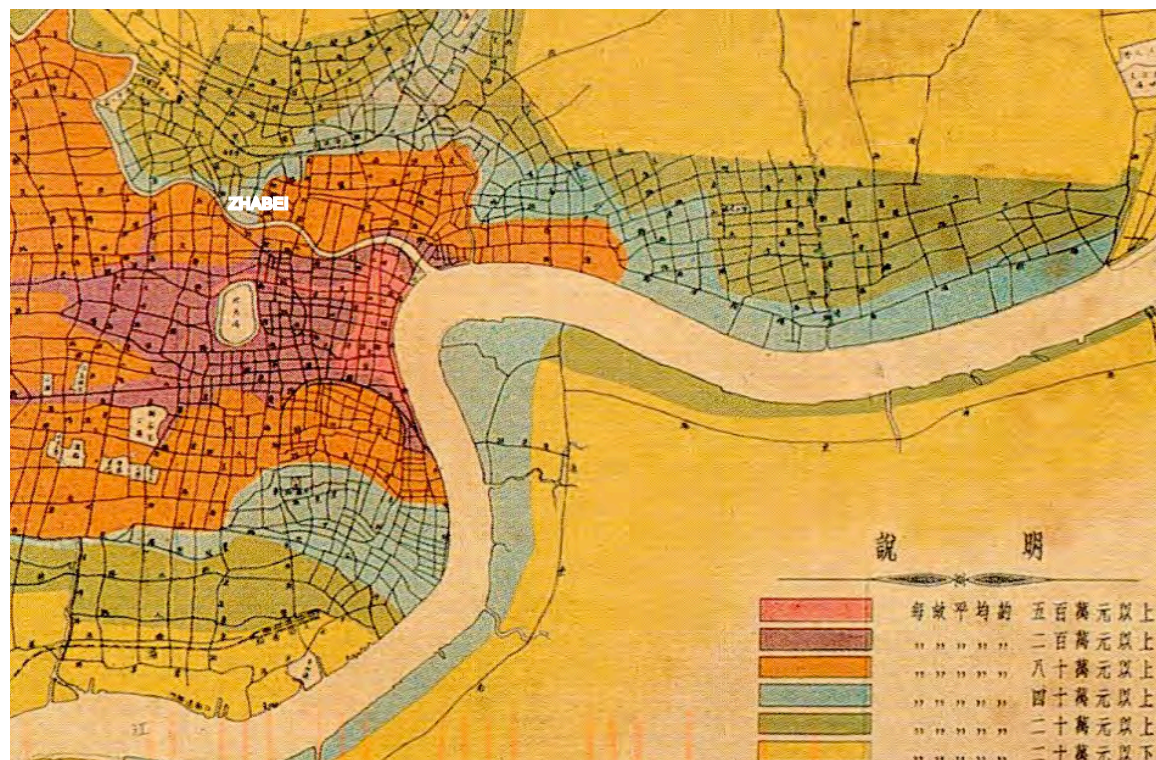
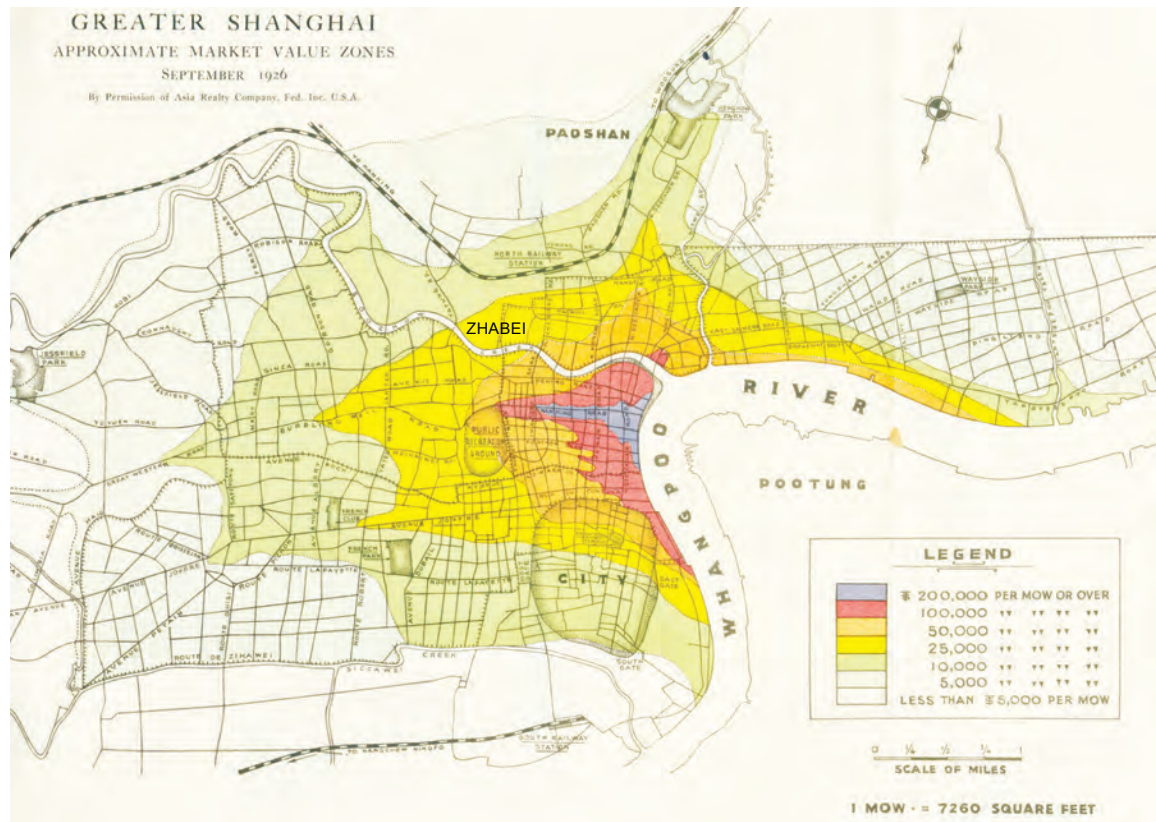
Today, Zhabei is geographically central in Shanghai and is accessible via waterways, subways, train, well-developed roads, raised highways, and bridges. After its first bout of rapid development following the opium wars its growth was suppressed by small-scale Japanese attacks starting in 1931, and later by the Japanese attack in 1937¹⁶. After 1940, Zhabei District's population started recovering.

¹⁶ Christian Henriot, "Shanghai and the Experience of War: The Fate of Refugees," *European Journal of East Asian Studies* 5, no. 2 (2006): 215-245.

Fig. 1.7
Diagram showing Sihang Warehouse within Zhabei district in relation to the rest of the downtown.

¹⁴ "Administration of Zhabei District," accessed March 12, 2014, <http://en.shzb.gov.cn/about2.asp>.

¹⁵ "Administration of Zhabei District," accessed March 12, 2014, <http://en.shzb.gov.cn/about2.asp>.



Zhabei District: In Economic Context (Past And Present)

Zhabei's central location, ease of transportation, and undervalued land have recently lead to another construction boom. In the past five years Zhabei District achieved 51.422 billion yuan in added value, an average growth of 12.4 percent a year, and 51.175 billion yuan in fiscal income, an average growth of 19.9 percent a year, reaching 6 billion yuan last year, up 125 percent from 2006¹⁷.

Between 2006 and 2011, Zhabei attracted 41.81 billion yuan of domestic investment and US\$2.345 billion of foreign investment, with an average growth rate of 19.3 percent and 14.6 percent a year, respectively. Thirteen multinational corporations set up their regional headquarters in Zhabei, including Kohler, TESCO and Vale.

According to the government website "Looking back on the history of Zhabei, a conclusion can be drawn that from the very beginning the development

¹⁷ "Administration of Zhabei District." Accessed February 4, 2014. <http://en.shzb.gov.cn/about4.asp>.

of Zhabei was closely connected with commerce and transportation, and with the flow and accumulation of resources, capital and human resources. Therefore, the development history of Zhabei was inevitably deeply steeped in the culture related to transportation, the anti-Japanese war, and commerce."¹⁸

¹⁸ "Administration of Zhabei District." Accessed February 4, 2014. <http://en.shzb.gov.cn/about1.asp>.

Fig 1.8 (Above)
Map showing land values prior to the war in 1926.
Fig 1.9 (Below)
Map showing land values near the end of the war in 1944. Note Zhabei's consistently lower values as compared to the rest of the downtown core below Suzhou Creek.



Zhabei District: Transportation

Zhabei's initial economic success (prior Second Sino-Japanese War) was due to its accessibility via roads, waterways, and rail. Zhabei was the home of Shanghai's first railway station and served very much as a gateway to the city. This was one of the reasons why Zhabei was strategically important to the Battle of Shanghai¹⁹. Zhabei had Shanghai's only railway station up until 2006 when a second one was built. Zhabei also has 10 waterways (excluding Suzhou Creek) that cover a distance of 24.4 km. It is a well-connected district with good potential to be incorporated into the downtown core. The main waterway's boat tours of the river bring additional tourist exposure to this edifice. It is accessible by nearby subway stops, major arterials, and is in close proximity to the downtown core²⁰.

The bridges surrounding Sihang

¹⁹ Christian Henriot, "A Neighbourhood under Storm Zhabei and Shanghai Wars," *European Journal of East Asian Studies* 9, no. 2 (2010): 305.

²⁰ "Suzhou Creek Boat Tours - Lonely Planet," accessed March 12, 2014, <http://www.lonelyplanet.com/china/shanghai/activities/small-group-tours/suzhou-creek-boat-tours>.

warehouse connect Zhabei district to the most central and expensive districts in Shanghai: Jing'an and Huangpu. The proximity to the downtown core furthermore increases public access to this region of the city, allowing for faster development and greater connectivity to the cultural hub located just a 12 minute walk south. The permeability between the south and north parts of this region suggest a possibility of future financial equality between the two regions.

Fig. 1.10
Map highlighting nearest subway stops, train station, river, waterways, and bridges.



Sihang Warehouse: Building Info

Sihang Warehouse is a six-storey building (with an additional seventh floor built in a provisional manner after the war and never torn down) built in 1931 and designed by Laszlo Hudec. The first three floors contain an assortment of small shops²¹ consolidated into what is known as the Stationery and Gift Mall. Offices are on the upper floors. The Sihang Battle Museum occupies the temporary seventh floor.

The warehouse is located in Zhabei District on the North bank of Suzhou Creek with unobstructed views of the creek. It is in a mainly residential/commercial neighbourhood at 1 Guangfu Road, Zhabei District, Shanghai (上海, 闸北区, 光复路1号). Its closest major road is North Tibet Road, a raised road on the east side of Sihang Warehouse, that splits off and lowers to the ground level of the warehouse providing automotive accessibility to the building. The building is accessible on three

sides (North, East, and South) by Guoqing Road, North Tibet Road, and Guangfu Road (respectively). The building can be also be accessed via riverside pedestrian walkways, buses, riverboat, and subway.

Sihang Warehouse is twenty-six meters tall with an approximate floor to floor height of four meters. The gross building area excluding the seventh floor is 27,834 sm (299,603 sf) or 4639 sm (49,934 sf) per floor.

Official renovation of this building began on July, 2013 (as part of the Zhabei new financial district plan)²².

²² "Administration of Zhabei District: Renovation on Historical Sihang Warehouse Kicks off," accessed March 12, 2014, http://en.shzb.gov.cn/news_detail.asp?id=966.

Fig. 1.11
Laszlo Hudec (1893-1958)
Fig 1.12
Diagram showing basic Sihang site info and measurements.

²¹ Administration of Zhabei District. "Suzhou Creek Warehouses Turned into Offices, Shops." Zhabei District News. February 3, 2014. http://en.shzb.gov.cn/news_detail.asp?id=1089.



*Walking at a speed of 3.5 km/hr

Sihang Warehouse: Nearby Landmarks (Walking Distances)

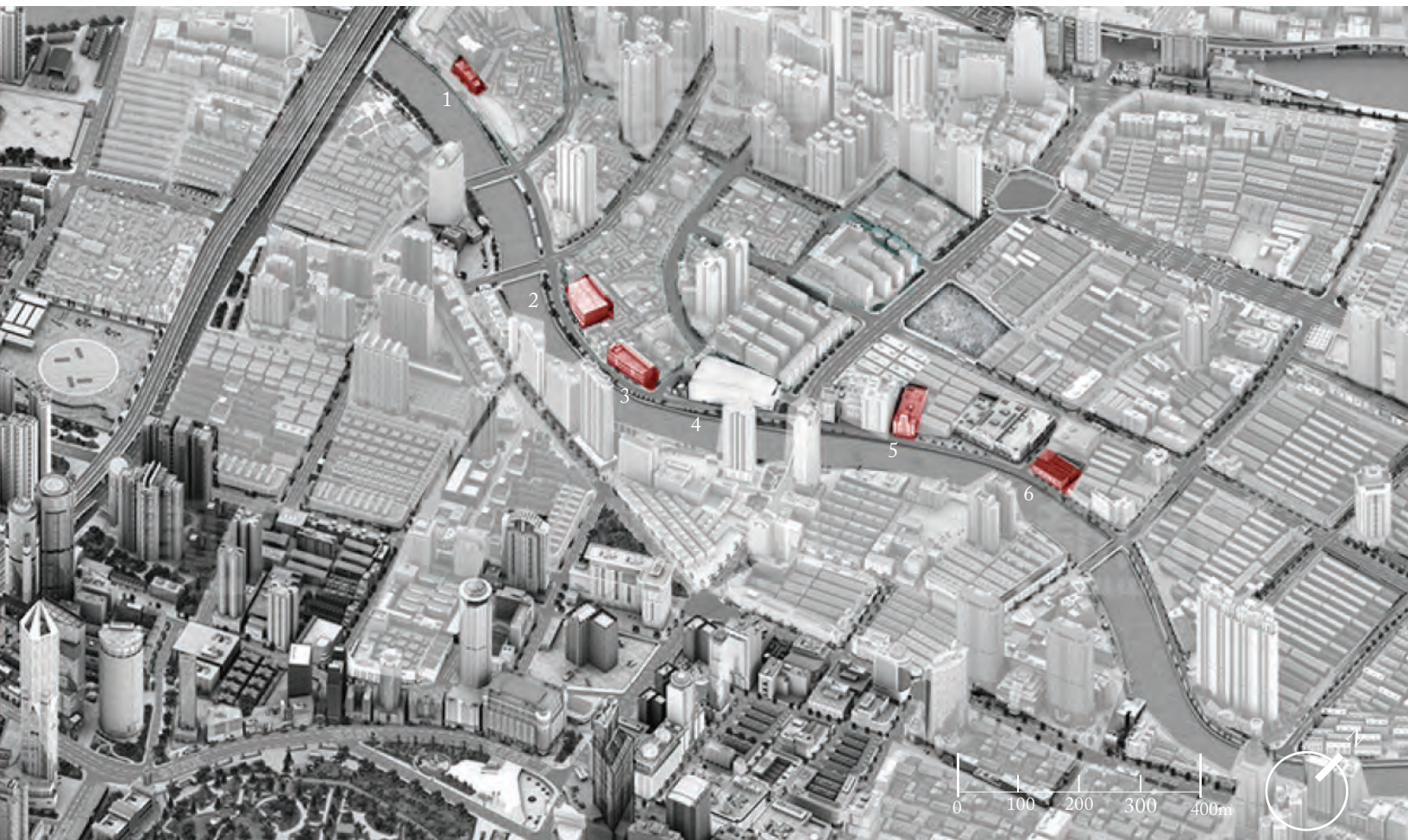
Sihang Warehouse is close to Shanghai's most visited museums, galleries, and centres of commerce. To the west of Sihang Warehouse are the blossoming arts districts including the Creative Park nearby and 50 Moganshan upriver. Shanghai's biggest tourist attraction, the Bund, is a thirty seven minute riverside walk eastward. People's Square, another major tourist attraction and center of commerce, is a twelve minute walk south of Sihang Warehouse. The proximity of Sihang Warehouse to People's Square is significant because People's Square is at the heart of Shanghai's expansive subway system. It is a common meeting place, a popular park, a shopping destination, the locum of Shanghai's municipal government, and Shanghai's largest cultural hub. As a cultural hub, People's Square contains the Urban Planning Exhibition Centre, Shanghai Museum, Shanghai Art Museum, Shanghai Grand Theatre, and the Museum of Contemporary Art.

A possible strategy for Sihang

Warehouse is to consider a culture-building program. Sihang Warehouse is surrounded by places of culture, as a result, its location lends itself well to a similar program. Furthermore, the building itself, due to its historical significance, is an appropriate choice for a museum site.

As a monument and war museum, the re-envisioned Sihang Warehouse would fit in well among the other cultural landmarks nearby. In a city that has few maintained older cultural buildings, Sihang Warehouse could be a welcome addition to help cement Shanghai's wartime memory.

Fig. 1.13
Map around Sihang Warehouse showing walking distances to nearest landmarks.



Sihang Warehouse: Nearby Architectural Cousins

Few other historic warehouses north of Suzhou Creek have survived the war. These warehouses, re-purposed from their original use as bank storage warehouses, mills, and factories, now serve as restaurants, stores, offices, and apartments. The “Creativity Park” located in the original warehouse for Bank of Communications (see building “2” on opposite page) is currently serving as a loci for creative offices, containing advertising, architectural and other design firms as its tenants. In recent years, creative and cultural industries have been welcome in Shanghai, starting in 1998 when Taiwanese architect Teng Kun Yan moved into No.1305 on the south bank of Suzhou Creek and started the ‘art warehouse’ movement²³.

Fig. 1.14, 1.15, 1.16 (Top left to right)
Images of historic warehouses along Suzhou Creek:
Fu'Xin Flour Mill, original warehouse for Bank Of Communications (currently Creativity Park), Original warehouse for Fu Yuan Bank.

Fig. 1.17 (Center)
Map showing locations of other historic warehouses along the north shore of Suzhou Creek.

1.18, 1.19, 1.20 (Bottom left to right)
Images of historic warehouses along Suzhou Creek:
Sihang Warehouse, Original warehouse for national industrial bank of china, Former Warehouses & Yihe Packing Factory, Restored in 2012.

²³ Xin Gu, “The Art of Re-Industrialisation in Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 193–211.P197.



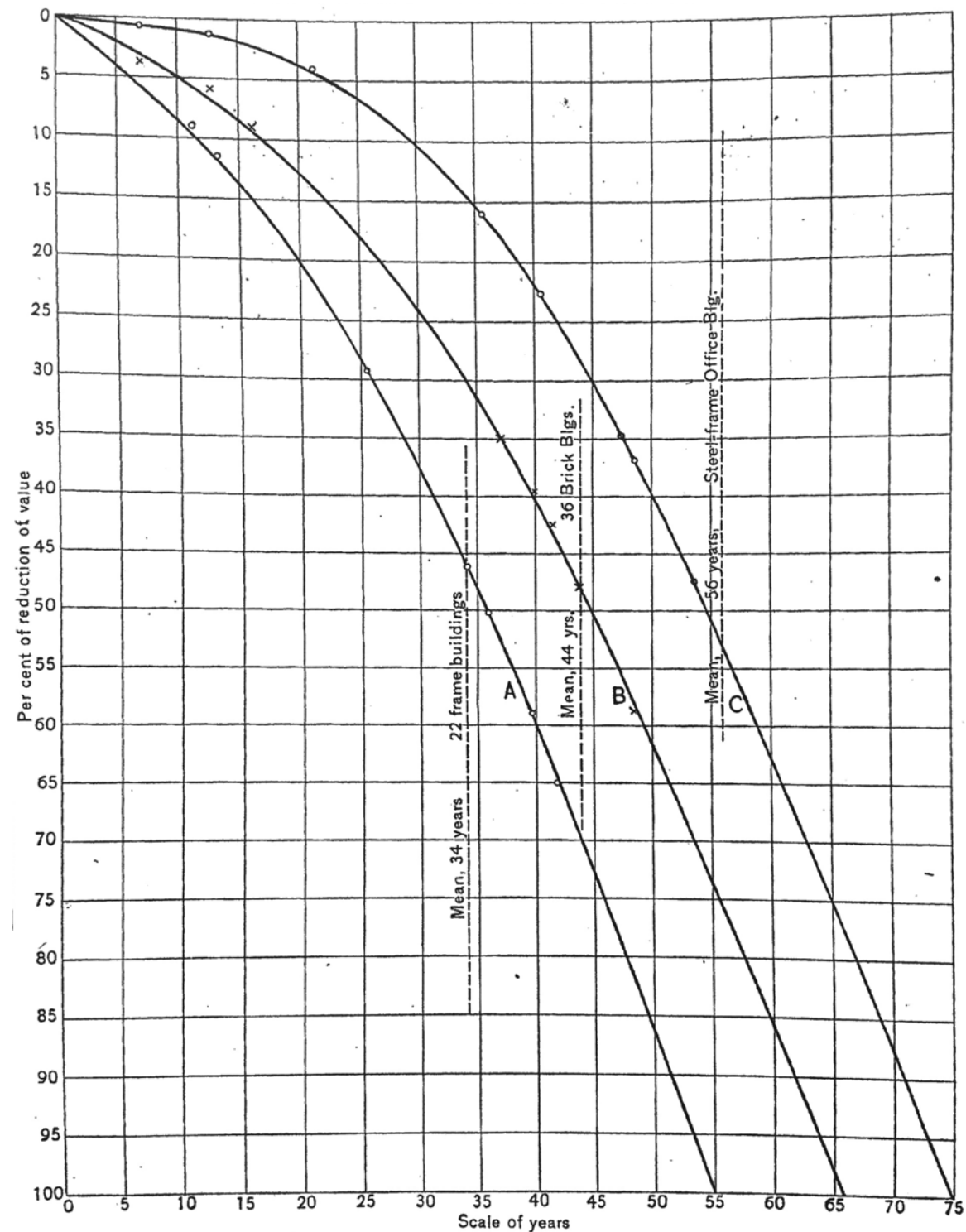
Sihang Warehouse: Nearby Buildings

The area in Sihang's immediate context is bustling with commercial and residential activity. Goods are transported via tricycle trailers in towering stacked boxes, stores extend their merchandise out onto the sidewalk, and wet, clean laundry, hangs from all available structures.

The buildings nearby are generally taller than the once towering six-storey Sihang Warehouse. The edifices in Zhabei surrounding the Sihang Warehouse have almost all been built after the Shanghai Battle of 1937. The government originally pledged to fund reconstruction of Zhabei, however, eventually decided to allow private enterprises to rebuild, tax-free²⁴.

Fig. 1.21
Nearby architecture.

²⁴ Peter Harmsen, *Shanghai 1937: Stalingrad on the Yangtze* (UK: Casemate Publishers and Books Distributors, 2013).



Sihang Warehouse: In Economic Context (Materials & Value)

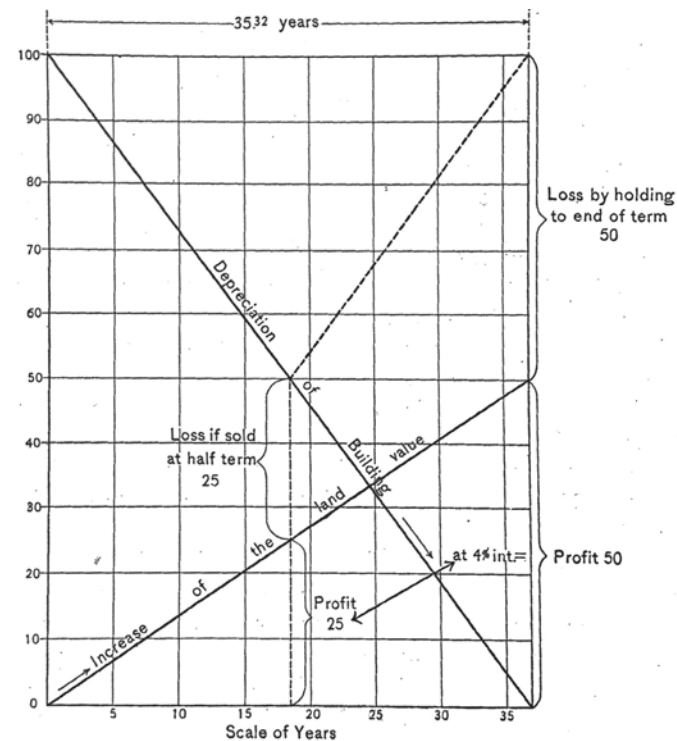
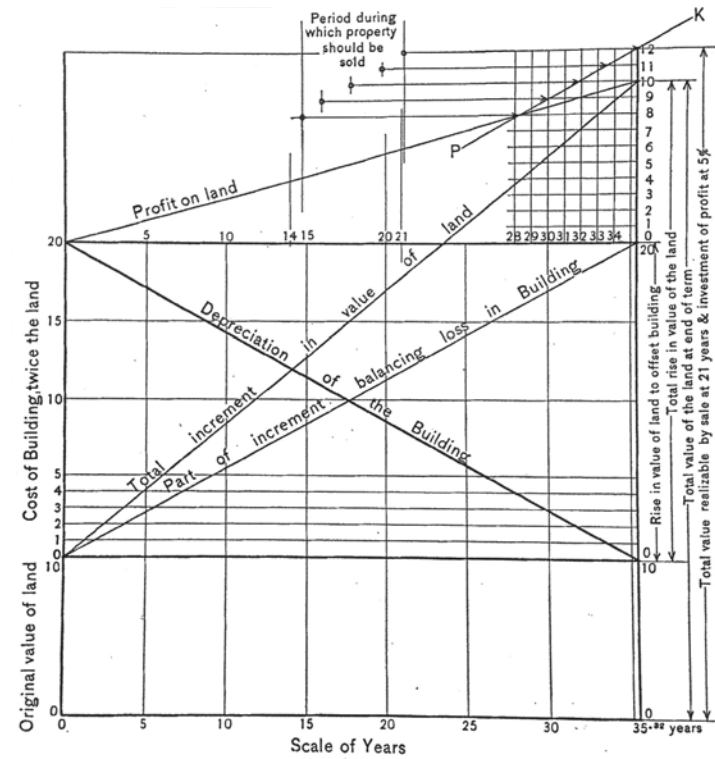
In order to consider Sihang's feasibility as a long-standing structure in Shanghai, economic concerns must be addressed. The reason for this is because if this building remains profitable when its use changes, there is a higher chance that the building's place in modern Shanghai will not be questioned.

The current value of Sihang Warehouse is partially correlated with the durability of the materials used in the construction of the edifice. It is a concrete structure and as such has a low inherent loss of value over time as a building ages. Any loss of material value sustained during the Second Sino-Japanese War, could potentially be recovered by the building's historical assets.

Years	Materials	Relative to 45ys. 55ys. Percent.	
		45ys.	55ys.
45-55	Masonry	100	100
45	Exterior brickwork	100	82
44	Brick flues	99	80
41	Lumber framing	90	75
39	Studding	86	70
33	Mill-work	73	60
33	Sheathing	73	60
27	Exterior woodwork	60	49
13	Shingles	30	24

Years	Materials	Relative to 45ys. 55ys. Percent.	
		45ys.	55ys.
25	Floors and stairs	55	45
30	Hard-wood trim	66	54
33	Plastering	73	60
20	Hardware	44	36
30	Tinwork	66	54
20	Exterior ironwork	44	36
6	Exterior paint	13	11
9	Decorat'n and varnish	20	17
18	Fixtures	40	34

Fig. 1.22 (Opposite)
 Reduction of value of a building depending on construction material. Showing that the value of buildings made of (wood) frame, brick, and steel frame is reduced to zero after approximately 75 years. Also, steel frame buildings out perform the other two construction methods in terms of maintaining their value.
 Fig 1.23 (Above top)
 A comprehensive list of material durability, exterior (left) and interior (Above bottom).



Sihang Warehouse: In Economic Context (Land Value)

In addition to materiality and age of a building, the land values are an important deciding factor when deciding what to do with a property. Land values tend to appreciate in value while the buildings on the property tend to depreciate in value.

Before the war, in 1926, a square meter of Zhabei land had a value of approximately 22.7RMB (\$4CDN) (Calculated as a mu, ~0.1647 Acres, or 666.5 square meters had a value of 1900 Tls or 76 kg of silver or \$2,680, 1926 silver value estimated at \$0.60CDN/ounce)^{25,26,27}. Thus, before the war, the site where Sihang Warehouse was located was worth about 105,305 RMB (\$18,560CDN).

