The Remains of the Old Urban Structure after the Destruction of Cheongju Castle, Korea

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Abstract
This study examines the waterway, road and lot systems sustained even after the destruction of Cheongju Castle in the early 20th century in Seongan-dong, Cheongju, a historical city in the inland of South Korea. Seongan-dong, where Cheongju Castle is located, has a ship-like form with the waterway system of Musimcheon Stream that flows backwards. The main current and tributary of Gyoseocheon Stream that flowed in and out of the town castle had served as a drain, and is currently serving as a street network after being covered at the end of the century. As for the road system, there is a rounded-square street network that shows traces of the destroyed town fortress, an orthogonal street network centered on Seongan-gil that connects the south gate to the north gate of the fortress, and dendritic type alleys in the residential district outside the south gate where the tributary of Gyoseocheon Stream had flowed. For the lot system, large-scale lots for government office, guesthouse and barracks at the center of the town castle are now a government office building and park. Large-scale and small-scale lots are subdivided around Seongan-gil and Nammun-gil, where commercial activities took place, but more than 90% of the division lines of the original lot still remain. As such, 3 important factors that set the direction for the urban landscape of Cheongju include: (1) the restorable waterway system that is still sustained even after 100 years of the modern period, (2) the orderly road system stretched north and south, and (3) the lot system that determines certain sizes and forms of buildings.

Keywords: old castle in Cheongju; historic urban area; urban spatial structure; waterway system; road system; lot system

1. Introduction
The historic city of Cheongju in the central inland of Korea was a walled city in which the town castle, established in the late 15th century, was located. After Cheongju Castle was destroyed between 1911 and 1915, the urban center of Cheongju was developed in a long linear grid-type spatial structure from south to north. The structure was centered between Musimcheon Stream that flows from south to north, Uam Mountain which stretches from south to north, and Seongan-gil1) that connects the south gate to the north gate.

Unlike other cities, historical relics and remains have been reflected fully in the urban spatial structure as well as the town castle. The square belt road with traces of the fortress, mid-sized streets and small alleys sustaining their old widths and forms, dendritic type alleys reflecting spontaneously created waterways. Further, division lines of the original lots that mostly still remain are all valuable assets in terms of historical culture and urban architectural history.

Accordingly, this study aims to examine how the spatial structures of Cheongju Castle such as waterway, road and lot systems when the castle was established are sustained today, and what changes they have been through. This study examines the historical urban center of Seongan-dong in terms of space and time, from the 1915 when Cheongju Castle was destroyed to the present. The temporal scope exceeds 100 years, so this study compares it with the late 1960s when there was a change in the urban landscape due to the relocation of the urban railroad to the outskirts and the establishment of Sangdang-ro, which is a north-south street.2)

References include Cheongju Castle Map (1785), Cheongju-myeon Original Land Registration Map (Ministry of Government Administration, 1913), Cheongju Topographic Map (Academy of Korean Studies, 1918) in Fig.1., as well as Cheongju Street Map (Daecheongju, 1922), Cheongju Street Map (National Archives of Korea, 1934), Cheongju Urban Area Street Map (1939), Cheongju City Planning Map (Cheongju City, 1967), and other registration maps, GIS maps, aerial photographs, and related literature from the 1970s to the 2010s.
2. Cheongju Castle and Urban Structure

Cheongju is geographically located at the center of the Chungcheong area, with an abundance of natural features such as mountains, streams, and trees. It is a walled city established for administrative and military purposes. As Cheongju Castle was destroyed between 1911 and 1915 as part of a city improvement project in the modern era, urban structure began to take the form of a long linear grid city in the north-south direction along the Musimcheon Stream and Uam Mountain in Cheongju.

The archetype and benchmark of the Cheongju urban spatial structure is Cheongju Castle. The 400×600m rectangular fortress from north to south is gone, but its traces remain as a street network. There is a street network connecting Seongan-gil to the four gates in all quarters, the government office and barracks as well as the residential area (outside the south gate). The original Cheongju Gingko tree, Yeongmun gate, Cheoldanggan flagpole (an iron pole established in 962 AD), and Namseokgyo bridge (a bridge made with stone located in the south, now buried, Fig.4.) also remain. In addition, countless private houses outside the south gate look different now, but the shapes of the sites on which they are located or the branch-shaped alleys that had formerly been waterways still exist. They are valuable historical and cultural tangible assets in Cheongju.

