

Remembering the River:
The Retrieval of Rome's Forgotten Relationship with the Tiber

by
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Master of Architecture

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 may be made electronically available to the public.

ABSTRACT

Ever since its founding, Rome has been vulnerable to the swelling waters of its Tiber River. This river was so important to the city that it was a defining character in Rome's history for over two thousand years. However, this river-city relationship would be suddenly severed in the late 19th century as Rome was declared the Italian capital. And, with the creation of the capital, came the creation of the river walls. While this new infrastructure safeguarded the city from future flooding, it razed the relationship between the city and its river. It lost its use as a commercial trade route, transportation system and leisure landscape, and before long the Tiber was forgotten.

This thesis proposes a design intervention at Rome's historic river-city site, the Porto di Ripetta. Once the physical and symbolic gateway to the city, the Ripetta is presently the most disconnected site along the Tiber River. Not only does the proposed project aim to synergistically unite a series of complex archaeological layers from antiquity to present-day, it also aspires to reconnect the city to its historical relationship with its river, introduce another layer within Rome's transportation network, and expand the city's cultural agenda along its underutilized continuous corridor. The introduction of river-based programme is logical when created within a series of design solutions that both recognize and address the temporal nature of the riverscape.

Through in-depth historical analysis, this thesis examines the complexities of the Tiber River's existence and analyzes its sociological, physical and political importance to the Eternal City. This understanding of the Tiber River's unique qualities reveals tangible opportunities for new public spaces connected the potential of the Tiber as part of an expanded network of new public transportation, leisure landscapes, and cultural institutions.

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For my parents, Elizabeth and Ian.

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Although “Italy has changed dramatically over the last 2 millennia, Rome, the Eternal City, has changed little” (D’Orazio 2004, 5), with the exception of two sites. The first site, in Campus Martius, contains three transforming artifacts: the Mausoleum of Augustus, the Ara Pacis and the now-buried Ripetta river port - the second site is the most dramatic transformation in Rome’s history, the Tiber River.

ROME'S FOUNDING LEGEND

753 B.C.



The famous legend of its foundation focuses on the twins, Romulus and Remus, descended from Aeneas through his son, Iulus. According to the well-known tale, Amulius, one of the descendants of Iulus, became king of Alba Longa by expelling his brother, Numitor, and murdering his brother's sons. His brother's daughter, Rhea Silvia, was forced to become a Vestal Virgin to ensure that she would have no children who might seek revenge against him. Eventually, however, she became pregnant, claiming that she had been raped by the god of war, Mars. She gave birth to twins, Romulus and Remus. The king wanted the twins eliminated but was afraid to kill the possibly divinely engendered babies directly, so he ordered that they be put in a basket and thrown into the Tiber River to drown. The basket washed ashore, however, and the babies were rescued by a wolf, which nursed them and, together with a helpful woodpecker, looked after them (both animals were associated with Mars). Ultimately, the boys were found by a shepherd, Faustulus, who raised them as his own. They grew up into strong young men who performed various noble deeds, such as suppressing bandits, and when Faustulus eventually revealed the secret of their birth, they sought revenge and overthrew the king of Alba Longa.

They then decided to found a new city on the spot where the wolf had discovered them, which became the site of the city of Rome. Almost immediately, however, they fell into an argument over who should be king of the new city, since they were twins and did not know which one was older. In the end, they could not agree, and decided to let the gods choose the king. To do this, each brother went to the top of one of the hills and looked for a sign, Romulus standing on the Palatine Hill and Remus positioning himself on the Aventine. Remus received the first sign when six vultures flew overhead, but shortly afterward twelve vultures flew over Romulus. This left the brothers still arguing, with each claiming the gods had picked him – Remus saying he had received the first omen and Romulus saying he had been granted the better omen. In the end, they could not settle their differences and, growing angry, Romulus solved the problem by murdering his brother. Thus the new city was called Rome after Romulus, and he became its first king.

- Gregory S. Aldrete, *Floods of the Ancient Tiber in Rome*, 10-11

- i. This myth *Rome's Founding Legend* has been detailed in the chapter titled *Remembering*.
- ii. Gregory S. Aldrete, *Floods of the Tiber in Ancient Rome* (Baltimore: Johns Hopkins University Press, 2007). 247-248: (The flood reached its recorded peak at the Ripetta gauge, registering at 17.22 masl (meters above sea level). Typically this region of the city is situated at 10 masl.)
- iii. Ibid. 247
- iv. Ibid. 248
- v. Ibid. 249
- vi. Ibid. 249-250

THE FLOOD THAT CREATED WALLS

Since its inception, Rome has been vulnerable to the swelling waters of its Tiber River. The floods familiar to the river are a vital character in the city's founding myth.ⁱ However, there is another story about this river. It is the lesser-known, but equally important, tale about the final time that these waters were to ever overtake the Eternal City.

It was late December of 1870. Only a few months earlier, Rome had been appointed the capital of the newly unified Italian state. The citizens were preparing for the much-anticipated first visit of their new ruler, King Vittorio Emanuele II, when an event occurred that would radically change the image of their city. Rome was in the height of its rainy season, and the Tiber Valley had experienced several days of heavy rains, which fed the Tiber River as it traveled south towards Rome. On December 27 the swelling waters overcame the banks of the low-lying neighbourhoods adjacent to the river, and, as had happened frequently in the preceding 2500 years, the Tiber's normally calm flow turned into a furious and destructive force. The former marshlands, upon which much of Rome was built, were transformed into lakes. In the deluge-prone regions, the unwelcomed water reached considerable heights, entombing the city in as much as eleven meters of water,ⁱⁱ and causing significant damage. The ill-fated timing of the 1870 flood would become the catalyst for the most radical intervention in Rome's urban fabric: the embankment walls.

The king arrived on December 31, four days after the waters first infiltrated, to find the Italian capital still ravaged by floodwaters, mud, and debris, and vast sections of the city unfit for the planned festivities. The city had not experienced a flood of this magnitude for over two hundred years.ⁱⁱⁱ This time, the swollen river had changed the image of the Eternal City from an unrivaled ancient metropolis to that of an unhygienic, and disaster-prone city.^{iv} The power that this river had over the city was not the impression the Romans wished to present to the world, but the deluge had trumped the momentous events which were supposed to celebrate Italy's magnificent new capital. Instead, Rome

was presented to the world as a weak capital – vulnerable to the destructive nature of its own river. This was an international embarrassment.

In the aftermath of this disaster, a commission was immediately formed to resolve this problem once and for all. Perhaps not surprisingly, the city settled on the swiftest and most economical solution, put forth by an important commission member.^v Thus, the Tiber River was regularized and enclosed in a near-vertical stone embankment for the entirety of its length within the city.^{vi}

With the creation of a capital came the creation of walls, and before long Rome's riverscape was out of sight and the Tiber River became a distant memory.



fig. 0.1 Engraving of Piazza del Popolo during the flood of December 1870.

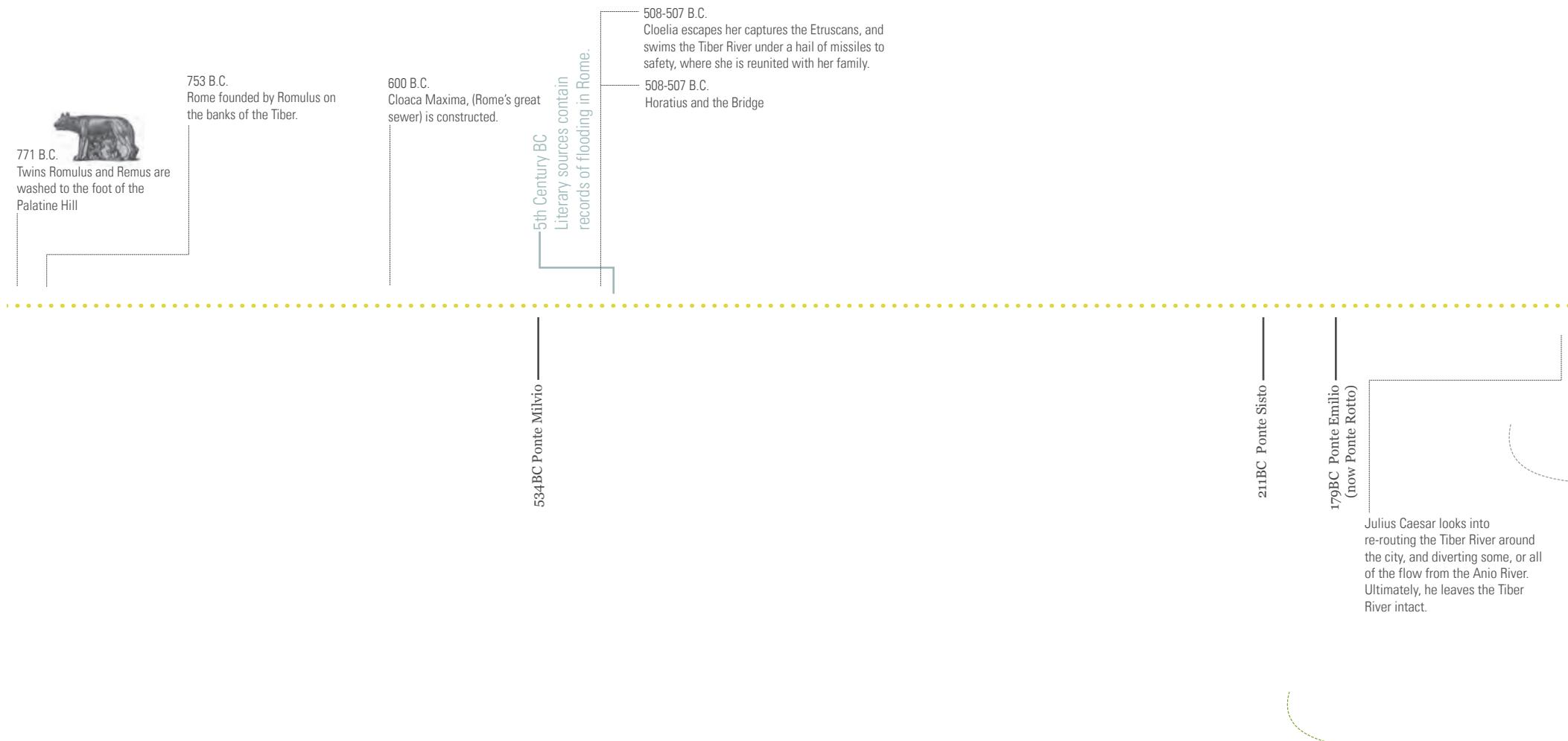
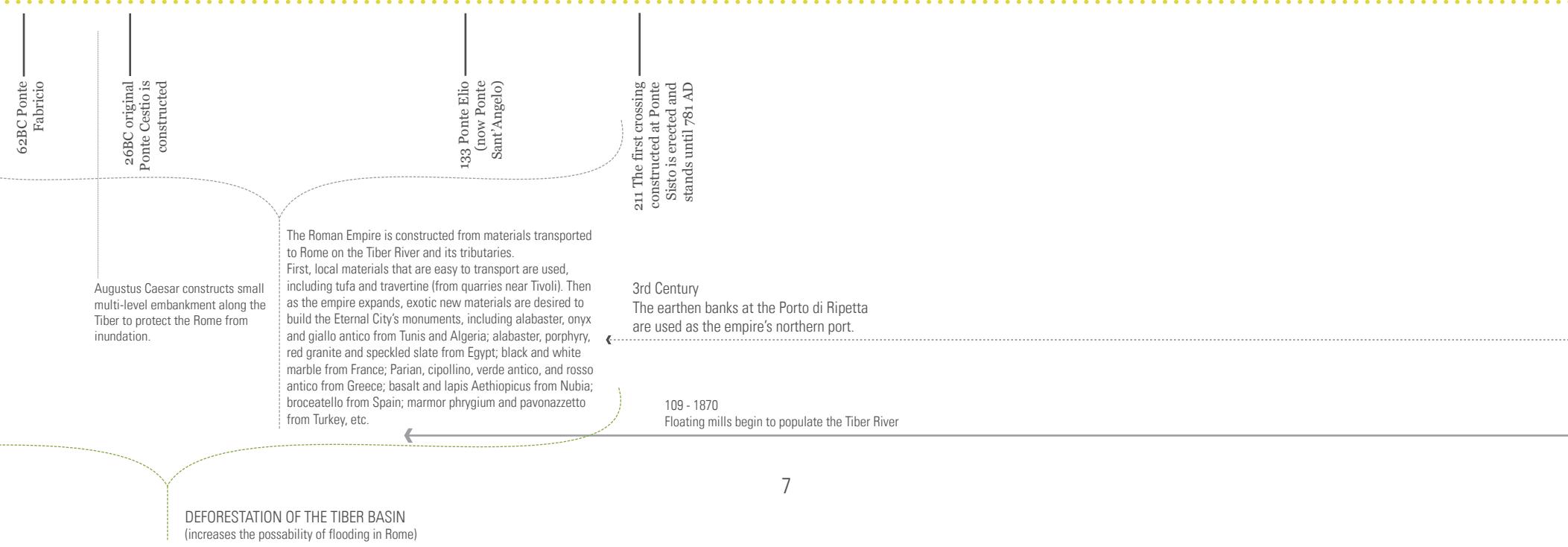


fig. 0.2 Timeline of Tiber's history within Rome.





The Flood of 1345

The Flood of 1376
The Flood of 1379

1450 Ponte Elio
(Ponte Sant'Angelo)
parapets collapse
under the weight of
an enormous crowd
resulting in
hundreds of victims.

1475 Ponte Sisto
reconstructed by
Pope Sixtus IV

RIPA GRANDE

Beginning in 1471, the papacy sponsored a spectacular fireworks display, at the Castel Sant'Angelo, called the 'Girandola'. This celebration took place upon the election and coronation of a new pope, Easter and June 28 (the eve of the Feast of Saints Peter & Paul). The 'Girandola' was a popular event for both Romans and tourists, who flocked to the banks of the Tiber to watch the spectacular show.

The Flood of 1476
The Flood of 1485
The Flood of 1488
The Flood of 1495
The Flood of 1514
The Flood of 1530
The Flood of 1557
The Flood of 1589
The Flood of 1598
The Flood of 1606

1471

18th - 19th Century
Ferries (traghetto) are used to cross the Tiber at the Ripetta, Castel Sant'Angelo, Ponte Sisto, etc.

1652 - 1866
Water from the Tiber River was used to flood Piazza Navona every Saturday in August creating an artificial lake where mock sea battles would entertain the crowds.

1580
Tiber River became renowned for its therapeutic waters

1580

Ettore Roesler Franz creates 'Roma Sparita' (Vanished Rome), a series of 120 watercolour paintings of the city's disappearing landscapes, featuring the Tiber River.

1652

1866

1878-1896

1878

1886

1896

1905

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"Floods" is the word they use, but in fact [the river] is not flooding; it is remembering. Remembering where it used to be. All water has a perfect memory and is forever trying to get to where it was.

- Toni Morrison, *The Site of Memory*, page 305





A RIVER REMEMBERING A RIVER BEING

A COIN IN THE TREVI...



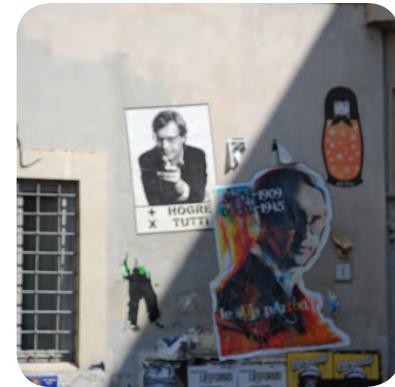
fig. 1.1 "Arrivederci Roma!"
Sandrina Dumitrescu and Allison Boyes
tossing a coin in the Trevi.

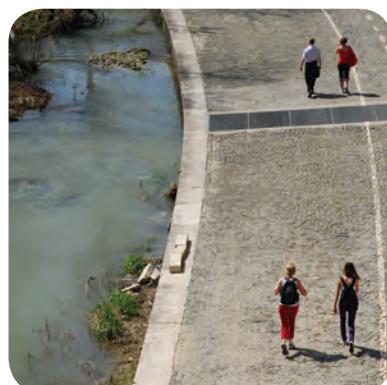
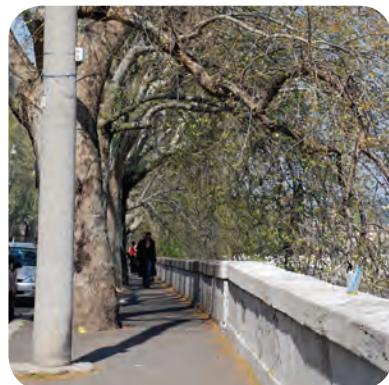
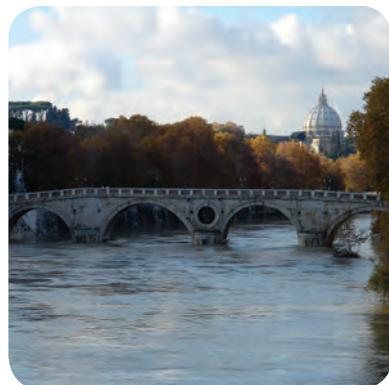
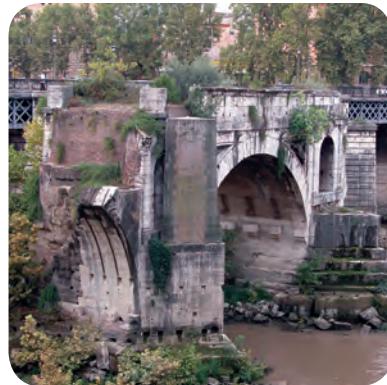
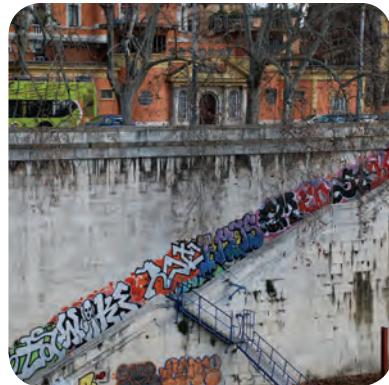
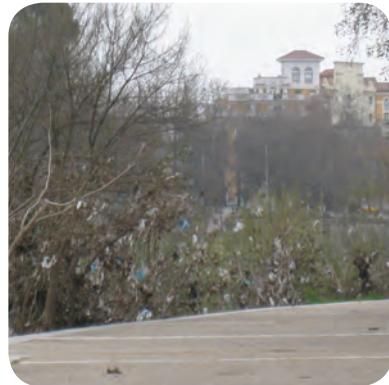
A string of life-altering decisions and opportunities brought me to Rome for my M1 term. I had lived in Rome before, three years earlier, and I could not refuse the chance to live in the Eternal City once again, but this time in Rome would be different. Living in Rome in 2005 I was a creature of habit: I drank the same cappuccino every morning, shopped along the same streets, and found myself over and over again taking the same pilgrimages through the city's grand monuments. And, on my last night in Rome, I made the pilgrimage to the Trevi fountain and tossed in my coin, right hand over left shoulder. Perhaps the legend is true... three years later, I had a second opportunity to live in Rome. This time I wanted to take a different approach of living in the Eternal City. But, this time I wanted to explore, I wanted to try different routes, different places; I found new streets, new photographs, new restaurants, cafes and shops, but most importantly I found a new landscape, the Tiber River. Although I had been down to the Tiber before I had always moved through it, but this time I stopped, I looked around, sat down and fell in love with Rome again.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

Walking through Rome's streets today, one encounters a rich cityscape, dense in culture and animated with public life. By day, the warm hues of her urban fabric boldly contrast the vivid blue of the sky. By dusk, she begins to reveal her esteemed artifacts isolating them from their context in what appears to be a self-emitting glow. (Morton 1966, 12) Her meandering narrow streets play the symphony of her great waters (Elling 1975, 10) and funnel in to piazzas where this city's life, day and night, is amplified. Anchored by monumental fountains; these public spaces morph from daytime markets to youth-filled hangouts at night.

In contrast, below her lively streets, her river is presently nothing more than a void, an abandoned landscape 3-storeys below. Her riverbanks are empty, except for the occasional vagrant, addict, illegal immigrant, athlete or architecture student - the brave few who dare to venture into the unknown layer below.





ROME, THE ETERNAL CITY

It is believed that twins Romulus and Remus founded Rome, the Eternal City, on the left bank of the Tiber, “at the site of their miraculous rescue” (Morford and Lenardon 2007, 694) in 753 B.C.

Rome was settled on seven hills¹ and in the low-lying marshlands of their valleys, a seemingly illogical decision when located adjacent to a temperamental river.² However, Rome’s siting was the logical choice for its first inhabitants.³

The reasons for settling in such hazardous regions are obvious: by definition, floodplains are flat and near water and, hence, well suited for agriculture. Also, rivers offer routes of communication and transport, and the floods themselves deposit sediments that renew and enrich the soil. The very factors that caused these areas to be attractive for settlement are the same ones that make them vulnerable to the devastation caused by floods. (Aldrete 2004, 94)

While the Tiber was primary factor in the founding of Rome, today after the erection of the embankment walls, the city has almost no fluvial presence.

1 The Quirinal Hill, the Viminal Hill, the Esquiline Hill, the Capitoline Hill, the Palatine Hill, the Caelian Hill and the Aventine Hill. See fig. 4.2 in the Appendix for a topography map of Rome’s seven hills.

2 The Campo Marzio (Campus Martius) and the Ghetto were the lowest regions, and therefore they were the most vulnerable to inundation from the adjacent river.

3 At the site of Rome’s founding, the Tiber River curves, and just below this bend is the river’s only island, which provided calmer waters and a shorter span for early river-crossing, factors that inevitably lead to settlement. In addition to topographical advantages of a river, an island and protective hills, this region was made more attractive by the location of this crossing. Located along the Via Salaria (Salt Road), there was a valuable salt source in the marshes near the mouth of the Tiber. Salt was an important commodity in early trade – and the close proximity to it made this site “a natural communication node of great importance.” (Aldrete 2004, 11)

“Rome’s divinely selected location is ironically one of the worst within the Tiber watershed.”
(Courtenay 2003, 30)



fig. 1.23 Map of Italy, including the province of Lazio, the Tiber River basin, the Tiber River, and the capital city Rome.

fig. 1.24 The Tiber River basin, the Tiber River, and its tributaries.



The historic centre is a preserved cityscape of cobblestone, travertine, tufa, Roman brick, marble, and peeling layers earth-toned paint. The vibrant streets are human-scale and filled with life.