Current prices range from 22,000RMB (\$3,877CDN) per square meter

for large parcels of land (96,400 square meters) to 38,000RMB (\$6,700CDN) per square meter²⁸ for smaller parcels (177 square meters).²⁹ At these prices, the land where Sihang Warehouse is currently valued (assuming 30,000RMB/sm or \$ 5287.41 CDN/sm) at 139,170,000RMB (about \$25M CDN).

Its land worth of \$25M CDN makes the site a very attractive one to sell should the building fail to profit or if political motivations change.

28 “Zhabei Residential Land Goes for Whopping 10b Yuan, City’s Second-Highest Ever | Shanghai Daily,” accessed March 12, 2014, <http://www.shanghaidaily.com/Business/real-estate/Zhabei-residential-land-goes-for-whopping-10b-yuan-citys-secondhighest-ever/shdaily.shtml>.

29 “Zhabei Land Is Saled at Auction with RMB 4,70,00,00,000,” accessed February 14, 2014, <http://www.intershanghai.com/blog/blogview.html?id=347>.

Fig. 1.24 “Showing the effect of a gain in land value in excess of the depreciation of the building, when a greater return is secured by realizing profit before the end of the term of existence.” (Bolton)

Fig. 1.25 “Gain on land less than loss on building. Loss reduced by sale prior to end of term.” (Bolton)

25 Kai Chan, *Business Expansion and Structural Change in Pre-War China: Liu Hongsheng and His Enterprises, 1920-1937* (Business, Innovation, and Society in Asia) (Hong Kong: Hong Kong University Press, 2006): 35.

26 “Gold Price in Cad, Silver Price in Cad and Charts in Cad - Live Market Prices,” accessed February 14, 2014, http://www.24hgold.com/english/gold_silver_prices_charts.aspx?money=cad.

27 Dickson Leavens, “The Postwar Decline in the Price of Silver, 1920-1933,” in *Silver Money* (Indiana: Principia Press, 1939), 432.

Sihang Warehouse: Economic Value Calculations

In order to calculate Sihang's value in its current economic context we will consider its value based on the amount of dollars we can receive as rental income. This is significant because loss of rental income could provide economical instability that could make it easier for the owner to later choose to revert all of Sihang Warehouse's new program to office and store rental units. To revert the program all back to rental units would have the undesirable effect of potentially erasing a part of history.

Current rent in Sihang is 2RMB/sm/day plus additional 15RMB/sm/month management fees.

Approximate Total= 75 RMB/sm

US Dollar conversion = \$1.5933 (1RMB = \$0.1633)

Total floor area = 4639 sm x 6 floors = 27834 sm

Net rentable flood area = 4300 x 6 floors = 25800 sm

Monthly Rental Income Calculation:

Rentable Area x Monthly Rent Fee = Income

25800 sm x 75RMB = 1,935,000 RMB (~\$342,983 CDN)

According to this calculation, Sihang Warehouse makes an income of approximately 4.1 million (CDN) dollars a year or 16% of its current land value of 25M. If this income drops the site may become more vulnerable to be sold due to its increasing land value. This is something that will have to be kept in mind when choosing the new program and design for Sihang Warehouse.

Fig. 1.26
Relationship between site and building for land value calculations.

Chapter Conclusion

From the maps and economic calculations presented, it is notable that Zhabei was a district that developed rapidly until its destruction during the Shanghai Battle in 1937. While Suzhou Creek bisects the downtown core at People's Square and Zhabei District, Zhabei District, via roads and various means of public transport, is very accessible. The southern part of Zhabei District where Sihang Warehouse is located is especially attractive as an investment site because it is so close to the train station, major subway stops, and a bridge connecting to People's Square. This permeability to the downtown adds significant economic value to the land on which Sihang stands.

With new district development plans underway and the neighbourhood slated for gentrification, it is imperative to establish value in Sihang Warehouse aside from its rental income. In the following chapter, the history of the building will be explored, positioning the building's story,

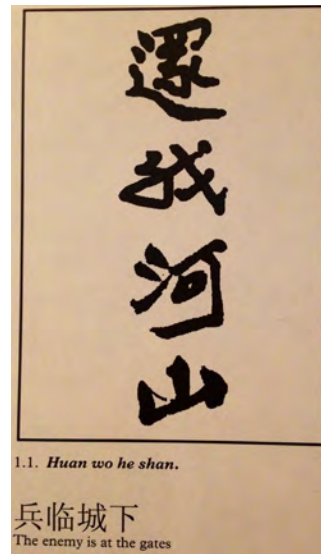
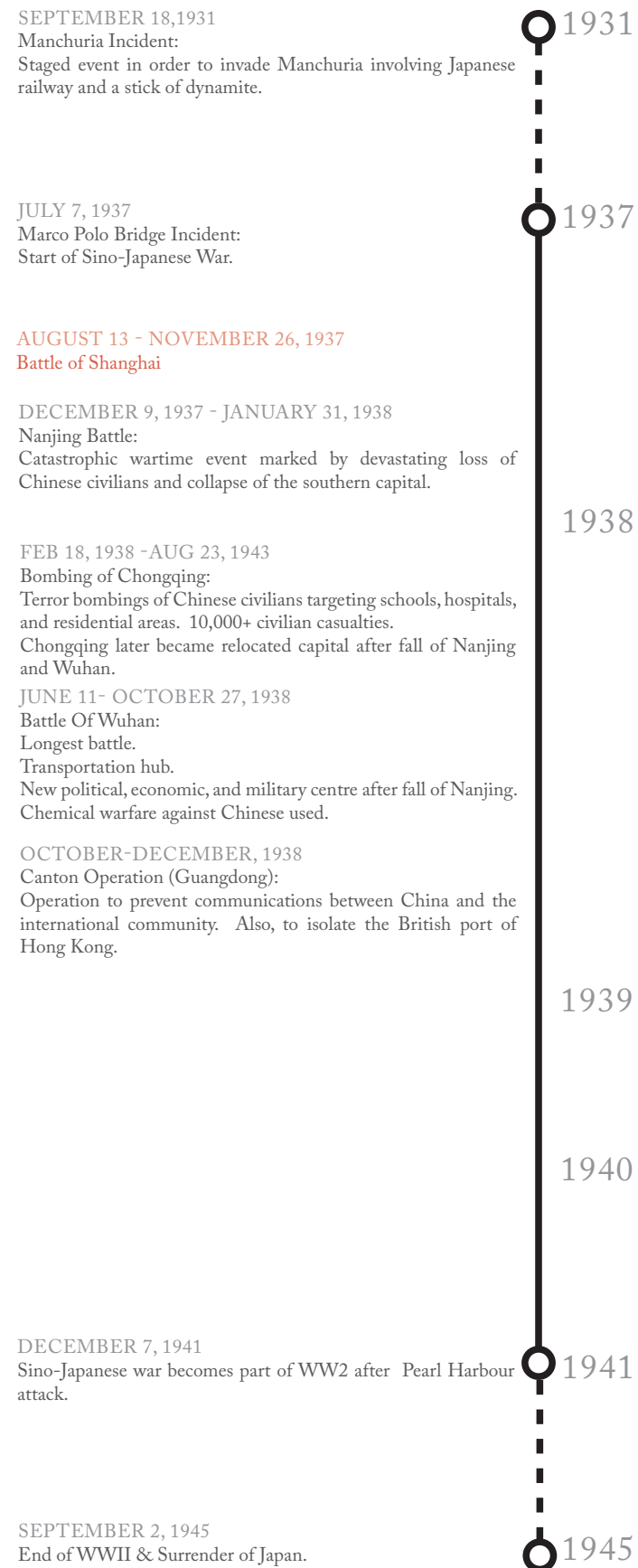
its contribution to Shanghai's cultural narrative, as the true currency of value.

2 CHRONOLOGY OF EVENTS

Introduction

While its future is certainly highly dependent on the economics of the city along with the city's development plan, the cultural value of Sihang Warehouse rests in its ability to tell the story of the Sihang Battle that took place there and the story of the Chinese people during WWII. In this way it can contribute to the identity of the Chinese people.

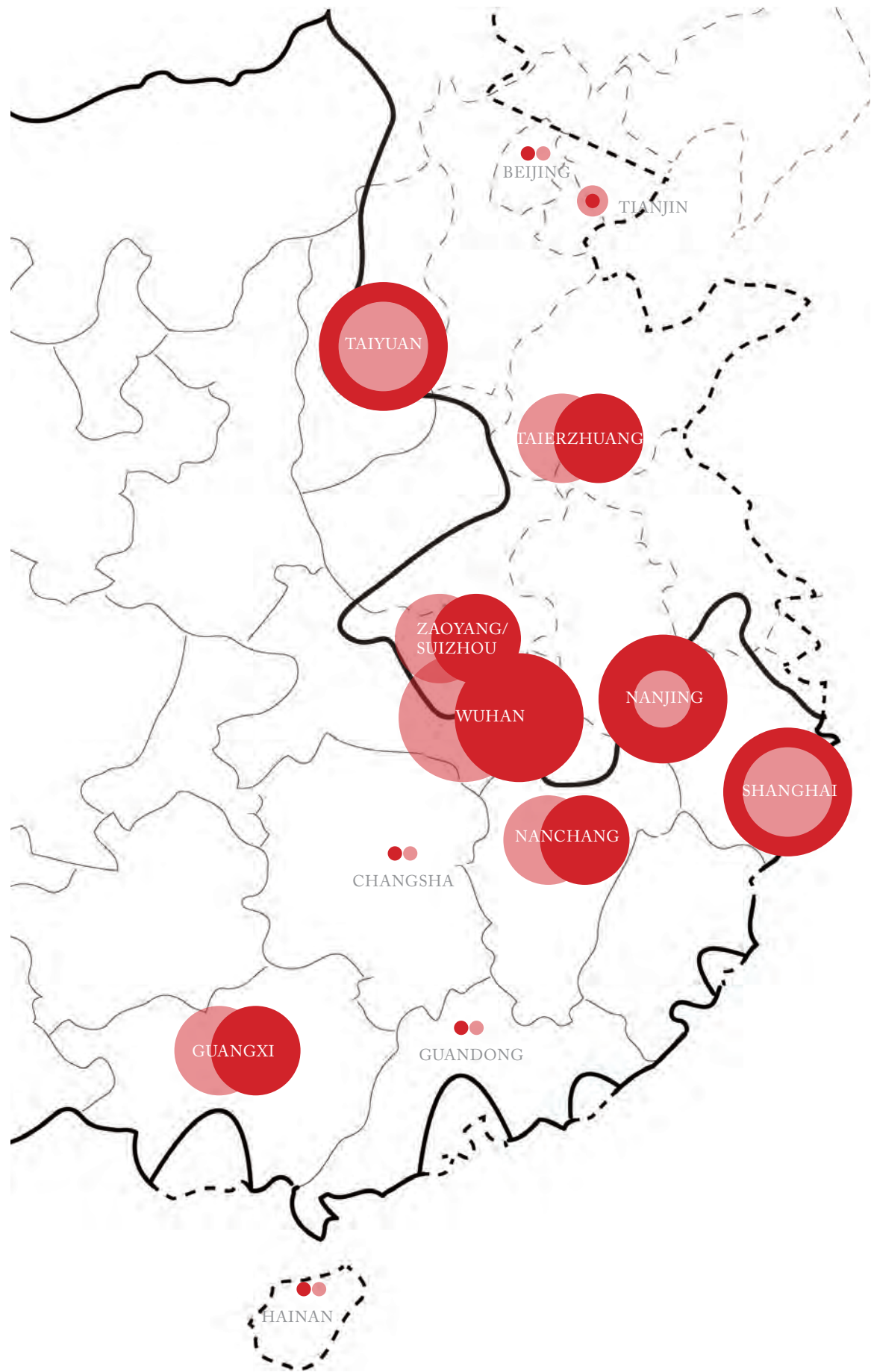
In this chapter, Sihang Warehouse's story will be told on a continuous timeline, within the context of the Sino-Japanese War (and WWII) and the Shanghai Battle. Much like the first chapter, this chapter will become progressively specific in location to show the warehouse and its battle in context of the greater war.



Second Sino-Japanese War Timeline

The Second Sino-Japanese War, in which Sihang Warehouse was involved, was fought in two parts. The first breakout of war was in 1931 and was mostly contained to northeastern Manchuria. The second part became widespread, engulfing China's Eastern Coastline from North to South and Westward. War developed as a result of Japan's imperialist policy that aimed to dominate China and thus secure its vast material and human resources. The Sino-Japanese War continued until 1941, when Japan attacked Pearl Harbour, at which point the war became a part of World War II/Pacific War. Chemical warfare, biological weapons, fear induction through the strategic bombings of hospitals, schools, and residential areas, as well as the rape of Nanjing made the Second Sino-Japanese War one of the most brutal, bloody, and dirty wars of last century.

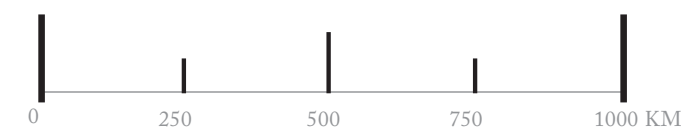
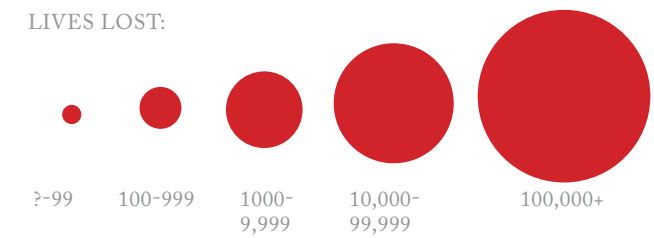
Fig. 2.1 (Top)
Calligraphy pertaining to the Second Sino-Japanese War.
Fig. 2.2 (Bottom)
Commander-in-chief of the China Expeditionary Army Yasuji Okamura presenting the Japanese Instrument of Surrender to general He Yingqin at Nanjing on 9 September 1945.



Sino-Japanese War Casualties 1937-1939

This chart shows the loss of life for both Japanese and Chinese troops. Note the tremendous loss of life on both sides. For more detailed information see Appendix: 1937-1939 Casualties Chart.

LIVES LOST:



CHINA: ●
JAPAN: ●

Fig 2.3 Table showing battles, their locations, loss of territory, and loss of life.

AUGUST 9, 1937

Oyama Incident:

First Lt. Oyama Isao of the Japanese Naval Special Landing Forces attempts to enter Hongqiao Airport in Shanghai. Forbidden under 1932 ceasefire between the Japanese and Chinese.

AUGUST 13, 1937

10,000+ Japanese troops enter Shanghai suburbs. Engagements break out in Zhabei, Wusong, and Jiangwan districts.

AUGUST 13 TO AUGUST 22, 1937

Shanghai Battle Stage 1:

Chinese army attempted to eradicate Japanese troop presence in downtown Shanghai.

AUGUST 23 TO OCTOBER 26, 1937

Shanghai Battle Stage 2:

Japanese launch amphibious landings at Jiangsu coast. Japanese attempt to gain control of the city and the surrounding regions.

OCTOBER 26 – NOVEMBER 1, 1937

Battle at Sihang Warehouse

OCTOBER 27 TO 26 NOVEMBER, 1937

Shanghai Battle Stage 3:

Retreat of the Chinese army in the face of Japanese flanking maneuvers, and the ensuing combat on the road to China's capital, Nanjing.

NOVEMBER 8, 1937

Generalissimo Chiang Kai-shek issues general retreat order for Chinese troops in Shanghai.

August 1937

September 1937

October 1937

November 1937

December 1937

Battle Of Shanghai Timeline

In order to understand the context of Sihang Warehouse, in light of the Sino-Japanese war, it must first be seen through the lens of the Battle for Shanghai.

One of the most decisive factors of this battle were the differences in military strength (armor, mobility, logistic capability, number and training of troops) between the Japanese Imperial Army and Chinese Nationalist Army. In the Battle of Shanghai the Japanese had 8 divisions and 6 brigades (total of 300,000 troops) while the Chinese had 75 divisions and 9 brigades (total of 600,000 troops). While this may seem like a clear advantage for the Chinese, the Japanese had trained troops with first-class weaponry, while the Chinese forces were made up of untrained farmers and peasants using rudimentary technology. A Japanese division had 24 tanks, 266 trucks, 555 horse-drawn vehicles, a Chinese division had none of these resources. Thus, China had 1/4 the firepower of Japan.¹

¹ Hsi-Sheng Ch'i. Nationalist China at War. Michigan: University of Michigan Press, 1982: 48.

Japanese commanders were described as highly incensed by the British army's rôle in enabling about 400 of the "suicide battalion" to reach the safety of an internment camp in the settlement in the face

Lost Battalion Clings 36 Hours To Last Shanghai Stronghold
250 of 'Chiang's Own' Survive Attack on Warehouse by 40,000 Japanese; Refuse Aid, Determined to Die.
By the United Press.
Shanghai, (Friday) Oct. 29.—Japanese battered vainly today with field guns and aerial bombs in an effort to blast a "doomed battalion" of Chinese from a lone warehouse in the heart of Chapel, but after 36 hours of incessant attack the blue-and-white flag of the Chinese Republic still

A Chinese "dare-to-die" detachment of from 200 to 300 men remained in Chapel, directly across from the sector patrolled by United States marines, to resist the Japanese to the last bullet. The Chinese lieu-

By the Associated Press.
The Washington Post (1923-1954): Oct 31, 1937;
ProQuest Historical Newspapers: The Washington Post (1877-199): pg. 1

Citadel Fired, Lost Battalion Escapes Into British Zone
Flees Through Hail of Japanese Shells at Chiang's Order.
Flag of Rising Sun Raised on Godown

Japanese Navy Gives 'Lone Battalion' Until Today To Surrender

(Pictures on back page.)
SHANGHAI, Oct. 28 [Thursday].— (AP) — Shanghai's defenders fought today with their backs to the Szechow creek on the border of the international settlement.

Sihang Battle: Strategy

October 27th, 1937, marked the beginning of the six-day Battle at Sihang Warehouse. Sihang Warehouse was chosen because of its proximity to the international settlement. Proximity to the international settlement provided two major benefits for the Chinese. The first benefit was that the Japanese had to be very careful when attacking the warehouse as to not cause any damage to the international settlement. Thus, this area was relieved of poison gas and aerial bombing strategies employed in other areas of Shanghai. This location was also advantageous because it allowed the international settlement a view of the battle previously unseen by the west. This sectional view of the battle made possible by the Sihang Warehouse's location on Suzhou Creek solidified a comradery between the Chinese and the British and Americans. This strengthened relationship was of immediate benefit to the Chinese fighting in Shanghai, as civilians of international settlement helped the Chinese track Japanese troop

movement, would supply some provisions, and, at the end of battle, the British General arranged to shelter the Chinese troops.

The tall, resilient structure of Sihang Warehouse was also of strategic advantage. The provided the Chinese troops a view of the Japanese troop and artillery movement. The building, further reinforced by bags of sand and provisions, was able to withstand attempts to burn the building as well as heavy artillery fire.

Outnumbered and under-equipped, the so-called "Suicide Battalion" (by the Japanese) or "Lost Battalion" (by the West, see newspaper headlines) was Shanghai's last hope at resisting the Japanese onslaught.

Fig. 2.4
1937 Newspaper Headlines

The Generalissimo, Chiang Kai-Shek, was not present, but his consult and strategy was obeyed by the generals present. This strategy aimed at pushing the Japanese forces westward from the southern banks of Suzhou River, thereby allowing for the evacuation of troops and civilians from the nearly surrounded city centre. By using the towering Sihang warehouse as a base, General Xie (the General in charge of this operation) hoped to apply the chief national strategy used for the entire war: “the strategy of trading space for time” (以空間換取時間 / Yǐ kōngjiān huànqǔ shíjiān)². This strategy was consistent with the military strategies recommended by Chinese military general, strategist, and philosopher Lao Tzu (~ 6th century BCE) who wrote, in his famous book *The Art of War*, “speed is the essence of war”. The tactical advantage of this strategy is echoed centuries later by Napoleon, who, once expressed that “precision, and rapidity of movement, are the principal essentials to success [in war]”³ and described the strength of the army as mass multiplied by speed. Modern French cultural theorist and urbanist, Paul Virilio (1932-present), expands on this with his coining of dromology, the key concept in his books

2 Miwa, Kimitada I., “The Chinese Communists’ Role in the Spread of the Marco Polo Bridge Incident into a Full-Scale War,” *Monumenta Nipponica* 18, no. 1/4 (1963): 313–328. P326.

3 Napoleon’s *Maxims of War*. *The Officer’s Manual*. (New York: James Gregory, 1861): 145.

Speed and Politics (1977) and *Pure War* (1997). Explained as speed-dominated military gain achieved through the facilitation of rapid transport and communications. In contrast to the Chinese National strategy of buying time, the Japanese, were dromomaniacs pushing their troops forward at great speed by using all available technology⁴, most of which was not available to the Chinese. Virilio adds that “in fact, without the violence of speed, that of weapons would not be so fearsome... to disarm would mean first and foremost to decelerate, to defuse the race toward the end”⁵. Following the theory of these prominent military strategists, if “to win is to advance” then to lose would be to slow or retreat. This relationship is something the Japanese were acutely aware of as they started their three-month blitzkrieg in China (the amount of time the Japanese estimated it would take to defeat China)⁶.

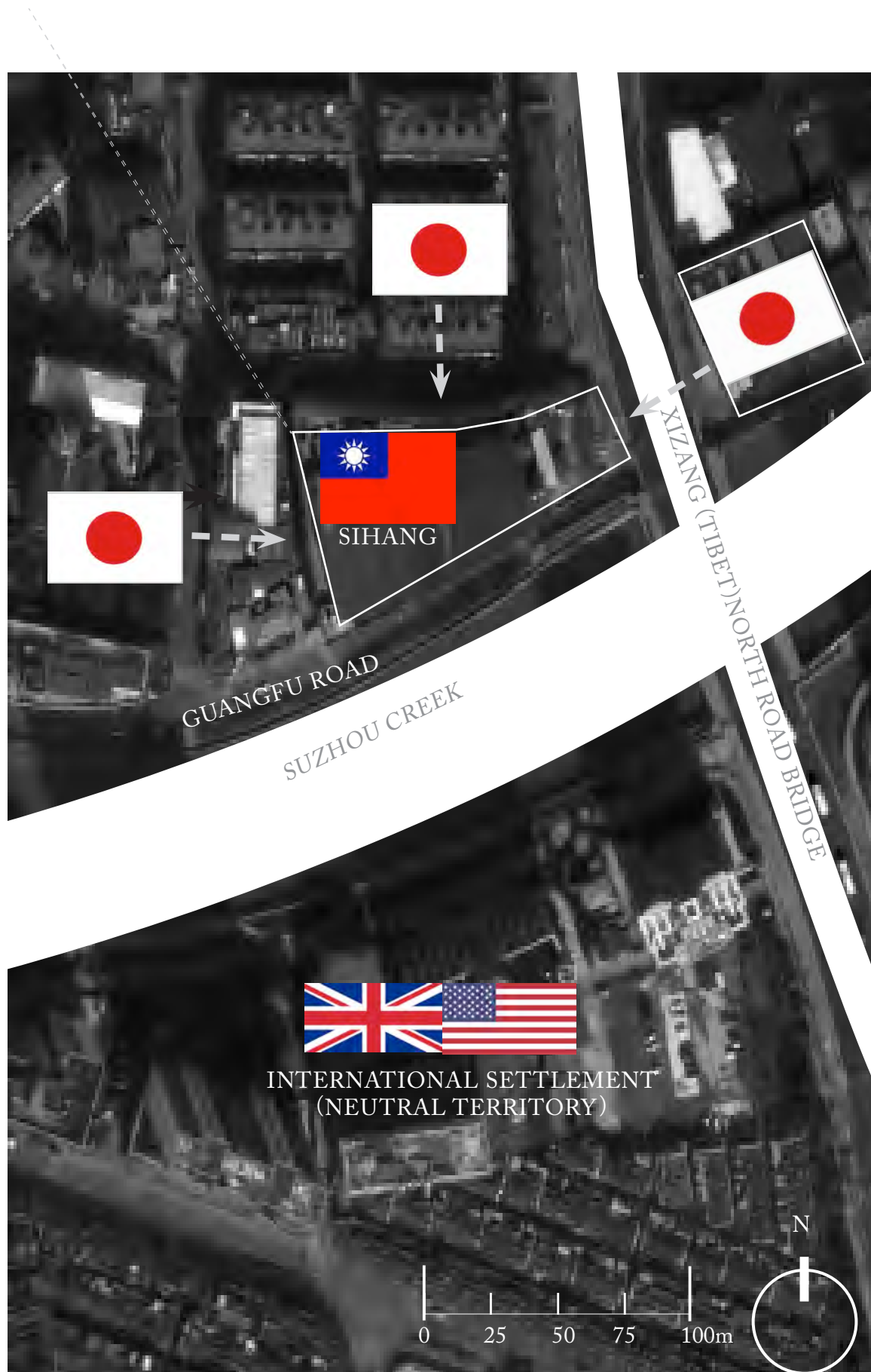
For the Chinese, the Battle of Sihang warehouse was not considered an official military victory, as even before the battle ended on November 1st, the Japanese had already advanced past the area where the battle took place and infiltrated south of Suzhou Creek. However, it was considered

4 Paul Virilio, *Speed and Politics* (Los Angeles: Semiotext(e), 2006). P47

5 Paul Virilio, *Speed and Politics* (Los Angeles: Semiotext(e), 2006). P153

6 Lu Pan, “The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 136

a great moral victory. In slowing the Japanese Imperial Army advance, the extra time gave the rest of Shanghai’s troops time to evacuate downtown Shanghai, saving potentially thousands of lives. The strategic position, height, and resilience of the Sihang warehouse allowed the troops a significant advantage over the Japanese despite disadvantages in number of men and technology.



Sihang Battle: Battle Plan

“During the Second Sino-Japanese War’s Battle for Shanghai in 1937, 414 Chinese survivors of the National Revolutionary Army’s 800-man 1st Battalion, 554th Regiment, holed up in a warehouse to cover their division’s retreat on October 26. After beating back repeated assaults for six days, the 376 survivors slipped away and were interned in the foreign-held section of Shanghai. They fell into Japanese hands in 1941; only about 100 of them survived the war.”

Duane Schultz, “American Samurai: As the Men of the Lost Battalion Fought for Their Lives, a Gutsy Group of Japanese American GIs Fought to Save Them,” *World War II* 26, no. 4 (December 2011): 60–69.

Sihang Warehouse was a location chosen strategically for its proximity to the International Settlement, a waterway that prevented attack from the south, and the bridge to the East. The proximity to the International Settlement made the site more difficult to attack as the Japanese had to prevent damage from occurring on the south side of Suzhou Creek.



Fig. 2.5 (Opposite left)
Location of Sihang Battle in terms of military surroundings.

Fig. 2.6 (Above)
Sectional diagram showing the thickness of the grain-bag/sand-bag reinforced walls of Sihang Warehouse.



Sihang Battle: Story Overview and Key Players

The key elements of the story of Sihang are the bringing and hoisting of the flag as a symbol of Chinese resistance to the Japanese invasion, the resolve of the Nationalist soldiers to defend Shanghai to the last person standing, the comradery that forms between the Westerners (mostly British and American) and the Chinese, and Sihang Warehouse's role in delaying the onslaught of Japanese Imperial forces.

The characters of this battle are stoic, iconic, and borderline cliché. A girl scout, Yang Huimin, learns of the battle at Sihang Warehouse and becomes instrumental in the resulting moral victory. She convinces municipal officials of the battle's existence so that the embattled troops receive much needed supplies, then risks her life to bring a four meter Chinese Nationalist flag to the warehouse. The hoisted flag brings hope to a demoralized nation.

The Chinese Nationalist General, Xie JinYuan, resolves to die fighting defending Shanghai. His story stands in

contrast to Japanese General Matsui who was later hanged for war crimes associated with the tragic Nanjing Battle.

The British General Telfer-Smollett helped in the Chinese withdrawal from the warehouse. He is the unforeseen friend, aiding the Chinese troops, cementing the UK as China's ally.

Finally, the hero-victims, whose heroic status lasted briefly until it was almost but erased by the new Chinese government in the civil war that took place immediately following WWII.

These characters are relatable to us, their stories familiar to us in the West despite the physical and cultural distance. It is the classic underdog story, whose memory has an uncertain ending.