The urban area of Seongan-dong around Cheongju Castle where the village was formed earlier is surrounded by the foot of Uam Mountain (Dangsan) to the east, and by the water course of Musimcheon Stream that flows backward from the south to the north on the west (see Fig.4.). The castle was established on a flatland where the mountain meets the water and formed a living foundation similar to other inland walled cities like Jeonju, Naju, Gwangju, Daegu and Sangju of Korea. Cheongju is different from others because of its urban spatial structure developed around the castle, aside from Musimcheon Stream and Uam Mountain on the south and to the north.

While other areas were changed irregularly to all four directions around the fortress, Cheongju showed
clear directivity from south to north, with an orderly grid-type street network. Around Seongan-gil, which connects the south gate of the castle to the north gate, the north-south streets such as Daeseong-ro and Sangdang-ro and the east-west streets formed by each 120-160m square block show the orderly orthogonal and clear street network overall.

The relocation of Cheongju Station, the opening of the Gyeongbu and Jungbu Expressways, and the implementation of the land readjustment project since the late 1960s led to the expansion of the municipal area. The city grew until it had an administrative district area of 940.3 km², which is 1.6 times the size of Seoul after the integration of Cheongju and Cheongwon in July 2014.

3. Waterway Systems

3.1 Linear Changes of Musimcheon Stream and Formation of Urban Area

Musimcheon Stream, which is located in the urban center of Cheongju, flows backward from the south to the north⁴ reaching the hill of Tap-dong and hill of Godang Village⁵ in Mochung-dong, and forming a meandering stream. This river course of Musimcheon Stream showed frequent changes by the overflowing in the modern period.

After the great flood⁶ in August 1906, the destruction of Cheongju Castle and the city improvement project (1911-1915) were followed by two Musimcheon Stream Improvement Project (1921-23, 1931-32) and the Musimcheon Stream land readjustment project (1967-1971), resulting in today's urban district.

The city improvement project was focused mostly on improving and repairing sewage and arterial roads, and roads were established along the destroyed fortress site: "First the ramparts were destroyed, and new drains established using the rocks, and an arterial road was developed in a straight line from Namseokgyo⁷ to the north gate. This is today's Seongan-gil. After that, streets are formed lengthwise and breadthwise to form a grid pattern, and most of the construction was completed by 1915."⁸

There is a wide sandy beach on the west and south between the castle and Musimcheon Stream, where

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**Fig.4. Transition of Flowing Line in Musimcheon and Gyoseocheon Stream**

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JAABE vol.16 no.2 May 2017 Taiyoung Kim 289
markets and fairs often operated, but it was severely damaged by the frequent overflowing of Musimcheon Stream. While it was important to prevent flooding of Musimcheon Stream to secure urban space, the 'Musimcheon Stream Improvement Project' was carried out for two years starting in 1921, along with the construction of the city railroad. The range of construction was to the west of Musimcheon Stream, 300gan straight from the upper bend (Namju market) to the downstream bend (Cheongju-daegyo bridge), and 200gan extended downstream.59 The bank construction on the south (Seokgyo-dong) was held under the name of 'Musimcheon Stream Poor Relief Improvement' for two years starting in 1931, completing the urban area. Seokgyo-dong today still sustains the form of the old bank, buried Nameokgyo bridge, as well as the street network and lot formed by the tributary of Musimcheon Stream before building the bank.

With the bank revetment on the west and south of Musimcheon Stream for over 10 years since 1921, the line of Musimcheon Stream was organized in the south-north direction, forming a wide sedimentary layer across the bank on the west of the castle. Located at the heart of the urban center and adjacent to Musimcheon Stream, this place has constantly sustained flood damages. Moreover, the environment worsened as unesthetic and unclean facilities like the cattle market, junk shops and a pig breeding farm entered this area. To solve these problems and improve the surroundings of Musimcheon Stream, the 'Musimcheon Stream land readjustment project' was carried out from 1967 to 1971. The 10-20m wide bank road was constructed 3m higher than the current site, which put the entire city lower than the bank and helped prevent flooding, but this blocked access to Musimcheon Stream.