Since her founding, Rome, perhaps more than any other place has become an architectural palimpsest, layering the remnants of thousands of years of history within her own fabric. Today, the metropolis sits upon a dense archaeological field that covers nearly 1285 square kilometres.⁴ (Chelys 2008)

Rome is alive. Her past and present exist simultaneously within her earth-toned palette. Her buildings absorb her history, consuming ancient architectural fragments, placards, and shrines – they remember. She is a living collage. In a city obsessed with the preservation of its built form⁵, it is unthinkable that nearly a century ago, there was the complete erasure of one of her most important historical landscapes, part of her very foundation, her beloved Tiber River. Within the last century, Rome's Tiber River has become a distant memory to its very own citizens. It is a landscape just three stories below Rome's colourful streets, that the city's collective unconscious has now forgotten.

While, the loss of this historic riverscape is tragic, it has provided a void through the heart of Rome, presenting the city with remarkable opportunities for modernization. There are sound reasons why these opportunities have not yet been explored - but with a sensitive understanding of the site, its connectivity, and historical importance it becomes clear that this riverscape must be retrieved.

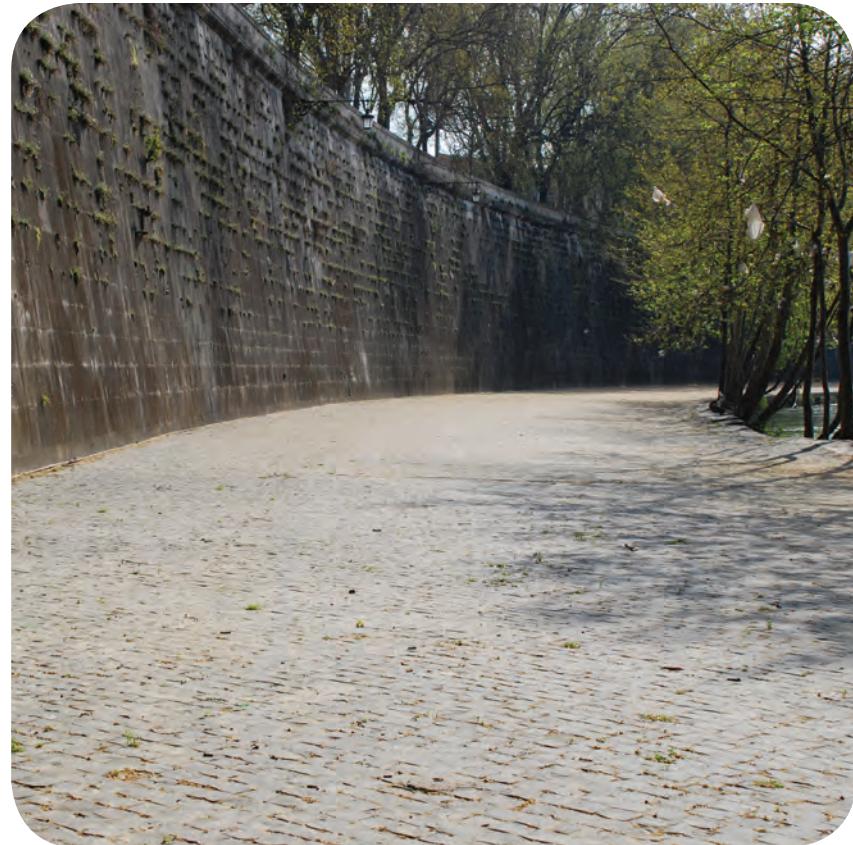


fig. 1.34 The contrasting riverbank below Rome's colourful streets.

⁴ These archaeological layers can be in excess of 10m deep in some of the historic sections of the city, making new construction and even renovations/restorations very difficult. (Aldrete 2007, 42)

⁵ Public works in Rome are automatically preserved after 50 years. (Discussion with Maria Margarita Segarra Lagunes on April 2, 2009 in Rome, Italy).

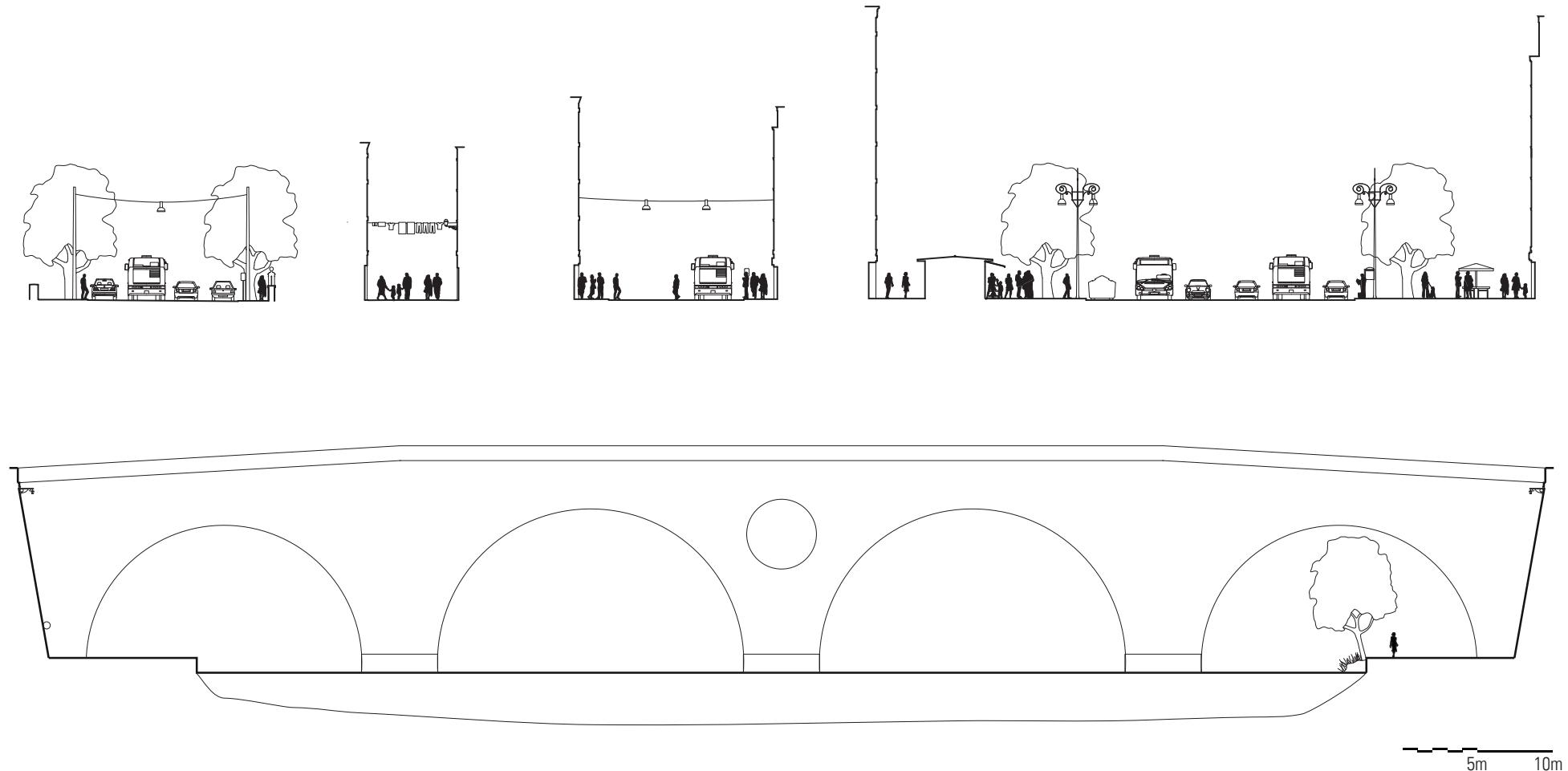


fig. 1.35 Cross-sections of Roman streetscapes including the Lungotevere, Trastevere, Via del Corso, and Via Cola di Rienzo.

The human-scale streets of the historic city are the antithesis of the vast void created by the embanked river.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



*"The sound of the waters cannot be
banished from Rome's symphony."
(Elling 1975, 10)*



THE WATERS OF ROME

A CITY OF WATER

"As a vehicle for shifting metaphors, water is a shifting mirror. What it says reflects the fashion of the age; what it seems to reveal and betray hides the stuff that lies beneath."
(Illich 1986, 25)

Rome's sacred link with water began in her founding myth. In fact, it has been said, "the city itself was born from water." (Sanfilippo 1996, 17) Without the river's dualistic nature and surrounding topography, the creation of Rome, by Romulus and Remus would not have been possible. This city's epic story engrains the protecting qualities of its pivotal character, the Tiber River, within its mythic origin – intrinsically linking the culture with its waters.

Although the city's siting was strategically located on the banks of the Tiber River, inland from the sea, its location was in close proximity to other waterways and natural water sources were also crucial to this settlement. When the city expanded beyond the capacity of its river, ingenious engineers and architects were able to literally import rivers. (Morton 1966, 12) "Rome's architects picked up a source in the mountains, channeled the water unmingled into the city and chose for each one of the waters the stories it should tell in the city." (Illich 1986, 37) Rome has since been renowned for her waters, both natural and engineered.

Interestingly, water was not restricted to affluent individuals; water was a public resource, accessible to all. (Squarriti 1998, 6) For the Romans, the abundance of this precious resource meant that water was not just used for basic survival; water could be used for hygiene⁶, for leisure, for

⁶ "Throughout history the degree of contact of water with human skin has varied widely from culture to culture. Until the 1930s, in many areas of France and England most infants' skins were carefully shielded from water and wiped only with a handkerchief moistened with their mothers' spittle. In many areas, more than half of the population had never taken a bath at the time they died. They were washed when they were born and again after death. In other cultures [such as Ancient Rome] weekly bathing, steaming, sweating, and scraping of grime from the skin was a must." (Illich 1986, 59)

fig. 1.36 Numerous ornate fountains celebrate the abundance of water within Rome's lively piazzas.

"Water, for [Romans], was the heart of urban culture."

(Dupuis-Tate and Fischesser 2000, 151)



fig. 1.45 Public drinking fountains flow night and day on the streets of Rome.

entertainment⁷ and for purely aesthetic means. As the wealth and power of the Eternal City increased, water became an “important cultural symbol” (Coulston and Dodge 2000, 166), and Rome’s streets and piazzas filled with triumphant celebrations expressed through water. The importance of water’s symbolism carried forward from Pagan Rome to Christian Rome through the construction of elaborate public fountains. Today, the Eternal City is famed for having the most water fountains in the world.

Although the constructed water works of Rome may dominate in the present-day collective memory, “Rome would not have survived for more than two thousand years without the river. The Tiber is *the* source of Rome, it is from the Tiber that the city evolved into the beautiful city it is now.” (Morassut 2006) This forgotten river deserves a greater presence within the city it built.

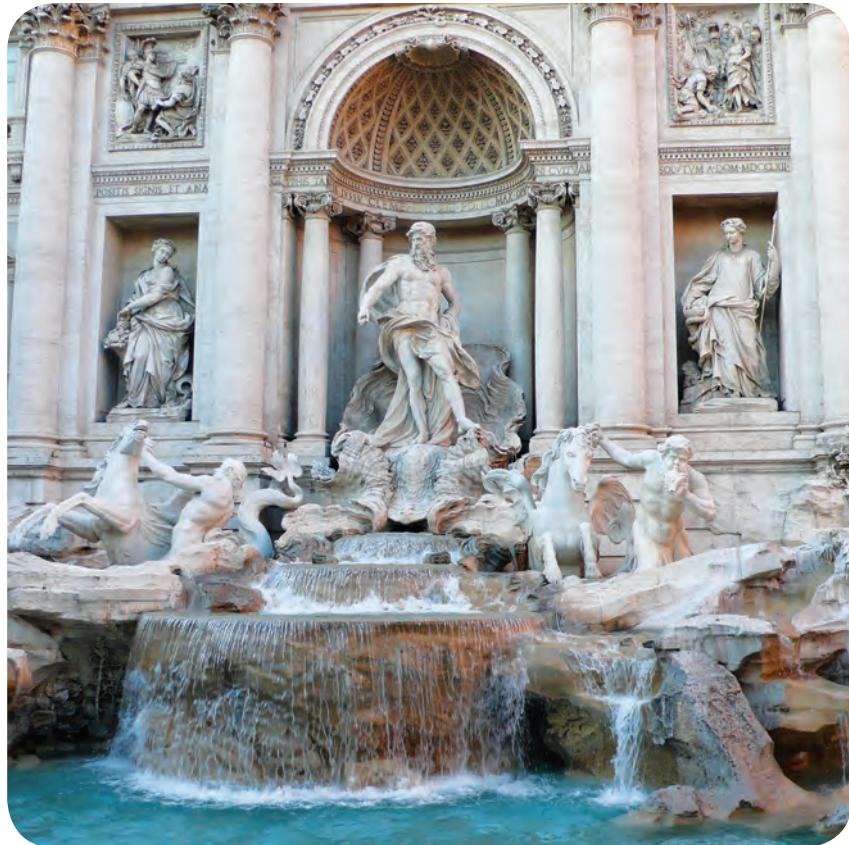


fig. 1.48 The Trevi Fountain.

Rome’s most famous fountain, the Trevi, triumphantly celebrates the terminus of the Aqua Virgo aqueduct. This baroque hybrid of sculpture and architecture was designed by architect Nicoli Salvi in 1730. The fountain was completed in 1762. (Sanfilippo 1996, 47,56)

⁷ For most of Rome’s 2763 year history, the Tiber was the city’s leisure landscape. Romans would gather on the banks of the river to watch fireworks from Castel Sant’Angelo, boat races, swim races, divers plunging into the river from the bridges, etc. Between 1652 and 1866 during August, Piazza Navona was flooded with the Tiber’s waters everyday Saturday to create an artificial lake were mock sea-battles would take place. (D’Orazio 2004, 14)

THE TIBER RIVER

"Virgil named the Tiber the "*Genitor Urbis*" (father of the city), Martial called it "sacred", according to Pliny the Elder it was "born to rule always", until it finally became "divine", summing up all the other definitions." (Pioli n.d., 53)

This classical river, the Tiber, or *Tevere* in Italian, is arguably history's most important river. (Eubanks 1930, 683) Italy's third longest watercourse begins at Monte Fumaiolo in the Apennines, at an altitude of 1268 masl, and meanders 409 kilometers southwest⁸, through the *Campagna* of Umbria and Lazio, emptying into the Tyrrhenian Sea at Ostia. (Aldrete 2007, 54) Several major rivers flow into the Tiber, including the Anio (Aniene) and the Nera, which contribute to the Tiber's flow⁹, and unique tawny hue. (Aldrete 2007, 54) [See page 19.] Originally, the Tiber was named the *Albula River*, associated with 'alba', the unique white hue caused by deposits of loose volcanic silt that gives the water its distinct creamy appearance. (K. B. Jones 2009, 5) The river was renamed the Tiber in memory of Tiberius, Alba Longa's legendary king who was believed to have drowned in the Albula.

In spite of its great historical significance,

... the Tiber is small, it is one of the larger rivers of Italy, a land abounding in streams, but with few of large size, on account of its shape. The Tiber does not compare with the large rivers in the north of the peninsula, but there is none larger south of it, and none of greater importance commercially, despite its small size. There is abundance of evidence that it did have a very great to do with the location and importance of Rome. (Eubanks 1930, 683)

The Tiber River was a comfortable and efficient means of travel.

⁸ Due to its meandering path, the overall course of the Tiber River is 409 kilometers in length. The actual distance between the river's source and its mouth is only around 225 kilometers. (Aldrete 2007, 54)

⁹ "In spite of its length, it does not have sufficient tributaries to make it an impressive stream; and as it flows past and through the city of Rome, after receiving its last large tributary, the Anio, just above the city, it is confined to a depth of [around one meter], between walls that are about one hundred meters apart..." (Eubanks 1930, 684)



fig. 1.49 Tiberius at the Capitoline Museum.

Roman iconography often personifies the Tiber as a male river god. A well-known example of this can be found at the Campidoglio's Senate Palace, where a large statue of Tiberius reclines at the feet of the city's goddess, Roma. Tiberius' body gracefully curves like Rome's river, while protecting Rome's founders with one hand, and holding the cornucopia of abundance with the other.

"The Tiber is Rome – without the Tiber, Rome would not exist."

- Roberto Morassut, former city commissioner of Rome



(Eubanks 1930, 689) It linked the inland settlements of the central peninsula with outlying fertile lands and the sea. This important waterway enabled the city founded on it to become history's first metropolis.¹⁰

Although the Tiber means far less for the life and scenery of Rome than the Thames does for London, or the Seine for Paris, it is nevertheless one of the great motifs of the Eternal City. The Tiber divides the city with its magnificent double curve, like a gigantic S. (Elling 1975, 9-10)

The Tiber River bisects the city's densest fabric, snaking from north to south three stories below street level. While most of the great European cities have rivers with long vast vistas, the tight curves of the Tiber's urban course set up a series of intimately framed views. These 'snapshots' interrupt the monotonous character of the Tiber,¹¹ creating a series of postcard-like encounters: the dome of Saint Peter's, the bronze Archangel atop Castel Sant'Angelo, the oculus of Ponte Sisto, the island punctuating the river with earth-toned buildings and umbrella pine trees, the crumbled ruins of the Ponte Rotto, the cave-like remnants of the Cloaca Maxima, ancient Rome's great sewer (now a makeshift vagrant refuge), and the abandoned remains of Rome's southern river port.

Until the 19th century, the river was a strong character in Rome's story, but now, its story goes untold. While there is an infinite amount of information available about Rome, until recently there has been very little



"[It defies you to look at it and see only the surfaces – the waters, the traffic or the cloudy weather. These reflections surrender to the flood of the centuries. It may be abandoned, stripped of its glory, but the Tiber is still the thread that binds Rome to its source.]" (Griffin 2002)

10 "There is abundant evidence of the necessity of the Tiber to facilitate Rome's evolution in spite of its discontinuous flow of water, shallow depth, and lack of a natural port." (K. B. Jones 2009, 5)

11 Some of the important views from the River Tiber, such as the view of Castel Sant'Angelo and the Saint Peter's Basilica, are protected year-round by the removal of the plane trees at the river's upper edge.

fig. 1.50 'This is Rome', illustration by Miroslav Sasek

fig. 1.51 The vivid colours of the Tiber's environment seen from the city above.

Today, there are fleeting moments where the river resurfaces in Rome. In the late fall, the embankment's trees seasonally sync up with the city overhead temporarily revealing Rome's cityscape of opulent domes amongst its architectural palimpsest. And, for a few weeks, the monotone wall of travertine contrasts the city above. Come springtime, the plane trees' foliage slowly pixelates the world above until the Tiber is disconnected from its city.



fig. 1.52 The plane trees along the Lungotevere seasonally open and close the river-city relationship.

information on its river.¹²

Only brief moments of engagement occur with the river when crossing a bridge, or watching a rain-fueled inundation, but for most Romans, and most visitors, there is no river in Rome. Few ever descend the urine-soaked stairs to discover the world below. A world of peace and solitude, found only once the noise and colour of the Eternal City subside.

Most of the year the tawny waters are calm and go unnoticed, flowing at a pedestrian's pace; however, with the prolonged rainfall frequently experienced during the winter and spring months, the waters become volatile and quickly swell, and suddenly the Tiber surfaces in Rome. Although the river is controlled by an upstream dam¹³ and embankment walls within its urban corridor, each year the Tiber will habitually overtake the riverbank and begin to rise up the embankment walls - and for that moment, the river is remembered.

¹² On my first visit to Rome in 2005, I was dumbfounded to discover the lack of information available on the Tiber River. My required reading for the 4A term included the *Blue Guide: Rome*, a comprehensive 511-page guide on the Eternal City. While this guide provided numerous accounts of the city's myths, empire, and architecture, it only included one generic paragraph on the Tiber River. In the past five years a few books have been published on the Tiber, including *Il Tevere e Roma: Storia di una simbiosi*, and *Roma, dall'acqua alla pietra* (in Italian) Mario) and *Floods of the Tiber in Ancient Rome* (in English).

¹³ In 1965, the river's flow was drastically modified with the introduction of the Corbara reservoir, located along the Tiber River north of the Rome. (Calenda, Mancini and Volpi 2004, 91)



fig. 1.55 One of the familiar brief encounters with the Tiber River.



fig. 1.56 Tourists strolling along the river's lower edge.

A ROMANTIC RIVER STROLL...

One afternoon a couple of tourists followed me down the stairs to the Tiber, perhaps out of curiosity or to seek refuge by the river. I must admit, I was also curious to see what they would think of this abandoned landscape. When we got down to the banks, I paused and took out my camera, then I started to take a few photographs, letting them get a little ahead of me. A few moments later I continued in their direction, walking a few paces behind. The man took off his coat and looked out to the river enjoying the moment of silence he had discovered in Rome. The woman, who was holding a tourist map looked down at her map and soon saw there were no sites of interest on here. She was annoyed. She looked over to him and crossly said "there's nothing down here. This was a waste of time... I want to leave. Now we have to go back up all those stairs. Thanks a lot." A moment later she briskly stormed past him focused solely on the bridge ahead, hoping for a way out that could transport her back to 'Rome'.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



fig. 1.57 Temporary seasonal structures erected along the Tiber's bank during the
-1.65 summer, 2009.

THE TIBER AS EVENT SPACE

Since the construction of Canevari's embankments, there have only been a few momentary connections between Romans and their riverscape. Starting in 2005, Rome has made preliminary attempts to remember her river. During the summer, sporadic events have begun to draw Romans and tourists alike down to the banks of the Tiber River. These events including *Tevereterno*, *Lungo il Tevere Roma* and *Isola del Cinema*, have taken place in the evening at river level between Ponte Sisto and Ponte Palatino¹⁴. From June to August, the desolate banks overcrowd with people who flock to the river for the temporary addition of live music, restaurants, bars, gelato vendors, and kitschy souvenir stands. (*Lungo il Tevere Roma* 2009) Due to the influx of people and the narrowing of the banks for the addition of restaurants, shoddy stalls and portable toilets, the river turns from an expansive landscape to a single-file line.¹⁵ While the banks overflow with people at night, during the day the temporary structures are locked down and guarded by security who look at any passerby (especially those with a camera) with extreme suspicion.

While these events are successful in drawing people down to the river, they are short-lived and trendy¹⁶ - they do not bridge the city-river void in Rome. There is an obvious desire for the return riverfront culture, the current condition of an empty or overfilled riverbank does not give the Tiber River a proper presence within its city. Today, Rome remembers her river for a fleeting moment, either inundation or event, and as soon as it is over, her

¹⁴ Refer to page 39 for photographs of the seasonal Tiber events.

¹⁵ On a beautiful summer evening, it can easily take over an hour to walk the 700 meters on the riverbank from Ponte Sisto to Tiber Island.