Fig. 2.7 (Top left)
Yang HuiMin
Fig. 2.8 (Top right)
British General Telfer-Smollett and officers watching the battle at Sihang Warehouse.
Fig. 2.9 (Middle left)
800 Heroes.
Fig. 2.10 (Middle right)
Imperial Japanese Navy Special Naval Landing Forces.
Fig. 2.11 (Bottom left)
Chinese General Xie JinYuan.
Fig. 2.12 (Bottom right)
Japanese General Iwane Matsui.

The troops of the 524th Regiment, 88th Division of the Chinese Nationalist Army volunteer to fight at Sihang, a battle they likely knew would be a suicide mission.⁷

4AM

Girl Guide Yang Huimin learns of the battle and convinces the Shanghai Chamber of Commerce of the need for aid.⁸ The Chamber of Commerce agrees to deliver ammunition and supplies. They also procure Shanghai's largest Chinese (Nationalist) flag for her to deliver.

A killing field around the building is cleared. The building is reinforced with bags of sand, corn, and beans. Two machine guns are installed on the roof.⁹

1PM

Japanese troops reach Sihang Warehouse. First bloodshed: 10 Japanese troops are killed while trying to secure fortifications which the Chinese soldiers had rigged with explosives.¹⁰

3PM

First Japanese assault on Sihang from the West. The Chinese throw grenades on Japanese, killing 7, wounding ~20.

The Japanese set fire to the North-West section of the warehouse where fuel and wood was stored.

5PM

Fire is put out.

9PM

Meals are prepared and fortifications repaired. No one sleeps.

Death total first day of battle: 2 Chinese troops killed (4 wounded), 17 Japanese troops killed (~20 wounded).

7AM

Japanese bombers circle warehouse.

8AM

General Xie fells a Japanese soldier 1km away on Suzhou Creek.¹¹

3PM

Japanese attack West side of Sihang, use cannon on North side, causing little damage, also cut electricity and water supply.

5PM

First attack of the day ends.

NIGHT

Crowds gather to cheer on defenders (south bank of the river). 10 truckloads of donated supplies via the (Chamber of Commerce) are brought in, 4 hours of unloading, 3 troops killed by Japanese fire. 10 heavily wounded soldiers are sent via British forces to the concessions.

Yang Huimin delivers the Republic of China flag to General Xie at the Sihang Warehouse.¹²

MORNING

The 4 meter Chinese flag is hoisted. Japanese aircraft attempt to destroy flag.

Foreigners in international settlement petition to stop the battle.

NOON-END OF DAY

Japanese attack on all sides with tankettes and cannon. Damage on windowless West side now provides fire holes for the defenders. General Xie strangles and shoots two Japanese scaling the walls. A Chinese private, armed with explosives, jumps from Sihang

7 Junshan Li, *Defense of Shanghai and Nanjing* (Taipei: Mai Tian Publishing, 1997): 124.

8 Huimin Yang, "Autobiography," in *8/13 Battle of Songhu* (Shanghai: Chinese Academy of Social Sciences, 2002): 118.

9 Ruifu Yang, "The Lost Battalion's Four-Day Struggle," in *8/13 Battle of Songhu* (Shanghai: Chinese Academy of Social Sciences, 2002): 158.

10 Ruifu Yang, 158.

11 Ruifu Yang, 158.

12 Huimin Yang, 118.

October 26, 1937

October 27, 1937

October 28, 1937

October 29, 1937

Sihang Battle: Timeline

Warehouse, killing himself and 20 Japanese. Japanese dig tunnel to warehouse.

Posters in International Settlement help Chinese track Japanese troops.¹³

7AM

Japanese attack commences.

ALL DAY

All day Japanese attack Sihang with heavy artillery, approximately "one shell every second".¹⁴

DAY

Chiang gives orders for retreat. Retreat arranged with British general Telfer-Smollett.

The Japanese commander Matsui Iwane agreed to let the Chinese troops retreat then went back on his word.¹⁵

MIDNIGHT

General Xie leads retreat of 376 men out of the warehouse, over present-day Tibet Road Bridge, into the international settlement. 10 Chinese troops wounded by Japanese fire during crossing.¹⁶

2AM

Retreat is complete.

Battle for Sihang Ends in a Minor Chinese Victory (good press for Chinese, start of beneficial relationship with Western powers, and redeployment of troops to more strategic locations.)

October 30, 1937

October 31, 1937

November 1, 1937

13 Ruifu Yang, 158.

14 Ruifu Yang, 158.

15 Boting Zhang, "Recollections of the 8/13 Battle of Shanghai," in *Zhuan Ji Wen Xue*, vol. 41 (Taipei: Academia Sinica, 1965).

16 Ruifu Yang, 158.

Sihang warehouse is designed by Hungarian born architect Laszlo Hudec, built, and used as a holdings warehouse for four Chinese banks until the Sino-Japanese War.

1931

SHANGHAI BATTLE

Sihang stands while rest of Zhabei burns (Due to proximity to international settlement, Sihang was one of the last buildings to suffer damage). Sihang withstands direct assault.

October 27–November 1, 1937



Sihang is used for commercial/office purposes. (Not sure about history between war and now, most likely used for similar)

1996



Revisoning Zhabei District Call For Design Competition

Fall, 2011

Sihang area is re-envisioned and construction begins.

July, 2013



Near Future

Sihang Warehouse Timeline

The news yesterday more exciting than any for weeks. The "Doomed Battalion," 500, was ordered by the Generalissimo to evacuate their stronghold in [Zhabei], with J. gunners on three sides determined to exterminate them. They crossed [Tibet] Rd. Bridge 20 ft. wide, under withering fire from J. machine guns. At Settlement end of the bridge was the British Post. It took two hours. To intense admiration of all foreigners, they brought all their wounded and all their guns ... and all ammunition. They were disarmed, cheerfully, and taken to the Race Course, the wounded given first aid treatment by British Tommies & rushed to British Hospital.

Mary Matteson Wilbur, "An American Missionary Family in Asia," Chinese Studies in History 33, no. 1 (Fall 1999).

The physical evidence of Sihang Warehouse's wartime story is currently concealed. Its scarred walls, violently pierced by artillery fire and blackened by fire have been patched and painted grey to match the concrete just below the paint surface

from when the building was still new. In its current form and in the design proposed by firm Shanghai Sunyat Architecture Design Co., the building's wartime memory is not fully embraced. Given the importance of this building, a strategy should be in place to tell its story. One way to do this is to expose some of the damage that the building sustained. In this way, the building could immediately be identified as having been involved in a struggle.

Fig. 2.13 Sihang warehouse post-battle (1937).

Fig. 2.14 Sihang warehouse in 1996.

Fig 2.15 Present day Sihang warehouse.

Fig 2.16 Shanghai Sunyat Architecture Design Co. Proposal.



Architectural Cousins Abroad

The story of the Battle at Sihang Warehouse in Shanghai can be compared to those of the Alamo and the Stalingrad Grain Elevator. Their stories are of the few fighting against terrible odds, under grueling circumstances, on limited means, and against a far more powerful enemy. Like for those soldiers fighting at Sihang Warehouse, the architecture which they chose as their defense post was highly contributory to any success. In a sense, the buildings which they chose to fortify for war also became the heroes of their respective stories. Shielding their defenders from enemy fire, their structural integrity was tested beyond reasonable expectation.

In the case of the Stalingrad Grain Elevator, its parallels with Sihang warehouse are considerable. The Battle took place in the Second World War against an Axis enemy. The height of the hulking concrete grain elevator gave the soldiers additional strategic advantage in being able to track enemy movement from above. Neither

building was designed for war yet both slowed the movement of enemy troops long enough to make a significant impact on the battle's outcome.

Fig. 2.17 (Top)
The Alamo
Fig. 2.18 (Bottom)
Battle of Stalingrad Grain Elevator

Chapter Conclusion

The battle that took place at Sihang Warehouse was a shining moment in the otherwise gloomy story of the Chinese defense of China. A month after battle, the Japanese Imperial Troops who fought at Sihang landed in Nanjing, continuing their quest to dominate China at any cost.

Sihang Warehouse remains as one of the heroes of this story, its concrete walls withstanding cannon, artillery attack, and fire. Its size and durability was instrumental in slowing down the Japanese troops, long enough to redeploy Chinese troops where they were needed. This building is so firm in its footing, so unchanged, that it nearly feels like it has the unique ability to stop time altogether.

Designed by the most prolific and well respected architect in Asia at the time, but built as a storage warehouse, it attracted important events and historical figures to itself. Even today, after over 70 years since the battle, it stands resolute and unchanged, quietly resisting and defending itself from

the rapid changes by which it is surrounded.



3 SIGNIFICANCE

Introduction

Originally designed by the father of high-rise architecture in China, Hungarian architect Laszlo Edward Hudec, this 6-storey warehouse used to be one of Shanghai's tallest and most innovative structures. Now dwarfed by the futuristic skyline of Shanghai's glittering Pudong district, Sihang Warehouse, a hulking bunker-like concrete structure originally intended for the secure storage of Chinese Bank goods, would seem to defy the progress of time. In fact, with the complete re-envisioning of the northern bank of Suzhou Creek, where it is located, this building's formidable physical and cultural presence is in a more precarious position than ever before in history.

While the typology of the building is visibly incongruent with the city's new vision for the north bank of Suzhou creek at Sihang warehouse, its story may merit it to be a potential future site for the safekeeping and showcasing of Shanghai's historic wartime memory and within it individuals'

own stories associated with Chinese identity in the context of a rapidly expanding international metropolis. To argue for its new life as memorial space, its wartime story and its place in the complex narrative of modern Shanghai will be investigated through the lens of French cultural theorist and urbanist Paul Virilio, and Lü Pan (潘律), a lecturer at University of Hong Kong and specialist in spaces of memory in Shanghai.

Fig 3.1 (Top left)
Re-Thinking Shanghai 2012 Competition Entry
Fig 3.2 (Top right)
Re-Thinking Shanghai 2012 Competition Entry
Fig 3.3 (Middle left)
Re-Thinking Shanghai 2012 Competition Entry
Fig 3.4 (Middle right)
Re-Thinking Shanghai 2012 Competition Entry
Fig 3.5 (Bottom)
Current Design Proposal for Sihang Warehouse by Shanghai Sunyat Architecture Design Co.



The Battle

The slowing of Japanese assault was not the only success of this battle, there also was the battle's propaganda value that would later be used and the consequent boost in Chinese morale. A key moment in the war was the coordination effort to bring Shanghai's largest Chinese (Nationalist) flag across Suzhou Creek and the subsequent raising of the flag which became deeply ingrained in both Chinese and Western minds as a symbol of perseverance. After three months of near constant defeat, the raising of the flag had a huge effect of raising the morale of the city and the nation's troops, a moment of victory, in an otherwise perilous battle for the city.

The significance of this event was deepened by the visibility of the war to the British forces and other Western civilians on the south banks, introducing the story of China's heroic struggle to the rest of the world and changing China's international image into war victim. The heroic defense of Sihang was reported daily in the

New York Times and other prominent newspapers. Importantly, the firm Chinese resistance obliterated Japan's claim to be able to conquer China in three months of rapid, successive attacks.

The perseverance of the Chinese soldiers, the consequent building of a relationship with the British watching with bated breath on the other side of the river, and the bravery of Yang Huimin, the girl scout who risked her life to bring the flag to be hoisted at Sihang, was later documented and recreated into two movies. It was used as part of the nationalist propaganda machine throughout China, and later throughout Hong Kong and Taiwan. The second re-enactment of "800 Heroes" in 1977 was chosen by Taiwan as its official entry into the Foreign Film category of the Academy Awards.

Fig 3.6 (Top)
General Xie outlining the battle plans to his troops as seen in the movie "800 Heroes".

Fig 3.7 (Bottom)
Still from 1977 Taiwanese film "800 Heroes" depicting the raising of the Chinese flag atop Sihang Warehouse with Japanese fighters flying above.



“Memory is ...the ground of self identity; we are what we remember.”

Juhani Pallasmaa, “Space, Place, Memory, and Imagination: The Temporal Dimension of Existential Space,” in *Spatial Recall: Memory in Architecture and Landscape*, ed. Marc Treib (New York: Routledge, 2009), 17–41: 18.

Fig 3.8
Sihang warehouse with flag raised.



Memorials

“Taking into consideration the key role of the battle and its influence on the discourse of Chinese nationalism, one might be shocked by the current condition of Sihang Warehouse.”

- Lu Pan¹

When investigated within the narrative of commemorative architecture and memorials in Shanghai, Sihang Warehouse, a significant wartime site, reveals the broader story of commemorative spaces within the official narrative of contemporary politics and Shanghai’s capitalistic agenda. Historically, China has found it difficult to frame the story of this international city within its own national narrative. This struggle, along with major political reform following the Second World War, is reflected by the under-representation of Shanghai’s wartime history. As a result, China has failed to credit Shanghai with some significance in understanding Chinese identity². Of Shanghai’s journey

as a developing city, starting as a fishing village in 1074³ to becoming a present-day prosperous metropolis of 23 million people⁴, its place in the national narrative has become singularly tied to its revolutionary past focusing specifically on its position as the birthplace of communism and its associated labour movements, student protests, and first congress meeting of the Communist Party of China⁵. Indian-American historian Prasenjit observed that

the forced representation of history from
³ Linda Johnson, *Shanghai: from Market Town to Treaty Port, 1074-1858* (Stanford: Stanford University Press, 1995).

⁴ “Shanghai - Wikipedia, the Free Encyclopedia,” accessed November 30, 2012, <http://en.wikipedia.org/wiki/Shanghai>.

⁵ Lu Pan, “The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 127.

Fig 3.9
Sihang Warehouse Museum Interior

¹ Lu Pan, “The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 135.

² Lu Pan, 124.

800 Heroes song (translation)

China will not die, China will not die,

Look at our national hero lieutenant colonel Xie.

China will not die, China will not die,

Watch the eight hundred heroes of the lone battalion fight for every inch of land,

From four sides come the gunfire, from the four sides come the wolves,

They would rather die than retreat, they would rather die than surrender.

Amidst the sea of chaos our nation's flag flies proudly, flies proudly, flies proudly, flies proudly.

Eight hundred heroic hearts all beat as one, unstoppable to the thousands of enemies,

Our actions are mighty, our integrity heroic

Comrades, arise! Comrades, arise!

Let's answer the call to arms, and follow the example of the eight hundred heroes

China will not die, China will not die!

800 HEROES SONG

中国不会亡, 中国不会亡,

你看民族英雄谢团长。

中国不会亡, 中国不会亡,

你看那八百壮士孤军奋斗守战场,

四方都是炮火, 四方都是豺狼,

宁愿死不退让, 宁愿死不投降。

我们的国旗在重围中飘荡飘荡,

飘荡飘荡, 飘荡。

八百壮士一条心, 十万强敌不能挡,

我们的行动伟烈, 我们的气节豪壮,

同胞们起来! 同胞们起来!

快快赶上战场, 拿八百壮士做榜样。

中国不会亡, 中国不会亡,

中国不会亡, 中国不会亡!

不会亡! 不会亡! 不会亡!

a singular (communist) perspective tends to repress and forget other, simultaneously existent, narratives⁶. With the rise of the Communist party as Shanghai's main accepted contribution to Chinese history, it is clearer why Shanghai would neglect a highly symbolic Nationalist space like Sihang Warehouse.

While visibly neglected, the warehouse does not stand abandoned, in fact, its immediate surroundings are abuzz with commercial exchange, the main floor of the space is a Stationary and Gift Mall. However, as noted by Lü Pan, a lecturer at University of Hong Kong and specialist in spaces of memory in Shanghai these “flows of various commercial activities have pushed the site of memory into visual and mental oblivion.”⁷ The one space able to remind visitors of its story, its museum, is a room of less than 100 sm, located on the hard to reach temporary 7th floor and only open to the public a few hours on Friday afternoons⁸.

This marginalization of Nationalist history in Shanghai, interestingly, extends to the entire war memory of the city. As

6 Prasenjit Duara, *Rescuing History from the Nation: Questioning Narratives of Modern China* (Chicago: Chicago University Press, 1995) VIA Lu Pan, “The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 124.

7,8 Lu Pan, “The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai,” *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 121–146: 135.

Lu Pan reveals, its spatial representation is almost completely invisible:

Sites of wartime memory in Shanghai are hardly known to the public largely due to the lack of memorial space and objects. Among these are Tiantongan Road... where the first Battle of Shanghai in 1932 broke out; nine original Assembly Centers sites, Asia's “concentration camps” where westerners in Shanghai were detained during Japanese occupation; more than 140 “comfort stations”(military brothels)...; the original venue of the Oriental Library affiliated with the Commercial Press, where a large number of precious Chinese book collections were destroyed during the Japanese air raid of 1932 (where a modern vocational school now sits). None of these sites of war trauma are properly commemorated. The only large-scale commemorative venue of the Sino-Japanese War in Shanghai is Songhu Anti-Japanese War Museum, which was not completed until 2000 in a remote Linjiang Park in Baoshan District.⁹

The construction of Songhu Anti-Japanese War Museum as an addition to the Shanghai's wartime memory was a fairly recent and quiet event.

Despite its official heritage status,

9 Lu Pan, 136.
Fig 3.10
800 Heroes Song.



Fig 3.11 (Top left)
Yang Yangzheng (One of the 800 Heroes) Visits Sihang Warehouse Museum.
Fig 3.12 (Middle left)
General Xie Statue inside Sihang warehouse
Fig 3.13 (Bottom left)
Sihang Warehouse Commemorative Coin
Fig. 3.14 (Top right)
Shanghai Jewish Refugee Museum
Fig 3.15 (Middle right)
800 Heroes Board Game
Fig 3.16 (Bottom right)
Chinese Telecom Card featuring General Xie

architectural heritage, and beneficial effect on international relations with the West during the war, the selective marginalizing of the story of Sihang Warehouse is likely a conscious political decision.

In recent years the Chinese government has become more accepting of Nationalist China's achievements in the war. In 2005, with the 60th anniversary of China's victory over Japan, there was, for the first time, some media coverage of the Battle at Sihang and its veterans¹⁰. With some renewed interest, other sources of memory such as wartime relics may start to be recognized as worthy of preservation. Currently, the Conservation Unit of Cultural Relics, the country's system for the protection of important cultural legacies, has no relics related to Shanghai's contribution to the war¹¹. A lack of preservation of specific historical artifacts, like the absence of monuments and commemorative spaces, is likely driven by several political motivations.

One motivation was presented by Johnson and Forest (Professors at McGill University in Montreal), stating that "by co-opting, contesting, ignoring, or removing certain types of monuments, political elites

engage in a symbolic dialogue with each other and the public in an attempt to gain prestige, legitimacy, and influence"¹². Thus, the control of the representation of history becomes a method to gain political power. A second political motivation arises because these monuments "play a unique role in the creation of national identity... they reflect how political elites choose to represent the nation publicly"¹³. Verdery (Anthropology Professor at the City University of New York) supplements this notion, observing that these types of spaces "...have unique symbolic power because they invoke a sense of timelessness, awe, fear, and uncertainty"¹⁴. This uncertainty and ability to transcend time, bringing past events to the present, can be potentially effective at mobilizing national movements¹⁵. In light of this, it is possible that the marginalization of Sino-Japanese War/WWII history may not only be because of China's difficulty in incorporating the two political parties comfortably in its narrative, but as a strategy for maintaining political stability.

10 Fan Meijing/Shanghai Daily news, "War Hero Returns to City," May 7, 2005, <http://english.eastday.com/eastday/englishedition/node20665/node20668/node22811/node62943/node62944/userobject1ai1230447.html>.
11 Lu Pan, "The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai," *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 121-146: 133.

12 Benjamin Forest and Juliet Johnson, "Unraveling the Threads of History: Soviet-Era Monuments and Post-Soviet National Identity in Moscow," *Annals of the Association of American Geographers* 92, no. 3 (2002): 524-547: 525.
13 Benjamin Forest and Juliet Johnson, 526.
14 Katherine Verdery, *The Political Lives of Dead Bodies: Reburial and Postsocialist Change* (Columbia University Press, 1999). 23-53. VIA Lu Pan, "The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai," *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 121-146: 123.
15 Benjamin Forest and Juliet Johnson, "Unraveling the Threads of History: Soviet-Era Monuments and Post-Soviet National Identity in Moscow," *Annals of the Association of American Geographers* 92, no. 3 (2002): 524-547: 526.

Economics

Although the Chinese government is reluctant to emphasize the importance of Sihang Warehouse in order to maintain party hegemony, they are supportive of commemorating other historic events and edifices from the WWII era. Which nationalities' histories within the context of Shanghai are remembered relates to political and economic motives. China's economic growth and urban development, maintaining foreign relations is seen as key in developing a viable capitalist system to drive progress. This may explain why the wartime buildings of other nations have been carefully preserved and integrated into the cosmopolitan image of Shanghai. For example, spaces associated with Korean and Jewish heritage, such as the Shanghai Jewish Refugees Museum (opened in 2006) and the Museum of the Former Korean Provisional Government are well preserved. Lu Pan states that "the reverse passion for the preservation of non-Chinese national sites of historical memory prompts reflection

on how the spaces of Shanghai modernity are conceived and imagined in the current political and economic context of China."¹⁶ Adding that "the salvation of urban memory has become a tool in international diplomacy rather than a mode of public participation by the people of Shanghai."¹⁷ Despite the West being seen as a threatening power¹⁸, it was still viewed as a vehicle for the development of Shanghai, prompting levels of compromise and collaboration plainly visible today in commerce.

As China has recently risen to become the world's second largest economy Shanghai's development is becoming more rapid and violent. This growth, along with political compliance, is posing a significant threat of gentrification of Sihang Warehouse, the consequent loss of its history, and with it, a piece of Chinese identity.

¹⁶ Lu Pan, "The Invisible Turn to the Future: Commemorative Culture in Contemporary Shanghai," *Culture Unbound: Journal of Current Cultural Research* 4 (2012): 121–146: 137.

¹⁷ Lu Pan, 140.

¹⁸ Lu Pan, 140.

Sino-Japanese Post-War Relations

The battles fought during the Second Sino-Japanese War were extremely brutal. Some of the atrocities that the Japanese Imperial Army committed against China included the use of chemical warfare, biological warfare, comfort women, and strategic bombings of civilians. The memory of the pain and suffering of that war is still fresh. In 2005, the approval of a new history textbook that downplayed Japan's wartime atrocities, caused the outbreak of violent protests across major cities in China. The protests led to the boycott of Japanese products, the storming of a Japanese Embassy, and the ransacking of various Japan-related businesses.¹⁹ This hostility was visible again in 2012 when a second round of violent Anti-Japanese demonstrations following the dispute over the rocky islands on the

East China Sea.^{20 21 22} Takada of confirms that "there is certainly a deep well of public hostility towards Japan that the government can tap whenever it wishes to score diplomatic points against its neighbour or distract attention from domestic problems. That much was evident at [the 2005] demonstrations, which were approved and carefully controlled by the authorities."²³ The repurposing and preservation of Sihang Warehouse, as opposed to building a new commemorative space, is to help bridge the time gap between 1937 and present-day. It is not intended to exacerbate anti-Japanese violence, but simply by using

19 Watts, Jonathan. "Violence Flares as the Chinese Rage at Japan." *The Observer*, April 17, 2005. <http://www.theguardian.com/world/2005/apr/17/china.japan>.

20 Moore, Malcolm. "China Seized by Second Day of Violent Anti-Japan Protests - Telegraph." *Telegraph*, September 16, 2012. <http://www.telegraph.co.uk/news/worldnews/asia/china/9546336/China-seized-by-second-day-of-violent-anti-japan-protests.html>.

21 Murphy, Colum. "Soul Searching in China Over Man Beaten Senseless by Anti-Japanese Protestors - China Real Time Report - WSJ." *Wall Street Journal*, September 23, 2012. <http://blogs.wsj.com/chinarealtime/2012/09/23/soul-searching-in-china-over-man-beaten-senseless-by-anti-japanese-protestors/>.

22 Takada, Kazunori, and Chris Buckley. "Japan Brandname Firms Shut China Plants after Protest Violence." *Reuters*, September 17, 2012. <http://www.reuters.com/article/2012/09/17/us-china-japan-idUSBRE88F00H20120917>.

23 Watts, Jonathan. "Violence Flares as the Chinese Rage at Japan." *The Observer*, April 17, 2005. <http://www.theguardian.com/world/2005/apr/17/china.japan>.

Conclusion (The Final Battle)

this politically charged building, it must be understood that there is a threat that it may be misinterpreted as such.

With rapid development of its surroundings approaching, Sihang Warehouse is once again threatened by the speed of onslaught. This time, not by artillery fire but by development. While Shanghai has been focused on rapid economic growth and development of the nation, it is doing so at the expense of its cultural heritage. During the battle at Sihang, and throughout the Sino-Japanese War, time was the key element that allowed the Chinese to successfully defend their nation from rapid assault. It may be possible that time, specifically the building's ability to seemingly slow time, may be the key to its preservation today. Under renewed interest in the space on the north banks and nearly monthly increases in land value²⁴, Shanghai is under pressure to develop the Sihang's immediate vicinity

whose location bears historical and cultural significance locally, nationally, and internationally.

The drive to strengthen their country and its financial prosperity has been paramount in the desires of the Chinese over the past decades, but it may come at the price of losing a significant piece of Shanghainese and national identity. Thus, like a successful speed-driven war strategy, Shanghai's approach at modernization may be just as devastating and traumatic.

Sihang Warehouse, currently known as a "Gift Mall" needs to be transformed into something worthy of preserving. By tying the building back to its past it would redefine it as a building that commemorates a significant piece of Shanghai's wartime history. The element of time, as it did in the war, could in this way, once again benefit the building, and build on Shanghai's cultural memory.

²⁴ Cao, Qian, "Shanghai's Land Sales and Value Rise - People's Daily Online," December 1, 2011, <http://english.peopledaily.com.cn/90778/7662242.html>.

4 DESIGN PROPOSAL

Introduction

As was established in the previous chapters, Sihang Warehouse has a rich history of significance to Shanghai. Thus, there is a cultural need to preserve the Sihang Warehouse.

In terms of design, I was deeply conflicted. Over the course of my life, from organizing coloured blocks into gradients as a toddler, to detailing features of a sketched portrait, the aesthetic goal was always one of refinement and beauty. Faced with something as horrific, and unfathomably ugly, as the Second Sino-Japanese War, I was at a loss of what to do. How does one sublimate the hideous poison gas of war into a solid structure that is at once reflective and contemplative of its story and, at the same time, speaks an aesthetic language that culminates the education that I have received over the course of my life to make something beautiful?

The soldiers that fought in that war, surrounded by endless death, the

photographers who callously documented the carnage, are treated as heroes and celebrated in society, made into movies, often with disregard to their internal conflicted and wounded psyches. My concern is not whether these people are heroes or whether or not war is justified, my concern is of glamorizing war. This is further pushed on us in media, from the hourly news to movies, war as a predominantly heroic and honorable act, not as something that rips the heart out of the people who fight in it and the very nations they fight for.

How does one commemorate a war and simultaneously portray the inherent injustice to our evolution as humans- How do we move away from this brutal and archaic method of conflict resolution? How to portray a building that potentially solidifies, justifies, and propagates the still very fresh hatred for the Japanese people? Why create additional conflict?

The reason to commemorate, as the word is defined, is to remember. To inject

this knowledge, this hideous, disgusting history to the narrative of China, so as to make perfectly clear that war is not about the heroes made in it, but about resolving a conflict which we as a species have not been intelligent enough to resolve in a different, more constructive way. Above all, war is destructive.

I chose to tell the story of the building itself, of the people who fought in it, and of the terrible price of war.

Through an iterative approach I mocked up roughly 50 versions of how this could be portrayed. I chose to cut the building lengthwise, for several reasons. The effect would be that of the thick walls, but with buildings. This also allowed me to perforate the two buildings as if they were the thick walls the soldiers fought inside. These perforations would essentially be windows, with no glazing, that run the width of the building.

Also, the building itself has a very deep floor plate, a courtyard would essentially split it into two, more manageable floorplates, allowing for two distinct programs to occur within the same building: a museum and an office tower.