3.2 Main Current and Tributary of Gyoseocheon Stream

According to Cheongju Topographic Map (1918), the watercourse of Gyoseocheon flowed around Cheongju Castle through two routes and met Musimcheon Stream. One was the main current of Gyoseocheon Stream flowing northeast of the castle, and the other was the tributary flowing all around the castle from the southeast of the castle.

The main current of Gyoseocheon Stream flowing from Sangjwago10 of Uam Mountain meandered along the north castle or from the outside of the north gate toward the north, flowing into Musimcheon Stream along both sides of the current Jungang-ro outside the north gate. To prevent the inflow of the high rate of flow gathered on the northeast of the castle where the main current met the tributary into the city, the city railway was established in the 1920s and the waterway of the main current was changed to Sudong Seongdang-gil on the outskirts of the city.

The tributary of Gyoseocheon Stream flowing from Danggogae-gil leading to the south gate was divided into two branches below the south of Dangsan (the foot of Uam Mountain), joining Gyoseocheon Stream. One meandered along Daeseong-ro and flowed through Munhwa-dong to the northeast of the Chungbuk Provincial office, joining the mainstream of Gyoseocheon Stream. The other meandered through the current Nammun-gil from Namju-ro on the west of Janggung Park to Seomun Market, joining Musimcheon Stream on the northwest of the castle.

These watercourses in the city, which are tributaries of Gyoseocheon Stream, had poor sanitation which blocked the traffic line accessing buildings and were ultimately covered in sewage. As the sewerage dredging work began in the 1960s, most of these tributaries were covered, serving as sewers. The main current of Gyoseocheon Stream was also covered in the 1990s for the same reason.

4. Road Systems

4.1 Street Network Immediately after Destruction of Cheongju Castle

In the Cheongju-myeon Original Land Registration Map (1913) drawn immediately after the destruction of Cheongju Castle, the outlines of the castle were represented by the roads. The estimated figure based on the inner side of the street was approximately 1,771m, which is similar to 1,783m in Yeojidoseo of the Joseon Period, and to the actual measurement of 1,773m taken in 1977. The width of the wall is estimated to be about 7m through the wall structure of the current Haemieupsaeng Fortress with a similar year of establishment (1491) on the same flatland, and the width of the street network was also around 6-10m. The streets formed according to the shape of the castle were square with rounded angles.

The street network in the castle consisted of crossroads or five-way intersections centered on the four gates in four directions. There was an orthogonal street network in front of and behind the three gates (west, south and north), but an irregular structure near the east gate. With the current Seongan-gil11 connecting the south gate to the north gate as the center, it was divided into three parts: Yulgok-ro in the east-west direction from the east gate to the Government Office, Seomunsijang-seoro in the west gate direction, and Namsa-ro entering the barracks. This was the archetype of the street network in the castle as shown in Cheongju Castle Map drawn in the 1785.12 In the north-south direction, Junganggongwon-gil and Cheoldanggan-gil bends bilaterally aside from the central Seongan-gil.

The street network outside the south gate consisted mainly of Seongan-gil leading to Namseokgyo bridge. In the east-west direction, Nammun-gil was located on the south of the fortress, Gagujeom-gil13 that had been the pharmacy street, and Eunhaengnamu-gil that was the bank of Musimcheon Stream. The south-north direction featured Namjusijang-gil, the second most crowded street after Seongan-gil due to its connection to the provincial government building, Namjusangaro connected from the west gate to Namju Market,
and other street networks in the present Sangdang-ro district. The streets in the castle are grid-type, but Nammun-gil and Gagujeom-gil in the east-west direction outside the south gate are in an obtuse angle, connecting the curving points on the east and west of the southern fortress. (Fig.3.)