¹⁶ The commercial ventures along the river are seen as trendy by Romans. While it is now in-trend to populate the riverbanks with bars and restaurants, only a few years ago the in-trend was to party on docked boats along the river's edge. (Discussion with Maria Margarita Segarra Lagunes on April 2, 2009 in Rome, Italy)

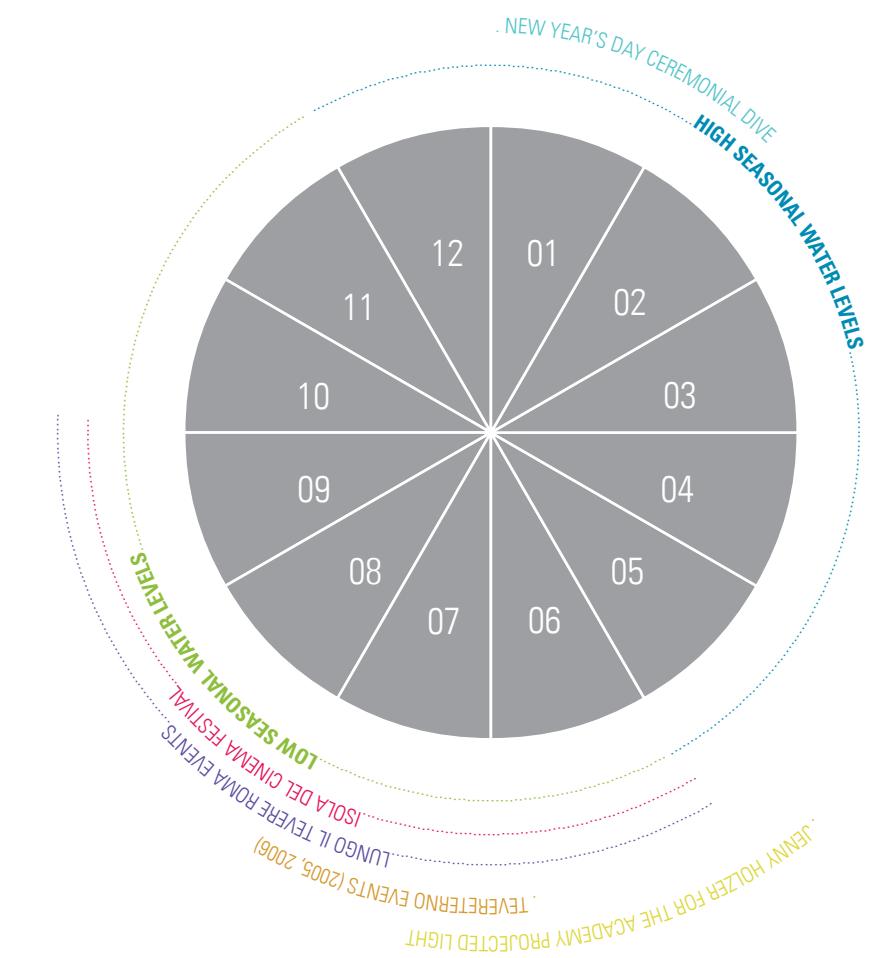


fig. 1.66 Calendar of the Tiber-sited cultural events and seasonal water levels.



fig. 1.67 New Year's Day dive, 2008.



fig. 1.68 Tevereterno's declaration of "Piazza Tevere".

river fades into the background and is again forgotten. While these events are beginning to temporarily bring the riverscape back into the collective unconscious, they are fleeting. This historic and cultural Roman landscape deserves a permanent physical and cultural presence within Rome.

NEW YEAR'S DAY DIVE

The only event to take place upon the Tiber during the winter is the New Year's Day Dive. This tradition began in 1946 when Mr. OK, an out-of-work stuntman dove into the river in an attempt to gain popularity and work within the film industry. However, this self-serving act has evolved into a popular tradition to ring in the new year in Rome. Every year since Mr. OK first dove into the river, international divers, Romans, and tourists flock to the former Porto di Ripetta site to watch the ceremonial fifteen meter dive from Ponte Cavour. (Eternally Cool, 2008).

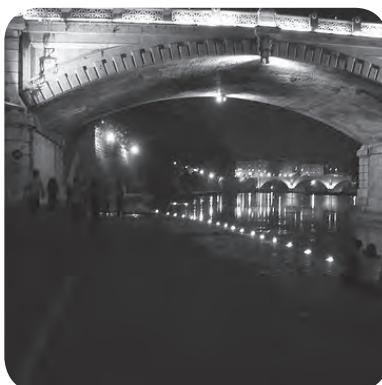
TEVERETERNO

Today, there is a renewed interest in the cultural potential of the Tiber River. American-born artist Kristin Jones started *Tevereterno* (*Eternal Tiber*), a multidisciplinary art project that invites international artists to create proposals for site-specific river interventions. Jones was “motivated by the conviction that art is a potent catalyst for environmental awareness, *Tevereterno* aims to establish a vibrant river piazza: the Piazza Tevere.” (K. Jones 2000) Her project obsessively re-sites itself along the only straight banks of the meandering river located between Ponte Sisto and Ponte Giuseppe Mazzini. With ambitions of turning this desolate strip into a rich

cultural landscape, over the past five years, *Tevererno* has made a series of ephemeral interventions and hosted events that have momentarily focused Romans on their forgotten landscape. Jones uses the events to “bring the river to life by drawing the public to a new experience of the Tiber.” (K. Jones 2000)



fig. 1.69 *Isola del Cinema* billboard, Tiber Island.



Tevereterno's Tiber-sited events include:

2005 | SOLSTIZIO D'ESTATE (MIDSUMMER'S EVE)

The Tevereterno's inaugural event took place on the summer solstice (June 21), in 2005, at sunset, where a team of volunteers, led by architect Daniel K. Brown, lit 2,758 candles commemorating the number of years since Rome's mythological foundation. The candles dramatically transformed the riverbanks articulating their edge with a glowing line of light, which reflectively danced in the Tiber's dark waters. This event acted was the first step in breaking down the tabooed threshold; this event attracted over four thousand Romans who descended to the river, perhaps for the first time. The space was reinvented by light and music, where the sound of the river joined a choir of over a hundred voices. On this night, Kristin Jones, Tevereterno's founder and artistic director, declared this site the 'Piazza Tevere' as she unveiled her twelve she-wolf murals that flanked the Tiber's near-vertical walls. (K. Jones 2000)

2006 | OMBRE DAL LUPERCALE (SHADOWS FROM THE REALM OF WOLVES)

On the summer solstice of the following year, Tevereterno hosted an all-night event that fused the river, sound and light at the banks of the Tiber River. Under the still-present frieze of anti-graffiti she-wolves, seven artist-composers collaborated to transform the space with ambient sound and imagery. As night fell, the flames of 1,400 torches lined the river's edge, and a harmonic choir sung as projected animations danced along the river walls. (K. Jones 2000)

2007 | FLUSSI CORRENTI

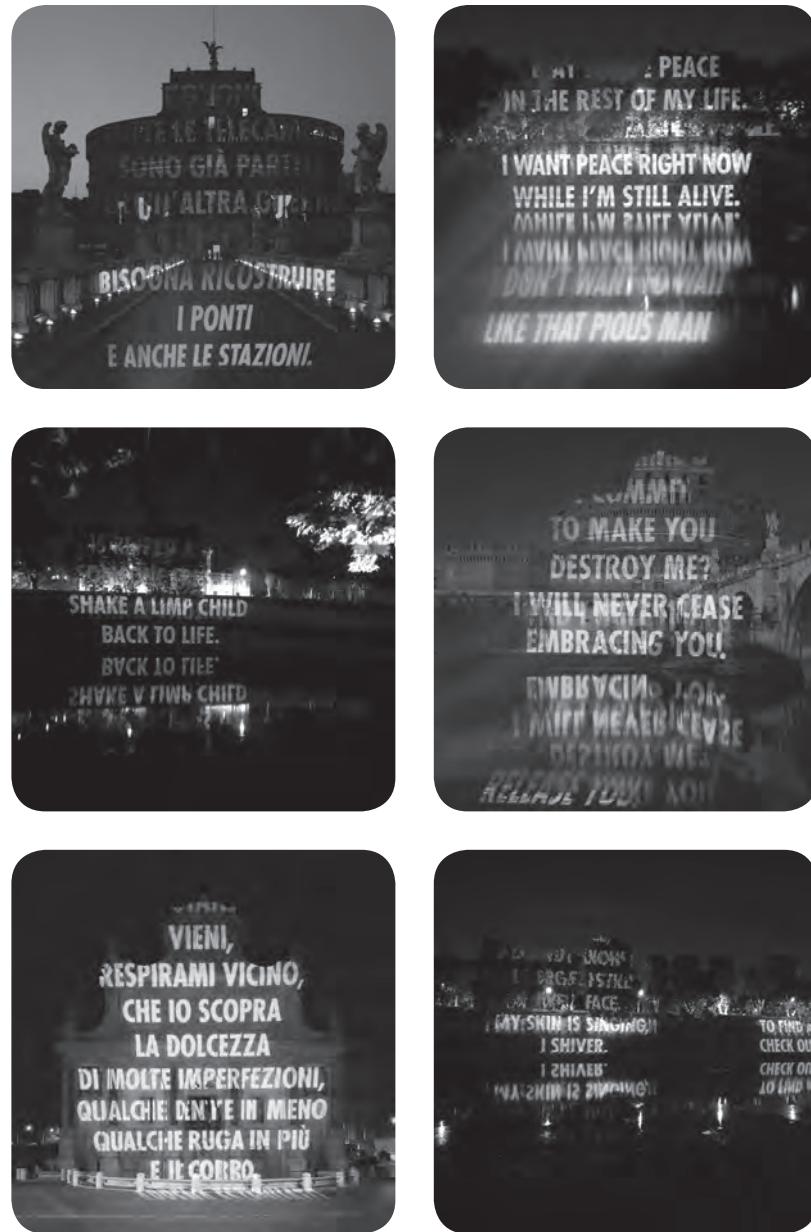
In 2007, another all-night event took place at 'Piazza Tevere', celebrating the Roman River, with a program of live ambient musical performances carefully positioned under spotlights that highlighted the artists and the faint-yet-present she-wolves etched into the walls. As the evening progressed a serpentine line of fire was floated on the river, lighting the site with one thousand torches, where the form came to life through the river's current, illuminating the water's current in a line of fire. (K. Jones 2000)

(Tevereterno's 2008 project was sited in New York City.)

2009 | TRILOGY (THE SHE-WOLF AS SHAPE OF TIME)

Trilogy: The She-Wolf as Shape of Time was a three-part event hosted by Tevereterno, with the Ponte Sisto and the 'Piazza Tevere' site containing one series of the reappearing she-wolf motifs in a new site installation. This time, a silver frieze of scaled-down she-wolf silhouettes cross the pedestrian bridge into Trastevere and trail down the left embankment to the river below. This time using a multiplicity of wolves to suggest a flow to river, inviting the public to follow the path down to the river below. (K. Jones 2000)

fig. 1.70 Tevereterno events hosted at the Tiber River.

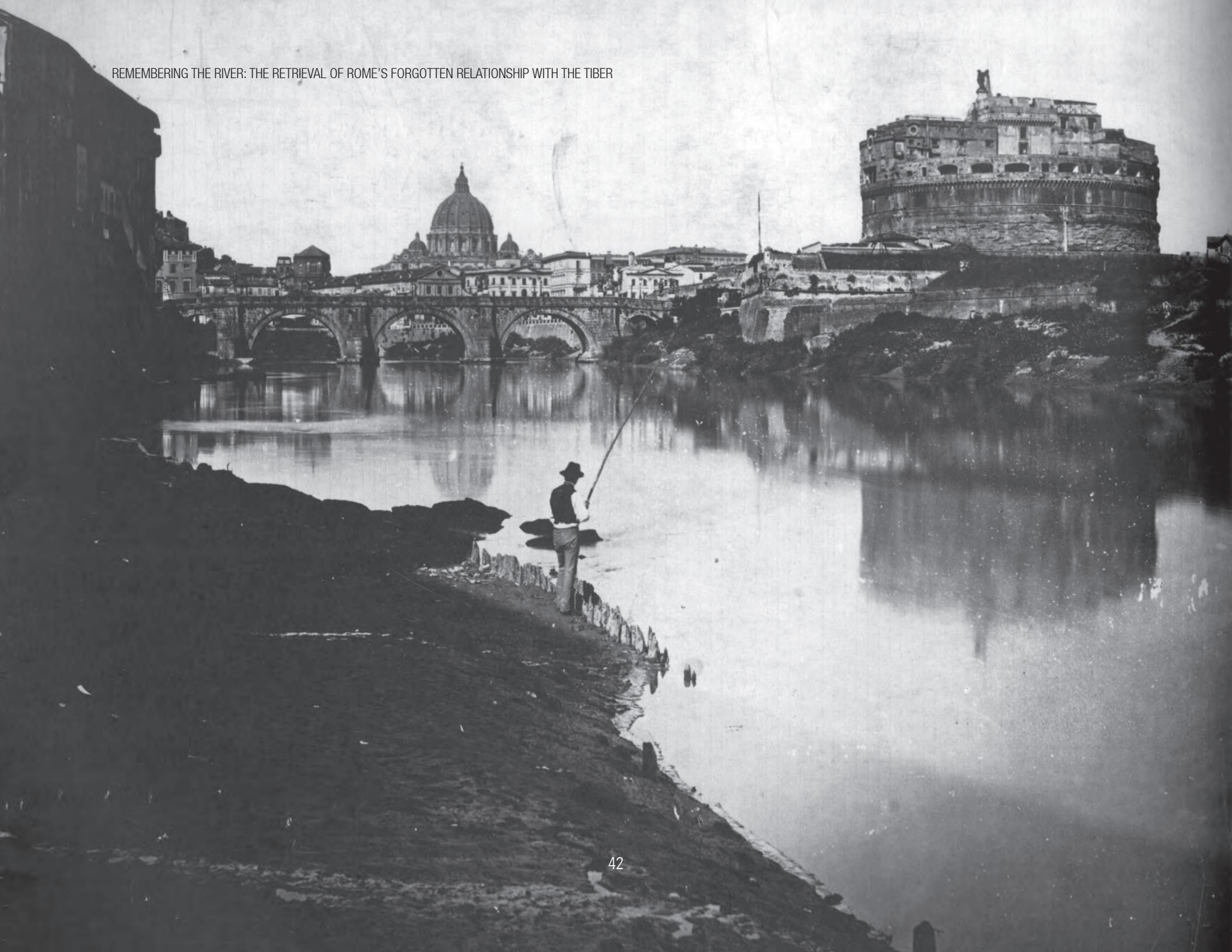


The *Tevereterno* initiative has lead to other short-term cultural events along the Tiber's banks including Jenny Holzer's *Projected Light*, and *Isola del Cinema* which aim to bring culture back to the river.

fig. 1.71 Jenny Holzer for the Academy, *Projected Light*, Rome. May 22, 2007

For one evening, five iconic sites in Rome were the backdrops for American conceptual artist Jenny Holzer's poetic projections. The iconic Roman sites included Teatro di Marcello, Fontana dell'Acqua Paola, the American Academy in Rome, Castel Sant'Angelo, and 'Piazza Tevere'. This was not Holzer's first installation in Rome, however it was the first time she selected the Tiber's riverscape as an iconic Roman backdrop. From 9pm until 12am these iconic monuments were flooded with flowing texts in English and Italian, by internationally renowned writers and poets. (K. Jones 2000)

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



FLUVIAL HISTORY

THE HISTORIC RIVERSCAPE

"The river has a magnetic draw that provided industry, livelihood, and entertainment throughout the centuries before Rome became Italy's capital." (K. B. Jones 2009, 5)

Rome was always intrinsically connected to its river. By the end of the Imperial period, Rome was known as “queen of the waters.” (Squaritri 1998, 3) Until the 19th century, the Tiber River was *the* vital economic, commercial and leisure landscape of Rome.¹⁷ “[T]he scarcity of good harbors elsewhere in Italy within reach of Rome gave to the Tiber an importance that it otherwise would not have had.” (Eubanks 1930, 688) And, although Rome had a complicated and often dualistic relationship with its river, this river provided Romans with the fundamentals to build and maintain a prosperous civilization.

This classical river provided Rome with: nourishment, through an ample supply of fresh water and fish; an efficient transportation artery¹⁸, linking the settlement to both inland territory and the sea¹⁹; active commercial ports, where goods were imported from all reaches of the empire; and a landscape of leisure, where Romans could bathe, swim, and relax in their river’s healing waters.

17 "Early contacts with the Etruscans... had taught [Romans] that some things were better bought than produced at home, and... articles of a quality that cannot be produced at home... can easily be procured by the simple process of exchange. So, when the Gauls had sacked Rome and the Romans were seriously debating the advisability of rebuilding their city at Veii, we find Livy putting into their mouth of Camillus a speech urging the Romans not to do so and reminding them not only of the sacred associations of the site of Rome but also of the advantages of a site to which goods could be floated down from the interior and brought up from the sea. We find writers discoursing on the same theme and praising a site that could be reached from the sea, but far enough from the sea to be safe from sea rovers, close to the mountains, but not in the mountains, one that could be reached by water from the interior and from the sea, in spite of the difficulties." (Eubanks 1930, 688)

18 River-based transportation was a more comfortable and efficient means of travel, compared to an uncomfortable journey through the *Campagna*, even after the development of a decent system of roads. (Eubanks 1930, 689) This remained the preferred method of transportsations until the development of Italy's railways in the 19th century.

19 This strategic positioning along the Tiber River enabled the metropolis to become a vital commercial hub.



fig. 1.77 The final section of the pre-embanked river, 1905-1906.
This section of the river would be gone five years later.

fig. 1.78 Piranesi's etching of the Tiber River with Saint Peter's beyond.

fig. 1.79 Photograph of the Tiber River with Saint Peter's beyond.



fig. 1.80 Piranesi's etching of the Ripa Grande

RIVER PORTS

Since Ancient Times, there have been two critical nodes that connect Rome with the Tiber River: the Ripa Grande and the Porto di Ripetta. These river ports served different functions for the city. Rome's southern port, the Ripa Grande, was strategically located downstream which allowed the larger vessels a more direct access to the Tyrrhenian Sea, while simultaneously avoiding the obstacles along the urban watercourse, such as: bridges, watermills, ferries, and the river's shallow, curving banks. Rome's northern port, the Porto di Ripetta, was located directly upstream of the river's curving course²⁰, and provided a direct connection from the water to the densely populated quarters of the ancient city. (Marder 1980, 29) The Ripetta served smaller boats coming to Rome from the northern provinces of Umbria and Tuscany, delivering commercial goods, including grain, oil, wine, and wood, which were imported from the fertile land along the upper reaches of the Tiber River. (Marder 1980, 28)

Rome's opening impression to visiting newcomers was made at the Porto di Ripetta²¹, and until the 18th century, it was nothing more than an unkempt debris-ridden shore. (Marder 1980, 34) Although the site had an obvious connection with the river since Antiquity, it was not until Pope Clement XI ordered construction of a proper river port in 1703, designed by Alessandro Specchi, that the river was given a formal architectural presence within Rome. (Marder 1980, 28) The new Ripetta port's architect was also the designer of the Scalinata della Trinità dei Monti (commonly referred to as *the Spanish Steps*), and had been extensively involved in theatrical architecture. (Marder 1980, 42) By 1705, the construction of the grand port was complete. The new entrance to the city was impressive. The baroque

²⁰ The Porto di Ripetta was strategically located upstream avoiding the navigational hazards of the shifting currents and changing water levels that were present in Rome's curving urban watercourse. (Marder 1980, 29)

²¹ Most people travelling to Rome came downstream by boat from the northern reaches of the Tiber River.

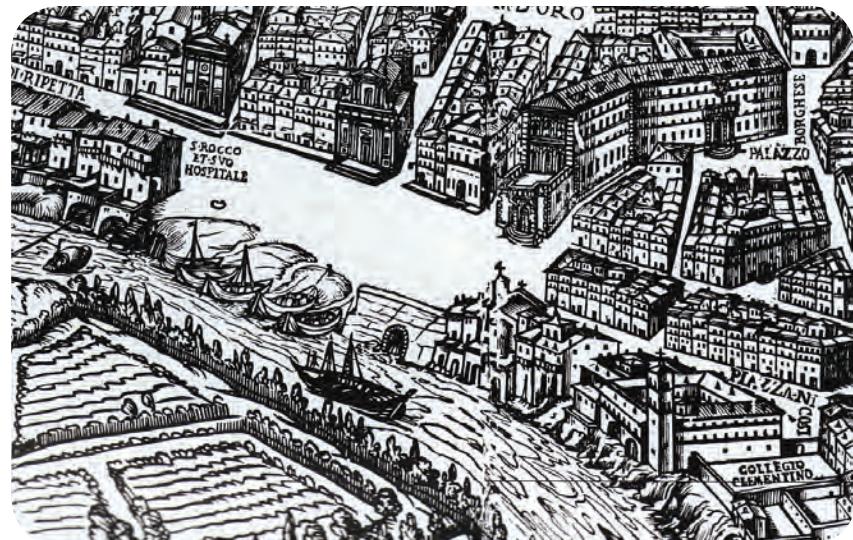


fig. 1.81 Porto di Ripetta, 1625.

Rome's earthen bank was named 'The Porto di Ripetta' in 1389, which literally translated as 'the little bank'; to distinguish it from the city's other main port, the Ripa Grande. (Marder 1980, 28)

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



fig. 1.82 Giambattista Nolli's map of Rome, 1748.
The highlighted riverports are detailed on following page.