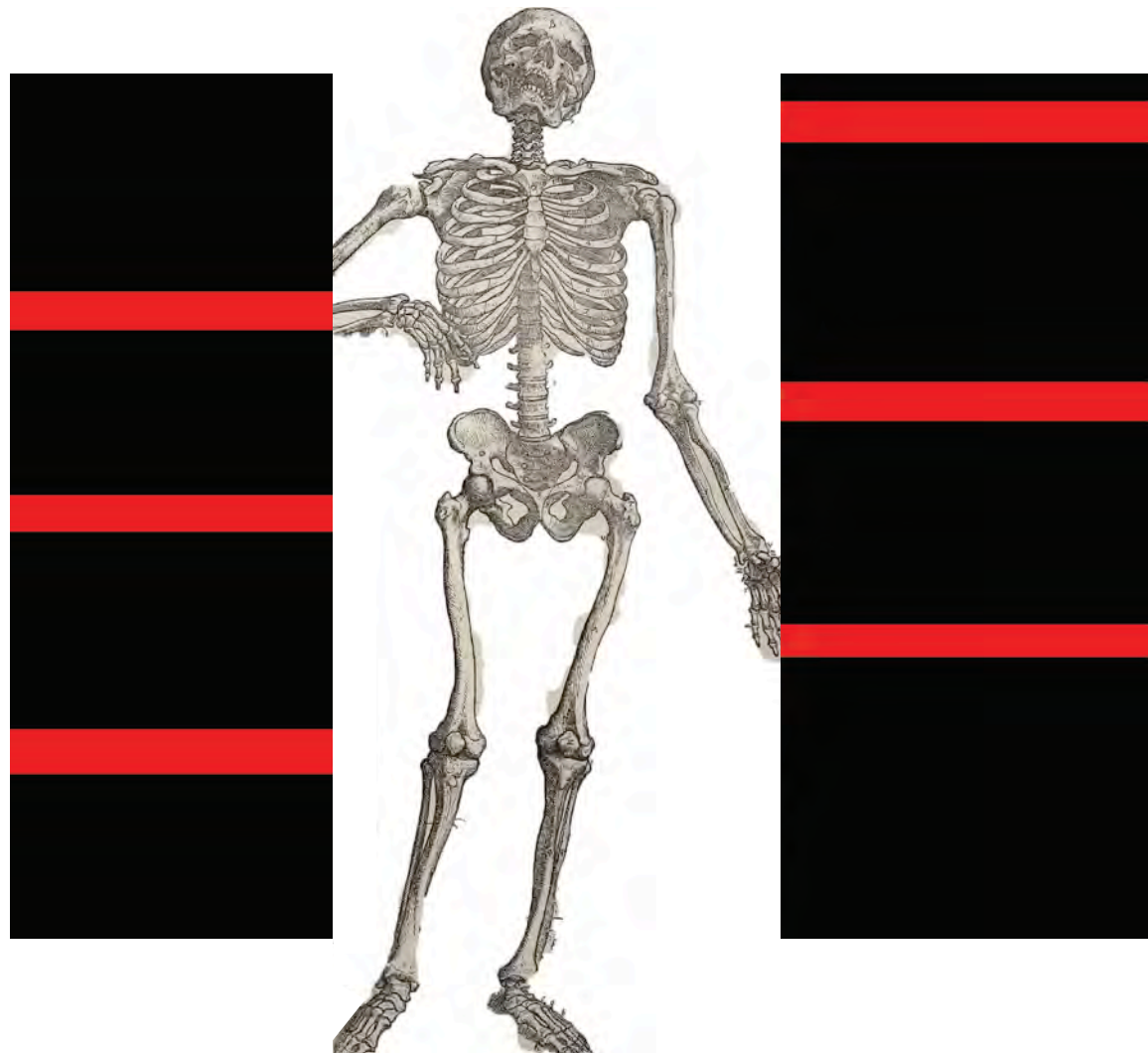
The reason for the office tower was threefold. The main one being profitability, the tenants currently pay well to use this space, and it would be good for the owner(s) of the museum not to have to rely on ticket

sales to preserve China's heritage. Another reason is corruption, as publicly funded buildings are often subjected to the whims of the political agenda, a more capitalistic approach would give the museum some leverage. Finally, with approximately a thousand people working in these office spaces, the museum would receive additional exposure by word of mouth, by the people who know the building best, the building's occupants.

As I ripped through the guts of the building to create the courtyard, I realized how synonymous with war such a strategy was. I exposed columns, broke floor plates, created ruins out of the building's bone-like structural elements. I blasted a huge gaping hole on the west side of the building where the attack was the hardest, with no glazing, this perforates the interior space of the building, creating a freakish interior exterior space with questionable usability. Then I joined the hole with the courtyard, forming a bullet entry-like effect in the direction of the two column grids (The column grid of Sihang warehouse has a definite shift midway through the building, I wanted to expose and highlight this unique architectural feature of the building). The idea of the shape of the courtyard I borrowed from a conversation with Adrian, when he mentioned artist Matta-Clark's 'Conical Intersect' projects, where he would cut into the floor plates of

derelict buildings. This void extends past Sihang and forms a pool of water.

The story of Sihang Warehouse, can be told many different ways. As was shown earlier, the Chinese soldiers who fought within the building were known by many names: heroes, the doomed, the defenders, and the lone, all depending on who was talking about them. The pure truth simply doesn't exist. The story, however, is still relevant and worthy of remembrance, even if simply to avoid repeating history.



Parti

The idea of the parti is void as obstruction. The creation of the courtyard is meant to slow the passage through the building, working as an obstruction. This act of slowing is similar to Sihang's function in 1937. The creation of the courtyard by ripping the building into two buildings is also a commentary on war and its effect on the people involved.

Fig 4.1
Andreas Vesalius drawing of a skeleton confined in the proposed courtyard of Sihang.



Existing Plans And Elevations

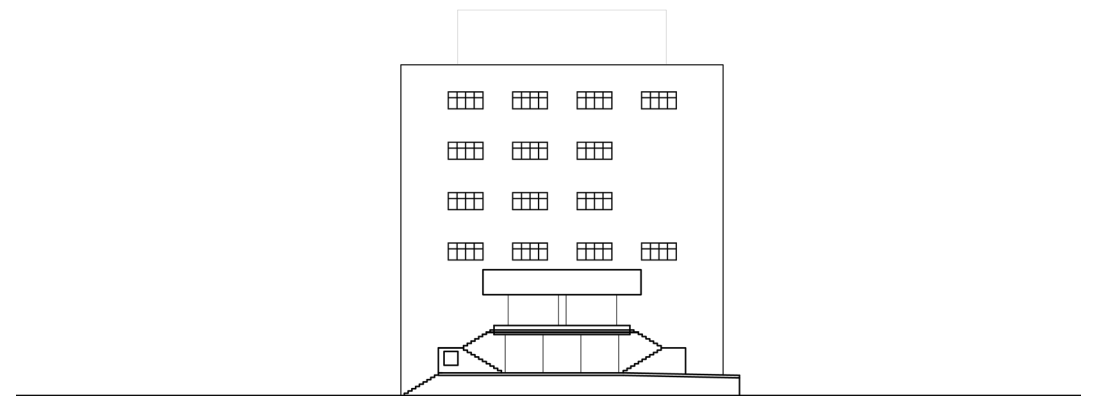
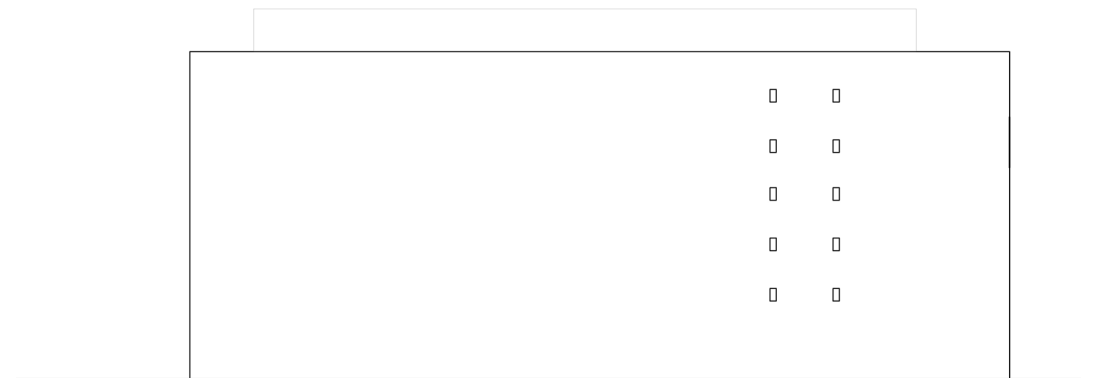


Fig 4.2 (Opposite top)
Existing Plan (1:600)
Fig 4.3 (Opposite center)
South Elevation (1:600)
Fig 4.4 (Opposite bottom)
North Elevation (1:600)
Fig 4.5 (Top)
West Elevation (1:600)
Fig 4.6 (Bottom)
East Elevation (1:6 00)

Current Elevation Photograph Collage

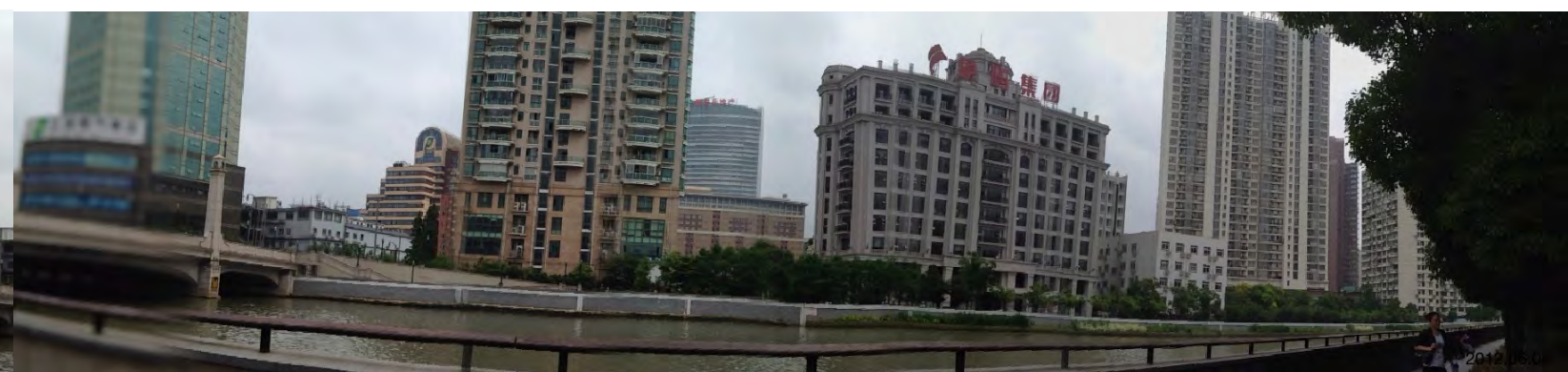
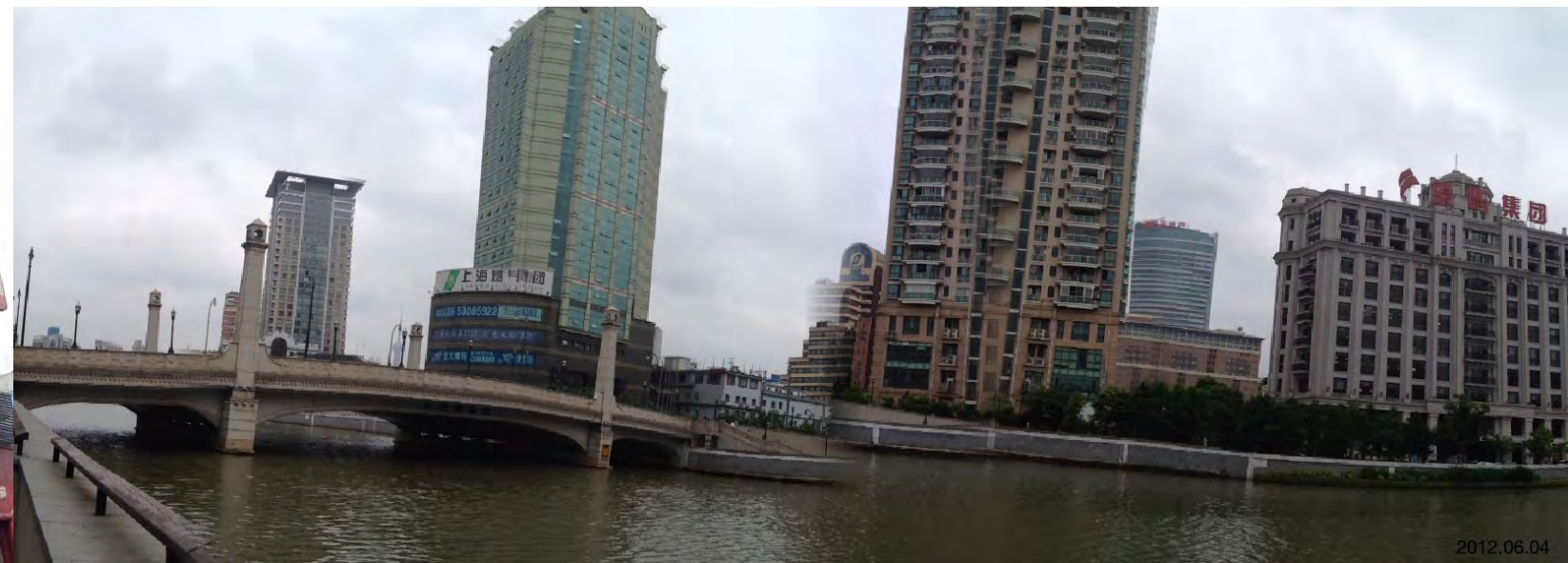


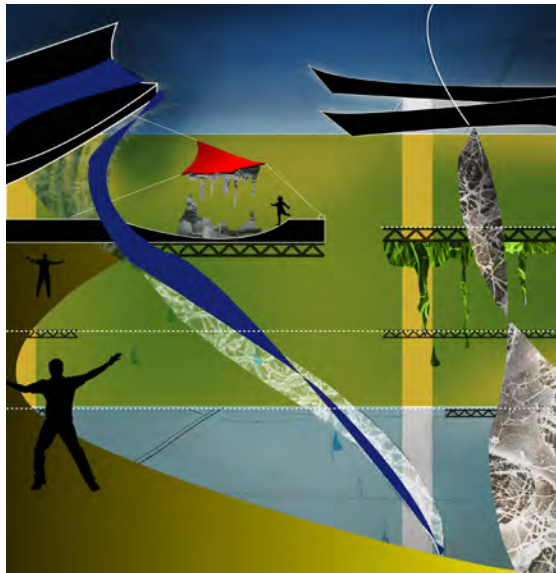
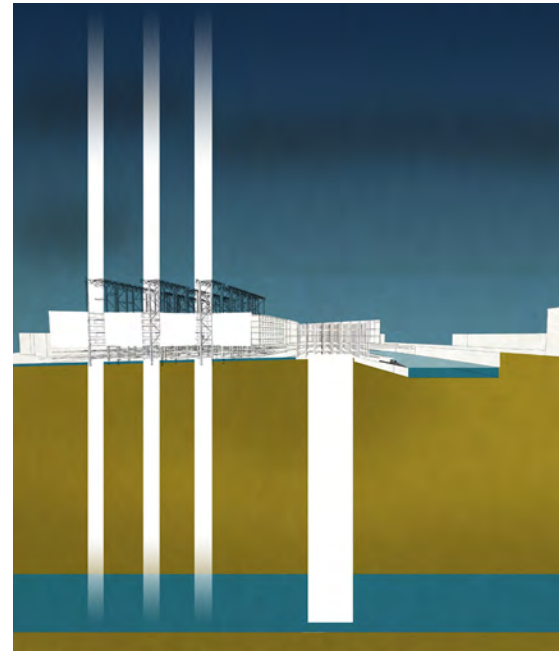
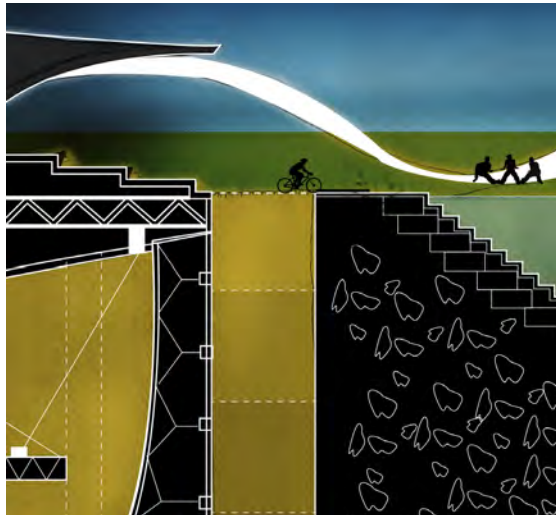
Fig 4.7
Collage of the south elevation made of about forty photos.

Current Photos (Collage)

The photos here are a collage of the current site. Focusing on the south face of the building, one can see its relationship to Suzhou Creek..

Fig 4.8 (Opposite top)
Sihang Warehouse Collage.
Fig 4.9 (Opposite bottom)
Looking east, Sihang Warehouse at left, Tibet Road Bridge center.
Fig 4.10 (Top)
Tibet Road Bridge Collage and South Bank of Suzhou Creek.
Fig 4.11 (Bottom)
View South across Suzhou Creek from Sihang Warehouse.

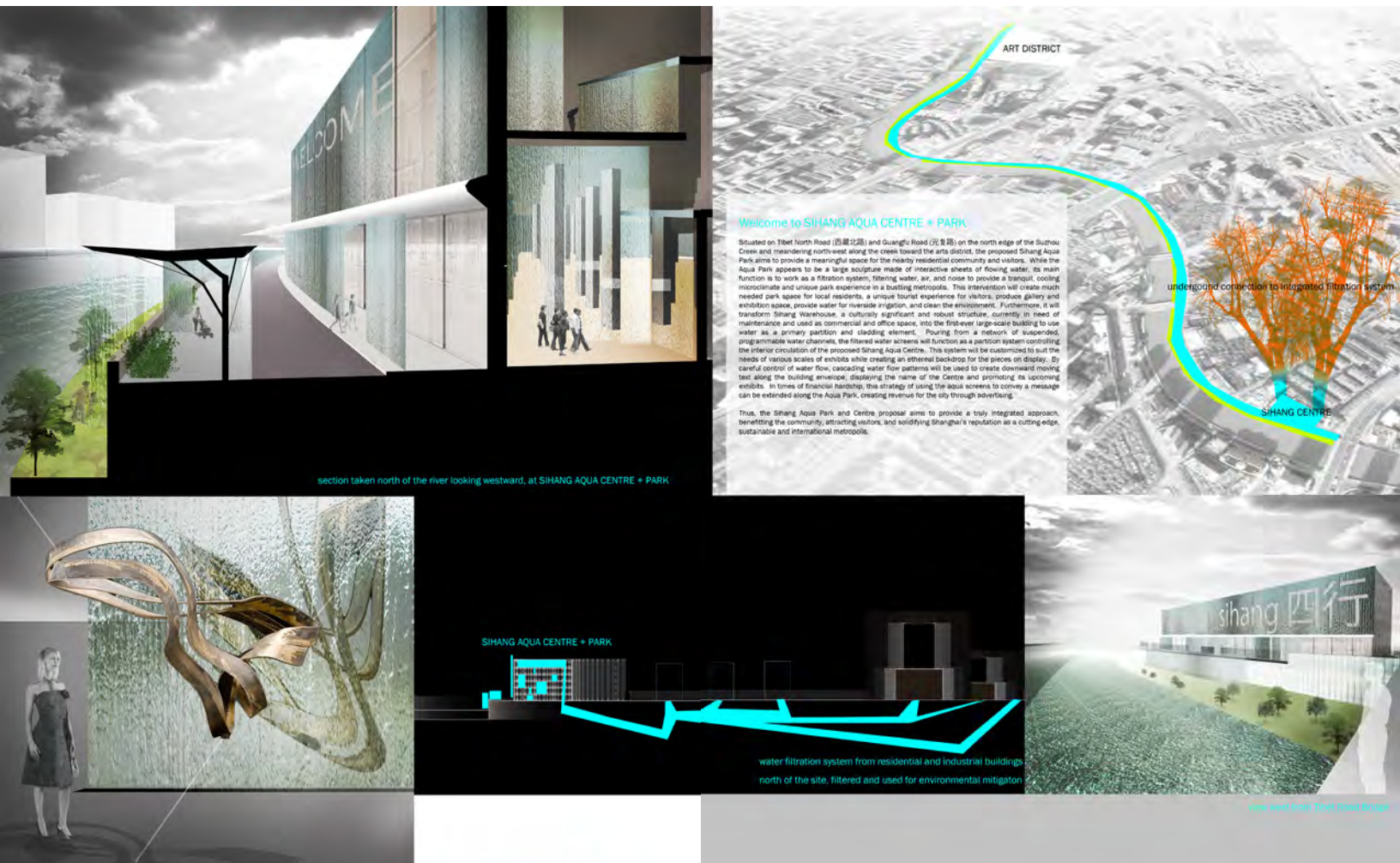




Previous Proposals: Vertical Oasis

This project at Sihang addressed the environmental degradation of the water systems in Shanghai. Looking at the site of Sihang Warehouse, various occupiable and water-focused spaces were proposed that would provide additional public environments for the residents near and around Sihang.

Fig 4.12 (Top left)
Section through waterfront
Fig 4.13 (Top right)
River section
Fig 4.14
Section through main courtyard
Fig 4.15
Section through residential area to north of building.



Previous Proposals: Water Circulation

As part of the Re-Thinking Shanghai 2012 Suzhou Creek Urban Design Competition, this proposal focused on using water as the main design element. Using a programmable facade made of water to creating a fully customizable circulation system via sheets of water as partitions.

Fig 4.16
My entry into the Shanghai 2012 Suzhou Creek Urban Design Competition.

Previous Proposals: Sihang Tomb

This design proposal consisted of the idea of filling the building entirely with concrete and carving out the circulation within, creating a monumental tomb. This main idea is carried forward to the current design

but in a less literal fashion. The current building appears to be solid from the exterior when in fact it is fully programmed.



Fig 4.17
Section lengthwise (east-west) through proposed design.



Inspiration and Design Process

Sihang Warehouse was successful in slowing down the onslaught of Japanese Imperial Troops in the Battle of Shanghai because of how protected it was by the International Settlement and the obstructive nature of the building, mainly its size. When the soldiers were holed up in the warehouse for the duration of battle the building was huge, but, because of the three meter thick wall perimeter they setup using bags of sand and food, the windows of the building must have seemed very distant, and with no power, and the threat of immediate doom, the feeling inside this space must have been extremely oppressive. It was, in a sense, an act of self-burial.

I started with the idea of entombment, the idea of creating a massive space where the weight of the building is felt strongly by its occupants. My first instinct was to fill the building entirely with concrete and carve the museum into it. It was with this in mind and the visual aesthetic of the Yugoslavian Spomeniks (as photographed

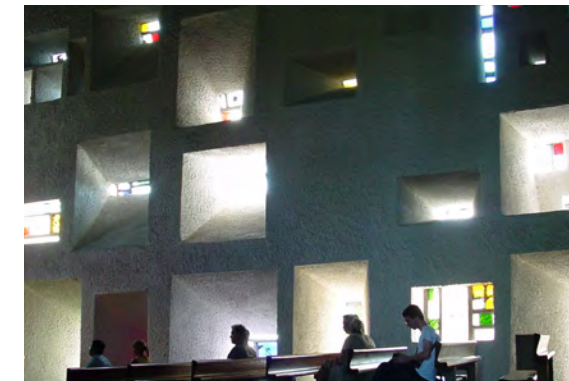
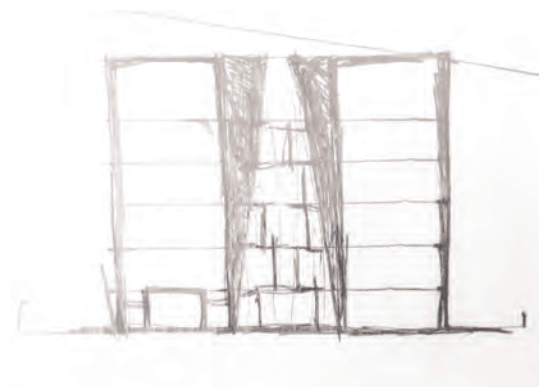
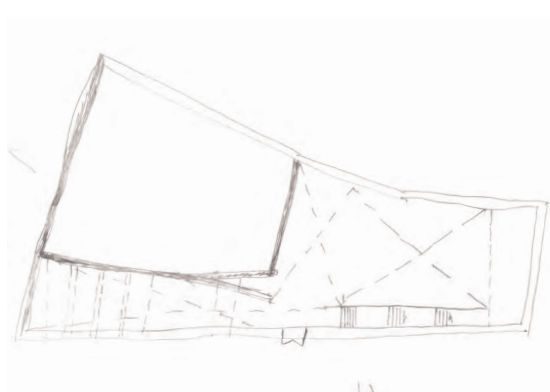
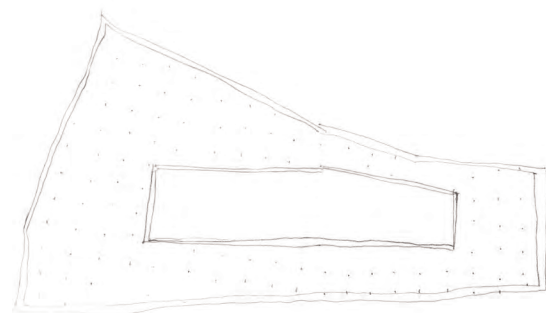
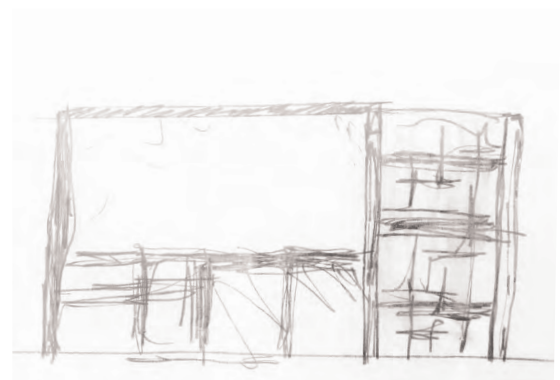
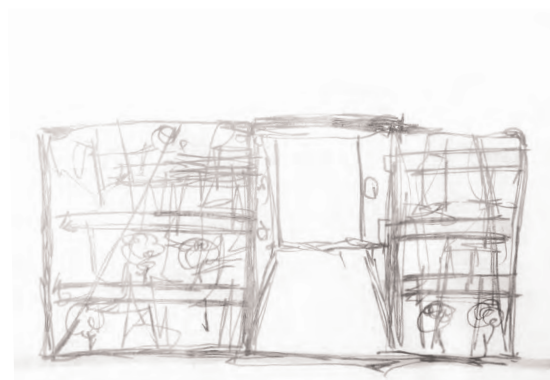
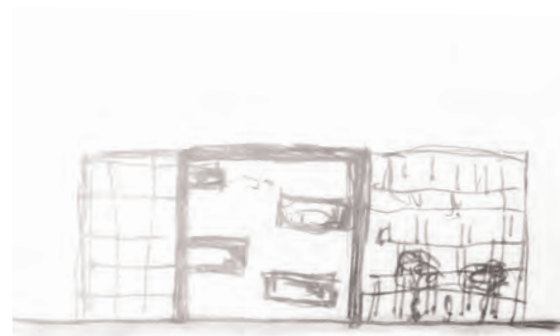
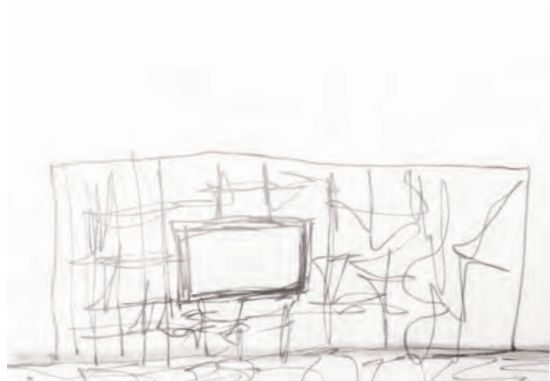
by Jan Kempenaers) that the first iteration (See Previous Page, Previous Proposals: Sihang Tomb) of the final design came to be. In the first iteration, the burial became the key design idea and it was proposed that the entire building be filled with concrete and strategically excavated to create a path through the darkness that visitors could explore.