In addition, there were alleys naturally formed along the former watercourses in the residential area outside the south gate. They were connected to one another organically, facilitating the entrance into each dwelling unit. The six alleys Haengbok-gil, Bareunmam-gil, Gukhwa-gil, Segan-ro, Boram-gil, and Seowon-ro were dendritic types as old streets about 2-4m wide that connected to district shopping areas and dwellings.

4.2 Urban District Plan and Change of Street Network

The orthogonal street network developed after the completion of the city improvement project in 1915 is shown in the Cheongju Topographic Map (1918). The existing street networks were adjusted and extended around public buildings, and the widely extended roads were established outside the east and north gates for vehicular traffic and popular growth.

The lines of the existing east-west street networks around public buildings included Namsa-ro that connected from Seongan-gil to the old Chungbuk Province Office (present Jungang Park), Yulgok-ro in front of old Cheongju government office, Seomun-ro in front of old Cheongju Police Station (present shopping mall), and west gate road (Seomunsijang-seoro) in front of the Post Office. The lines of the existing south-north street network were also established in the extended section of Jungang Park road (Junganggongwon-gil) connecting Cheongju Myeon and Chungbuk Province Government Office.

As the urban area expanded outside the four gates in the Japanese colonial period, the urban district plan was made. The railway between Cheongju and Jochiwon was opened toward Jungang-dong outside the north gate, on which full-scale construction began. In addition, the extension line for Yulgok-ro from Seongan-gil to outside the east gate was established based on 2 protocols: (1) the Residential Area Expansion Plan toward Munhwa-dong outside the east gate, and (2) the Chungbuk Provincial Office relocation plan to Ingeobaemi site outside the east gate. This extension of the street network and relocation of the Chungbuk Provincial Office in 1936 promoted the development outside the east gate.

With the relocation of the railway and the establishment of Sangdang-ro in the late 1960s, the
area finally came to have the current street network and residential district. The type, location, and width of roads data collected from the street network changes and developments formed the basis of The Urban Area Plan in 1939 and the Street Network Redevelopment Plan in 1967. The large, medium, and small roads were planned and implemented based on the data of street networks before the destruction of the castle. With the exception of the road extension projects of 25m wide Sajik-ro and Sangdang-ro, 15m wide Namsa-ro and Namju-ro, the redevelopment was carried out based on the widths of former streets, preserving most of the street landscapes of the past.

4.3 Current Status of Street Network

The orderly grid-type road system, formed based on Seongan-gil connecting the north and south gates when Cheongju Castle was established, is maintained to this day and extended to the surroundings. The extended line of south-north direction is in the same direction as Musimecheon Stream and Uam Mountain, which makes it much more apparent. Seongan-gil, Sangdang-ro and Daeseong-ro, about 3km long, cross the heart of the urban area in the south-north direction. There are also 2km long Junganggongwon-gil, Namju-ro, and 1km long Cheoldanggan-gil.

In the east-west direction, there are Sajik-ro outside the north gate, Seomun-ro connecting the inside of the castle to Cheongju Hyanggyo(Confucian School), Yulgok-ro in front of Sangdang-Gu office where the old Government Office was located, Seomunsejongseoro connecting to the west gate, Namsa-ro passing Jungang Park, and Nammun-gil crossing the south gate fortress site. Gagujeom-gil, Eunhaengnamu-gil, and Seokgyo-ro are also present outside the south gate.

Also, numerous alleys outside the south gate of the castle still remain. Connecting these alleys with the byways in between them, a large oval annular street network appears. This is a distinctive feature outside the south gate of Cheongju Castle that cannot be easily seen anywhere else.

5. Lot Systems

5.1 Change of Large-Scale Lots

In Cheongju Castle, government buildings such as offices, barracks, and guesthouses have long occupied the large-scale lots, which had important roles in sustaining the urban structure and townscape.

Some of these large-scale lots in the urban area remain in their original state, while others have been subdivided due to the city's urbanization and modernization. The change of large-scale lots can be categorized into maintained, subdivided, and combined lots in shape.