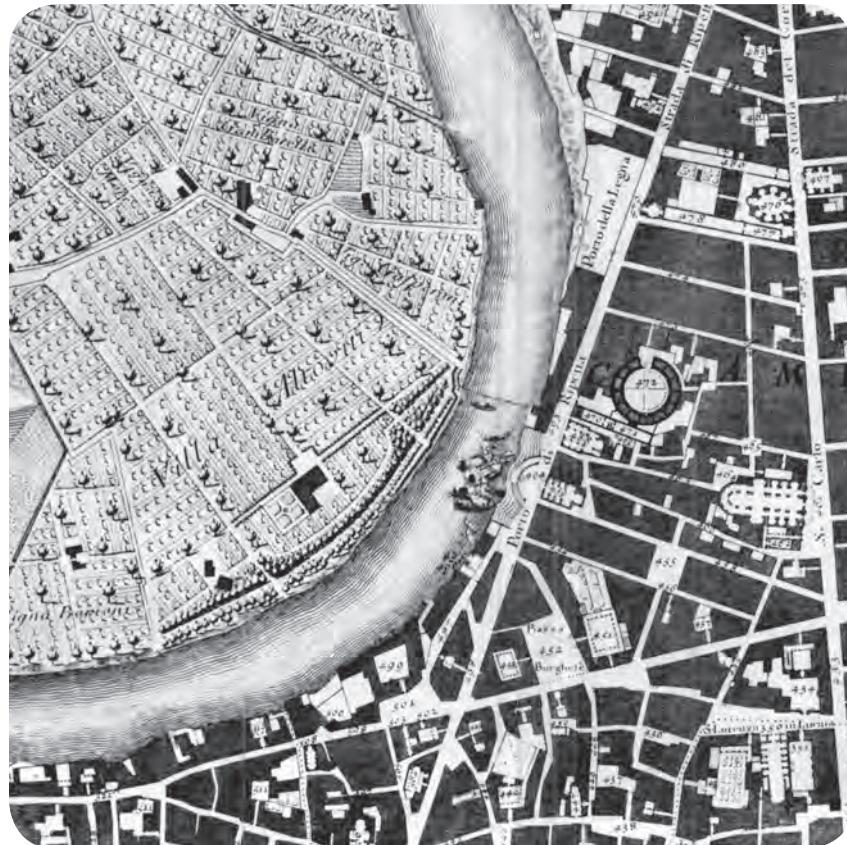


fig. 1.83 Giambattista Nolli's engraving of the Porto di Ripetta, 1748.



fig. 1.84 Giambattista Nolli's engraving of the Ripa Grande, 1748.

"At the Porto di Ripetta the visitor could have enjoyed a few intentionally picturesque views of the Tiber ever monumentalized in the history of Rome. Across the river one could have seen the vast meadows, the Prati di Castello that stretched to Castel Sant' Angelo; and in the distance the dome of St. Peter's reappeared from the intermittent obscurity imposed upon it by the uneven fabric of the city."

- (Marder 1980, 28)



fig. 1.85 Piranesi's etching of the Porto di Ripetta, 1753.

design of the formal stone port articulated the importance of this link between the city and its river.

The purpose of the Ripetta's construction was not only an aesthetic upgrade; its construction also improved the means of transport for all agricultural commodities entering the city. (Marder 1980, 45) The construction of the new port enabled the landing space to be increased in length from 20 meters to 90 meters, which greatly increased its capacity. (Marder 1980, 34) Cleverly, the new stepped design of the Ripetta worked with the Tiber's natural changing water levels, which meant the port could function well during the seasonal fluctuation of the water. The solidification of the muddy bank meant there would be no further soil erosion which had previously threatened to render the port unusable, and boats now had a place for stable mooring. (Marder 1980, 45) Along with the port, the construction of the adjacent tollhouse allowed for the city to watch over the activities and commerce that was a vital part of Rome's riverscape. (Marder 1980, 45)

The Porto di Ripetta's baroque design was a hemicyclic piazza centered at street level of the ninety-meter long stone port.²² From the piazza, two ramps gently curled down the bank meeting at river level²³, while monumentalized stairs gracefully flanked both edges of the site extending nine meters towards the river. The stairs appeared orthogonal from the street, but as they cascaded down the slope, they appeared to absorb into undulating waves²⁴, which "evoked the flow of the river." (Marder 1980, 35)

The existing and constructed buildings were intentionally located on-



fig. 1.86 The Porto di Ripetta, just before it was buried in the construction of the embankment walls, 1878.

"The Porto di Ripetta regularized and terraced the formerly unstable bank in a symmetrical manner; a customhouse was built to the north of it; a decorative façade was added to mask tenements to the south; and a fountain graced the axis of the whole complex." (Marder 1980, 34)

22 Some of the stone used in the construction of the Porto di Ripetta were fallen travertine blocks salvaged from the Colosseum that fell during the 1703 earthquake. (Marder 1980, 36) (Pepe, et al. 2001)

23 This enabled a deft river descent and ascent for both horses and carts. (Marder 1980, 37)

24 The inspiration for the curving steps is probably to be found in the techniques of stage design where the devices used to create the effect of water resemble the lines of the port stairs. In fact, the illusion of water was promoted on stage by several methods which recall the sense of movement that must have been generated by the composition of the Ripetta. (Marder 1980, 38-39)

axis with the dramatic geometry of the site – creating a monumental synergy of architecture and landscape. (Marder 1980, 35) The architecture of the river port also alluded to its history and environment through the inclusion of special columns that sat atop the street-level piazza.²⁵ There were two columns, four meters high erected at both ends of the piazza, which measured the levels of previous floods, by date and maximum height. Although flood-markers (*lapide*), had been embedded within the urban fabric for hundreds of years, this was the first time that columns employed this unprecedented use and memorialized the city's episodes of inundation. (Marder 1980, 46)

For the first time, Rome's symbolic connection to the Tiber River was made manifest through Specchi's monumental architectural. Now Romans could admire the panorama of the Ripetta, a vista once described as “a view second to no other place in Rome.” (Marder 1980, 33) As a result, this port became “a favoured spot, not disgrace for Romans of the 16th and 17th centuries, and the monumentalization of the mud-banked landing would seem in retrospect an inevitable crown to a long and persistent development of the whole district.” (Marder 1980, 34) The prestige of the Ripetta, lead to further intensification and development of the surrounding context in Campus Martius, and the Prati region located directly across the river. With the development of Prati, new means of crossing the Tiber were necessary. First a *traghetto* (ferry) was installed at the port that would ferry a small boat across the water for a nominal fee. However, after Rome was declared the capital city in 1870, the Ripetta was chosen as the location for a bridge to the nascent housing developments in Prati. The ferry that had provided a means of river crossing was no longer enough. It was “charming but insufficient”. (Marder 1980, 49) In 1878, the pedestrian bridge Ponte di Ferro was erected, awkwardly smashing into the graceful stepped bank at city level. (Marder 1980, 28) This negated the need to descend seven meters

25 Piazza del Porto di Ripetta

to the river's level in order to cross it – a gesture that would slowly kill the life on the Tiber. (Marder 1980, 34) Within twenty years, this pedestrian bridge was not enough, and a new, larger bridge Ponte Cavour was erected a few meters to the south.

Sadly, the life of the Porto di Ripetta was short for a public work in Rome. The port was constructed, and then buried in less than two centuries²⁶, which “belies its historical interest”. (Marder 1980, 28) “By the later 19th century, Rome as a modern capital had new needs, and urban expansion consolidated cast the port into decline.” (Marder 1980, 28) And, as the commercial trade route moved to the railways, the harbour lost its functional importance and economic rational, which ultimately justified its demise. (Pepe, et al. 2001) By 1890, the river embankments were implemented, burying the Tiber's shores under its massive travertine walls and wide boulevards, completely erasing the “graceful design that had united the river and Rome.” (Marder 1980, 28)

The new river rampart and the expansion of the city over them inevitably changed the relationship between Rome and the Tiber: essentially the city lifted herself above the river and stretched beyond it. The Tiber that had spawned, protected, and nurtured the city had become an encumbrance. (Marder 1980, 49)

Today, a century after the city-river estrangement, Romans possess a quixotic nostalgia for the images of the active life that took place along the banks of their river. Whether it is the romantic reflections of Piranesi's engravings of the Tiber's banks or the sentimental paintings of the pre-embanked river full of boats, fishermen, and crumbing ruins, Rome is longing to be reunited with her river.



fig. 1.87 Piranesi's engraving of the Porto di Ripetta, 1753.



fig. 1.88 The former Porto di Ripetta site prior to Richard Meier's Ara Pacis.

Sadly, the construction of the muraglioni according to Canevari's design, meant the destruction of any of the city fabric adjacent to the water's edge, including Rome's beloved river port, the Porto di Ripetta. With the loss of the port, which is believed to be intact, buried around ten meters below the street level, Rome lost its physical and symbolic connection with the river.

²⁶ The Porto di Ripetta commenced construction in 1703, and was dismantled by 1890, as the embankment walls were erected along the Tiber's entire urban watercourse. (Marder 1980, 28)



fig. 1.89 ‘Puddles’ on the stairs down to the river.

RIVER POLITICS

TIBER STIGMA

"Alas, the river is no longer Horace's flavus Tiberis, the blond Tiber. Most of the time it looks a dull gray, sometimes taking on an outright nasty hue." (Hofmann 1986)

Unlike the days of Goethe, the Tiber's characteristic creamy-yellow waters are now chemically polluted from the waste of the capital's 3 million people, and the effluents of industry located along the river and its tributaries. (Hofmann 1986) There is no denying that the 19th century construction of the embankment walls in historic Rome changed its natural environment. With river widening and regularization, the remaining marshlands along the Tiber's urban course were eliminated. Today, most of the Tiber's 600 plus species of trees, plants, insects, amphibians, fish, birds, and animals inhabit that riverscape upstream of greater Rome. However, the river's urban watercourse still remains home to several species of flora and fauna. Although Rome's stretch of the Tiber contains mallard ducks, seagulls, fish, eels, common pondweed, cattails, plane and poplar trees (Marevivo 2004)²⁷, the environment is identified as a polluted wasteland. The stigma associated with the river's degraded environment has steered people away from the inhabitation of its banks. Now only the brave, or the vagrant seem to spend time upon the river's edge.²⁸ In fact, many Romans, born and raised in the city have never descended the stairs to river level.²⁹ This is understandable when even at city level, before descending to the riverbank, one is immediately confronted by the neglect of this environment. The first impression of the Rome's riverscape is often the stench of urine pooled on the stone treads of the narrow stairs. This alone deters many to never enter into this seemingly unhygienic landscape.

²⁷ More detailed information on the Tiber River's environment can be found in: Autorità di bacino del fiume Tevere. Il Tevere a Roma Portolano. Milan: Edizioni Ambiente, 2006.

²⁸ In the 1980s, local newspapers reported when people fell into the Tiber and the subsequent illnesses they acquired afterwards, such as hepatitis, or leptospirosis. (Hofmann 1986)

²⁹ According to discussion with Maria Margarita Segarra Lagunes on April 2, 2009 in Rome, Italy.



fig. 1.90 Cleaning the wall.

Rome begins to acknowledge her river, cleaning up the portions visible from popular destinations as the peak tourism season begins.



fig. 1.91 The aftermath of the December 2008 inundation, three months later.

Furthermore, people are not drawn down to the river when the views of the river from the city, depict it as a wasteland, void of program. Until peak tourism season approaches, the city does not maintain its riverbanks. The aftermath of broken structures, mangled boats, silt and strewn about garbage from the elevated river level in December 2008 was plaguing the riverscape three months later.³⁰

The perception of this once-great river has radically changed; if the river remains in its current state, many will never find a reason to descend to its banks.

30 During my site visit from March to April 2008, there was an abundant amount of evidence from the aftermath of the December 2008 inundation. This included demolished docks and a wrecked riverboat that were sitting upon the river's path outlined by caution tape as if it were a crime scene. There was also silt and debris overtaking much of the paths and causing the completed closure of a significant number of the stairways, as well as vast amounts of debris, mainly plastic shopping bags, hanging like ornaments from the growth at the river's edge.

Due to political complications, the Tiber River and its surrounding environment are difficult to improve. The volatile river runs through multiple jurisdictions, provincial and municipal, along its course creating unclear governing boundaries. The multiple ownerships of the Tiber and its basin have made the river simultaneously belong to no-one and to everyone.³¹ This absolution of stewardship meant that little could be done to improve the degradation when pollution and damage to the ecosystem could be blamed on the activities of others upstream.³² Without a single agency in charge of this landscape, it seems that this problem is too immense to solve. (K. B. Jones 2009, 12)³³

Finally, in order to effect change, new authorities, including the *Autorità di bacino del fiume Tevere* and *Marevivo* have begun to take responsibility for the neglected river. Both groups have begun extensively studying the ecology, history, and infrastructure of the river. The work produced will help inform the future of the Tiber, and its basin.

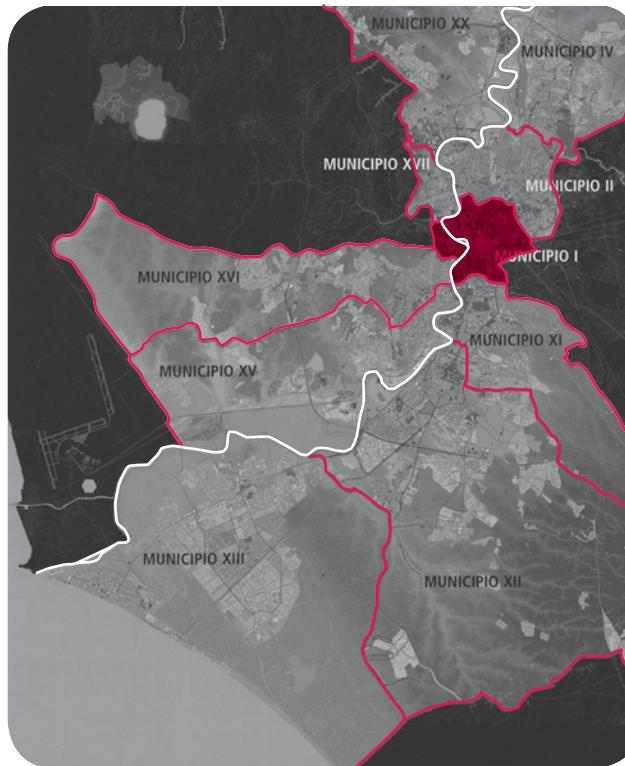


fig. 1.92 The Tiber River's multiple municipalities.

31 The elements of Rome's Tiber are still comprised by multiple ownerships. Separate entities are in control of its water, flooding, riverbed, cleaning and maintenance, vegetation, and spontaneous growth. FLOODING & WATER QUALITY: Autorita del Bacino del Tevere & Capitaneria di Porto, RIVERBED: National Ministry of Archaeology, WATER: Electric Company ACEA & Capitaneria, CLEANING & MAINTENANCE: (up to 1.8m above the riverbanks): Commune di Roma AMA S.p.A. (Department of Sanitation), PLANE TREES ALONG THE LUNGOTEVERE (approx. 12m above water level): Parks Department, SPONTANEOUS SCRUB GROWTH ALONG THE RIVER'S EDGE: is not trimmed or managed by anyone, since it does not officially exist, and the TEMPORARY COMMERCIAL STRUCTURES ALONG THE RIVER'S EDGE: privately owned, (but encouraged by the city because the city profits from these commercial ventures). (K. B. Jones 2009, 12)

32 The Aniene River, one of the Tiber's major tributaries is "filthy, not just with industrial pollutants but with people illegally dumping their waste." (Baker 2002)

33 According to Kay Bea Jones, in the political discussion of urban development and remediation, the Tiber, which flows through several regions, stands as a no man's land that is paralyzed by national, regional, and municipal authorities, because there was no a single river agency. (K. B. Jones 2009, 12)



fig. 1.93 Scrub growth along the Tiber decorated in by debris.

BAG LADY...

After arriving in Rome for a site visit in late March of 2009, the first thing I did was descend to the riverbank (after a cappuccino of course). I was eager to immerse myself in my site.

Three months earlier, I had been captivated by the international news and local bloggers in Rome who were documenting the Tiber's highest water level in seventy years. I had seen the river rise when I was in Rome four years earlier, but soon after the river fell back to its normal level, I was no longer in Rome. This time in Rome I was confronted by the receded river. It was perhaps the first time I fully understood the Tiber's supernatural power that had caused fear in Romans since their city was founded. My thesis research had taught me about the extensive flood data and all the interventions done to the river to prevent future catastrophe - the embankment walls, the dam upstream, the system of warnings.... Yet months later when I stood on the bank, I could see Rome was unprepared. Why would a city be unprepared when it is a known fact that the river will rise, and the waters will become temperamental come late November? Why would they leave structures and boats in the water that will be smashed into bridges and torn apart? Why would they allow litter to collect on its paths and streets above that will flow into its river, colourfully decorating the spontaneous growth?

I continued walking south asking myself these questions and wondering how long this mess would litter Rome, and who, if anyone would clean it. Then I discovered an unexpected answer. I came across a homeless woman with a shopping cart, walking along the edge of the path. I looked at her, and was puzzled where she found a shopping cart in Rome... and how she got it down to the Tiber. But then I saw what she was doing, she was carefully removing each bag, one by one, from the trees along the river, a daunting task. I was touched that she too cared deeply about the health of this landscape, her home.



FLOODING

HISTORICAL SPATES

“Floods’ is the word they use, but in fact [the river] is not flooding; it is remembering. Remembering where it used to be. All water has a perfect memory and is forever trying to get to where it was.” (Morrison 1990, 305)

Perhaps even more than its historic and mythic importance; the river Tiber is known for its extremely temperamental nature;³⁴ especially in the low-lying planes of ancient Rome. “[W]hile small in the summer, the winter’s rains and the spring’s melting snows often swell the stream until it is a raging torrent.” (Eubanks 1930, 684)

Events of flooding are as old as Rome herself; in fact, this character of the Tiber River is directly responsible for the events leading up to the creation of the Eternal City. It was the overflowing waters of the Tiber that washed twins Romulus and Remus ashore to the foot of the Palatine Hill, where they would later found their great Empire. Tiberius’ swelling waters protected the boys and guided them to their destiny. This divine act was integral in Rome’s mythic foundation, and as a result, the Tiber’s character became a respected and sacred part of Roman culture. Out of fear, or respect for their Pagan gods, Romans did not intervene in the river’s natural cycle; instead, they became aware of the innate nature of their volatile river.³⁵

The deluge of water arriving to Rome was made worse by the natural topography and environment. Great sections of the city, including the Campus Martius and the Jewish Ghetto, were built upon valleys and marshland, directly adjacent to the volatile river, and thus were first and most severely affected by spates. And, as the city expanded, its permeable landscape was

| | |
|---------------------|--|
| Normal Flood | 5 - 7 masl discharge < 200 m ³ /sec |
| Elevated Flood | 7 -10 masl discharge < 800 m ³ /sec |
| Ordinary Flood | 10 - 13 masl discharge < 1500 m ³ /sec |
| Extraordinary Flood | 13 - 16 masl discharge < 2000 m ³ /sec |
| Exceptional Flood | > 16 masl |

fig. 1.94 The December 2008 Flood.

On December 13 2008, the swelling waters reached 12.55 metres above sea level (masl) at the Ripetta Station. Brought on by an onslaught of rain, these levels were the highest recorded of the present decade, surpassing the previous maximum of 11.41 masl in December 2005. However, none of this decade’s incidents come close to the post-embanked river’s maximum height of 16.90 masl, set back in 1937. (Lastoria, et al. 2009)

fig. 1.95 Tiber Flood classifications

³⁴ Refer to page 62 for a more detailed account of Rome’s historic floods.

³⁵ Although Rome was at significant threat of inundation, especially during the winter and spring months, most common to Romans was the threat of fire. Ancient authors gave the impression that there was not a day that went by without a serious fire in the city. This can be traced to the narrowness of the ancient streets, vast amount of wood construction, ineffective fire-fighting techniques as well as the use of open flames for cooking and oil lamps for lighting, which either contributed to the likeliness of creating, or spreading a fire. (Aldrete 2004, 93)

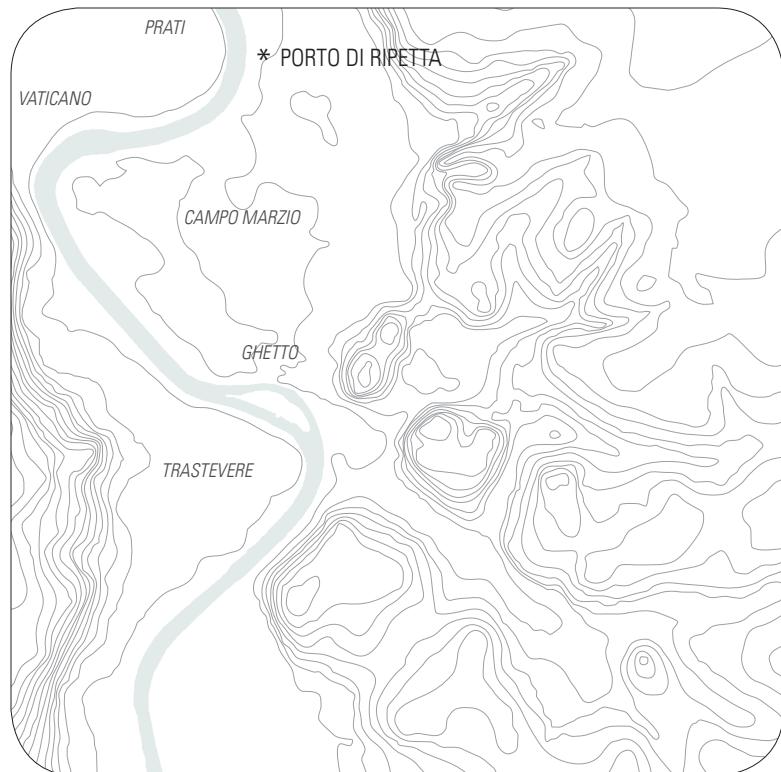


fig. 1.96 The Tiber River at its normal water level around 5 masl.

Shown with the topography lines (at 5m intervals) of the pre-embanked river condition in Rome.

Today, Rome's elevation ranges from 13 masl at the Pantheon to 139 masl at the peak of Monte Mario. (Chelys 2008)

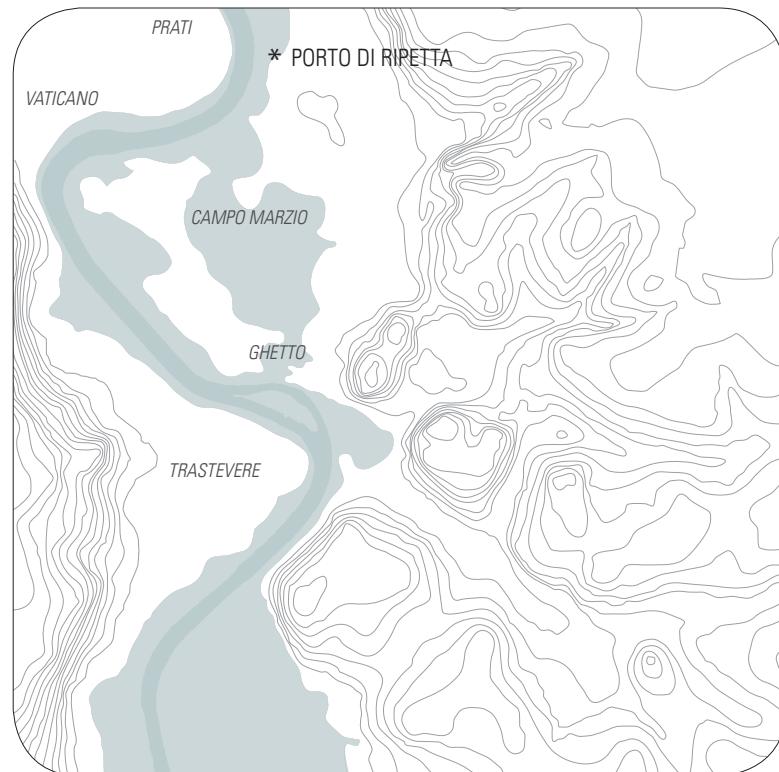


fig. 1.97 The Tiber River during an 'ordinary' flood around 10 masl.