Fig 4.18
'Spomeniks' sculptures located in Yugoslavia.



Although a potentially interesting in theory, it was not a terribly good use of materials and space. When artist Micha Ullman's idea of the Library at Bebelplatz came up in a conversation with Robert Jan, I realized that a building does not necessarily have to be a solid mass to convey weight. While this memorial appears to be in the middle of an empty square, it is actually suspended within a vast network of parking space located underneath the square. The effect is still the same as if it was simply buried in the ground. By making Sihang Warehouse appear to have tomb-like features, thick walls, impenetrable seeming walls, one could avoid the pitfalls of wasting precious real estate space and thousands of tonnes of concrete. The building now could house a sizeable amount of program.

Fig 4.19
Bebelplatz Book Burning Memorial



The way the thickened walls were placed was studied iteratively, the column grid was used as a guide so as to highlight this idiosyncrasy as well as to make the negative space as dramatic as possible.

The openings of the walls needed to be there, not as much provide a view out, but to highlight this thickness of the “walls” which were in fact fully programmed portions of the building. The effect being something akin to Ronchamps. In this way, the building could also have access to free ventilation without the need for a formal HVAC system. The building could be cooled passively and heated only where needed on cooler days.

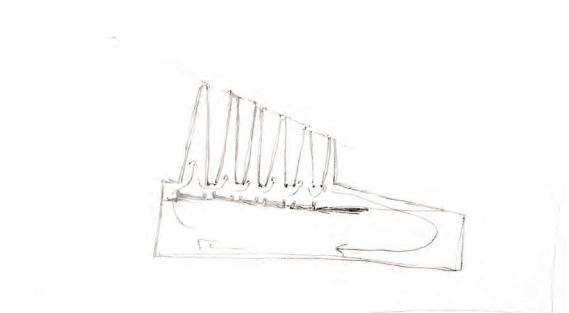
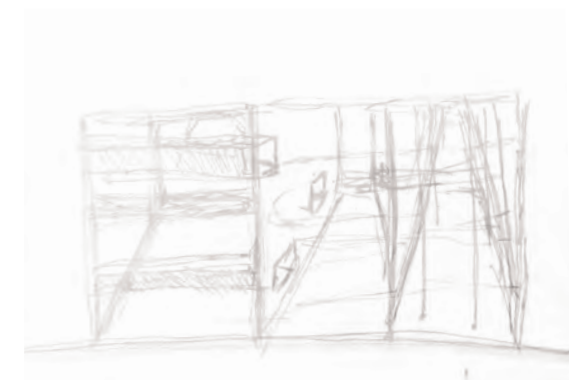
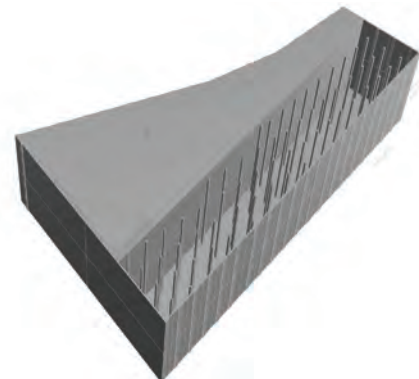
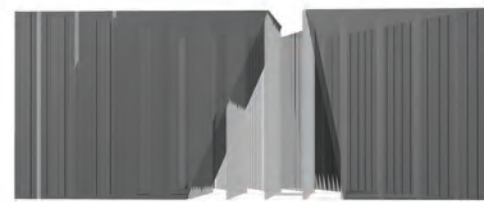
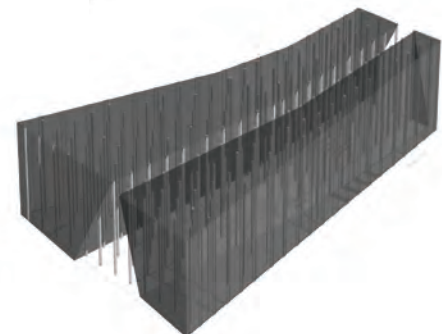
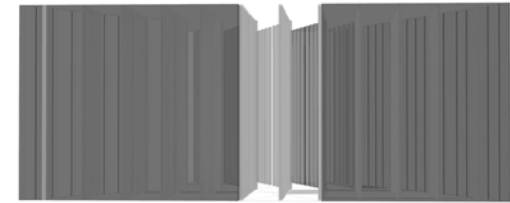
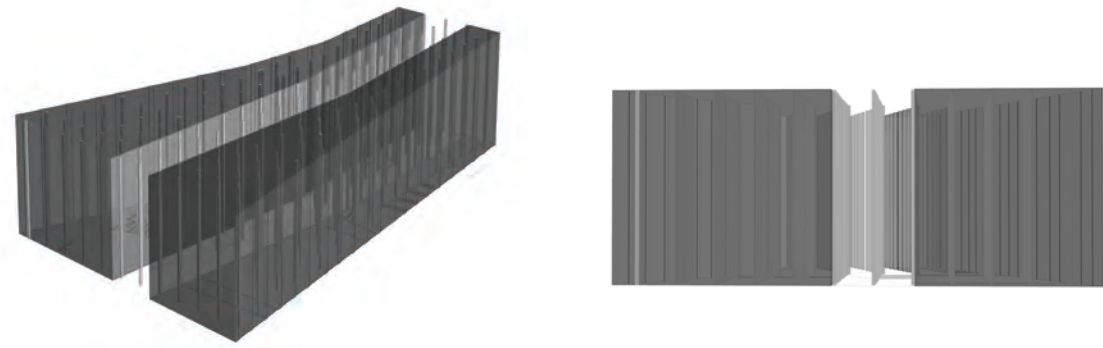


Fig 4.20 (Opposite)
 Sketches of the design process
 Fig 4.21 (Top)
 Ronchamps by Corbusier
 Fig 4.22 (Middle)
 Sectional sketch showing the perforations that would allow the bisected buildings to look like thick walls.
 Fig 4.23 (Bottom)
 Diagram exploring the possible plan view of the above effect.



This negative space or courtyard created by the walls was explored iteratively using 3D models and sections.

At this point I had finished writing the body of this thesis and was struck at how destructive the whole process of war was. I saw it as a force that gutted and tore the heart out of every nation involved. This void created by these two walls became the emptiness caused by war. The void was skeletal, with partially torn, ruin-like columns.

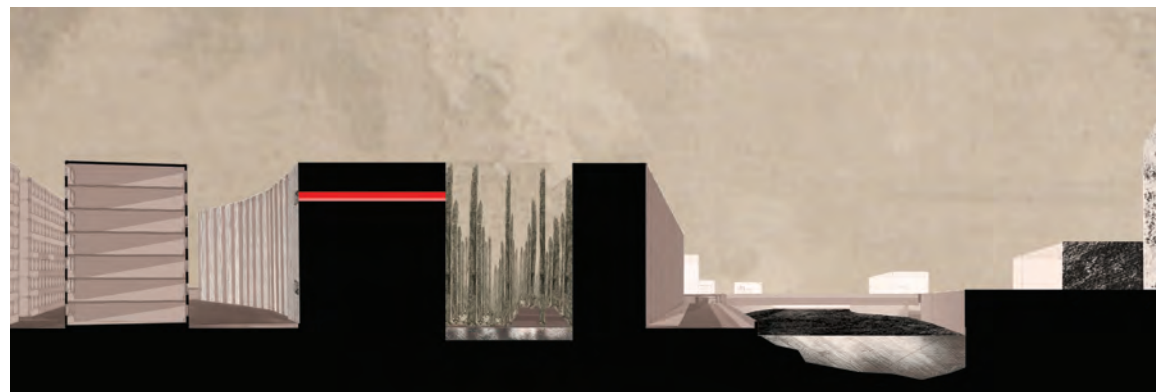
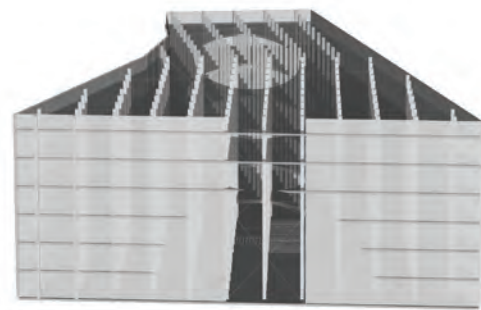
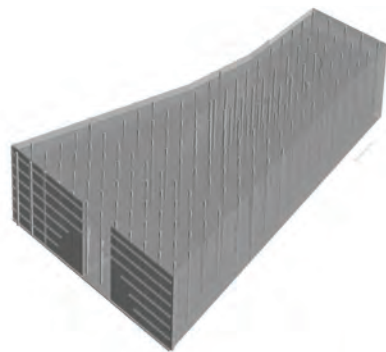
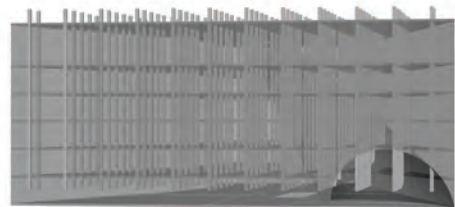
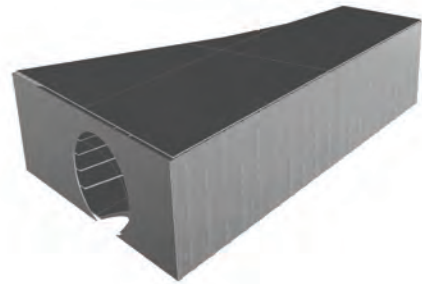
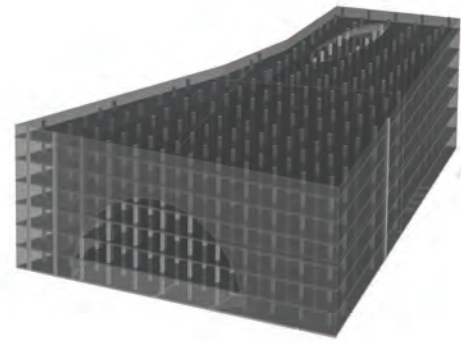


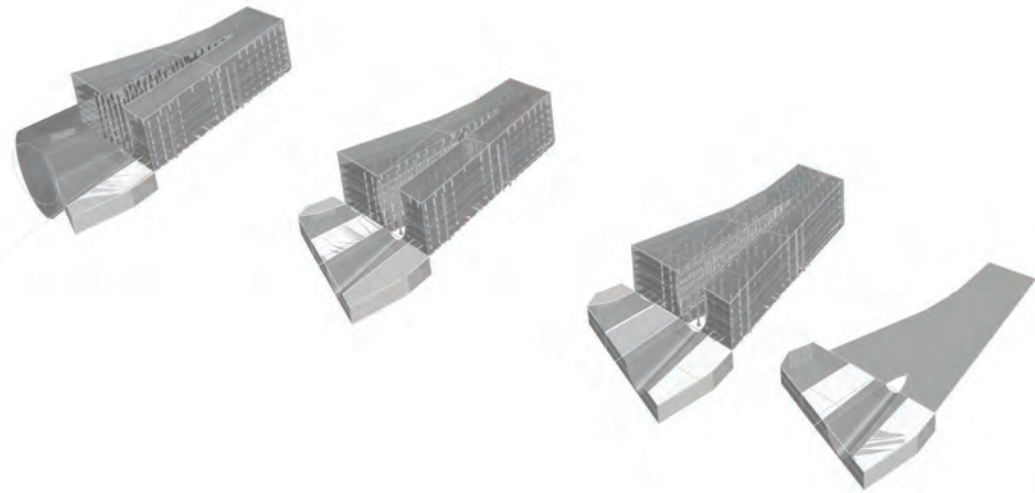
Fig 4.24 (Top left and right)
Vertically cut courtyard to highlight column grid.
Fig 4.25 (Upper middle left and right)
Angled courtyard to make the space feel more oppressive.
Fig 4.26 (Lower middle left and right)
Courtyard in front for transition between street and building.
Fig 4.27 (Bottom)
Site section looking eastward showing columns inside courtyard space and the building's relationship to the river.



Finally, I thought about Sihang Warehouse as a building in a new war. The building standing alone in a towering, rapidly expanding metropolis, this time defenseless to the district's ambitious economically-driven gentrification program. I looked to the work of artist Gordon Matta-Clark whose work included cuts in old residential buildings that were slated for demolition. The courtyard of Sihang now became sloped, accessible from the inside and out, and had a similar visual effect of both the destruction and void associated with war, and the obstructive nature of Sihang itself.

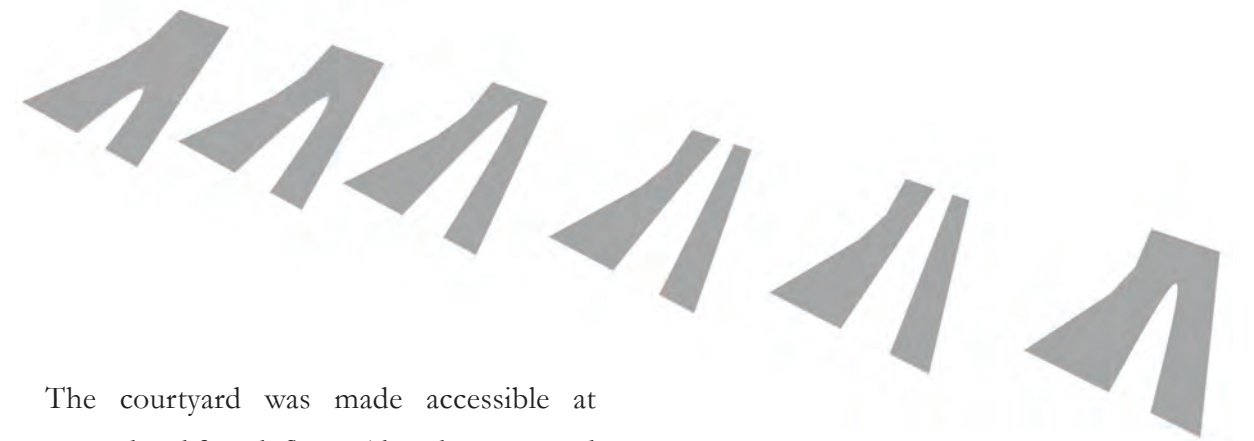


Fig 4.28 (Opposite top left and right)
 Opening cut into building facade to mimic blast hole.
 Fig 4.29 (Opposite upper middle left and right)
 Opening is cut into facade and floor plates to create enclosed courtyard.
 Fig 4.30 (Opposite lower middle left and right)
 Position of blast hole rotated.
 Fig 4.31 (Opposite bottom)
 Blast hole and angled courtyard combined.
 Fig 4.32 (Above)
 Artist Gordon Matta-Clark's Conical Intersect Project.



TITLE

This is one of the final iterations of the flooplates. The resulting courtyard “walls” were then perforated at the west end to show their depth.



The courtyard was made accessible at ground and fourth floor. Also, the courtyard was viewable from the second floor bridge, the main stair, sixth floor ramp, and roof.

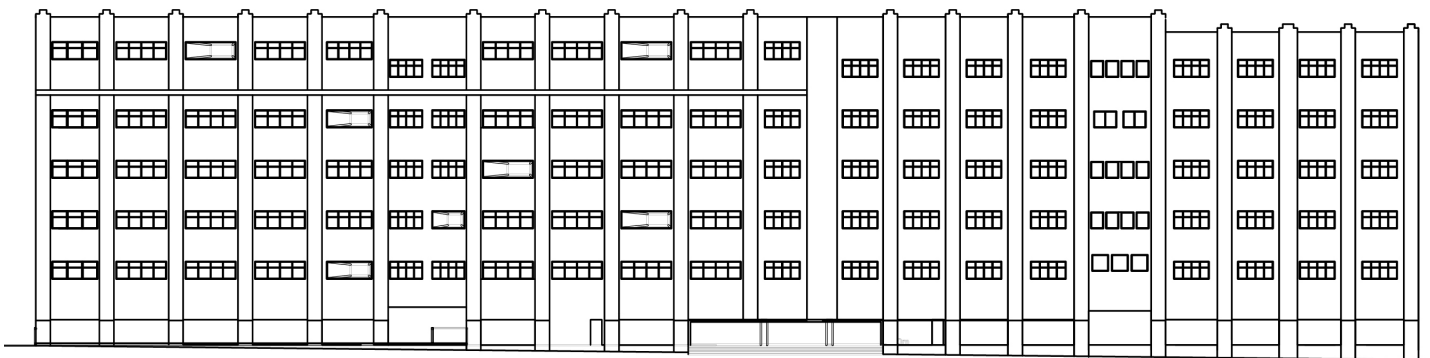
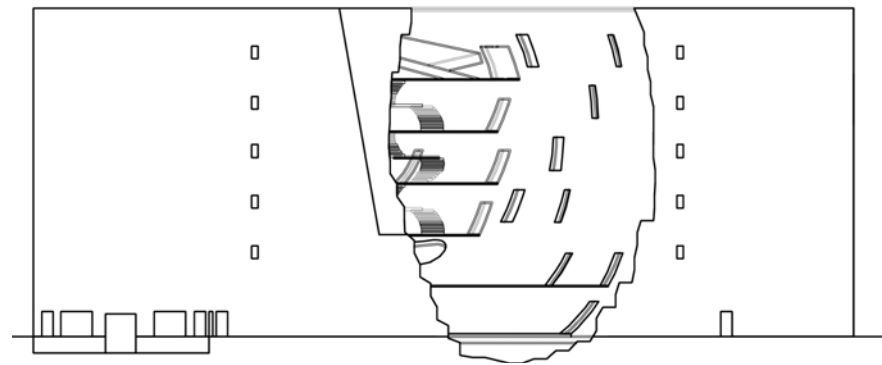
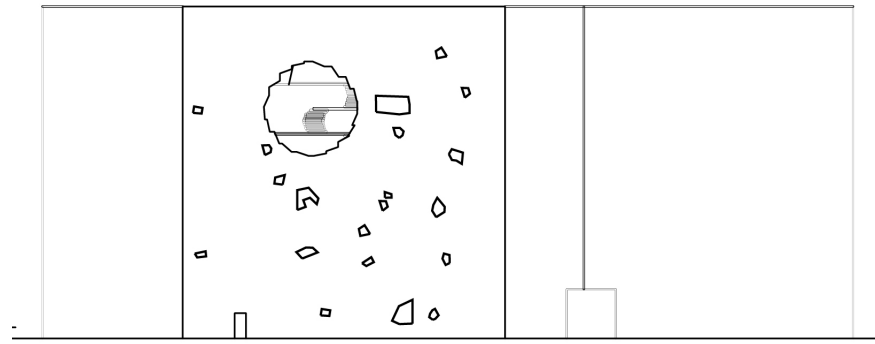
Fig 4.33
Rough model and floor plates of one of the final iterations of the lobby.



Key Drawing

Key drawing showing Sihang Warehouse sitting on the edge of Suzhou Creek. Its south facing exterior wall is nearly unchanged except for the main entrance and some hollowed out windows. Its west face has a cavernous opening that extends up all the floors, up to and including the warehouse roof.

Fig 4.34
Rendered image showing the south-west corner of Sihang warehouse.



Elevations

Note the photo of the damaged west face on the opposite page. Some of this damage will be restored as can be seen in the proposed east elevation.



Fig 4.35 (Opposite top)
 Photo of the damaged west side of Sihang Warehouse.
 Fig 4.36 (Opposite upper middle)
 Proposed 1:800 east elevation.
 Fig 4.37 (Opposite lower middle)
 Proposed 1:800 west elevation.
 Fig 4.38 (Opposite bottom)
 Proposed 1:800 south elevation.
 Fig 4.39 (Above)
 Proposed 1:800 north elevation.

Plans

The plans on the following fold-out pages show the six interconnected floors of the proposal for Sihang Warehouse. The proposed courtyard splits Sihang Warehouse into two separate parts. These two parts have separate programming: museum and office space. However, their back of house, such as garbage and loading areas, are in the same area of the building. For security purposes their loading areas and freight elevators are separated. The loading access for the south (museum) portion of the building is connected underground.

Sihang Warehouse uses passive means of ventilations via perforations which span the width of each floor. These perforations are on both the museum and office portions of the building.

The main means of circulation within the building is the exterior staircase situated in the courtyard space. However, elevators and alternate stairs are available in the lobby to ease accessibility in inclement weather conditions, etc.

The inclined courtyard is accessible from the first floor and fourth floor. The incline angle is 11 degrees and does not qualify as an accessibility ramp. The exterior inclined courtyard space can be used for events and informal gatherings.

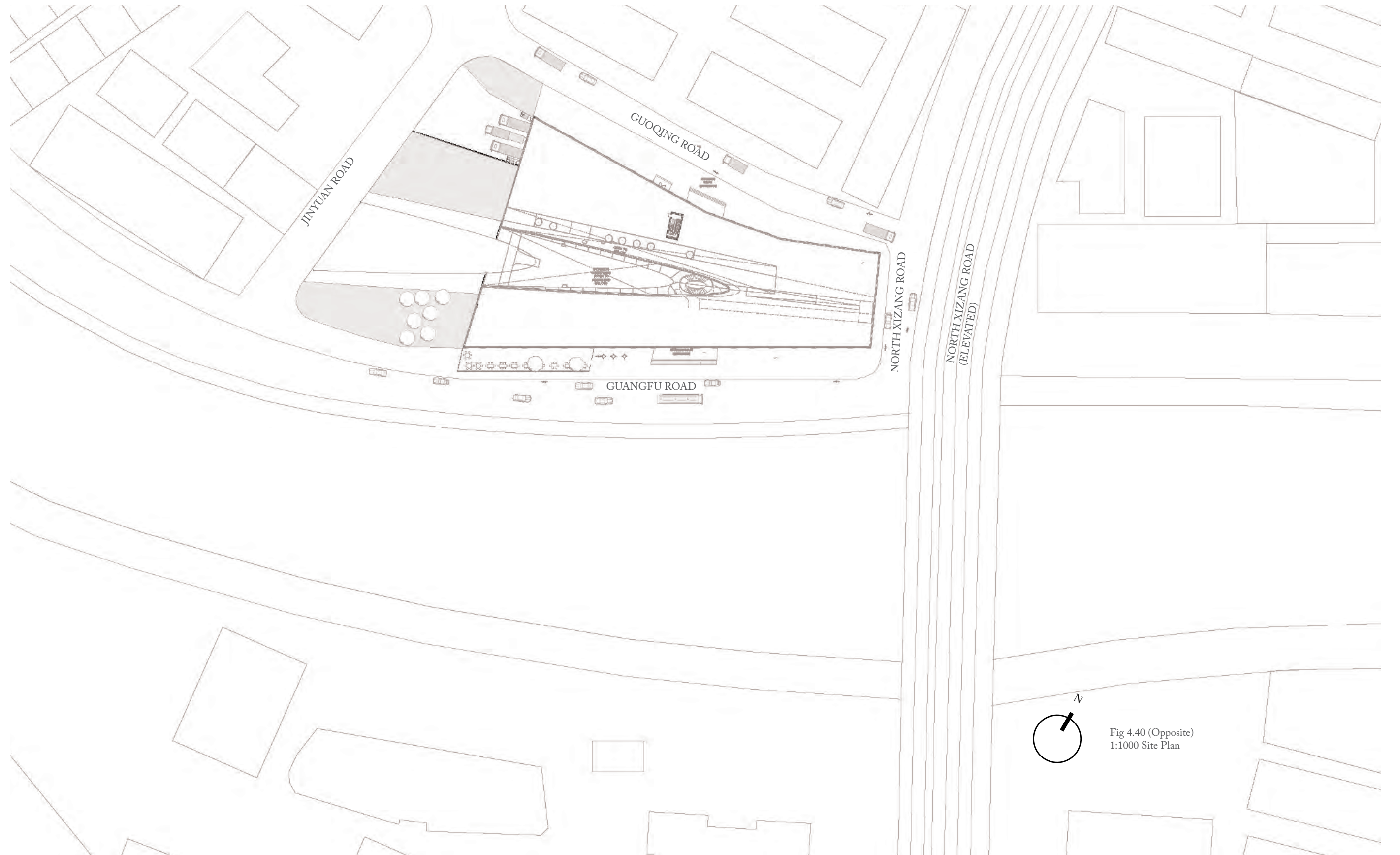


Fig 4.40 (Opposite)
1:1000 Site Plan



- LEGEND:
- MUSEUM (PUBLIC ACCESS)
 - MUSEUM SUPPORT (PRIVATE ACCESS)
 - OFFICE
 - OFFICE BACK OF HOUSE
 - SHARED MUSEUM/OFFICE



Fig 4.45
NTS program key plan.
Fig 4.46
1:400 Second floor plan.

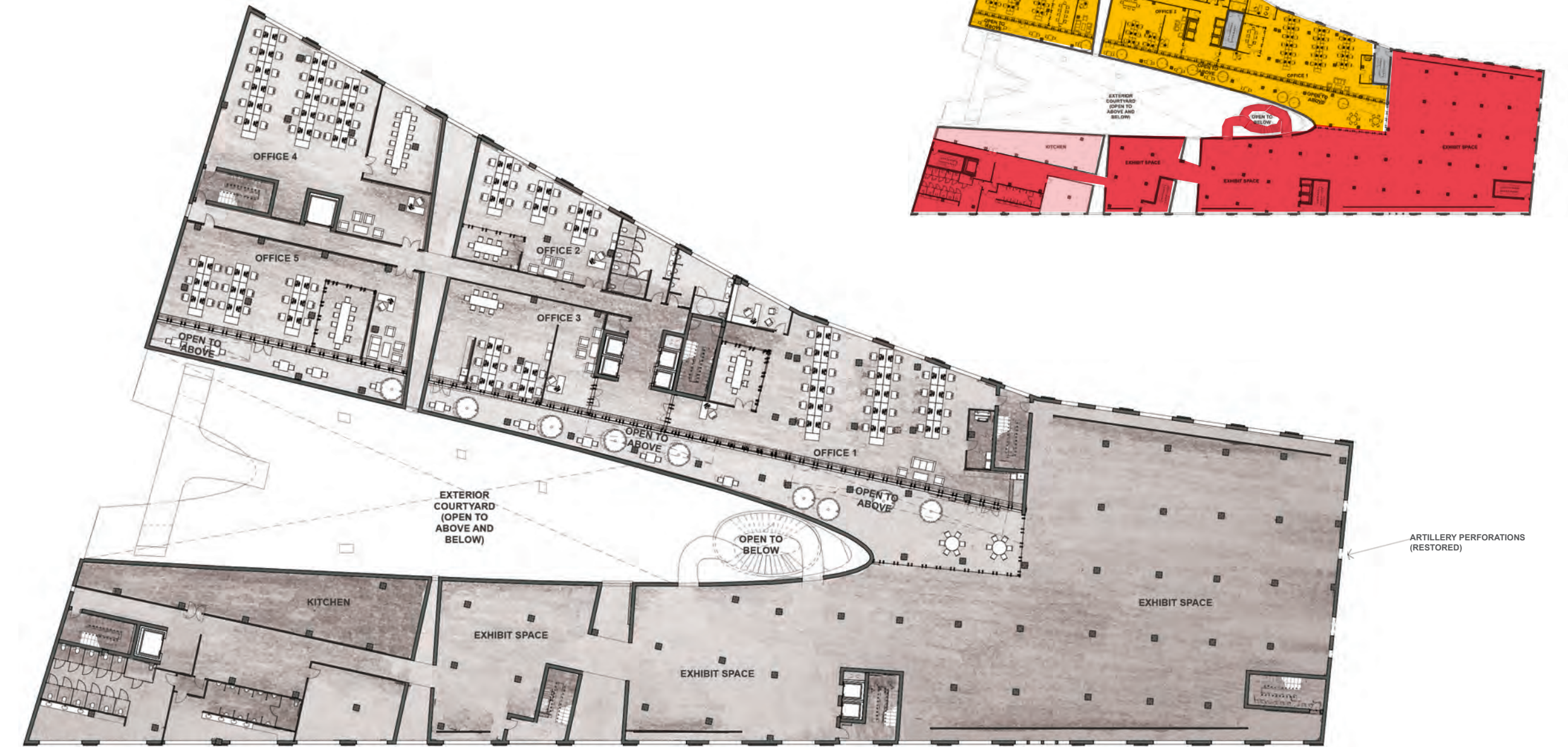
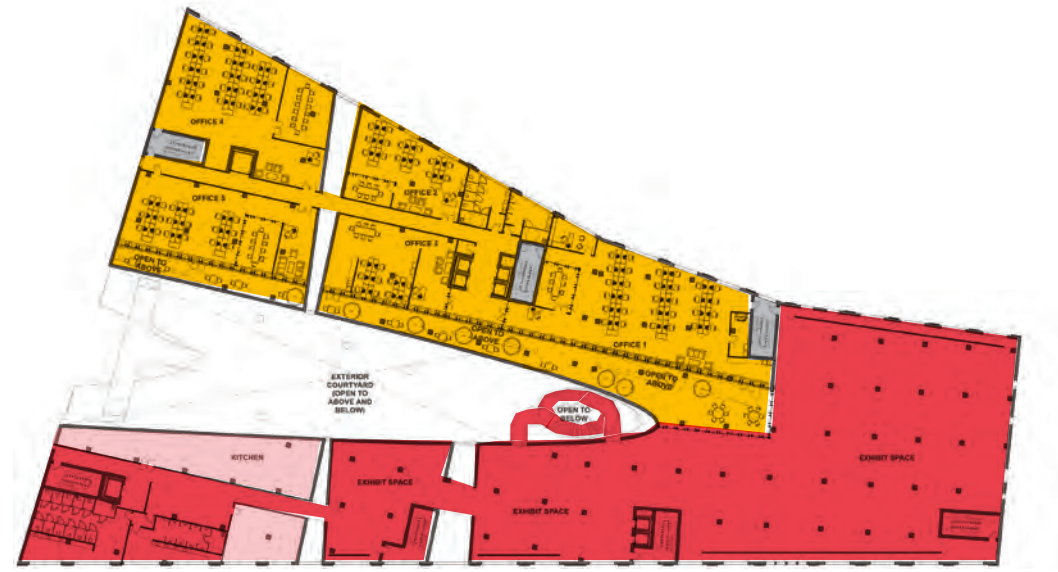


Fig 4.47
NTS program key plan.
Fig 4.48
1:400 Third floor plan.