Government offices and Guesthouses(Buk1ga 171-, 東軒), Granary(Buk1ga 188,196, 司倉), Barracks(Nam2ga 92-6, 兵營) had taken up the central part of Cheongju Castle, and maintain the form of the former large-scale lots. Functionally Government Offices retain their character, but the former Guesthouse, Granary, and Barrack areas have been changed into a department store, post office, and Park respectively. The pavilion Pacheongjeong(Nam1ga 154) were also located in the large-scale lot outside the south gate of the castle, and now Jeil church is taking its place.

The small offices such as a clothing warehouse Nokbang (Buk1ga68, 綠), an officers billet Jangcheong (Nam2ga 9, 將廳), and a flag warehouse Gisucheong (Nam2ga 65, 旗手廳) also occupied a certain part of the large-scale lots around the iron flagpole of Cheoldanggan(Nam2ga 48). Divided around large-scale lots where commercial activities are vitalized and the roads are newly established, these lots of small offices were divided by half. One of the 2 lots comprised a bank, theater and church while the other private lot was subdivided. Such division of large-scale lots can be found in official residence sites, private lands, a construction office Jakcheong (作廳, Nam 1-ga 255) and a pavilion Hagudang (Namju9-10) outside the south gate.

There are few large-scale lots that were formed in combinations. Some medium-scale lots combined with small private lots were used for the bank and church. A combined large-scale lot is only found in the place occupied by the former Cheongju Federation of Financial Union. (Buk 1-ga 90-1)

As such, large-scale lots near Cheongju Castle retain their original form either by maintenance or by division, and thus the former urban spatial structure is sustained with no changes into large-scale combination lots. In
terms of functional role, the existing large-scale lots still retain their public sector roles in designated areas.

5.2 Maintenance and Subdivision of Original Lots

In the Cheongju Castle and outside the south gate, 563 lots (91.4%) out of 616 original lots in the Original Land Registration Map (1913) are maintained, while only 53 lots (8.6%) were destroyed. Of the 563 maintained lots, 327 were subdivided into 1,197 lots, 3.6 small lots per lot on average.

The residential area outside the south gate is where the original lots are most widely distributed. The 5 units of 120-160m square blocks maintain the original lot form, and are accessed through the alley formed along the former waterway system. Ironically, this phenomenon is most commonly found in blocks 18, 21 and 22 which were divided in half due to the establishment of the road penetrating the inside of the square block. Old alleys formed as branches still exist inside the destroyed lots along the street, where old houses are still located.

The subdivision of the original lots is mostly clearly shown around Seongan-gil, where commercial activities were vitalized. Although area division averaged 165 m² per lot, the area of the lot adjacent to Seongan-gil is smaller with a narrow width and long depth of lot. Also, the subdivision was extended to Nammun-gil crossing Seongan-gil, which was the former location of the southern fortress. In addition, lots adjacent to the alleys of residential areas outside the south gate were subdivided. These subdivided lots

JAABE vol.16 no.2 May 2017 Taiyoung Kim 293

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Table 1. Changes of Large-Scale Lots around Cheongju Castle (in the order of current legal government district, Dong)