"The 1870 inundation crippled significant portions of the city for a couple of days, while that of 1598 essentially washed over virtually the entire city."
(Courtenay 2003, 33)

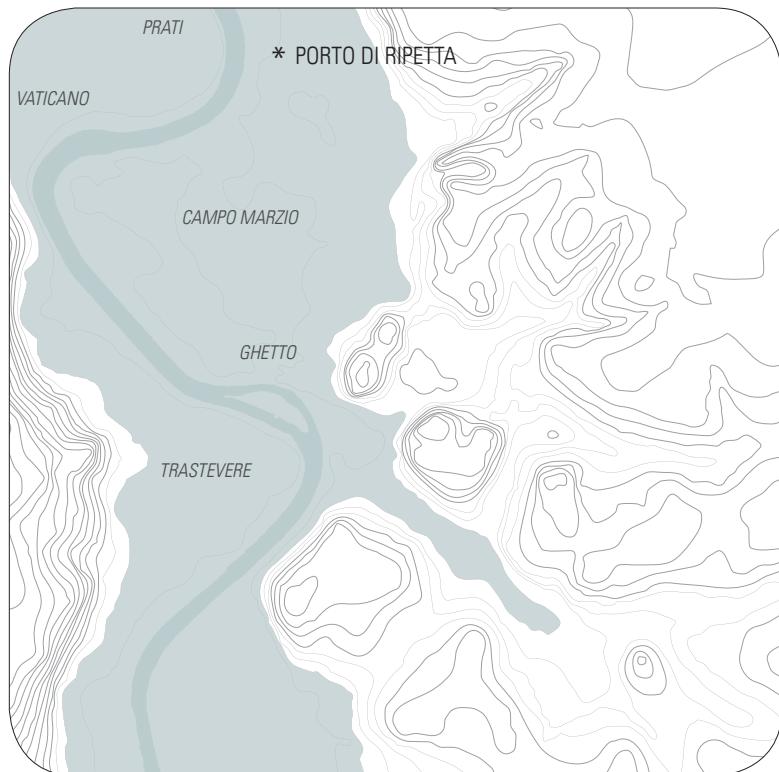


fig. 1.98 The Tiber River during an 'extraordinary' flood around 15 masl.

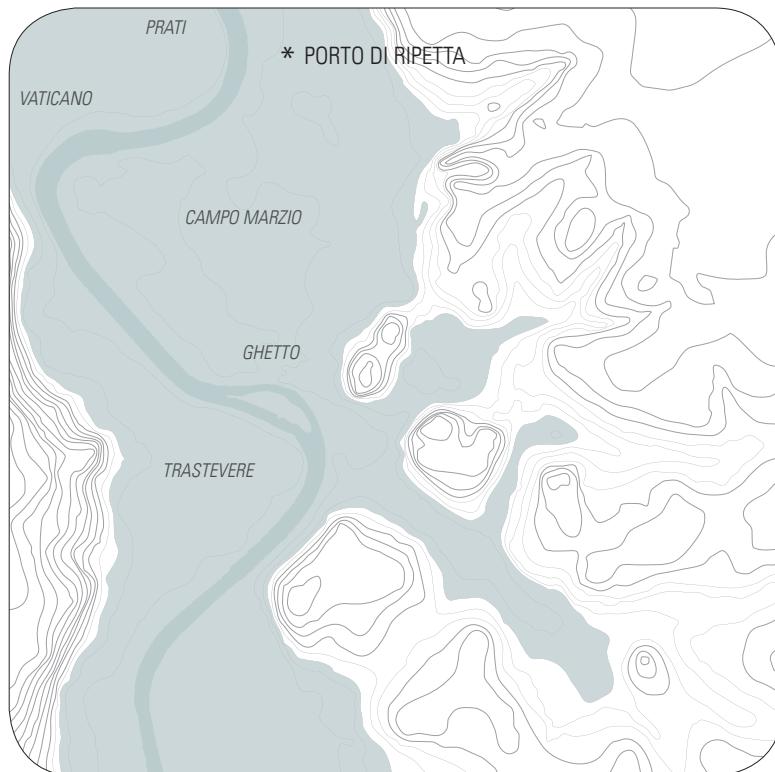


fig. 1.99 The Tiber River during an 'exceptional' flood around 20 masl.

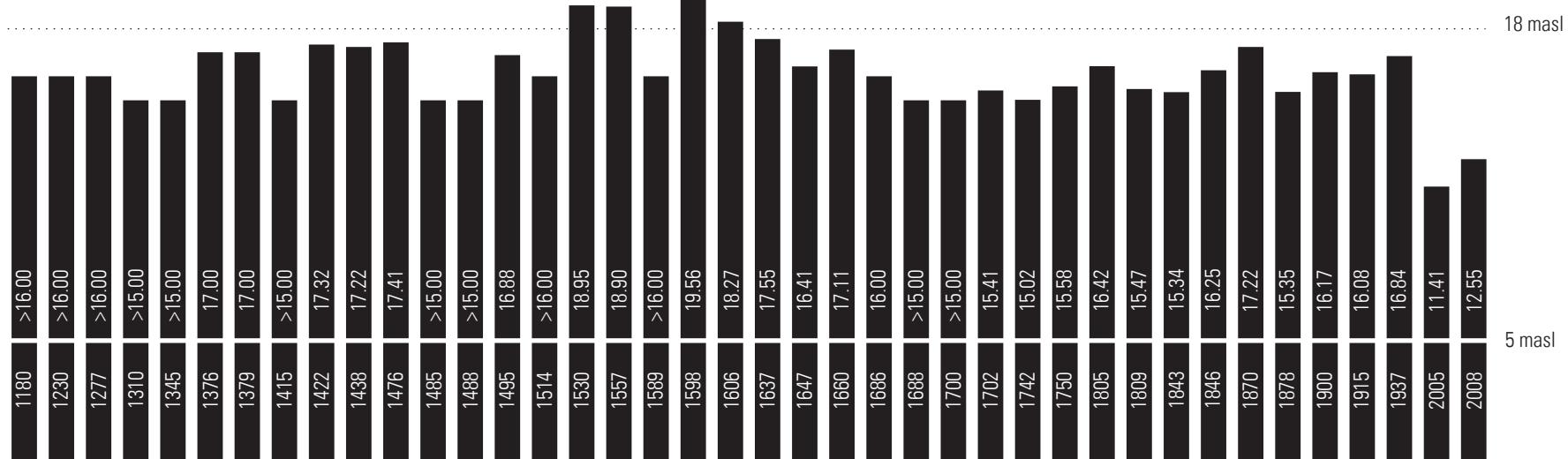


fig. 1.100 Hydrograph of the Tiber River's peak water levels in Rome from the Medieval period to present.

Illustrated peak heights of floods compared to the normal level of the Tiber River (5 masl) and the height of the present day river embankments (18 masl).

fig. 1.101 Historic photograph of the Tiber's rising waters, Piazza Pia, 1915.

fig. 1.102 Historic photograph of the Tiber's rising waters, Bocca della Verità, 1900.

fig. 1.103 Historic photograph of the Tiber's rising waters, Trastevere, 1937.

fig. 1.104 Historic photograph of the Tiber's rising waters, Tiber Island, 1900.

fig. 1.105 Historic photograph of the Tiber's rising waters, Ponte Milvio, 1900.

fig. 1.106 Historic photograph of the Tiber's rising waters, Via della Lungara, 1915.

overtaken by an impermeable cityscape.³⁶ The urban fabric's network of winding narrow streets constructed of hard surfaces, with nominal absorptive material and vegetation, made water slow to drain, which created a serious threat of inundation with any prolonged rainfall. (Aldrete 2007, 85,87) In fact, the pre-embanked Tiber was capable of regularly inconveniencing Rome. Even a minor flood could overtake neighbourhoods adjacent to the banks, backing up numerous underground sewer lines. (Courtenay 2003, 33) Not only did the inundations inconvenience the city; they had the potential to cause a series of devastating consequences for Romans. Floods drown both humans³⁷ and animals; those who did not succumb to the rising waters were threatened by the subsequent illness caused from the unhygienic conditions and contaminated drinking water which was a result of the flood's aftermath, or from the possibility of starvation from the spoilage of the grain at the city's warehouses.³⁸ These inundations also caused structural collapse or damage to the large

³⁶ It is commonly believed that the inundations in Rome have been made worse because of the deforestation of the Tiber basin. (Aldrete 2007, 74)

³⁷ Severe flooding was capable of drowning over a thousand people in the city and its suburbs. (Eubanks 1930, 684-685)

³⁸ Rome was dependant upon the storage of grain for its survival. Grain, and many other goods needed to be stored in warehouses since they were not shipped year-round. The shipping season was only around 100 days, during the summer, when sailing was at its prime in the Mediterranean Sea. Goods were not transported at other times of the year, especially during the winter months due to the severe stormy weather. (Aldrete 2007, 134)

These warehouses were located adjacent to the Tiber, in the Emporium district, because of their close proximity to the unloading docks – however this location also meant that they were in the middle of the floodplain, therefore it was crucial for the architecture to protect the valuable goods it housed. In fact, the storage of grain was so critical for the city a new typology of *horrea* (warehouse) was introduced to protect it. A small cluster of buildings with raised floors and high openings were centered on a central courtyard. These buildings had one-meter thick walls (which resisted the horizontal pressures of the grain and allowed it to be stored loose), and minimal, yet effective fenestration (to avoid thieves from getting access to the grain, an extremely valuable and highly sought-after commodity). These *horrea* were able to keep the goods inside dry and cool, even during a flood, without absorbing excess moisture that would inevitably lead to spoilage. This ingenious typology usually prevented Rome from experiencing catastrophic famine after an inundation. (Aldrete 2007, 135-136)



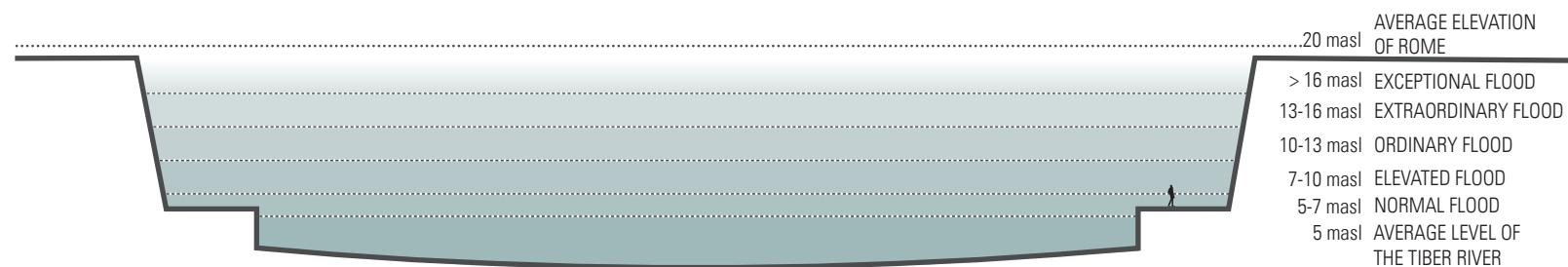


fig. 1.107 Flood Classifications of the Tiber River.

The present-day river section illustrated against the Tiber River's Flood Classifications as defined by Gregory Aldrete in *Floods of the Tiber in Ancient Rome*. In recent years, the temperamental river has risen as much as 12.55 meters above sea level.

7-8 story shoddy constructed *insulae* (apartment blocks), and filled the narrow streets with silt and debris.

To this day, even with safety-measures in place, come winter in Rome, the Tiber's waters will rise. On December 13 2008, the swelling waters reached 12.55 masl at the Ripetta Station. Brought on by an onslaught of rain, these levels were the highest recorded of the present decade, surpassing the previous maximum of 11.41 masl in December 2005. However, none of this decade's incidents come close to the post-embanked river's maximum height of 16.90 masl, set back in 1937. (Lastoria, et al. 2009)



fig. 1.108 The Tiber's waters rising again up the embankment walls and Ponte Sisto, 2005.



Since the 13th century, numerous *lapide* litter the façades of the low-lying regions of Rome, including the Campus Martius and Ghetto, illustrating the dates and heights of the Tiber River's floods.



fig. 1.109 *Lapidi*(floodmarkers) embedded in the façade along Via Laurina.

fig. 1.110 *Lapidi* embedded in Porta Flaminia at Piazza del Popolo.

fig. 1.111 *Lapidi* embedded in the façade of Santa Maria sopra Minevra.



THE COLLECTIVE MEMORY OF ROME'S FLOODS

Flooding and the fury of the Tiber has become a part of the larger urban memory and consciousness that defines Rome.³⁹ (Courtenay 2003, 34) For the superstitious and extremely religious, the river floods used to be seen as punishment, a divinely inspired event testing the strength of individuals, as well as washing away the sins of the city.⁴⁰ (Courtenay 2003, 34)

Aside from the written accounts of flooding, Rome physically embodies its memories of past inundations by embedding stone inscriptions into the exterior walls of public buildings, mainly churches, in the floodplains. These flood markers, or *lapidi*, record the height and duration of the historical inundations, and adorn the façades of former mires,⁴¹ leaving a permanent reminder of the city's vulnerability to her natural environment. (Courtenay 2003, 36) The graphic representation of these flood-records was typically a carved hand with a finger extended out, pointing to a line of water, inscribed with the peak height and serves as "tacit reminders to current generations of previous urban experiences, permanently engraining flood history onto the legible architectural topography and iconography of the city." (Courtenay 2003, 36) Hundreds of *lapidi*, and numerous hydrometers⁴² recall this important aspect of Rome's urban history. Very few cities have "so copiously recorded their fluvial history, and embedded it architecturally into the city as a living memory." (Courtenay 2003, 36)

³⁹ Systematic stage measurements of floods have been recorded as far back as 1782, however, records of flooding in Rome date back to ancient times by historians such as Livy and Dione Cassius. From the late Middle Ages, flood records were embedded within the physical fabric of the city. (Calenda, Mancini and Volpi 2004, 88)

⁴⁰ This analogy seemed to be especially pointed at Rome's Jewish population, who, coincidentally were forced to live in the lowest part of the city, The Ghetto. The Jewish population, at the peak of Christianity, was frequently offered as the reason for the Tiber's wrath. (Courtenay 2003, 34-35)

⁴¹ The *lapide* were typically placed in three locations within the city to record historic floods: Santa Maria in Sopra Minerva, Castel San Angelo, and the customs house at the Ripa Grande. (Courtenay, 36)

⁴² Hydrometers were typically long columns of etched measurements. The most notable hydrometer is located at the church of San Rocco, at the site of the former Porto di Ripetta. (Courtenay 2003, 36)



fig. 1.112 Close-up of the iconic graphic inscription found on Rome's *lapidi*.





A CITY FORGETTING

STALKER LAB...

For nine kilometers from where the near-vertical embankment starts at Ponte Giacomo Matteotti to where it dissolves into dense underbrush at Ponte Sublicht I walked along the Tiber taking photographs for my left bank collage. I counted my paces over and over again:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 'snap'...

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 'snap'...

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 'snap'...

After nearly two hours in the unyielding sun of the warm Roman spring I was getting exhausted and thirsty, there was no place to rest or grab a drink. Even my mobile phone died. I was in a rhythmic trance of counting paces and shooting photographs. Finally, I emerged from my trance near the remains of the old Ripa Grande when I knew the end was in sight. My relief was short-lived, as I saw the Tiber's wall and path dissolve into nature I looked up to Ponte Sublicht to see a man staring down at me in an unnerving manner. I told myself "it was nothing, I'm over-reacting... just a few more photographs, I'm almost done." Then I looked up again. The man was still staring. My gut was uneasy, was he looking at my digital SLR camera and thinking I'd be a helpless victim, or worse, was he looking at me? "Oh crap, there are no stairs ahead. I'm trapped. Oh crap, my phone is dead." I discreetly take the rape-whistle out of my pocket and make sure my large Roman-style keys are between my fingers, just in case. "One more photograph. Yes, done! Oh no, he's getting close, what am I going to do?" Then out of nowhere a cyclist approaches out of the dense foliage on the southern banks. I turn sideways to have a simultaneous view of the cyclist from the south and man approaching ominously from the north. I bend down pretending to tie my shoe, getting into a runner's starting block pose I waited for the cyclist to appear by my side, and then I ran, faster than I ever have before. By the time I realized what I was doing and how ridiculous I probably looked, I was at the top of the ramp at Ripa Grande. Moments later I was safely absorbed by the fabric of the city.



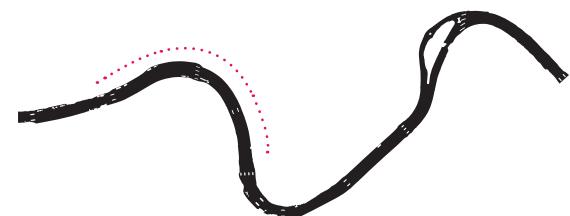
The homeless camps, weeds, graffiti, pissories, condoms, and needles that have accumulated on the embankments are paradoxical evidence of life in the 'disabitato', or uninhabited area. Scrutiny about the river's identity, myths, and engineering, along with its defacto current usage, will be pertinent to its future. Whether or not this Tiber constitutes terrain vague, the status of this 400-kilometer long conduit from the Apennine Mountains to the Tyrrhenian Sea that gave birth to the first Roman settlement currently provokes intriguing questions about the city that persists as one of the world's most popular tourist destinations.

- Kay Bea Jones, *Rome's Uncertain Tiberscape: Tevereterno and the Urban Commons*, page 2

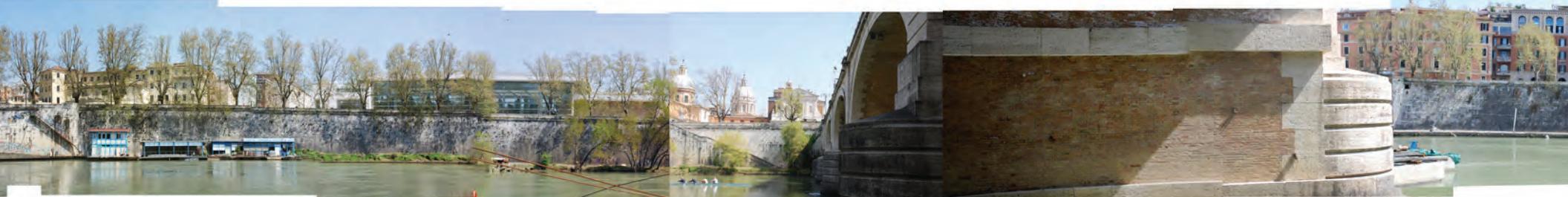
fig. 2.1 The Tiber River's left bank embankment wall.

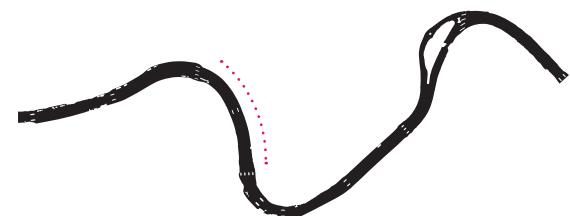
REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER





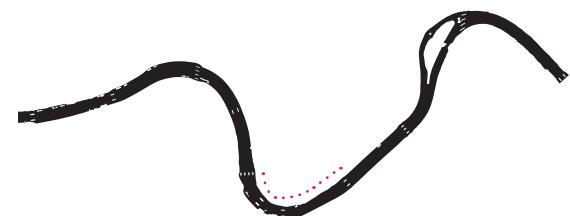
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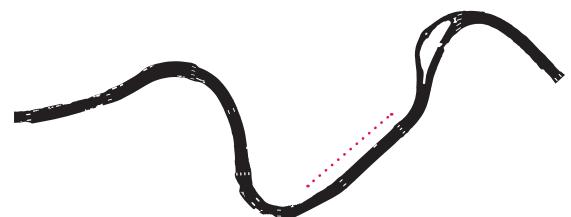
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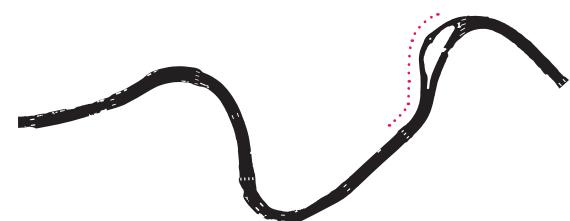
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REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER





BEFORE THE WALLS

HISTORIC ATTEMPTS TO TAME THE TIBER

For over two millennia, the fluctuating nature of the Tiber was an accepted part of daily life in Rome. Although, the Roman people were familiar with the eternal threat of inundations, they resented the continual threat that the river posed to the city. From Classical Times onward, there was growing interest in determining the origin of Rome's flood, with the goal of creating a solution that would finally end these catastrophic episodes.¹ (Courtenay 2003, 36)

Ancient Romans understood that the Tiber's flooding was primarily caused by rainfall; therefore they believed it was immune to an engineered solution. Instead, they turned to the secondary causes of flooding, with a series of projects that attempted to lessen the potential threat caused by their temperamental river. These included: damming the river's waters upstream at Perugia, in the attempt to regulate its discharge and navigability; regularly monitoring the riverbanks to ensure they were free of post-inundation silt; as well as enlarging and maintaining the clear riverbeds. (Courtenay 2003, 37) During the reign of Augustus, a government office was formed, known as the 'Curators of the bed and banks of the Tiber'.² This faction, lasted nearly three centuries through the reign of Aurelius, and was responsible for the maintenance of the Tiber, ensuring it was clear and unimpeded for the free movement of water, and boats. (Courtenay 2003, 37) However, even with these actions in place, Classical Rome achieved "little success mitigating the

¹ Historic attempts to tame the Tiber date back as early as Antiquity. Julius Caesar looked at both rerouting the Tiber within or around the city, as well as diverting some, or all of the flow from the Anio (Aniene River). Other notable attempts to control the river's unruly waters were conceived during the Renaissance, between 1531-1845, including a series of twenty-one monographs illustrating flood prevention and/or river alteration. (Aldrete 2007, 249)

² Throughout Rome's history, there have been numerous attempts to embank the fluctuating river. Measures were taken to protect the city from flooding through the construction of embankment walls in the second century B.C. (and possibly before) along the Forum Boarium. Recent excavations north west of the Emporium district have also revealed a multi-terraced embankment dating back to the mid first century A.D., which were built over the Republican embankments. (Haselberger and Romano 2002, 245).



fig. 2.2

Julius Caesar's plan to divert the Tiber River.