- LEGEND:
- MUSEUM (PUBLIC ACCESS)
 - MUSEUM SUPPORT (PRIVATE ACCESS)
 - OFFICE
 - OFFICE BACK OF HOUSE
 - SHARED MUSEUM/OFFICE

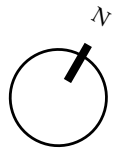


Fig 4.49
NTS program key plan.
Fig 4.50
1:400 Fourth floor plan.

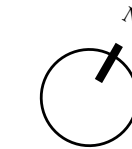
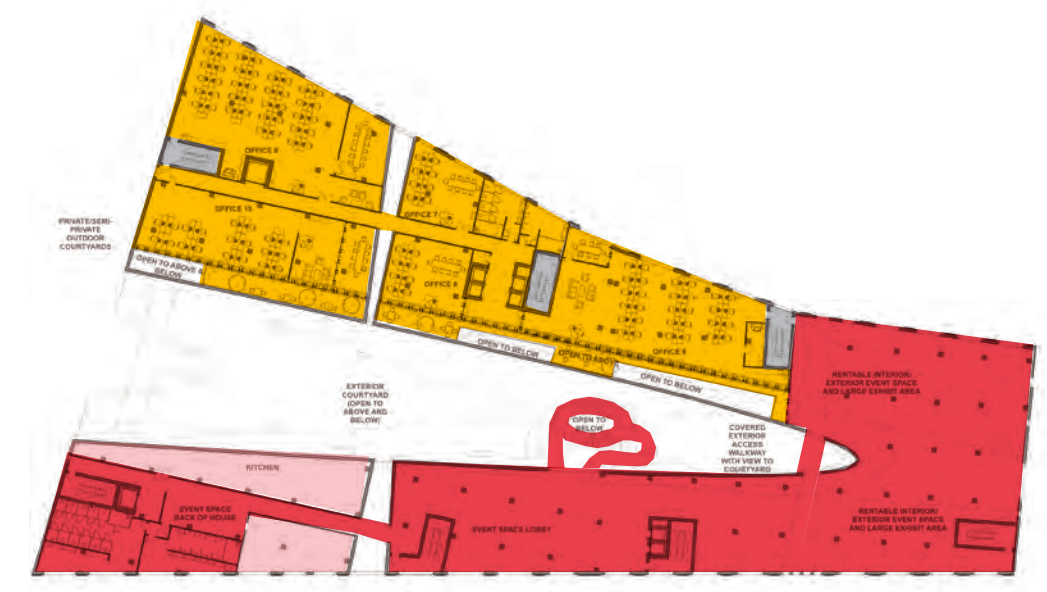
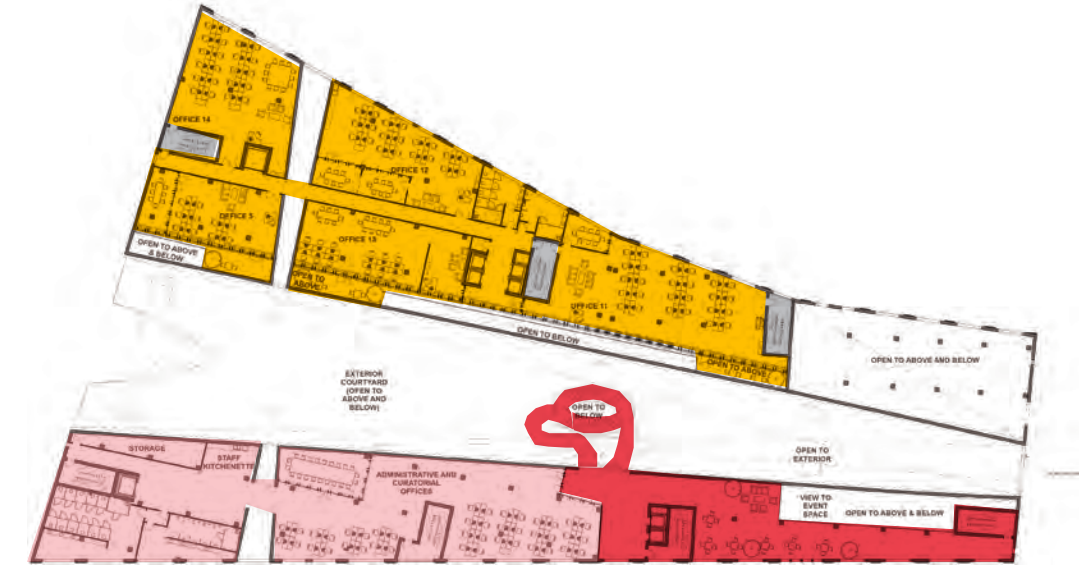


Fig 4.51
NTS program key plan.
Fig 4.52
1:400 Fifth floor plan.



- LEGEND:
- MUSEUM (PUBLIC ACCESS)
 - MUSEUM SUPPORT (PRIVATE ACCESS)
 - OFFICE
 - OFFICE BACK OF HOUSE
 - SHARED MUSEUM/OFFICE

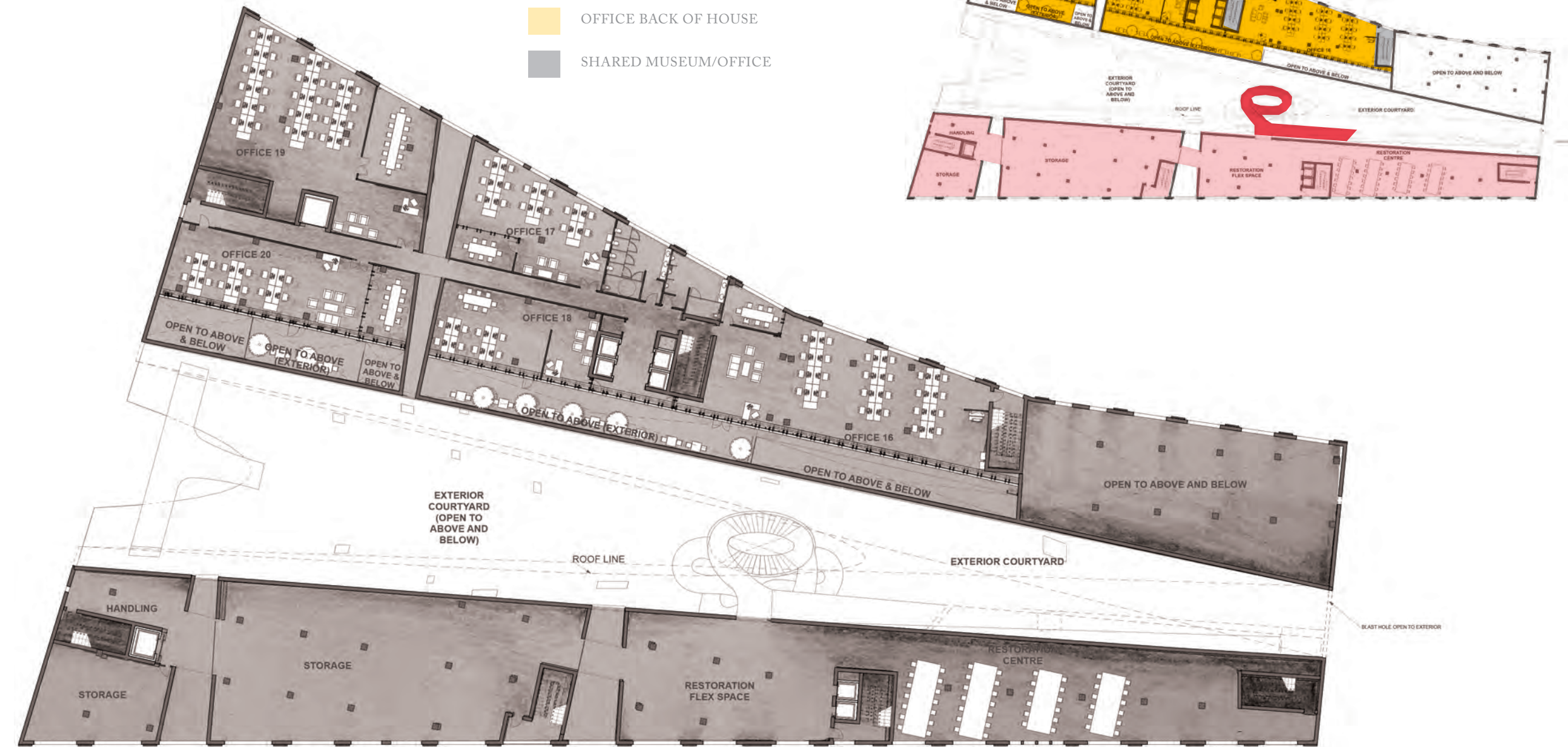


Fig 4.53
NTS program key plan.
Fig 4.54
1:400 Sixth floor plan.

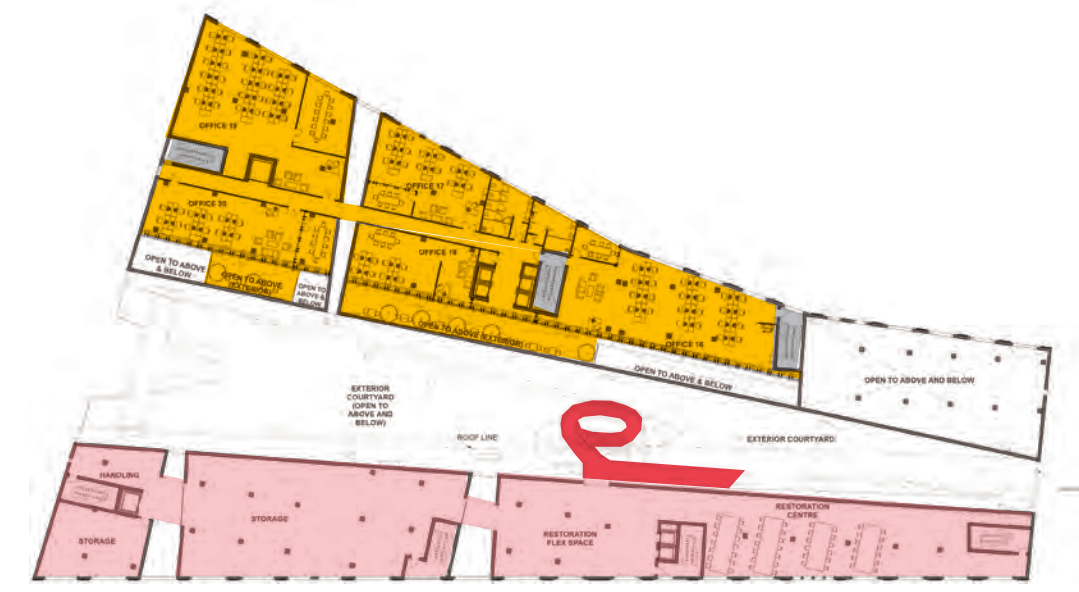
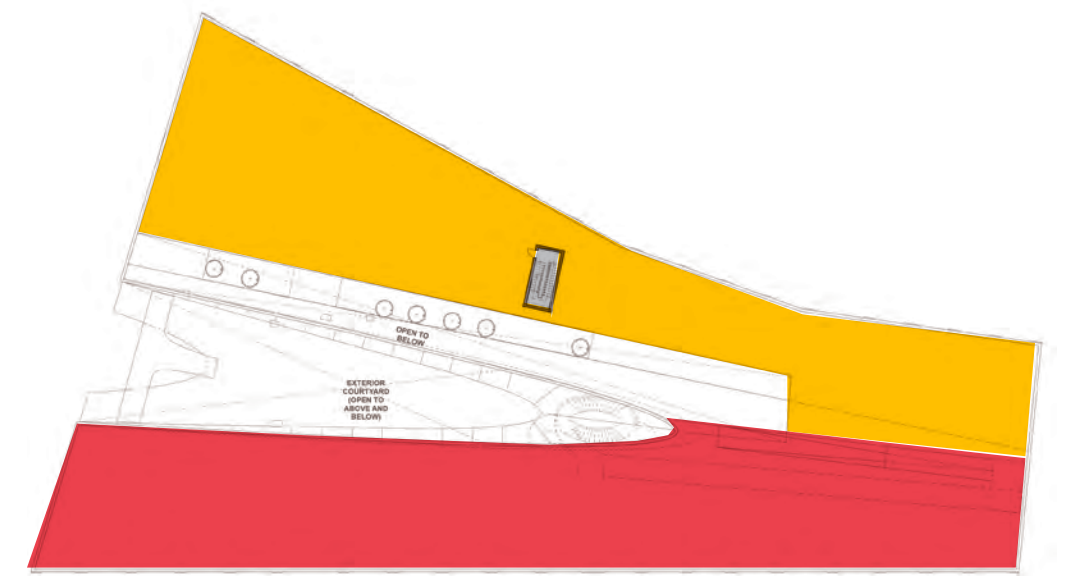
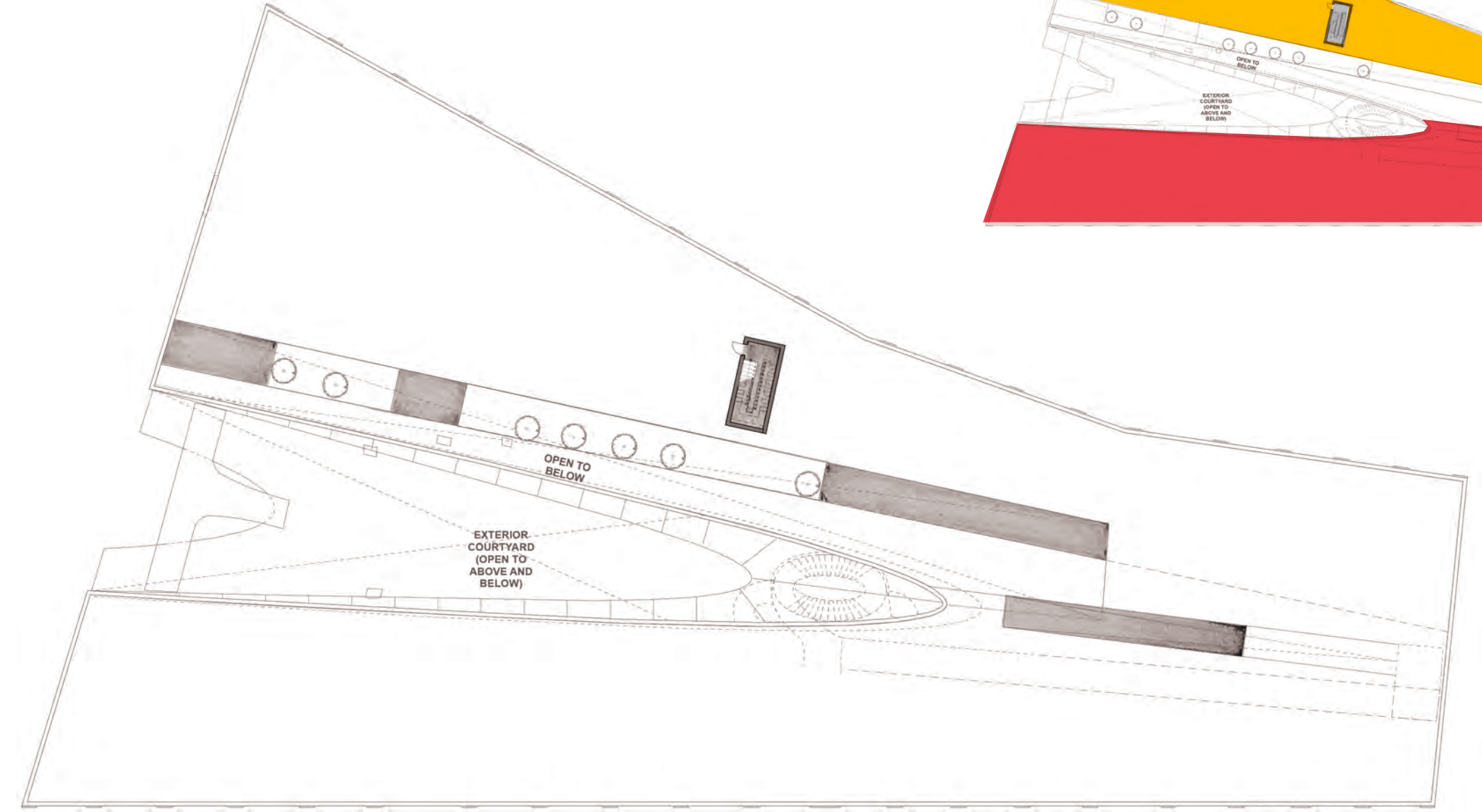


Fig 4.55
NTS program key plan.
Fig 4.56
1:400 Roof plan.



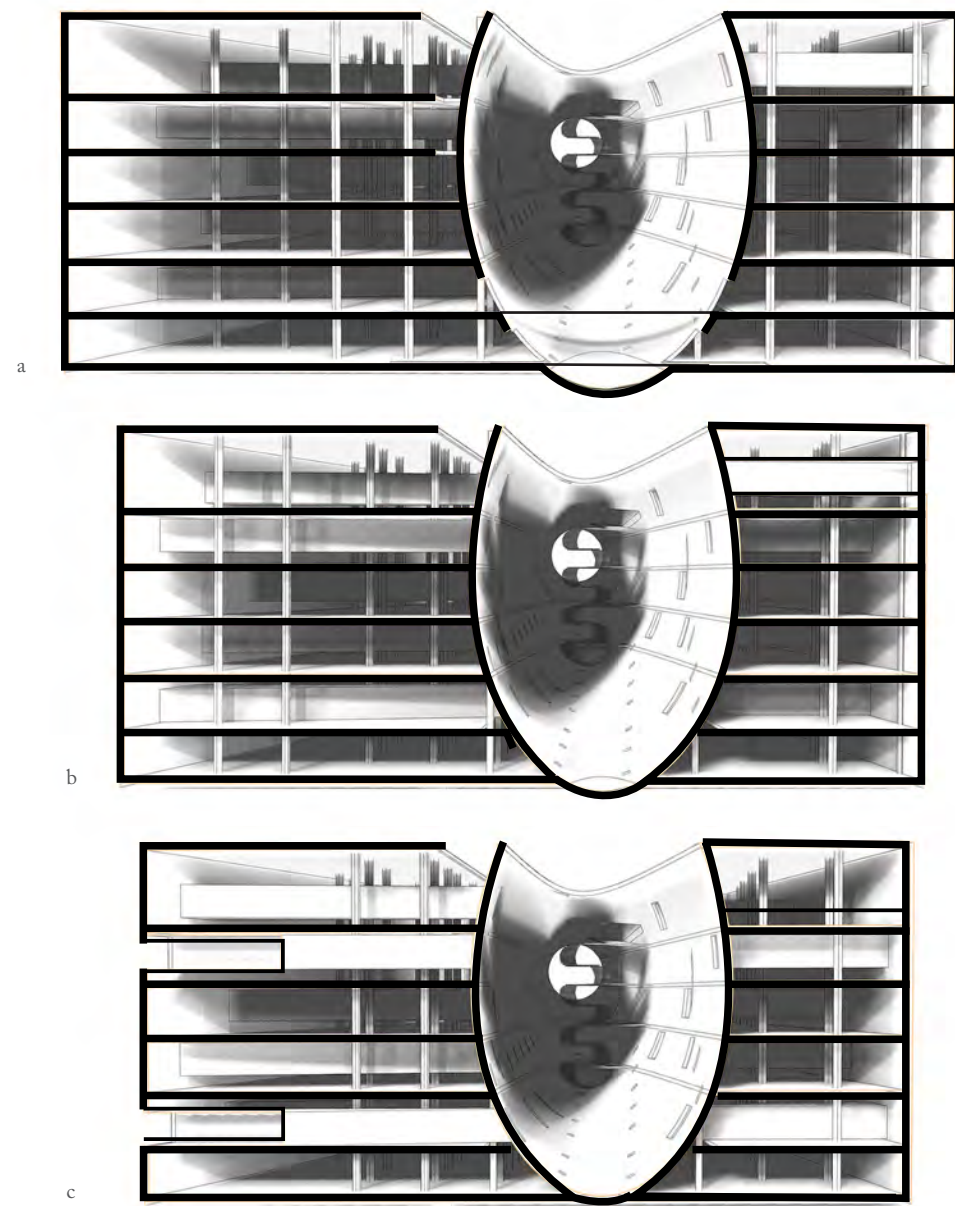
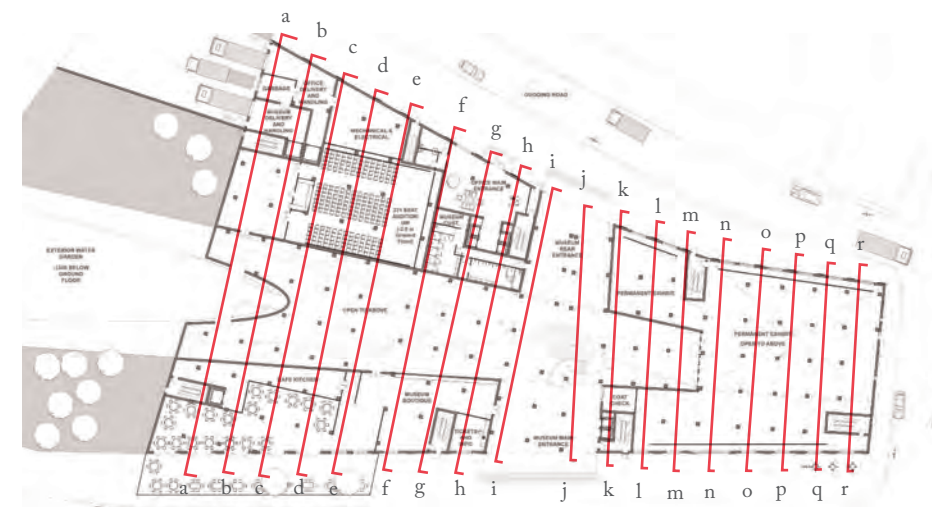


Diagram Sections: Short (looking east)

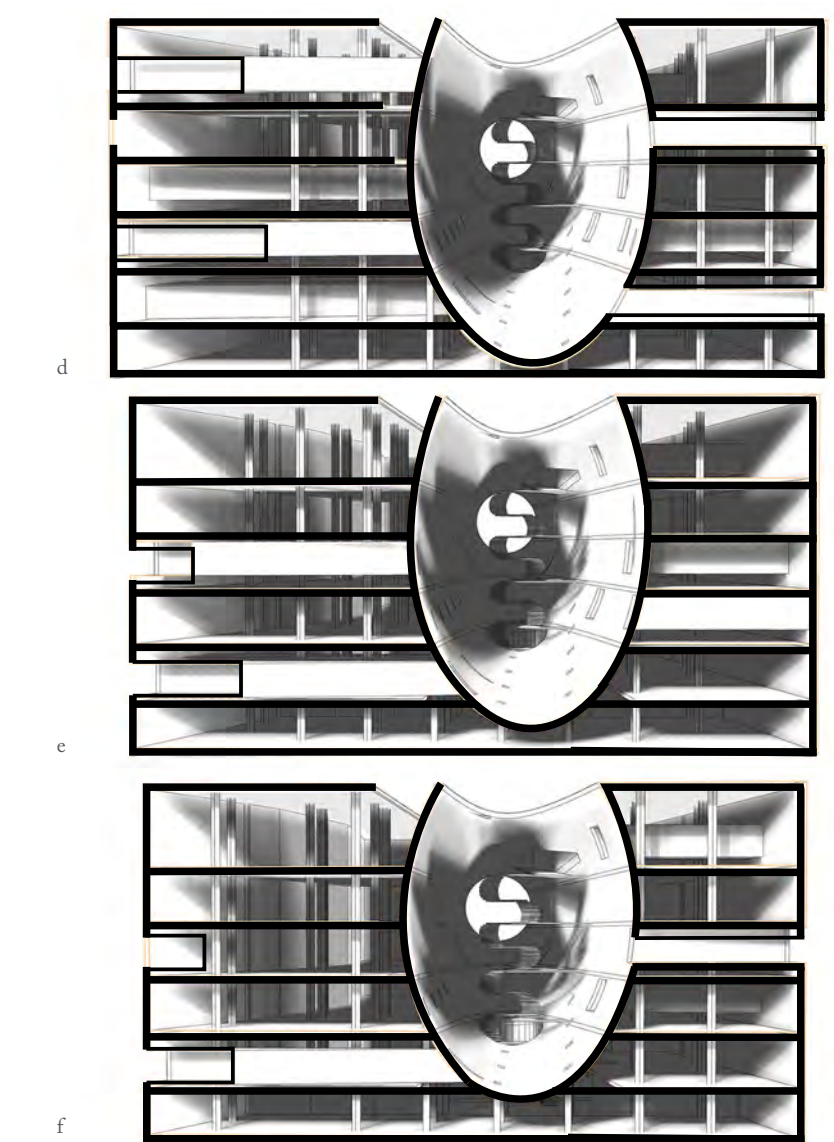


Fig 4.57 (Opposite top)
 NTS Section Key Plan.
 Fig 4.58-4.60 (Opposite), 4.61-4.63
 NTS Sections a-f (as associated with Section Key Plan)