<table>
<thead>
<tr>
<th>Type</th>
<th>Area</th>
<th>Current Lot Number</th>
<th>Functional Change</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Office</td>
<td>Buk1ga 27-4</td>
<td>Mangseonmu (Guesthouse)</td>
<td>Primary school</td>
<td>Late Joseon Period (late 19C)</td>
</tr>
<tr>
<td></td>
<td>Buk1ga 171-3</td>
<td>Jipsacheong Department of police</td>
<td>Police station/Siksan Bank</td>
<td>Town Castle Destruction (1911-15)</td>
</tr>
<tr>
<td></td>
<td>Buk1ga 175</td>
<td>office, County office</td>
<td>County office/Private land</td>
<td>Modern Period (1920s-1950s)</td>
</tr>
<tr>
<td>Barracks</td>
<td>Nam2ga 92-6</td>
<td>Bijjangcheong Provincial Govern.</td>
<td>Provincial Govern.</td>
<td>Contemporary (1960s-1980s)</td>
</tr>
<tr>
<td></td>
<td>Unjooheon</td>
<td>Provincial Govern.</td>
<td>Provincial Govern.</td>
<td>Present (1990-2016)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Seoemon 119</td>
<td>Guhyulgo, Jhaeh Clinic</td>
<td>Jhaeh Clinic</td>
<td>Telephone office/ Cheongju City Hall</td>
</tr>
<tr>
<td></td>
<td>Granary Outside</td>
<td>Buk1ga 188</td>
<td>Daedonggo, Open space</td>
<td>Cheongju-up Office</td>
</tr>
<tr>
<td></td>
<td>South Gate</td>
<td>Buk1ga 166</td>
<td>Jangbong, Post office</td>
<td>Cheongju-up Office</td>
</tr>
<tr>
<td></td>
<td>Nam1ga 154</td>
<td>Buk1ga 188</td>
<td>Daedonggo, Open space</td>
<td>Cheongju-up Office</td>
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<tr>
<td></td>
<td>Nam1ga 112</td>
<td>Nam1ga 154</td>
<td>Pacheongjeong Kindergarten</td>
<td>Cheongju-up Church</td>
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<tr>
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<td>Buk1ga 68</td>
<td>Nam1ga 154</td>
<td>Pacheongjeong Kindergarten</td>
<td>Cheongju-up Church</td>
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<td>Buk1ga 41</td>
<td>Namju 9-10</td>
<td>Nakbang, Squad of military police</td>
<td>Office of Property Custody</td>
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<tr>
<td></td>
<td>Nam2ga 48</td>
<td>Buk1ga 41</td>
<td>Nakbang, Squad of military police</td>
<td>Office of Property Custody</td>
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<tr>
<td></td>
<td>Nam2ga 9</td>
<td>Nam1ga 122</td>
<td>Jangbong, Post office</td>
<td>Post office</td>
</tr>
<tr>
<td></td>
<td>Nam2ga 65,66</td>
<td>Nam2ga 48</td>
<td>Cheoldanggan, Office of Property Custody</td>
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<td>Nam1ga 255</td>
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<td>Nam9-10</td>
<td>Nam2ga 48</td>
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<td>Nam2ga 48</td>
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<td>Seoemon 9</td>
<td>Nam2ga 9</td>
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<td>Seoemon 9 (Tree group)</td>
<td>Nam2ga 48</td>
<td>Cheoldanggan, Office of Property Custody</td>
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<td>Nam2ga 48 etc.</td>
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<td>Nam2ga 48</td>
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<td></td>
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<td>Nam2ga 78</td>
<td>Cheoldanggan, Office of Property Custody</td>
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<td>Buk1ga 78</td>
<td>Nam65</td>
<td>Cheolgyeong, Office of Property Custody</td>
<td>Post office</td>
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<tr>
<td></td>
<td>Buk1ga 90-1</td>
<td>Buk1ga 78</td>
<td>Cheolgyeong, Office of Property Custody</td>
<td>Post office</td>
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<tr>
<td></td>
<td>Nam1ga 67-2</td>
<td>Buk1ga 90-1</td>
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<td>Post office</td>
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<tr>
<td></td>
<td>Nam1ga 211-2</td>
<td>Nam1ga 67-2</td>
<td>Cheolgyeong, Office of Property Custody</td>
<td>Post office</td>
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<tr>
<td></td>
<td>Nam1ga 53</td>
<td>Nam1ga 211-2</td>
<td>Cheolgyeong, Office of Property Custody</td>
<td>Post office</td>
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</tbody>
</table>

Note: In the Cheongju Castle and outside the south gate, 563 lots (91.4%) out of 616 original lots in the Original Land Registration Map (1913) are maintained, while only 53 lots (8.6%) were destroyed. Of the 563 maintained lots, 327 were subdivided into 1,197 lots, 3.6 small lots per lot on average.
include those that cannot be developed because they are not adjacent to the roads as well as areas where the original lots are destroyed according to linear adjustment and road expansion and improvement similar to blocks 18, 21 and 22.

6. Conclusion
This study examined the historical urban structure such as waterways, roads, and lot systems sustained even after the destruction of Cheongju Castle in the early 20th century. The focus was up to the point of its establishment during the Joseon Period. These results are as follows:

The waterway Musimcheon Stream, which flows backwards from the south to north, turned the urban area of Cheongju into a ship-like form. The Gyoseocheon Stream rising from Uam Mountain flowed around the castle and had served as a drain and an open eco-friendly space, but was converted into a sewerage system after the urban development in the 1960s. It now serves as a street network after it was covered in the 1990s.