Most proposals settled on diverting the course of the Aniene, or the Tiber, or a combination of the two; an enormous task for a city which largely had its hands full maintaining order in its streets and keeping up its basic infrastructure. The relatively intermediate danger of flooding Tiber to Rome remained, until the end of the 19th century, below more immediate State expenditures and concerns such as military security and the construction of streets and churches. (Courtenay 2003, 39)

danger of catastrophic floods to the city, either through the lack of money or want of engineered solutions.... In the end, ... Rome abandoned all hope of regulating the volume of water along the Tiber." (Courtenay 2003, 37-38)

From the end of the sixteenth century until the nineteenth century, the Tiber was maintained in a similar manner.³ In addition to this, the river was studied constantly with the hopes of palliating flooding, and increasing navigability. (Courtenay 2003, 38) Most of these studies, were commissioned by the Papacy, and commenced within a few years after a devastating flood. This period offered little insight as to the cause of the Tiber's swelling waters. Romans again came to the realization that they had no command over why the river swelled and then unleashed itself upon the city – this problem was beyond human control. Instead, architects and engineers focused on the management of how water was moved through Rome and her watershed. Interest accrued in reducing the amount of water gained from heavy rainfall by either diverting it around the city, or moving it more efficiently through the city. (Courtenay 2003, 39) After several commissioned studies from the 16th until the 19th century, no significant action was undertaken, likely due to the fact that Rome did not experience any exceptional floods (above 16 m) from 1637 until 1870. (Courtenay 2003, 43) The proposed projects were deemed unrealistic due to their extreme economic and material demands, and without a doubt, they were well beyond the capacity of the Papacy. (Courtenay 2003, 39) Instead of a citywide solution, individuals made small-scale interventions to their properties, building protective walls to help mitigate the damage from the less-significant floods. These piecemeal constructions, unsanctioned by the Papacy or the city, began to shape the river with seamless edges. (Courtenay 2003, 45) Although this provided nominal protection to their properties, the "limitation of access, no doubt,

3 Extensive attempts had been made from the 17th to 19th centuries to dredge and clean the river, intending to improve its navigation, water quality and clarity; however, these efforts had little effect on the river. (K.B. Jones 2009, 5)

contributed to the idea of the Tiber riverfront as a marginalized landscape within the city rather than as a primary façade.” (Courtenay 2003, 46) These interventions were enough to satisfactorily safeguard the city from the smaller inundations of the pre-embanked river. As the tragic events of flooding became a distant memory, the focus on the river intervention soon shifted. The 18th century city instead endeavoured to turn the Tiber into a reliable year-round transportation network to meet the demands of the steadily growing region.⁴ (Courtenay 2003, 43-44)



fig. 2.3 The Ghetto's former piecemeal river-facing façades.

⁴ The navigability of the river was improved through the dredging and expansion of the riverbed in addition to regulating its flow at various points within the watershed to ensure that the waterway could be traversed year-round. Historically, the river's volume could greatly vary depending on the season. (Courtenay 2003, 43)

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



fig. 2.4 The River Seine, Paris.



fig. 2.5 The River Thames, London.

ROME AS THE CAPITAL CITY

The nineteenth century social and political movement, Il Risorgimento ('The Revival'), created great changes in Italy, especially Rome. In 1861, the forces of this faction united the peninsula states into a single state, Italy, and Rome was declared its capital in 1870.⁵ At this time, the Papacy's rule was lifted and Italy became a nation state, which ultimately created the third city of Rome.⁶ (Sanfilippo 1996, 13)

If there was a single tradition that the population of the peninsula held in common it was that of Ancient Rome. Across all the ideological currents of Italian unification this was the one integrating element. The myth of a unified past underwriting a unified future.... (Agnew 1998, 230)

As Italy and its capital were reconceived, Il Risorgimento aimed to "turn the ancient city into a capital worthy of their project." (Agnew 1998, 229) Not only was it important for the new nation to have a unified collective history, there was also a general perception that a great international city, such as Rome, should aspire to have monumental architecture as a visual expression of its status. (Aldrete 2007, 248) Italy sought to have its capital on par with the other great capitals of the nineteenth century Europe, in particular, Paris and London. (Courtenay 2003, 1-3)

To give the city the desired aesthetic, it needed to be reorganized in a rational manner. Boulevards were cut, demolishing ancient fabric; monuments were isolated, so that they proudly stood alone; and infrastructure was erected to safeguard and modernize the ancient city. (Agnew 1998, 233) It was the time for monumental intervention to their capital; a dramatic political act that would figuratively transition the rule of the city from the Papacy to the newly formed government.

⁵ Florence was the capital city of United Italy from 1865 to 1870.

⁶ Historically Rome has had 3 cities: Ancient Rome, Papal Rome and Rome of the Italian Republic. (Sanfilippo 1996)



fig. 2.6 The River Tiber, Rome.

With its new status as Roma Capitale, the city once again had an important symbolic role on the international stage. Thus it was a great embarrassment for the fledgling country when its capital city was revealed as being helpless before the destructive power of its own river. (Aldrete 2007, 248)

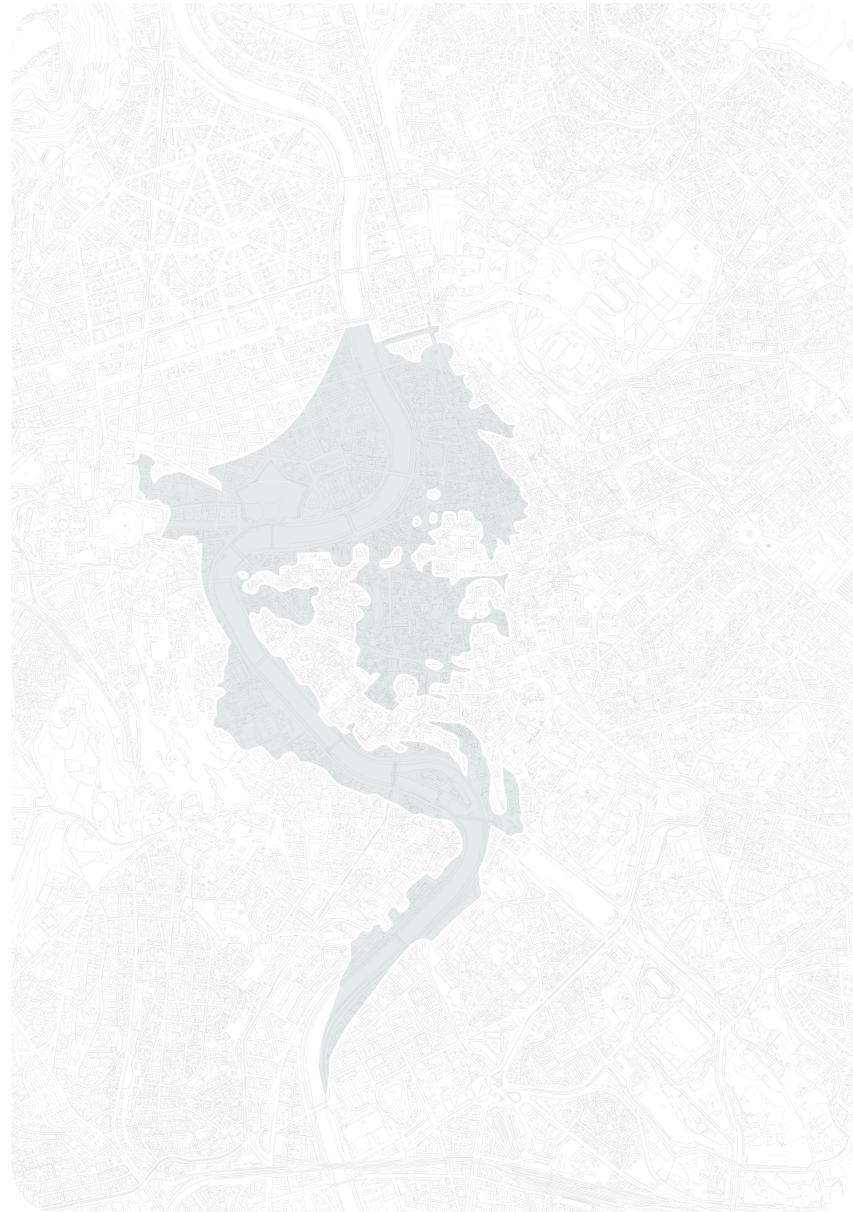


fig. 2.7 The Great Flood of December 1870.

Although it is known as ‘The Great Flood’, the flood of 1870 was not the most significant flood that Rome experienced.⁷ In fact, the flood of 1598 saw the water level peak at 19.56 meters, nearly thirteen meters above the river’s normal level. (Courtenay 2003, 33) What was different about the ‘great flood’ of 1870 was its critical and unfortunate timing.

The December flood of 1870, in coordination with the designation of Rome as the new capital of a unified Italy, prompted this overall sentiment of complacency to shift to one of action. A new political, scientific and social momentum born during this period led to a host of proposals in the 1870s for liberating Rome from its problematic relationship with the Tiber. (Courtenay 2003, 47)

This flood was the first devastating flood in nearly two hundred years - and it came only days before the inaugural visit of King Vittorio Emanuele II, causing the Tiber’s swelling waters to rise more than eleven meters above their average height.⁸ (Aldrete 2007, 248) A volume of water that inundated a remarkably substantial area of Rome; directly affecting more than two thirds of the city.

On December 31, 1870, the king arrived to discover the capital was ravished by floodwaters, mud, and debris, making vast sections of the city unfit for the planned festivities. (Aldrete 2007, 248) “The image of a dirty, unhygienic, disaster-prone city that Rome presented to the world on this occasion was certainly not what the Italians had hoped for and was... highly embarrassing.” (Aldrete 2007, 248)

⁷ Rome’s highest flood level was recorded in 1598, when the Tiber rose to a height of 19.56 meters; while the flood of 1870 was immense, its peak height was measured at 17.22 meters. (Courtenay 2003, 33) “The 1870 inundation crippled significant portions of the city for a couple of days, while that of the 1598 essentially washed over virtually the entire city.” (Courtenay 2003, 33) For a detailed account of Rome’s historic floods, refer to: Gregory S. Aldrete, *Floods of the Tiber in Ancient Rome* (Baltimore: The John Hopkins University Press, 2007).

⁸ The inundation peaked at 17.22 masl at the Ripetta gauge, and 13.85 masl at the Ripa Grande gauge. (Courtenay 2003, 4) (Aldrete 2007, 247-248)



fig. 2.8 King Vittorio Emanuele II.

Rome was humiliated by the image the city projected on King Vittorio Emanuele II’s inaugural visit. Instead of the grand festivities planned, Italy’s new ruler was instead wading through the silt-filled streets of its new capital city. (Courtenay 2003, 53)

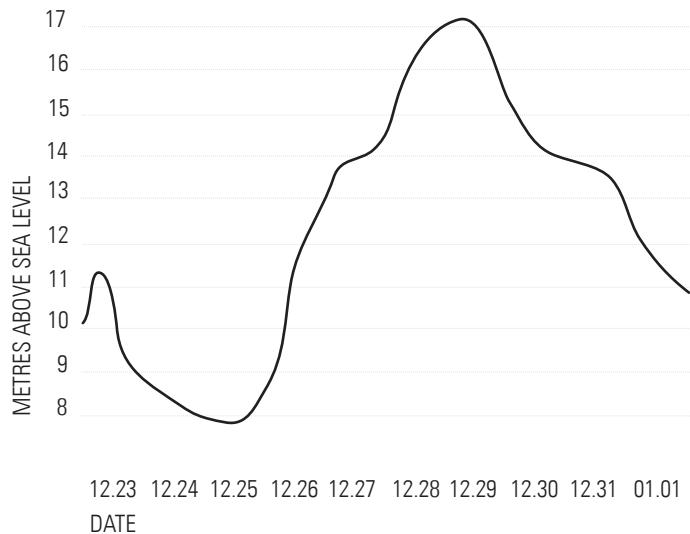


fig. 2.9 Hydrograph of the December 1870 flood levels at the Porto di Ripetta gauge.

Although vast areas were entombed in water, the most affected regions of the city were the flood-prone neighbourhoods of the Campus Martius and the Ghetto.⁹ In these low-lying plains, the water lingered for several days, the streets flowed like rivers themselves, the buildings were saturated, and traffic was severely hindered. However, the most life-threatening consequence of this dramatic event occurred after the waters receded. The “foul layer of mud and sewage” (Aldrete 2007, 248) that buried most of the city, turned Rome into a potentially fatal breeding ground for cholera, and other diseases. (Courtenay 2003, 4) Rome’s “pre-embanked river embodied a profound health liability” (Courtenay 2003, 91-92), in addition to costly damage and terrible inconvenience. An image that Rome, the new capital could no longer accept. “The great flood of 1870 created a serendipitous situation in Rome. Politically it was the right time for a major Italian civic project, and Rome needed to regain glory on an international level after the embarrassment caused by this disastrous flood.”(Courtenay 2003) By the end of the decade the new capital would undergo its most significant alteration in over two millennia, the destruction of its historic riverscape. This ideological move was both a rational and symbolic gesture to prove the power of the new government; a government that could finally create a permanent solution to the Tiber’s temperamental waters. Immediately following the great flood of 1870, the city set up an official commission, to once and for all render the city safe from the threat of the Tiber’s rising waters.¹⁰

Although the city itself underwent significant change during this period, it was the alterations to the riverscape that had the most radical impact on Rome. Since the city was founded, in 753 BC, the river had been an essential element in the daily life of Romans until the Tiber was physically and symbolically disconnected with the construction of the embankment

⁹ Refer to the 1870 flood map for a detailed account of the areas affected by the Tiber's rising waters.

¹⁰ Refer to the appendices for more detailed descriptions of the proposals submitted to the Commission of 1871.

walls, in 1876. This new infrastructure was erected along river's urban perimeter, and safeguarded the capital from the future devastation of floods. Its construction broke the continuity between the city and its river - and quickly the river became invisible to the bustling capital. In the 19th century, the Tiber was no longer a part of the Rome's cityscape.



fig. 2.10 Rome's pre-embanked riverscape.



fig. 2.11 Rome's riverscape, 2008.

The stretch of the Tiber River below the Museo dell'Ara Pacis was once the most important river-city connection. Today, this stretch of the riverbank is the only section along the Tiber's urban course, which is impassable by foot.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

"In the last years of papal dominion a new phenomenon emerged, which would become a pivotal feature of the Third Rome, the Rome of the Italian Republic: the Tiber was embanked below the Lungotevere, drastically altering the relationship between the city and its river. This spelled doom for the picturesque mills along the water's borders, and made the numerous riverside quays and loading wharves, including the Ripa Grande and Ripetta, redundant. Once the Tiber was walled in, Rome ceased to be an "aquatic city," and turned its back on the river forever. (Sanfilippo 1996, 57,62)



fig. 2.12 The historic riverscape, before the flood walls.

BUILDING THE WALLS

THE NEW RIVERSCAPE SELECTED FOR ROME

Perhaps, it was not surprising to discover that Raffaele Canevari, the head of the *Commission of 1871*, in charge of determining the final solution to Rome's inundations, was in fact the author of the winning proposal.¹¹ Canevari, a hydrological engineer, determined that his proposal would be the most effective and economical solution for Rome.¹² The Tiber was to become a river "free of encumbrances, passing water quickly through the city." (Courtenay 2003, 56) The new Tiber was to be a regularized and rational landscape – radically different from the palimpsestual constructions of the city upon its banks.

Rome's new riverscape was designed to have a fixed width of 100 meters, where to the river would be enclosed within near-vertical *muraglioni* (embankment walls), with a uniform height reaching 18 meters above sea level, 13 meters above the river's normal water level. (Courtenay 2003, 55) Canevari designed the project so that the river would "still flow its natural curvature, but would be forced to do so in a more regularized fashion." (Courtenay 2003, 55) The subterranean construction of a modernized sewer system within the *muraglioni* was also a critical component of this project since the capital had outgrown the capacity of its ancient infrastructure.

¹¹ The Commission of 1871 was not unanimous on this decision. Eventually the majority agreed that it was the 'best' design for both cost and security. (Courtenay 2003, 55)

¹² Canevari's proposal was accepted as the Tiber's 'final solution' for three primary reasons. Firstly, the commission had the sole power to choose which option the government would construct; so it was not unexpected that the commission members had selected the design of their fellow colleague, Raffaele Canevari. Canevari, a key member of the commission, was also involved in the planning committee chartered to draft the masters plans for Rome, and therefore in an opportune position to forcefully encourage his own design. Secondly, Canevari's design, including the boulevards, embankments and avenues, became incorporated into the 1873 Masterplan for Rome. And, thirdly, while this plan was expensive, it was viewed as the most economical solution by the fiscally-cautious city government. Although the government wanted the best riverfront for Rome, they were extremely concerned with the overall cost of the project. (Courtenay 2003, 57) Canevari's plan was estimated to cost about two-thirds less than Vescovati's design, and about half of cost of Baccarini and Amadei's proposals. (Courtenay 2003, 57)



fig. 2.13 Canevari's embankment wall.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



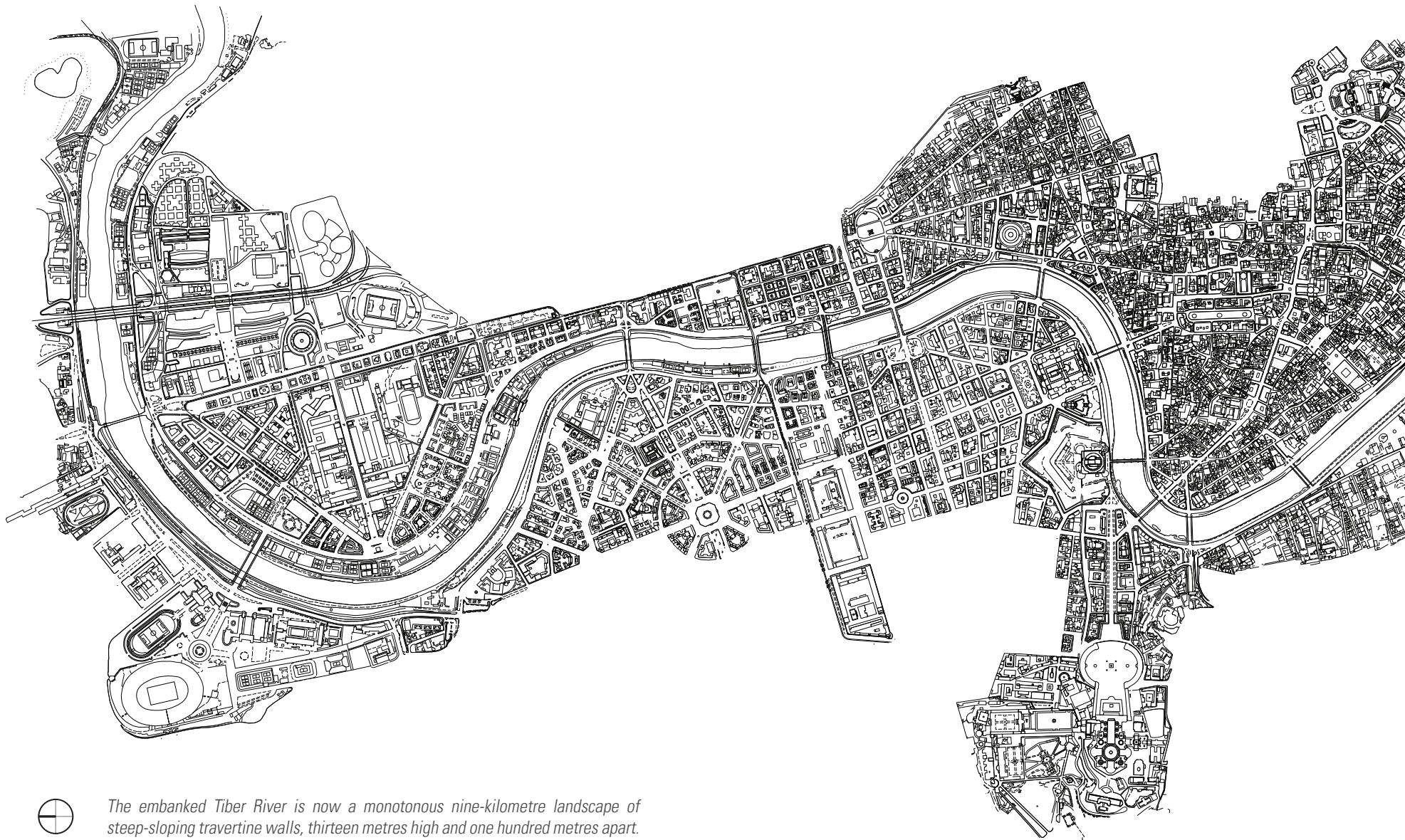
fig. 2.14 The embankment wall erasing the final stretches of Rome's historic riverscape, 1908.

(Courtenay 2003, 55) By this time, Rome had also outgrown its network of meandering medieval roads, as traffic consistently increased; it became clear that the new capital needed a more efficient route that would transect the city. Carriage traffic would be alleviated through the creation of two large boulevards, known as the *Lungotevere*, which ran parallel to both of the river's embanked edges. (Courtenay 2003, 55) But, perhaps, the most shocking aspect of this proposal was the normalization of the banks, by turning the once piecemeal landscape into a monotonous wall, the proposal called for the destruction of any unnecessary obstacles within the 100-meter width. This included the numerous mills that had occupied vast sections of the pre-embanked river, and the complete erasure of Tiber Island, the Porto di Ripetta, the destruction of two of the city's oldest bridges Ponte Cestio and Fabricio, and fragment of Ponte Rotto still standing.¹³ (Courtenay 2003, 56) Some of these casualties, namely Tiber Island and Ponte Rotto, were "avoided only by the outcry of numerous citizens and politicians who viewed that the Island and the bridges as an integral part of Roman history and a vital component of the city's urban topography." (Courtenay 2003, 56-57) These changes demanded by the Romans were the only significant differences between the proposed and built projects. (Courtenay 2003, 57) The construction of the *muraglioni* commenced in 1876, and by 1910 the entire course of the river within the city had been canalized. (Aldrete 2007, 247) Although this design seems to have made the threat of the Tiber's swelling waters, a distant memory, the construction of Canevari's embankment has tragically resulted in the "cultural death of the river." (Courtenay 2003, 5-6)



fig. 2.15 The historic riverscape, before the flood walls.