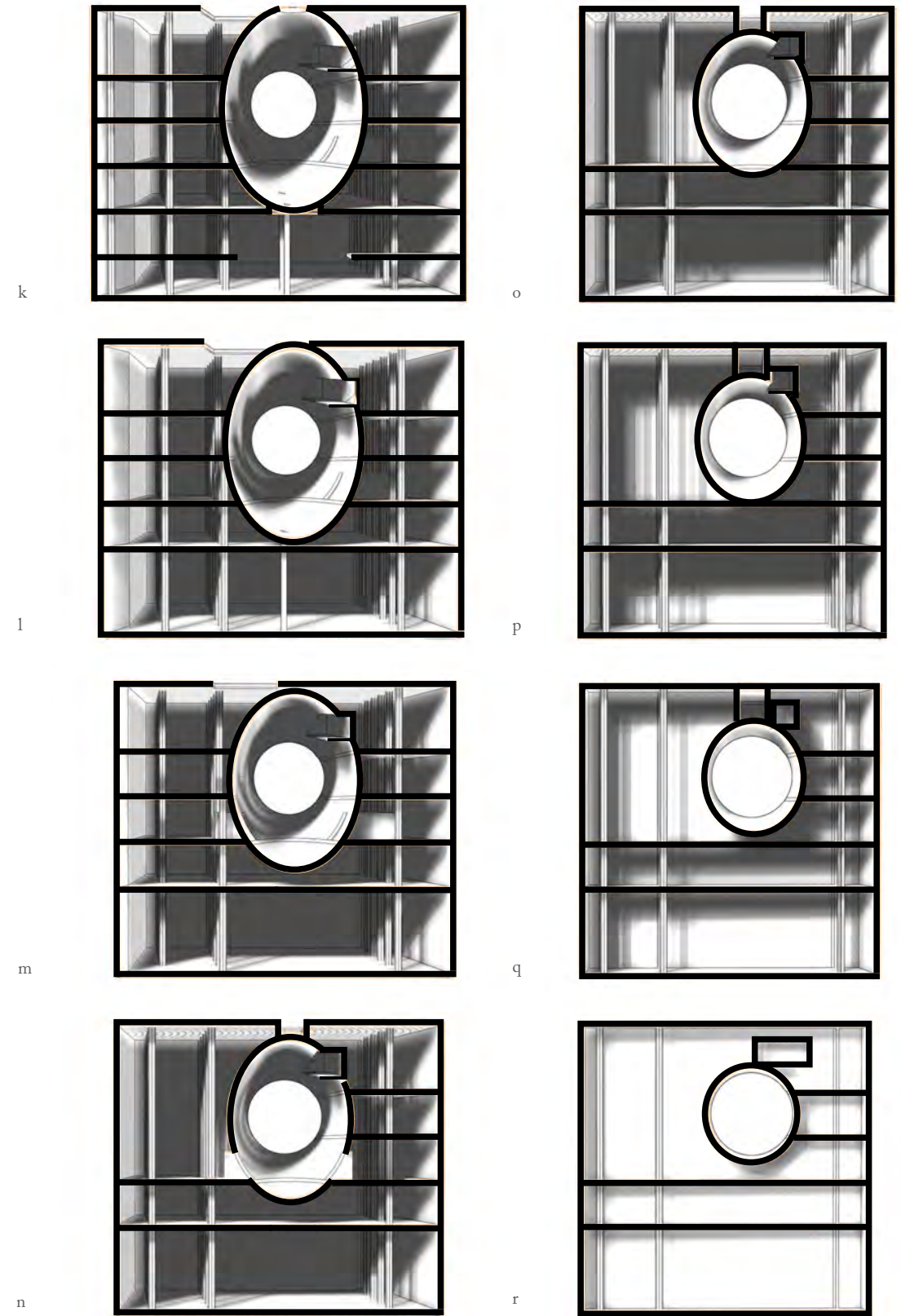
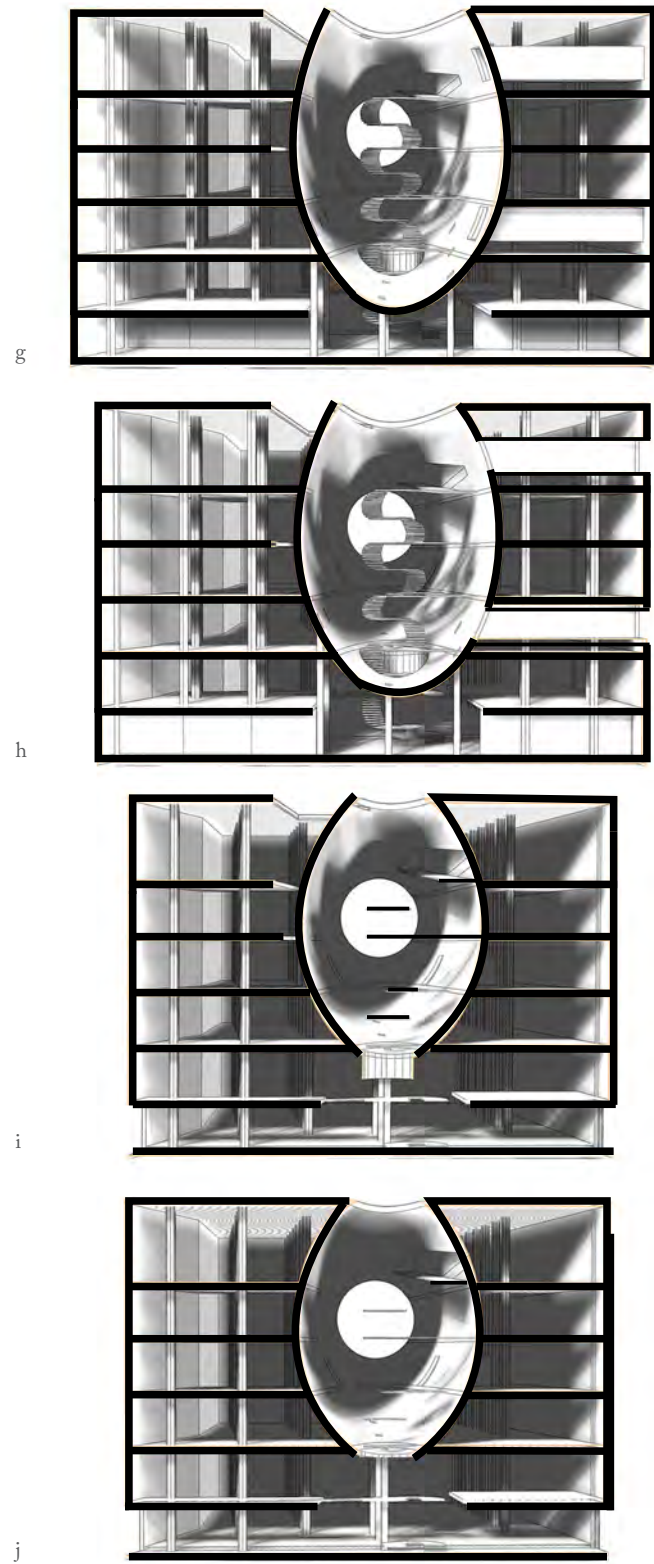


Fig 4.64-4.67, 4.68- 4.71 (Opposite left),
 4.72-4.75 (Opposite right)
 NTS Sections g-r (as associated with Section Key Plan on
 previous spread)

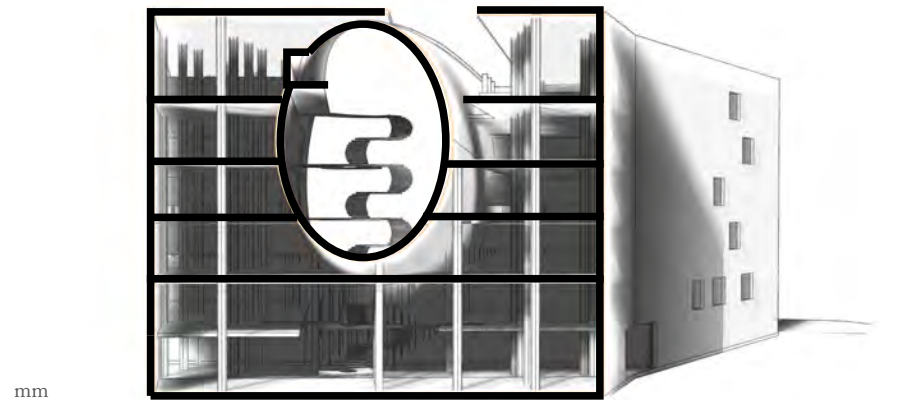
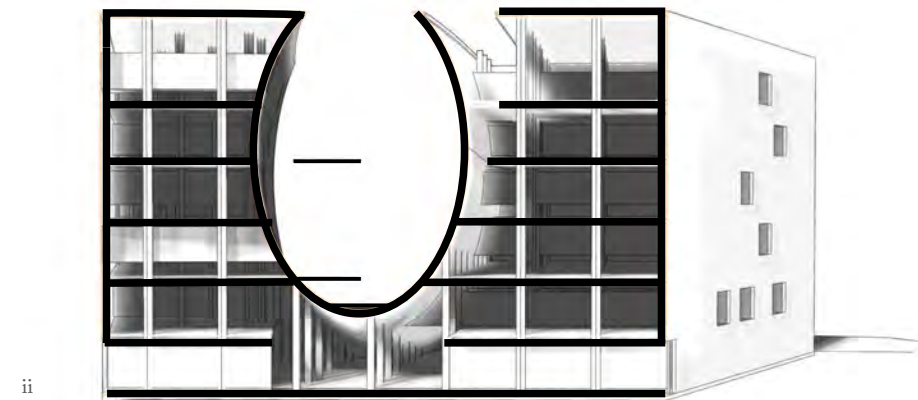
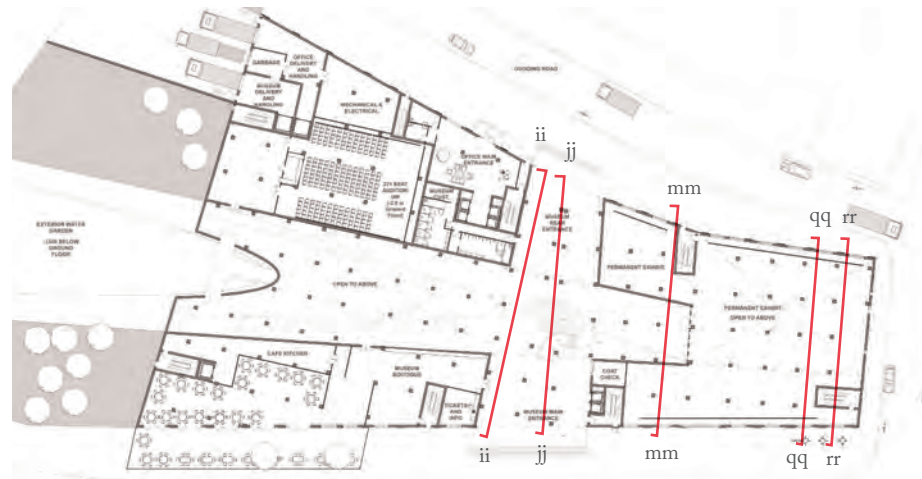


Diagram Sections: Short (looking west)

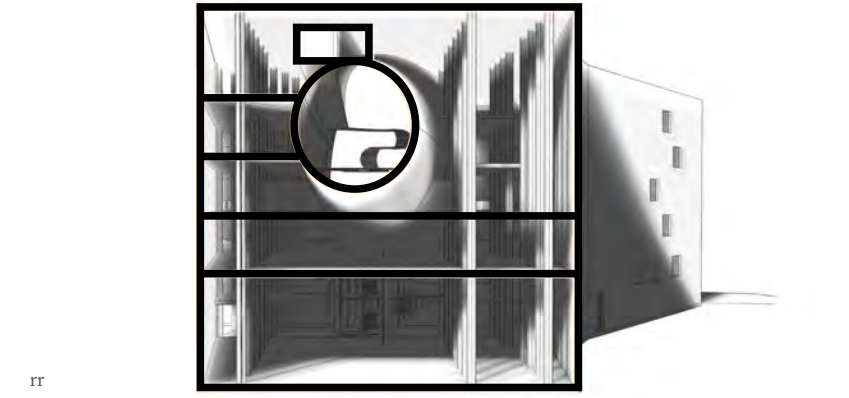
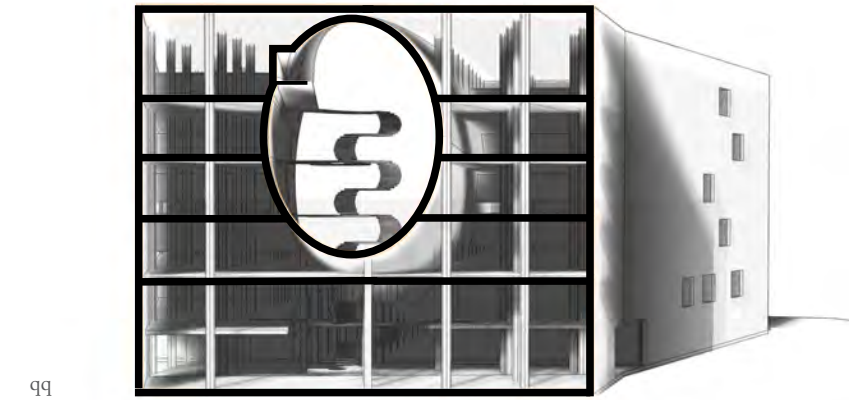


Fig 4.76 (Opposite top)
 NTS Section Key Plan.
 Fig 4.77-4.79 (Opposite), 4.80-4.81
 NTS Sections ii, jj, mm, qq, rr (as associated with Section Key
 Plan on opposite page)

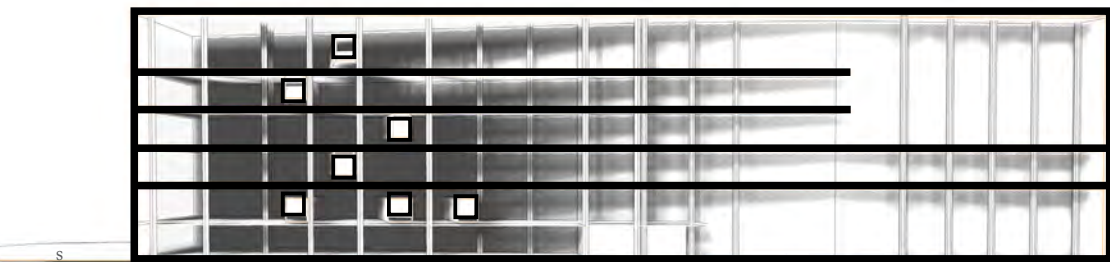
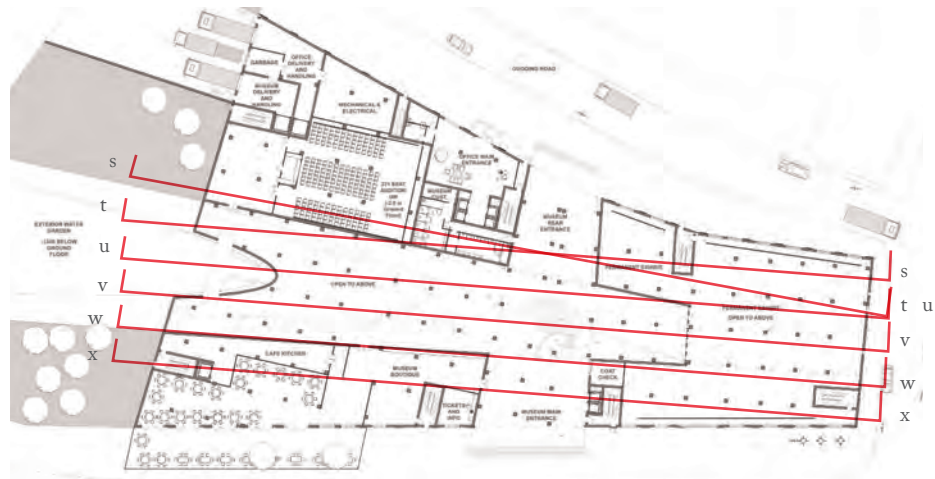


Diagram Sections: Long (looking north)

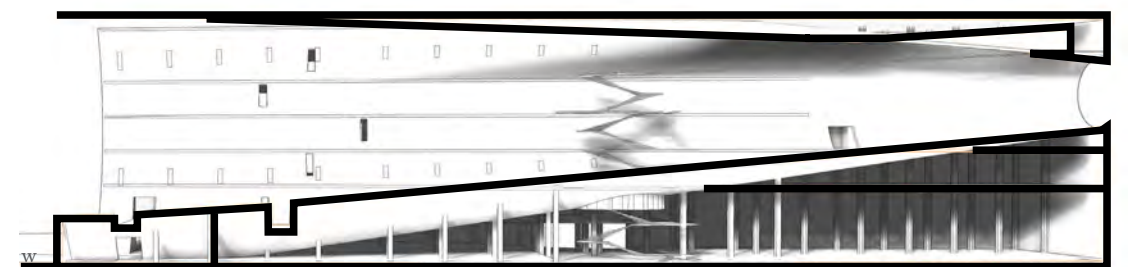
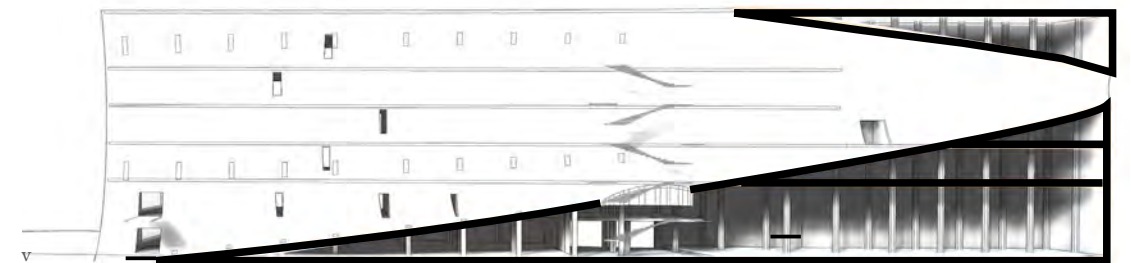


Fig 4.82 (Opposite top)
 NTS Section Key Plan.
 Fig 4.83-4.85 (Opposite), 4.86-4.88
 NTS Sections s-x (as associated with Section Key Plan on
 opposite page)

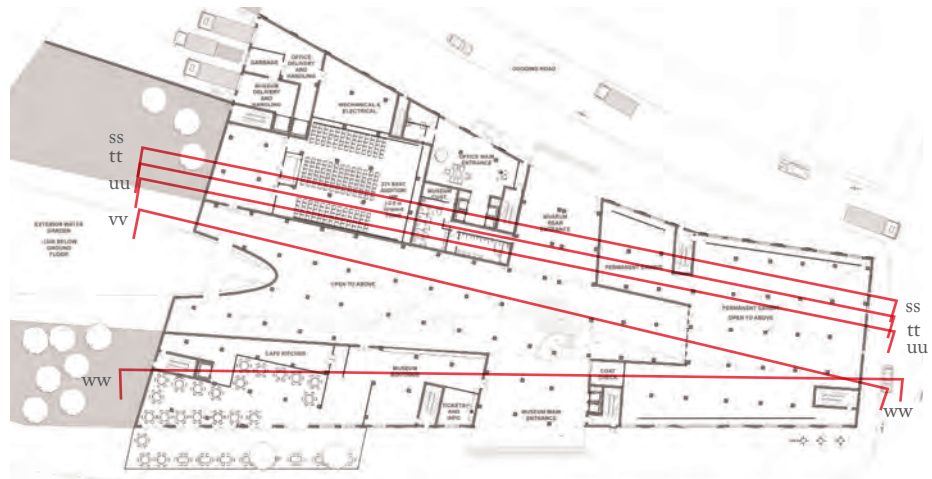


Diagram Sections: Long (looking south)

ss



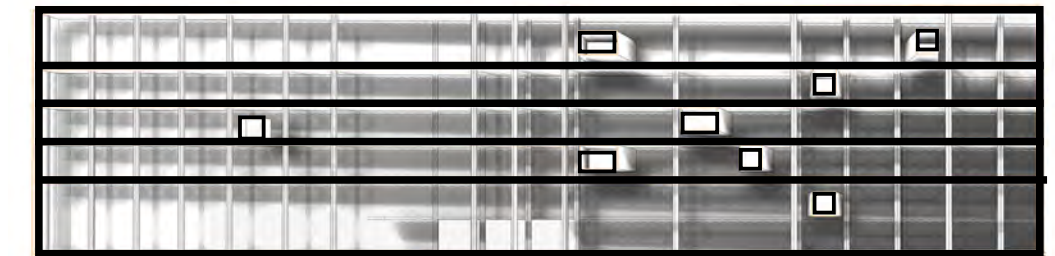
vv



tt



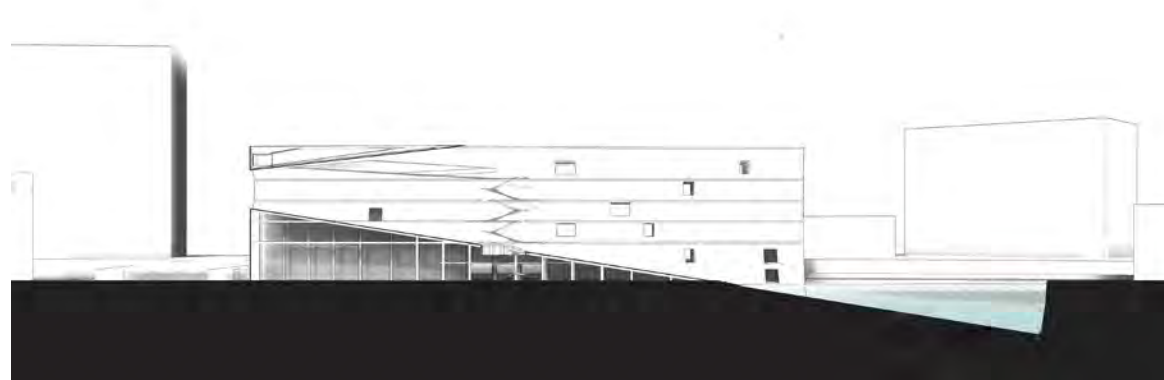
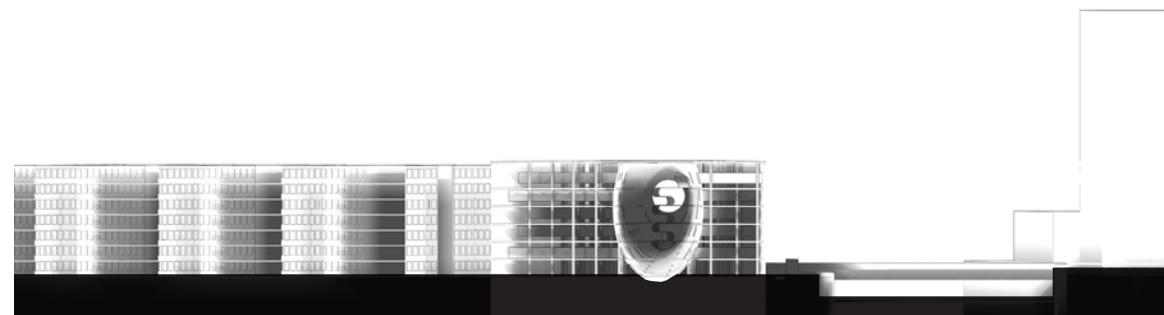
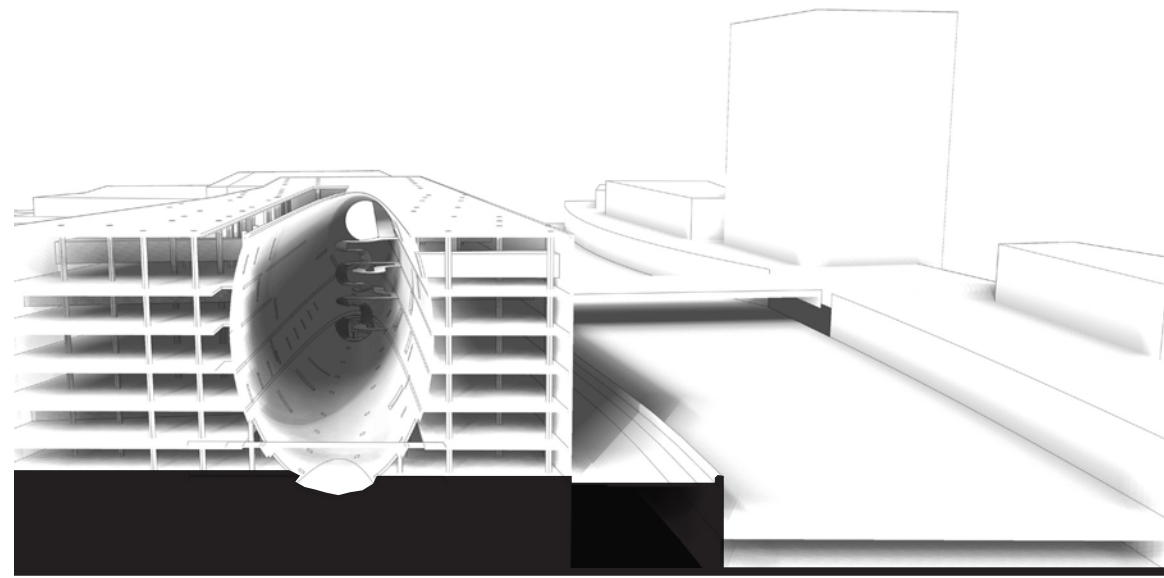
ww



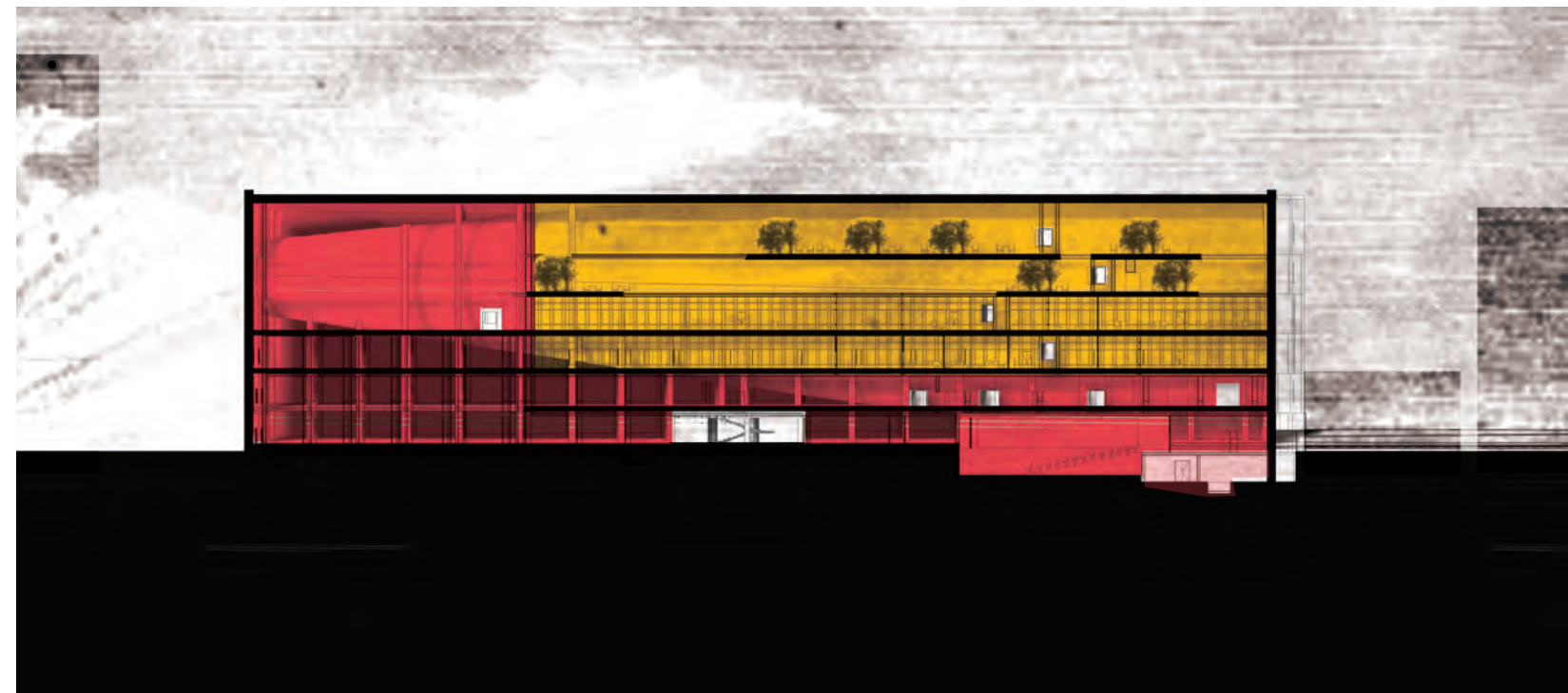
uu



Fig 4.89 (Opposite top)
 NTS Section Key Plan.
 Fig 4.90-4.92 (Opposite), 4.93-4.94
 NTS Sections ss-ww (as associated with Section Key Plan on
 opposite page)



Sections in Context



LEGEND:

- MUSEUM (PUBLIC ACCESS)
- MUSEUM SUPPORT (PRIVATE ACCESS)
- OFFICE

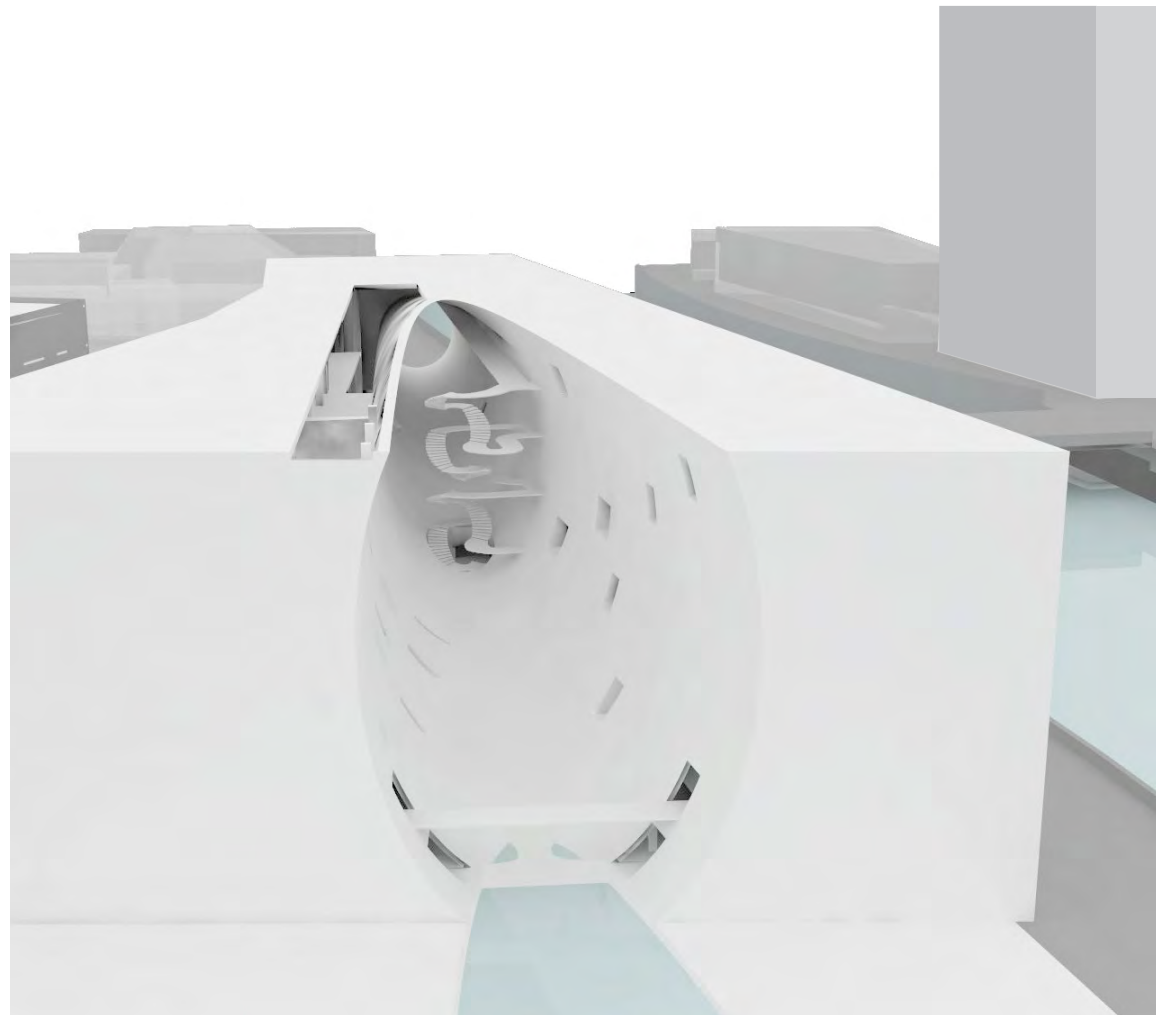
Fig 4.95 (Opposite top)
Section taken in front of the western wall of Sihang Warehouse looking east. Showing Suzhou Creek and surrounding context (NTS).