As for the road system, a rounded-square street network shows traces of the destroyed town fortress, and an orthogonal street network in the east-west and north-south directions centered on Seongan-gil that connects the south gate to the north gate of the fortress. Dendritic-type alleys branch throughout the residential district outside the south gate where the tributary of Gyoseocheon Stream had flowed.

For the lot system, large-scale lots for government office, guesthouse and barracks at the center of the town castle still maintain their form and public functions, with no change by division and combination, thus keeping the former urban spatial structure. Large-scale and small-scale lots are subdivided around Seongan-gil and Nammun-gil, where commercial activities took place. However, over 90% of small original lots sustain the division lines of their original form.

As such, the old urban spatial structure of Seongan-dong, Cheongju is still sustained even after 100 years of the modern period, with a restorable waterway system, the orderly road system stretched north and south, and the lot system that determines certain sizes and forms of buildings. In this respect, these are significant factors that set the direction for the urban landscape of Cheongju.

Notes
1) It had been referred to as Bonjeontong and Jangang-ro, but was recently renamed as Seongan-gil, meaning that it is on the inside of Cheongju Castle. The suffixes "-ro" and "-gil" indicate the road.
2) The 100-year period is best considered by dividing it into two approximately 50-year periods: the first starting in 1915 when the castle was destroyed, and the second starting in 1967 when the city took its current form of Cheongju urban center after the end of the Japanese Colonial Period and first implemented the Cheongju city planning and redevelopment project, and ending today in 2016.
4) Flowing through the heart of the city, Musimcheon Stream forms a meandering area at the Tap-dong Hill at the south end of Uam Mountain, crosses the buried Namsanseogyo Bridge of Yukgeori Market, and meanders again at the hilly areas of Godang Village on the other side of west Musimcheon Stream, flowing north in a straight line. Musimcheon Stream flows backward from the south to the north since the east side is higher than the north, and thus it forms a meandering area as it enters the urban center. This formed a wide sandy beach toward Seokgyo-dong on the south and Seomun-dong on the west, and the bank was constructed according to the water course of Musimcheon Stream, creating the current shape of Seongan-dong, Cheongju. Cheongju is thus referred to as a ship-like shape city in terms of its geomancy. All of this is caused by the countercurrent of Musimcheon Stream due to the topography of Uam Mountain.
5) This village is located on the hill across the west of Musimcheon Stream, meaning a village located on a high area.
6) In August 1906, heavy floods destroyed Eunhaeng-ro, the southern bank of Cheongju, flooding the entire city. Over 200 houses were lost, as well as Cheongju Market above the sandy clay beyond the bank (currently Seokgyo-dong). Cheongju Market was then moved to the current Namju-dong, while Seokgyo-dong Market remained lost. Cheongju History, 1923.
7) Namsanseogyo means south (Nam), stone (Seok), and bridge (Gyo) and means a bridge made with stone located in the south of Cheongju. 3.3m wide and 84m long Namsanseogyo Bridge is buried 90cm under the current road level where Seongan-gil intersects with Yukgeori Market.
10) The source of Gyoseocheon Stream flowing through the city of Cheongju, this place was the first to be covered in Cheongju due to the flood in 1965-66. Old Roads of Cheongju, Kim Tae-young, Criform, 2007, p.24.
11) The street network is explained using the current names, and changes in names are described by street network or in footnotes. See Figs.3-4.
13) In the 1970s, many furniture stores including Gungjeon Furniture (Namnunno-1ga 187-3) were opened, transforming the pharmacy street into a furniture store street.
14) Kim, S. J. and Kim, T. Y.(2013), Transformation of Urban Spatial Structure around the Old Castle in Cheong-ju City. The data was surveyed in 2011, but changes are extremely insignificant due to the doughnut effect, and thus the data remains unchanged even in 2016.

References
4) Kim, T. Y. (2007), Old Lane in Cheongju, Criform.