¹³ "The original embankment design called for the entire river to pass to the east of Tiber Island, erasing the right arm at the Ponte Cestio, while cutting through significant section of the Ghetto. These were pointless impediments in Canevari's eyes. The island structures would remain intact... but it would no longer be an island. (Courtenay 2003, 56)



The embanked Tiber River is now a monotonous nine-kilometre landscape of steep-sloping travertine walls, thirteen metres high and one hundred metres apart.

fig. 2.16 The present-day embanked Tiber bisects urban Rome 3-storeys below its streets.

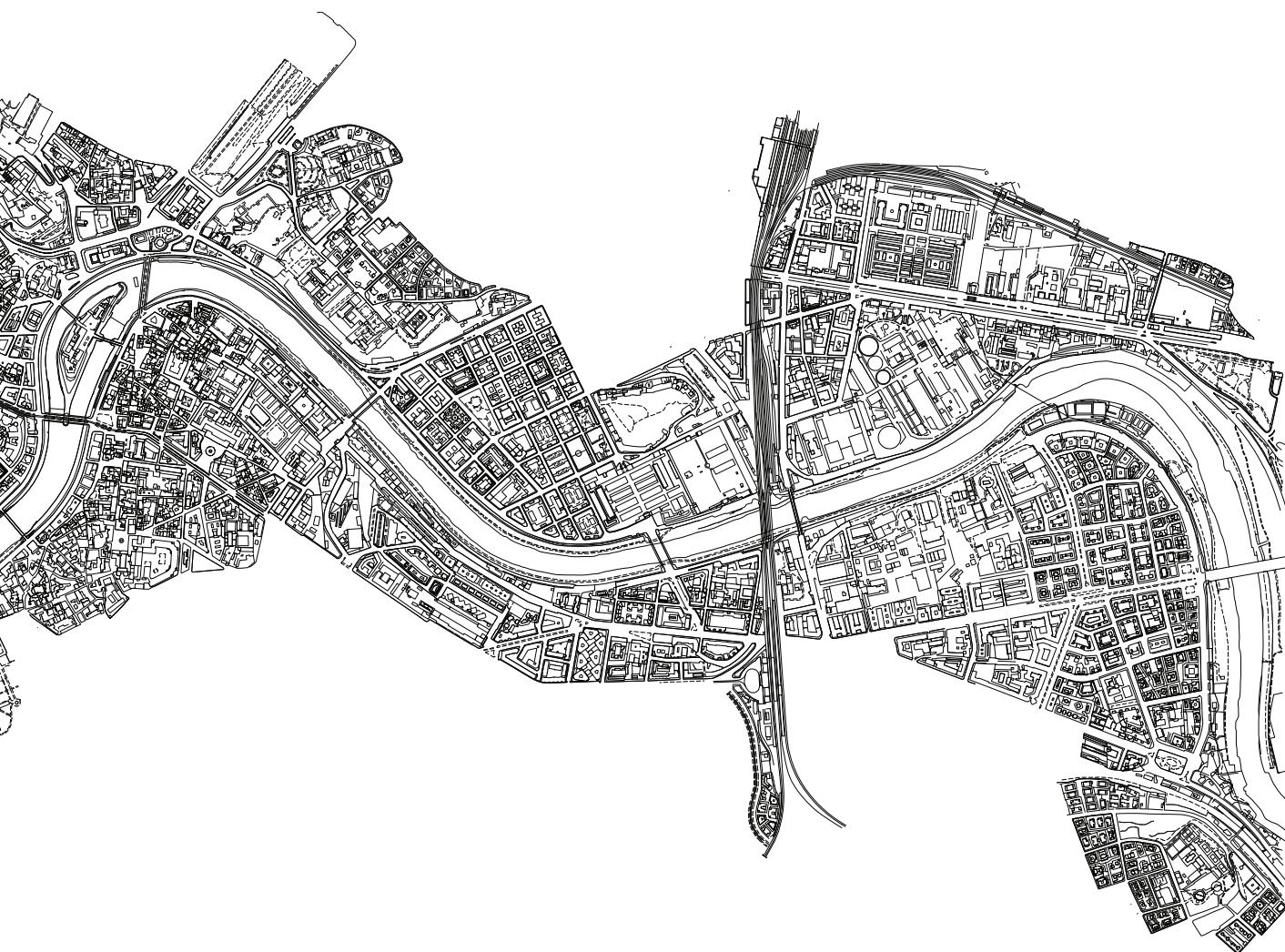
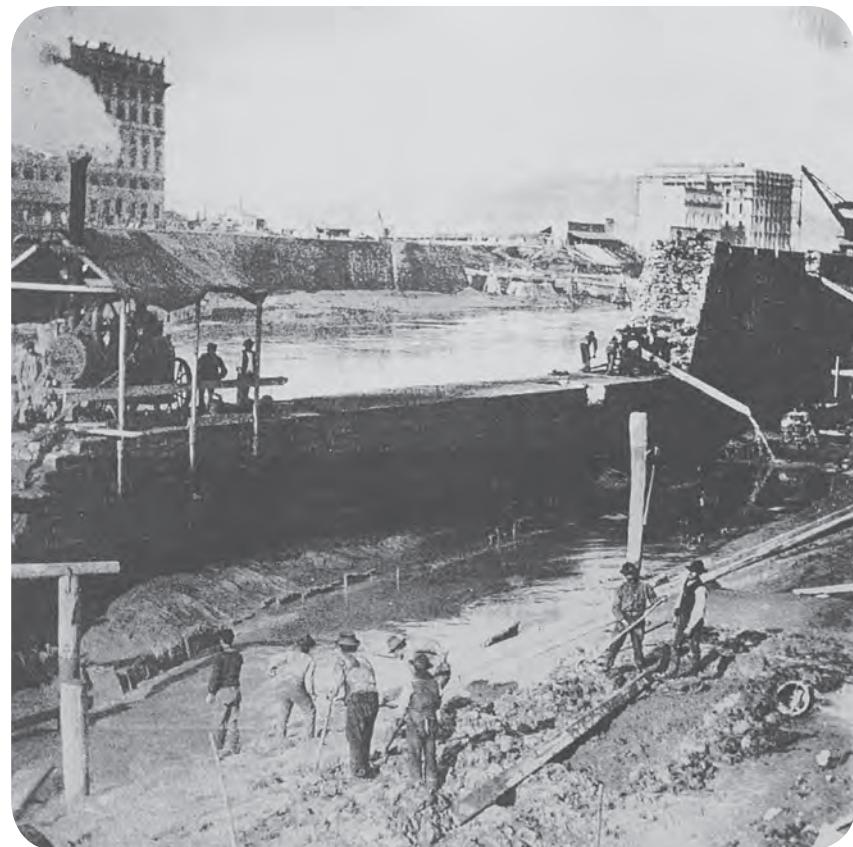




fig. 2.17 Construction of the Canevari's embankments, 1887.

fig. 2.18 Construction of the Canevari's embankments, 1887.



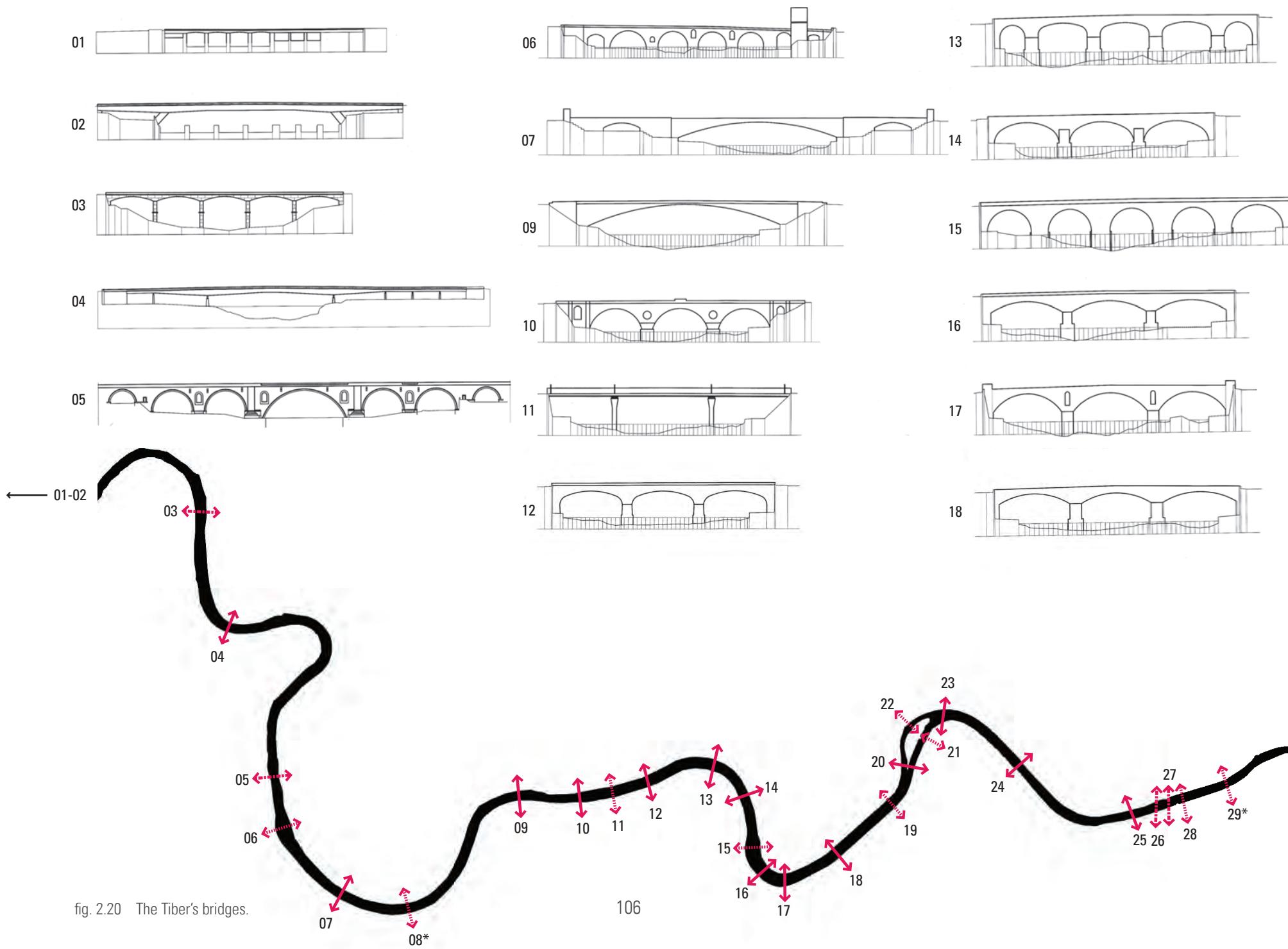
There were several factors the lead to the death of the Tiber River. The most obvious being the canalization of the river itself, but Canevari's embankment was not the sole reason for Rome turning its back on the Tiber. For centuries these blonde waters were the primary means of transporting goods to the capital city, until the introduction of railways to Rome in the 1850s, under Pope Pius IX. (Sanfilippo 1996, 57) The construction of the rails created a dramatic shift in the urban transportation of people and goods to the city. This new, more desirable shipping method quickly moved trade and commerce inland, away from the Tiber. "The former sea and river transport services were no longer economically viable" (Sanfilippo 1996, 57) and soon after, the Tiber River, Rome's "great life-line of commercial traffic to and from the sea and the interior dwindled to nothing." (Sanfilippo 1996, 57) Without the river as a main transportation artery, activity along the river has died.

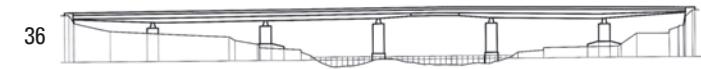
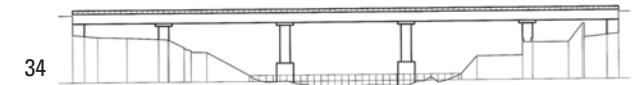
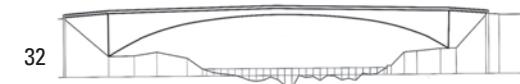
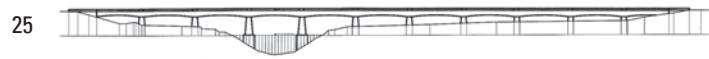
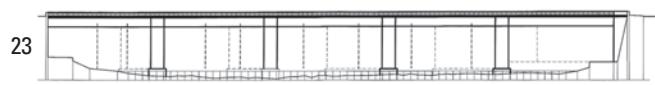
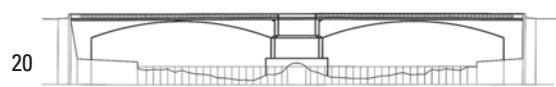
In addition to the regional transit shift, the inner-city traffic that once littered the Tiber River was lifted to city level. The Lungotevere has replaced the river as the city's main throughway, and the bridges have replaced the former *traghetto* (ferry) crossings, giving Romans no purpose to descend to the river's banks anymore. Ultimately, it was the de-programmed riverscape that divorced the Tiber from Rome.



fig. 2.19 The Ripa Grande river port, 1878-887.

Rome's southern river port, unlike the Porto di Ripetta, some of the infrastructure remains intact although not in use today.





There were few bridges to cross over the Tiber River until the embankments were constructed. Before the safeguarding infrastructure was in place, Romans crossed the Tiber at river level by traghetto (ferry), after the embankments Romans had numerous bridges at city level, and very little need to descend to the Tiber's banks.



| | | | | | |
|----|------------------------------------|-----|--|----|-------------------------------------|
| 01 | PONTE ESTERNO | 13 | PONTE CAVOUR, 1896 | 25 | PONTE TESTACCIO, 1948 |
| 02 | PONTE INTERNO | 14 | PONTE UMBERTO I, 1885 | 26 | PONTE FERROVIARIO S. PAOLO |
| 03 | PONTE FERROVIARIO | 15 | PONTE SANT'ANGELO, 133 A.D., 1450, 1893 | 27 | PONTE ANONE |
| 04 | PONTE TOR DI QUINTO, 1960 | 16 | PONTE VITTORIO EMANUELE II, 1911 | 28 | PONTE DELL'INDUSTRIA (railway) 1911 |
| 05 | PONTE FLAMINIO, 1951 | 17 | PONTE PRINCIPE AMEDEO SAVOIA AOSTA, 1942 | 29 | PONTE DELLA SCIENZA* (proposed) |
| 06 | PONTE MILVIO, 534 B.C., 1805, 1850 | 18 | PONTE MAZZINI, 1908 | 30 | PONTE MARCONI, 1954 |
| 07 | PONTE DUCA D'AOSTA, 1939 | 19 | PONTE SISTO, 211 A.D., 327, 1475, 1877, 2000 | 31 | PONTE MAGLIANA |
| 08 | PONTE DELLA MUSICA* (proposed) | 20 | PONTE GARIBOLDI 1888, 1953 | 32 | PONTE MEZZOCAMMINO |
| 09 | PONTE RISORGIMENTO, 1911 | 21 | PONTE CESTIO, 26 B.C., 1892 | 33 | PONTE DI SPINACETO |
| 10 | PONTE MATTEOTTI, 1929 | 22 | PONTE FABRICIO, 62 B.C. | 34 | PONTE DELLA SCAFA |
| 11 | PONTE PIETRO NENNI (metro), 1972 | 23 | PONTE PALATINO, 1890 | 35 | PONTE SS 296 |
| 12 | PONTE REGINA MARGHERITA, 1886 | 24 | PONTE SUBLICIO, 1918 | 36 | PONTE 2 GIUGNO |
| | | 107 | | 37 | PONTE PEDONALE |

30 → 31-37 →

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



fig. 2.21 Aerial photograph before the mature plane trees and heavy vehicular traffic would further block the river-city connection, 1936-1937.

AFTER THE WALLS

THE FORGOTTEN RIVER

"The visitor to Rome for the first time is likely to feel a sense of disappointment when he first sees the Tiber.... In view of the Tiber's widespread fame, which is greater, perhaps than that of any other river on earth, unless it be the sacred Jordan, he is likely to associate the size with importance, at least subconsciously, and feel quite disillusioned when he discovers its real proportions.... It is difficult to see, at first thought, how so small a stream could have had a great deal to do with the selection of the site of Rome or the growth of the city." (Eubanks 1930, 683)

Since the 19th century construction of the embankment walls, the relationship between the river and the city has been severed. Today, the Tiber is an engineered landscape, that has disappeared 3-stories below city level. The re-conception of this riverscape has prevented sporadic flooding in the streets above, but the cost of safeguarding Rome from inundation has lead to a landscape of architectural dissociation and isolation from its surrounding context. (Courtenay 2003, 2) The river has become simultaneously rational, and wild, after the walls were built.

At street level, Rome is still a colourful palette of earth-toned buildings, where the narrow cobbled streets fill with Rome's symphony of Italian banter, speeding motorini, honking horns, musicians busking to crowded outdoor diners, children playing, dogs barking, whistling baristas serving their loyal patrons, and the digitized shutter sounds of tourists seeking their own photographed version of the quintessential Roman postcards. After the construction of the walls, Rome's river level has become an abandoned monotone landscape. It is silent, forgotten by everyone except for the occasional athlete, vagrants seeking shelter underneath bridges, addicts looking for a discrete place to partake in illegal activities, and boisterous birds seeking an uninterrupted network of water and sky. The present-day Tiber has become a generic place, void of program, character and life. The historic staccato of river-facing façades have now been replaced with two tall nine-kilometre travertine walls. The seemingly unending landscape is punctuated

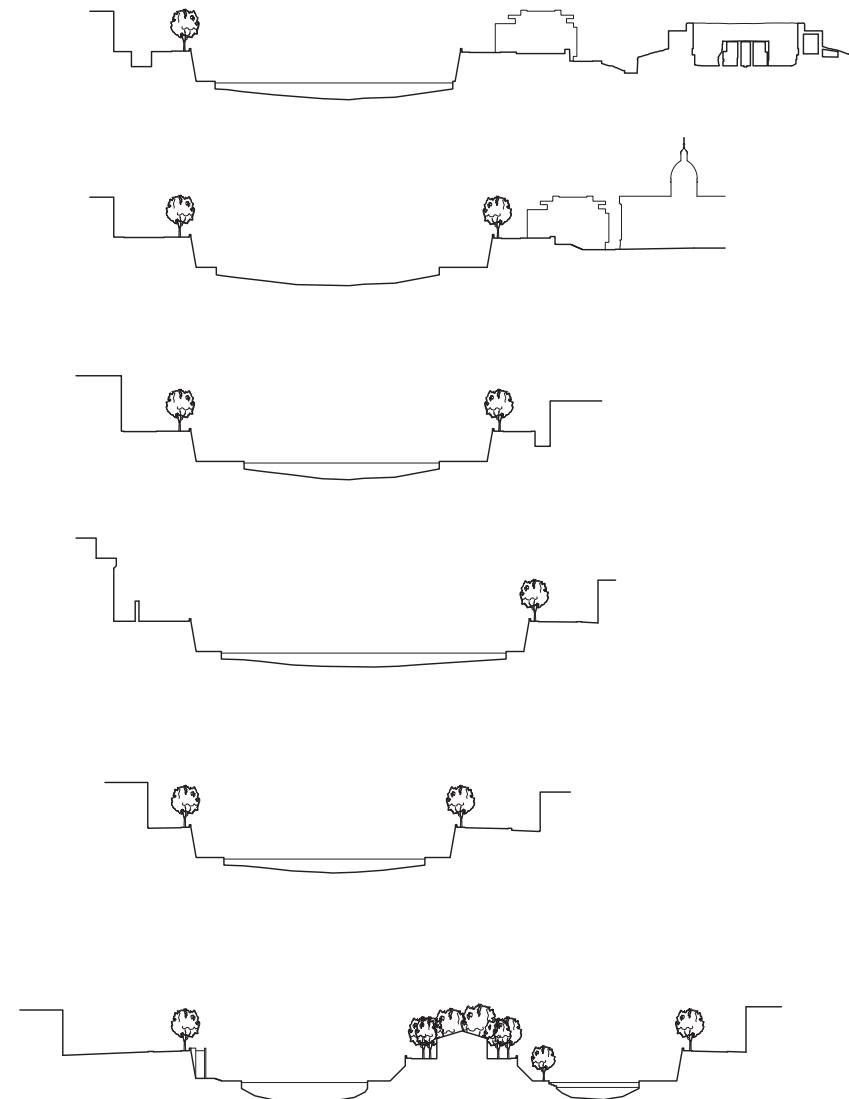


fig. 2.22 The Tiber River's monotonous section.

by undersized ornate lamps that fail to adequately light its banks, and the overgrown branches of plane trees that hover down from the Lungotevere above on to poorly maintained cobblestone paths. Today, walking along the river's path is lonely, the river leads nowhere.

While the Tiber today may appear as a marginalized void, it can also be recognized as an opportunity. The Tiber River is the logical site for the insertion of a new, and contemporary layer of Rome. The Tiber River's unique qualities reveal tangible opportunities for new public spaces connected to an expanded network of new public transportation, leisure landscapes, and cultural institutions. This thesis begins to dissolve the fracture between the city and its river through the physical and symbolic design intervention at Rome's historic river-city site, the Porto di Ripetta.

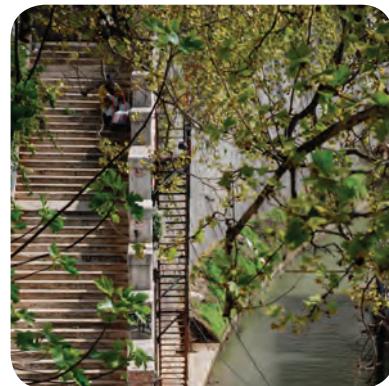
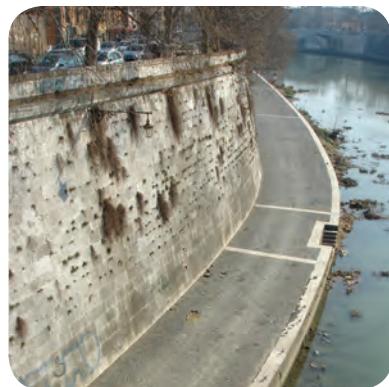
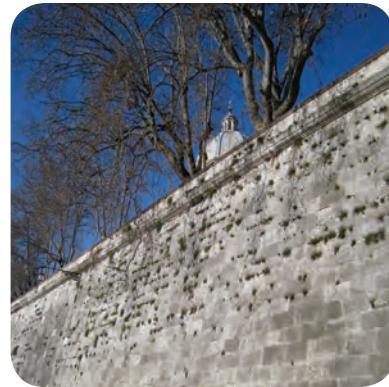


fig. 2.23 Moments along Rome's invisible riverscape.