Fig 4.96 (Opposite center)
Section taken in front of the western wall of Sihang Warehouse looking east. Showing the building's relationship to the residential neighbourhood north of the site, Suzhou Creek, and high-rises on opposite side of the river (NTS).

Fig 4.97 (Opposite bottom)
Section taken through the courtyard and exterior water feature of the proposed Sihang Warehouse. Looking south towards the International Settlement.

Fig 4.98 (Above)
Section showing relationship of museum space to office space.

Fig 4.99 (Below)
Section legend.



Context Views

These views show the building in its urban context.

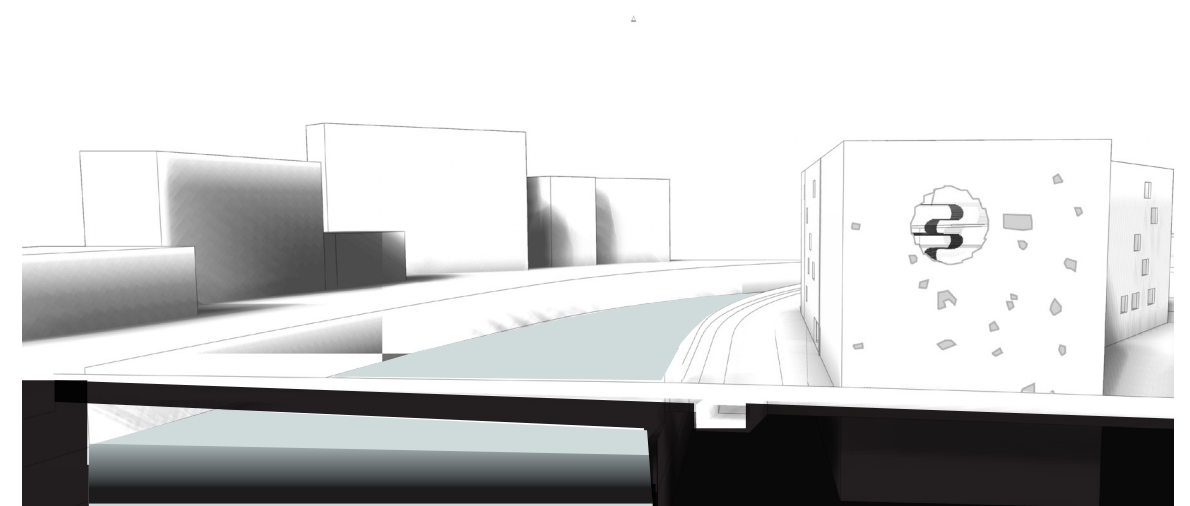
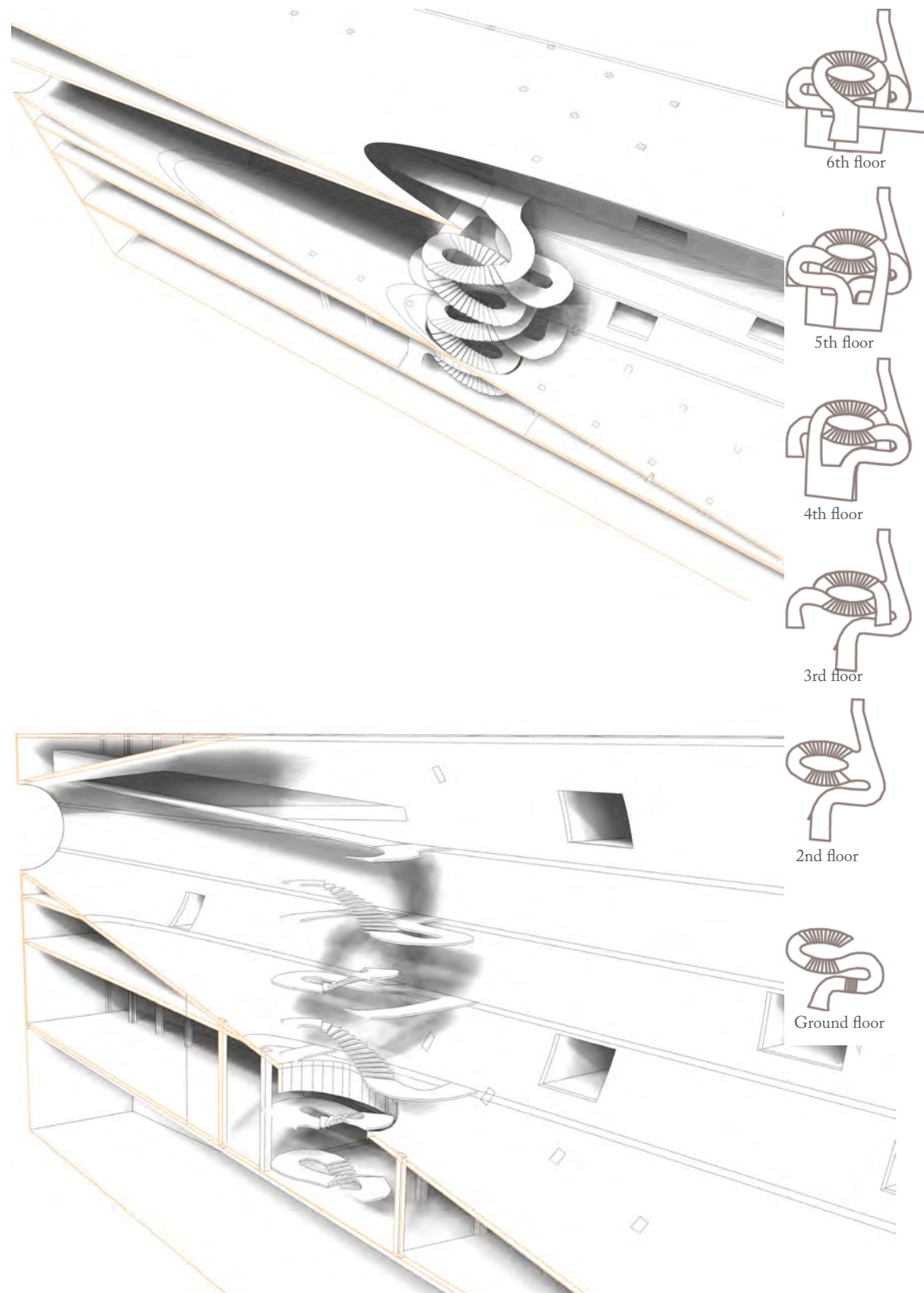


Fig 4.100 (Opposite)
View down into the courtyard in site context.
Fig 4.101
View of east wall, looking westward.



Stairs

This courtyard stair is the central circulation of Sihang Warehouse. The design of the

stair was inspired by the anatomy of the human heart.

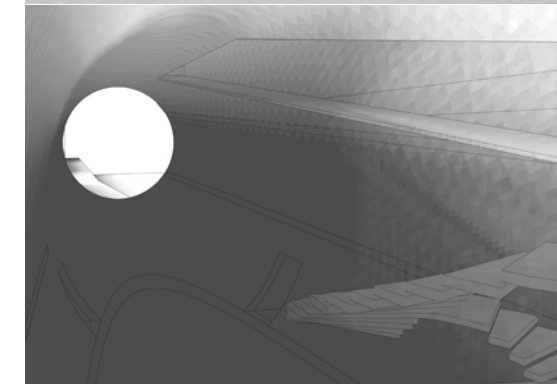
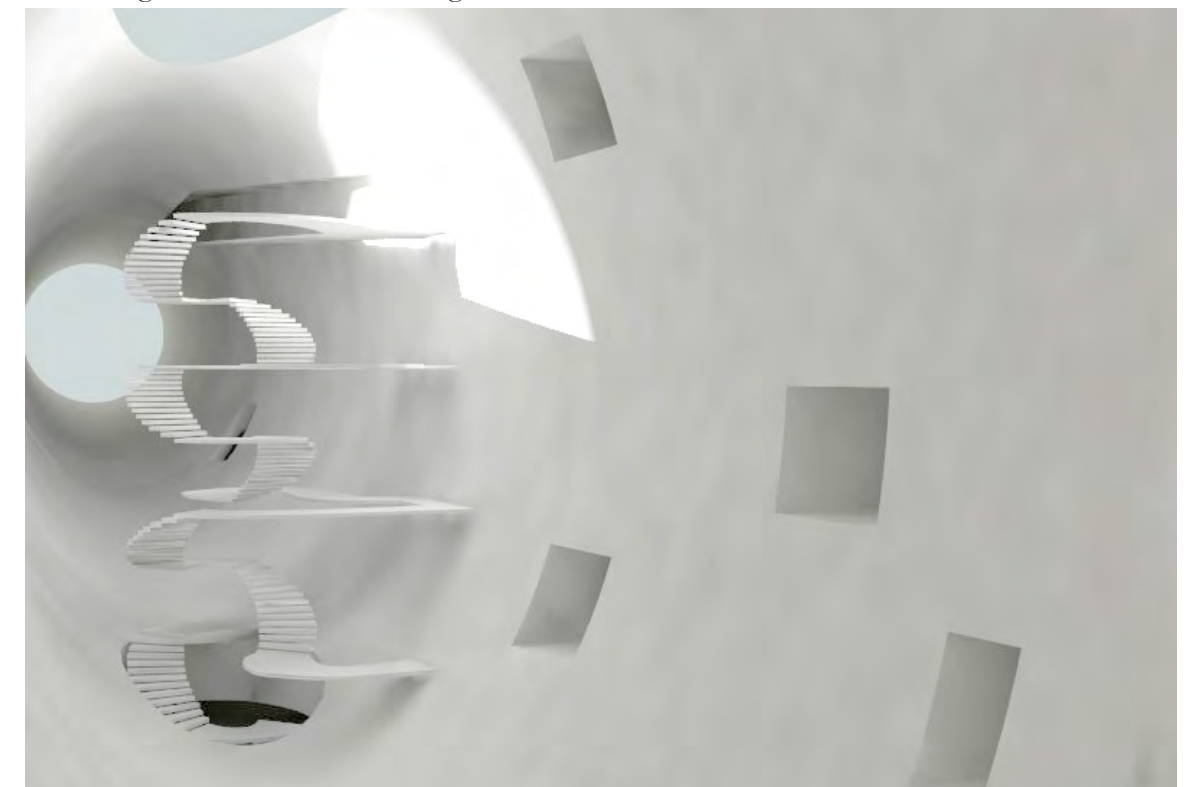


Fig 4.102 (Opposite top left)
Aerial sectional view of courtyard stairs.
Fig 4.103 (Opposite bottom left)
Side sectional view of courtyard stairs.
Fig 4.104 (Opposite right)
Plan view of courtyard stairs.
Fig 4.105 (Above)
Interior lobby view of stairs in relation to the conical ceiling/
courtyard above.
Fig 4.106 (Left)
Top of stairs showing ramped access to roof and view of river
through the oculus.

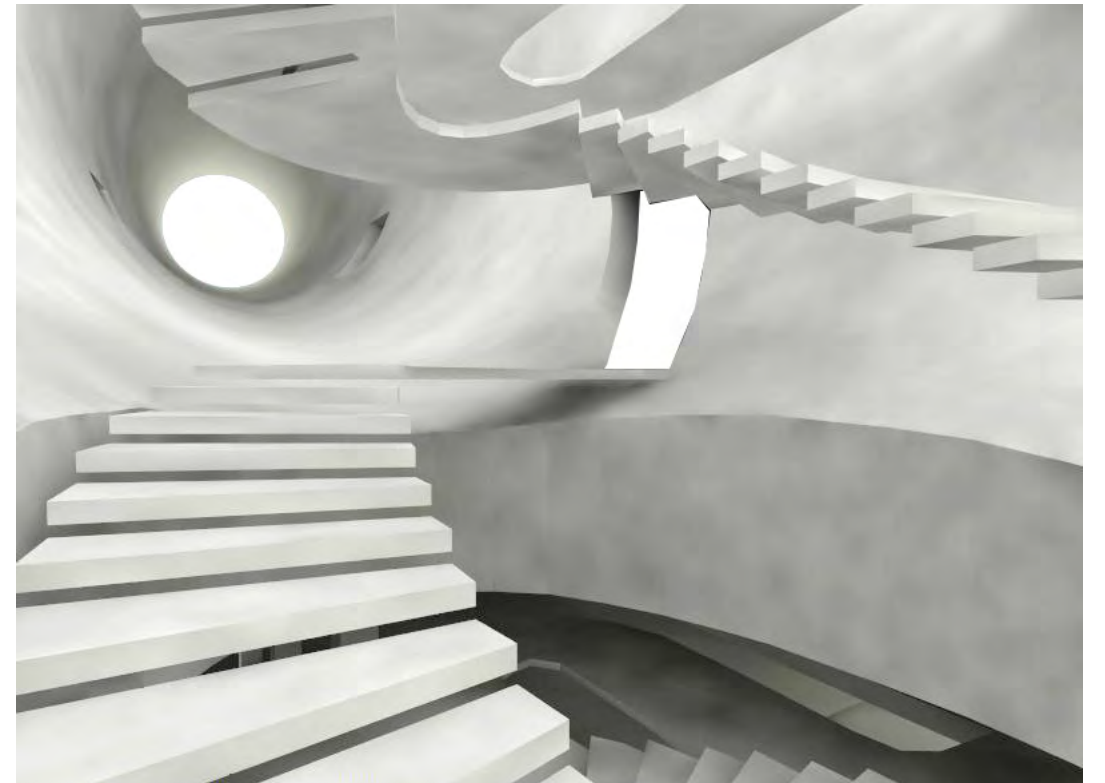


Fig 4.107 (Opposite)
The main exterior courtyard stair, showing its place between the split building.
Fig 4.108
View of oculus from stairs at 3rd floor.



Vignettes



Fig 4.109 (Opposite)
The main exterior courtyard stair, showing its place between the split building.
Fig 4.110
View out of oculus.

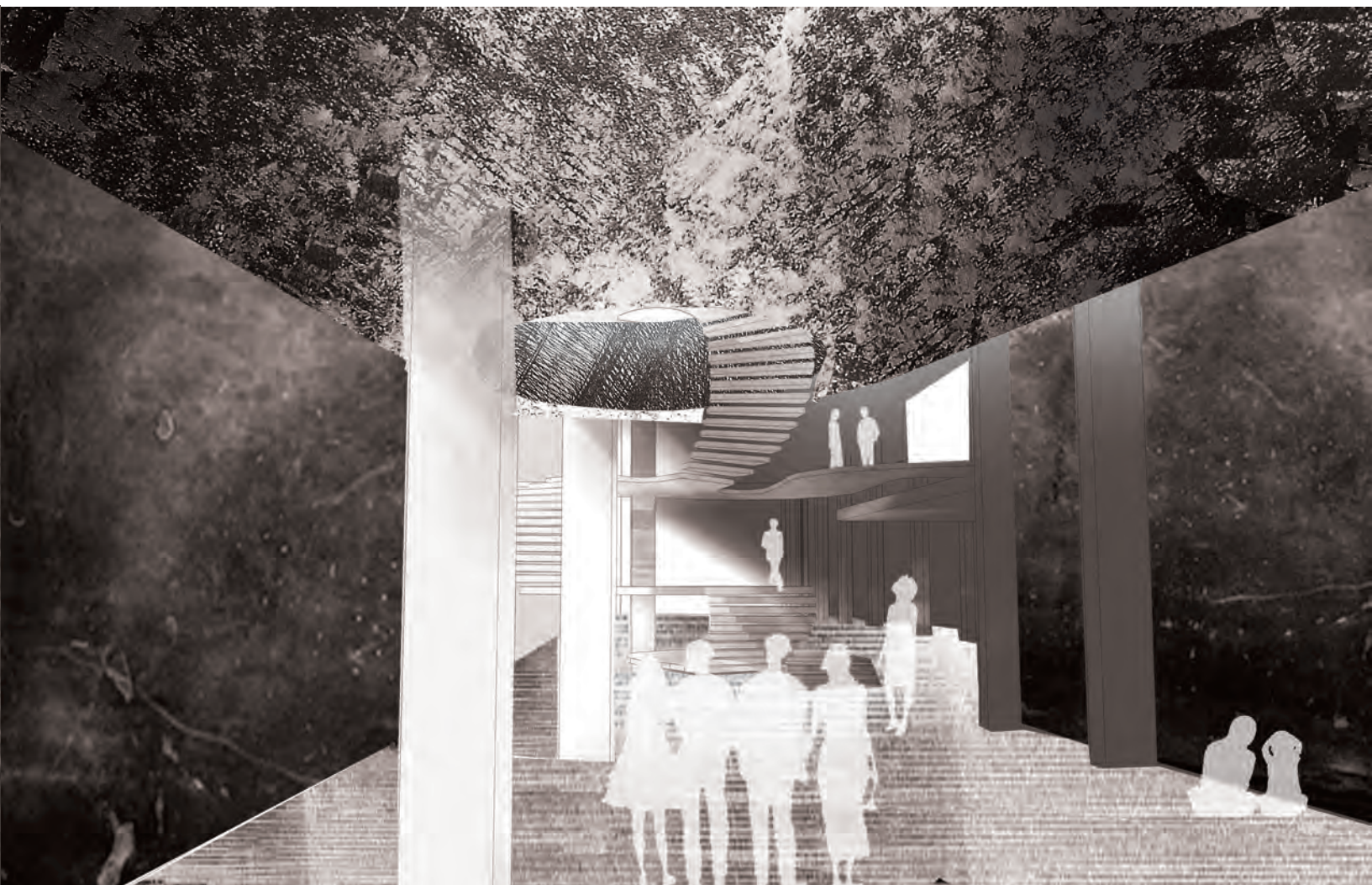


Fig 4.111 (Opposite)
View going up the ramp to the roof. Note the curvature of the floor following the curvature of the courtyard.
Fig 4.112
View inside lobby. Note how the conical courtyard above is the ceiling. This ceiling comes right down into the floor.

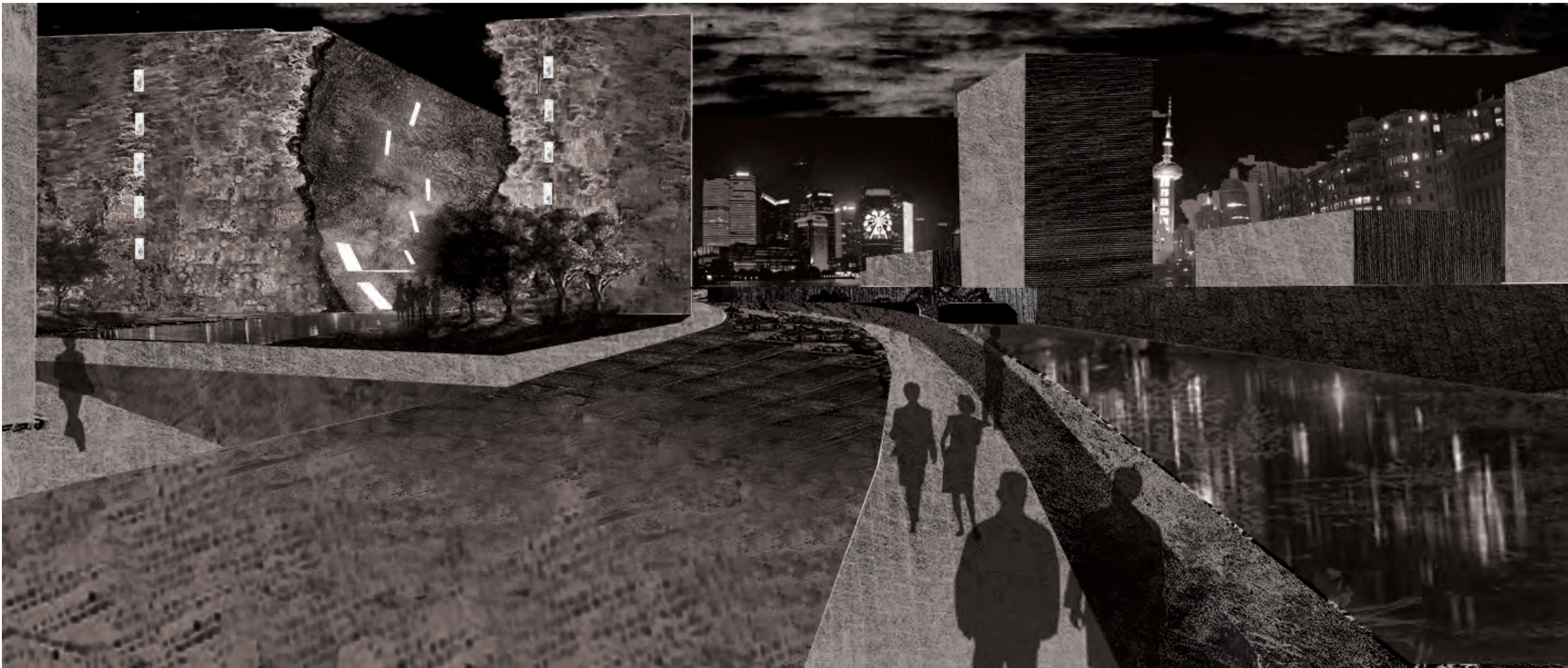


Fig 4.113
Night view of Sihang Warehouse looking east.

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Appendix: Documentation from Current Sihang Museum







4-06.jpg

4-07.jpg

4-08.jpg

4-09.jpg

4-10.jpg



4-11.jpg



4-12.jpg



4-13.jpg



4-14.jpg



4-15.jpg



4-16.jpg



4-17.jpg

Note: Documents in this appendix (pages 179-182) are historical archives taken from:
“China918爱国网.” Accessed August 14, 2014. <http://www.china918.net/91805/js4728/>.

Appendix: 1937-1939 Casualties Chart

Date Begun	Date Ended	Duration (Days)	Location	Japan: Strength	China: Strength
July 7, 1937	July 9, 1937	2	Beijing	5600	100
July, 1937	August, 1937	30	Tianjin	20000	46000
August, 1937	August, 1937	?	Chahar	?	?
August 13, 1937	November 26, 1937	103	Shanghai	300000	600000
October 26, 1937	November 1, 1937	6	Shanghai	3rd division	423
September 1, 1937	November 9, 1937	69	Taiyuan	140000	580000
September 24, 1937	September 25, 1937	1	Pingxingguan	15000	6000
September 13, 1937	November 11, 1937	59	Xinkou/Taiyuan	140000	280000
December 9, 1937	January 31, 1937	53	Nanjing	240000	75000
March 24, 1938	May 1, 1938	35	Xuzhou	240000	600000
March 24, 1938	April 7, 1938	14	Taierzhuang	55000	250000
January, 1938	June, 1938	150	Henan	?	?
May, 1938	May, 1938	30	Henan	20000	?
May 10, 1938	May 12, 1938	2	Amoy Island	?	?
Feb 18, 1938	2014-01-232014-01-23	2005	Chongqing	100s Planes	100s Planes
June 11, 1938	October 27, 1938	136	Wuhan	350000	1100000
October 1, 1938	October 11, 1938	10	Wanjialing	30000	100000
October, 1938	December 1, 1938	60	Guandong	?	?
February, 1939	February, 1939	30	Hainan	?	?
March 17, 1939	May 9, 1939	48	Nanchang	120000	200000
March, 1939	March, 1939	30	Nanchang	?	?
April 20, 1939	May 24, 1939	33	Suizhou/Zaoyang	113000	220000
June, 1939	June, 1939	30	Shantou	?	?
September 13, 1939	October 8, 1939	25	Changsha	100000	160000
November 15, 1939	November 30, 1939	15	Guangxi	100000	150000
December 18, 1939	January 11, 1940	24	Guangxi	45000	60000
				TOTAL:	

*Loss is to be defined as casualty unless otherwise stated.

Note: Data in this appendix (pages 184-185) is compiled (from Wikipedia and Simon Goodenough's War Maps: World War II) and analyzed by author.

Japan: Loss*	China: Loss*	Victory	Sub-Battle	Civilians Note
?	96	Japanese Attack repulsed		
127	?	Japan		
?	?	Japan, Mongolia		
92640	333500	Japan		
200	47	Chinese withdrawal	X (Sihang)	Minor Chinese breakthrough
30000	100000	Japan		
450	400	China	X (Taiyuan)	
20000	100000	Japan		
6000	27000	Japan		300000
30000	100000	Japan		Chinese breakthrough
10000	20000	China		
?	?	Japan		
?	?	China	X (Lankao, Henan)	
?	?	Japan		
12s Fighters/Bombers	Planes	Japanese airraids stopped		10000 17600 buildings destroyed
100000	225000	Japan		Pyrrhic victory
30000	?	China	X (Wuhan)	
?	?	Japan		
?	?	Japan	X (Guandong)	
24000	51328	Japan		
?	?	Japan	X (Xiushui River)	
21000	28000	China		
?	?	Japan	X (Suizhou/Zaoyang)	
?	?	China		
12100	23000	China		
4000	11000	China	X (Kunlun Pass)	
345867	1007924			