-2.34

COUNTERFEIT CULTURE...

Although I was aware of the illegal vending in the streets of Rome I never realize the depth of this citywide network. I knew that the vendors themselves were often stereotyped into various racial groups: the 'brown men' selling gimmicky toys - or umbrellas in the rain, and the 'black men' selling counterfeit purses in the tourist hot-spots, such as the piazzas and the narrow streets leading to them, the outside line-up to the Vatican Museum, as well as the pedestrian bridges (in particular Ponte Sisto). I knew the vendors, had strategic areas and ingenious set-up and quick-escape techniques (especially the purse-sellers), but I did not realize the complexity of the system until one day I was confronted by it down by the Tiber.

In one of my many long walks across Rome I decided to wander north. This time, instead of the obvious way along the city's most-direct streets, I decided to walk uninterrupted and amongst nature down by the river. Like most of the time I experience down on the Tiber's banks, within mere moments I had left the city behind. I felt miniature and alone in the vast open-air tunnel. The endless embankment crops my focus above the monotone wall to the architecture peaking out above and the vivid colour of the Roman-blue sky. The domes and tops of buildings are sliced in ways I've never seen anywhere else. The sun and views constantly shifts as you move along the river's graceful curves. I remained in my own world until I emerged from the arch of Ponte Sant'Angelo where to my surprise, I was no longer alone. All of a sudden I was surrounded by a hundred or so purse vendors, who had come down to this un-policed landscape to relax for a moment, replenish their supplies, and strategize about what tourist hot spot to hit next. As much as this discovery surprised me, an equally surprised look was reflected back to me on their faces. I don't imagine a young blonde woman, alone with a camera often crosses their path down on the riverbank. A moment later I heard a choir of voices saying "Hello Beautiful. You like? I give you good deal. Thirty euro.... okay, okay, twenty euro.... twenty euro, good deal for nice purse like this, yes?... Come back!" I looked at them, I smiled and nodded no, and by the next bridge I was alone again.

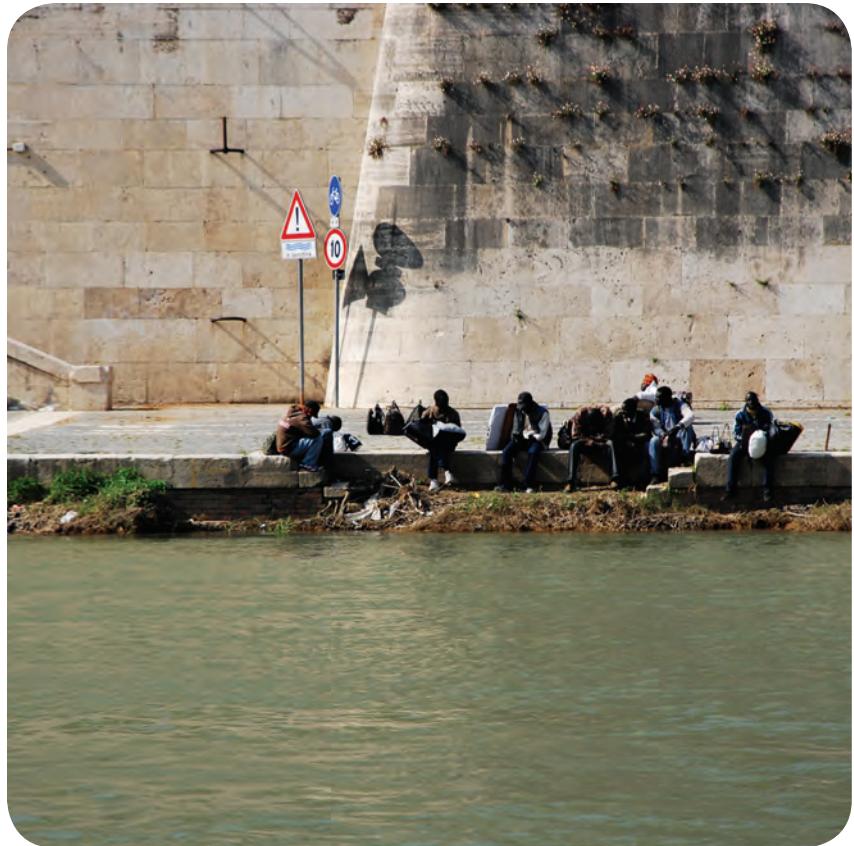


fig. 2.35 Resting on the Tiber's banks below Castel Sant'Angelo.

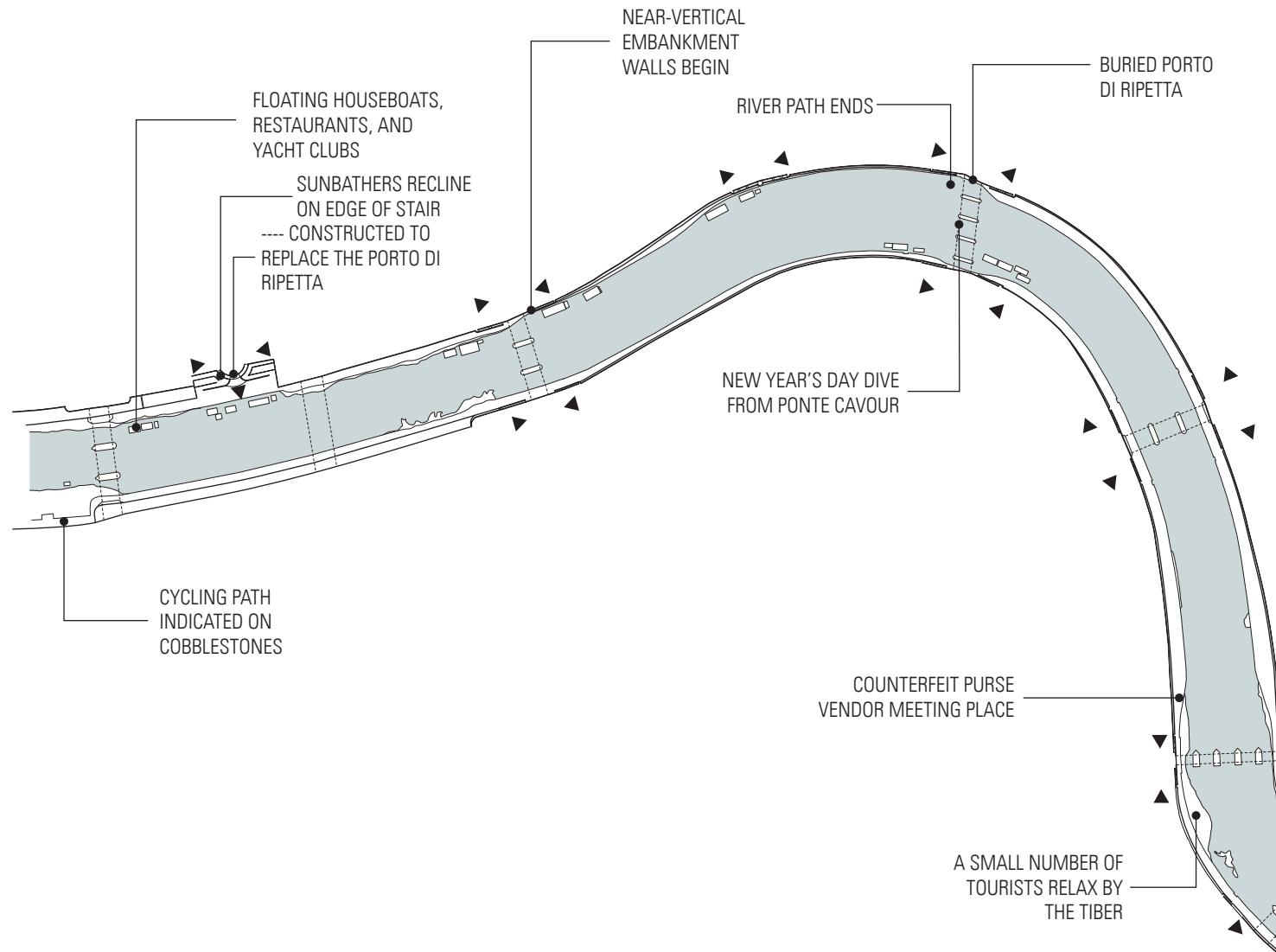
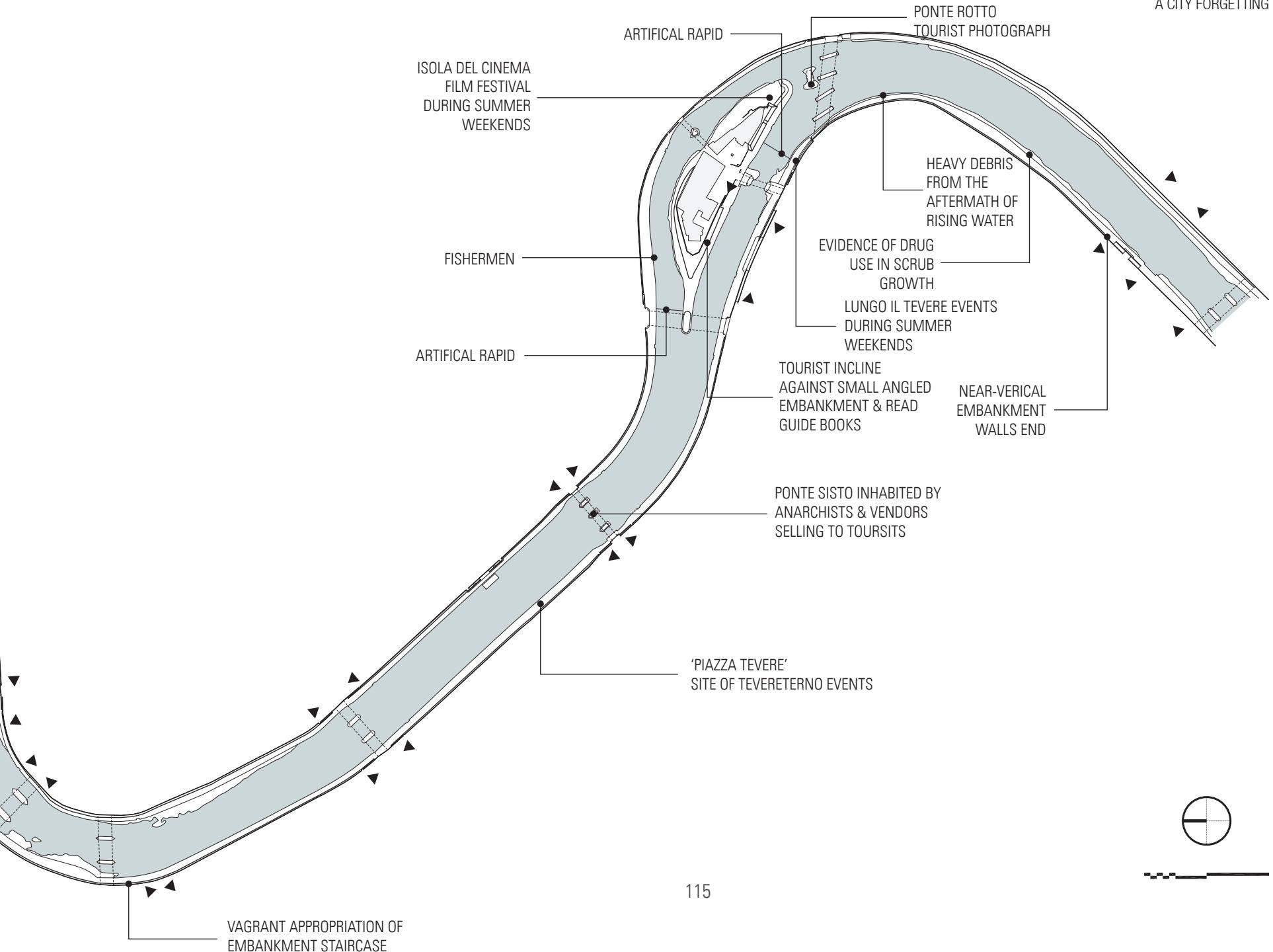


fig. 2.36 The Tiber's River's embanked urban corridor.



INDIA





A SITE TRANSFORMING



fig. 3.1 On the Ara Pacis' travertine piazza after a walk along the Tiber River.

DIRTY NEW SHOES...

One afternoon I set out to select a site for the 'Uncanny Habitations' M1 studio project. I walked for hours across Rome in my new white shoes searching for a site in the Eternal City where I could apply my ideas of temporal flexibility upon a site of significance. The city was dense and did not provide me the opportunity I was searching for. So, I stopped thinking, and began wandering, and soon I found myself at the Tiber's left bank. I descended the stairs to the Tiber below. I walked north along the river's graceful curves admiring the quiet sights and sounds for close to an hour before my journey abruptly ended after I passed through the arch of Ponte Cavour. I could see the path continued up ahead where the double-stair leads from the city to nowhere, but the path in front of me was gone. What little walkway was there had been covered over in silt and debris a long time ago, and now it was coated in a thick layer of mud and scrub growth. Trying to justify an irrational decision, I thought to myself... 'my balance is pretty good, I can hold yoga poses, and I used to figure skate, I can make it along this edge.'

I carefully put my right foot on the wet bank and followed with the left, seconds later I began to sink into the grassy path. I stepped to the side, but it was wet, and slippery and I could foreshadow falling into the river, and even worse, the walk home drenched in the Tiber's polluted water... so, instead I carefully stepped backwards until I got back to the narrow walkway. I could not traverse this path, so I left the river.

Climbing up the stairs my mind filled with questions. 'How did this section get so fragmented from the rest of the river? Was it always this way? Has anyone else tried to walk along here? Does anyone care that they can't? Why doesn't the city care about the river? Has Rome forgotten about its river? Don't they understand the potential of this landscape?' My mind still racing at the top of the stairs I looked up to see the Ara Pacis, Rome's modern white shrine, then I looked down, my white shoes were no longer white like the building, they now were coating in muddy striations that blended in with the piazza's travertine steps. It was there and then that I realized, I had found my site. My mind was again instantly filled with questions, curiosity, and ideas... I had a disconnected, yet central site that offered me remarkable opportunity to repair a lost connection between the river and the city through design.

"The river, an urban void lined by plane trees and scrub growth, currently provides lungs and green vistas within the crowded and sometimes polluted city. The recent master plan has renewed focus on the urban potential of the Tiber as an underutilized urban amenity." K. B. Jones 2009, 2)

THE NEW BELTS

Today, Rome is reconceiving its strategic planning in a radically new way. Historically, the city was thought of as a system of concentric circles, but today, for the first time planners are looking at Rome as a system of belts. These are identified as: the Tiber River, Monumental Archeological Park of the Forums and the Appian Way, the Flaminio-Forums-EUR area, the Belt Railway, and the Walls. (Elia 2001, 108-109) This new approach in thinking is changing the way Rome is conceived and opening the door to new possibilities. The potential of the abandoned and unused landscapes of Rome are now beginning to be seen as opportunities for new infrastructural, and ecological networks that would improve the city without compromising its historic fabric. These unused landscapes could help to address some of the major issues Rome is facing, including the vehicular congestion plaguing the streets, increasing the insufficient public transportation network, protecting and expanding its natural ecological systems, and creating a stronger contemporary identity for the city.

This thesis aims to explore the Tiber River's belt on both a city-scale, and site-scale with a series of design interventions that reconcile the forgotten river with its city.

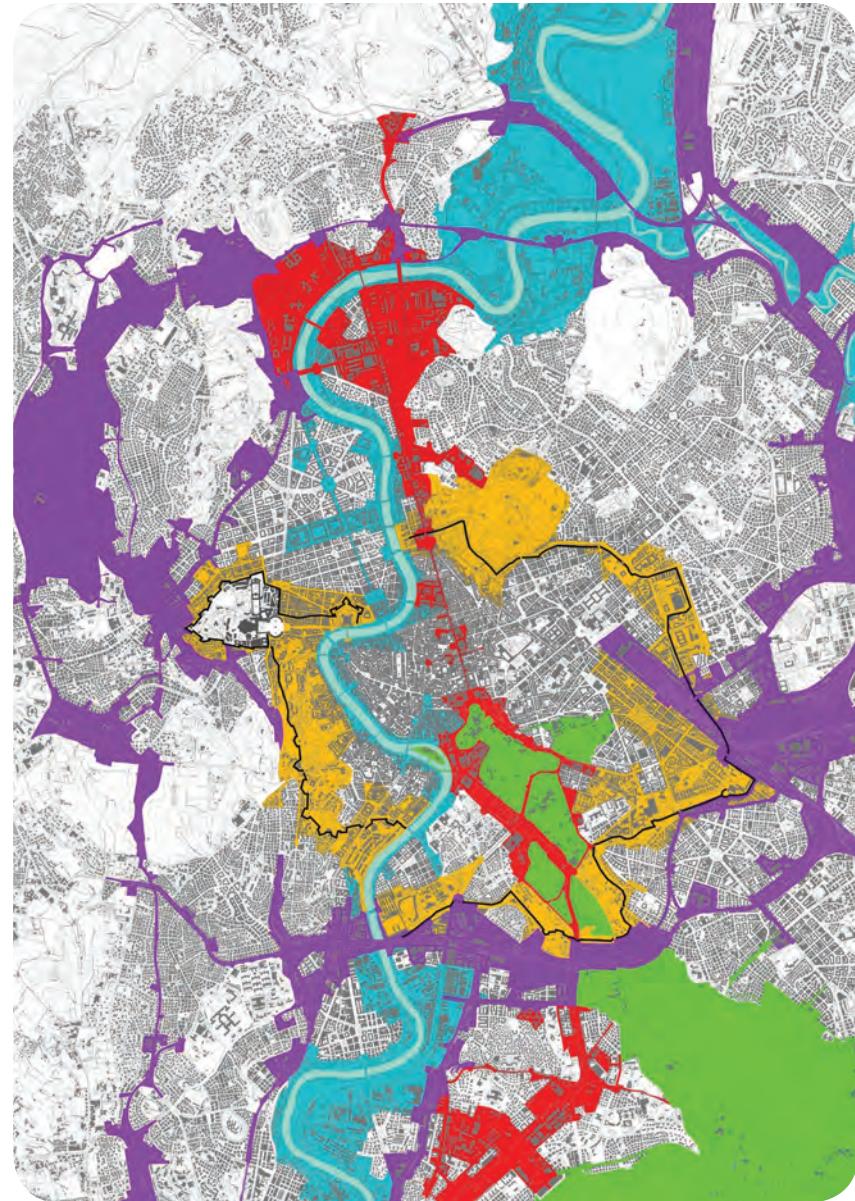
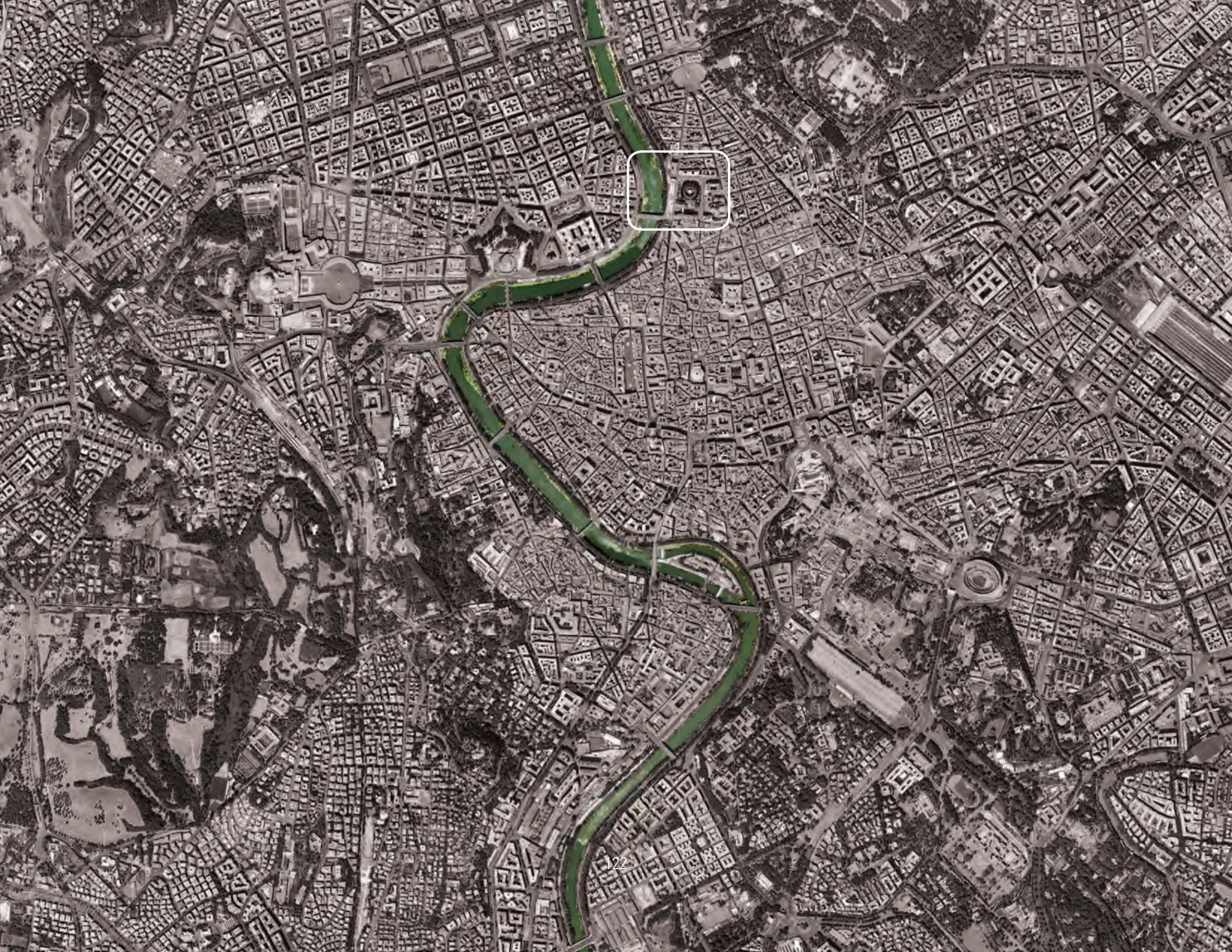


fig. 3.2 Rome's Strategic Planning Spheres
Tiber River (blue), Monumental Archeological Park of the Forums and the Appian Way (green), the Flaminio-Forums-EUR area (red), the Belt Railway (purple), and the Walls (yellow).



SITE ANALYSIS

RIVER SITE

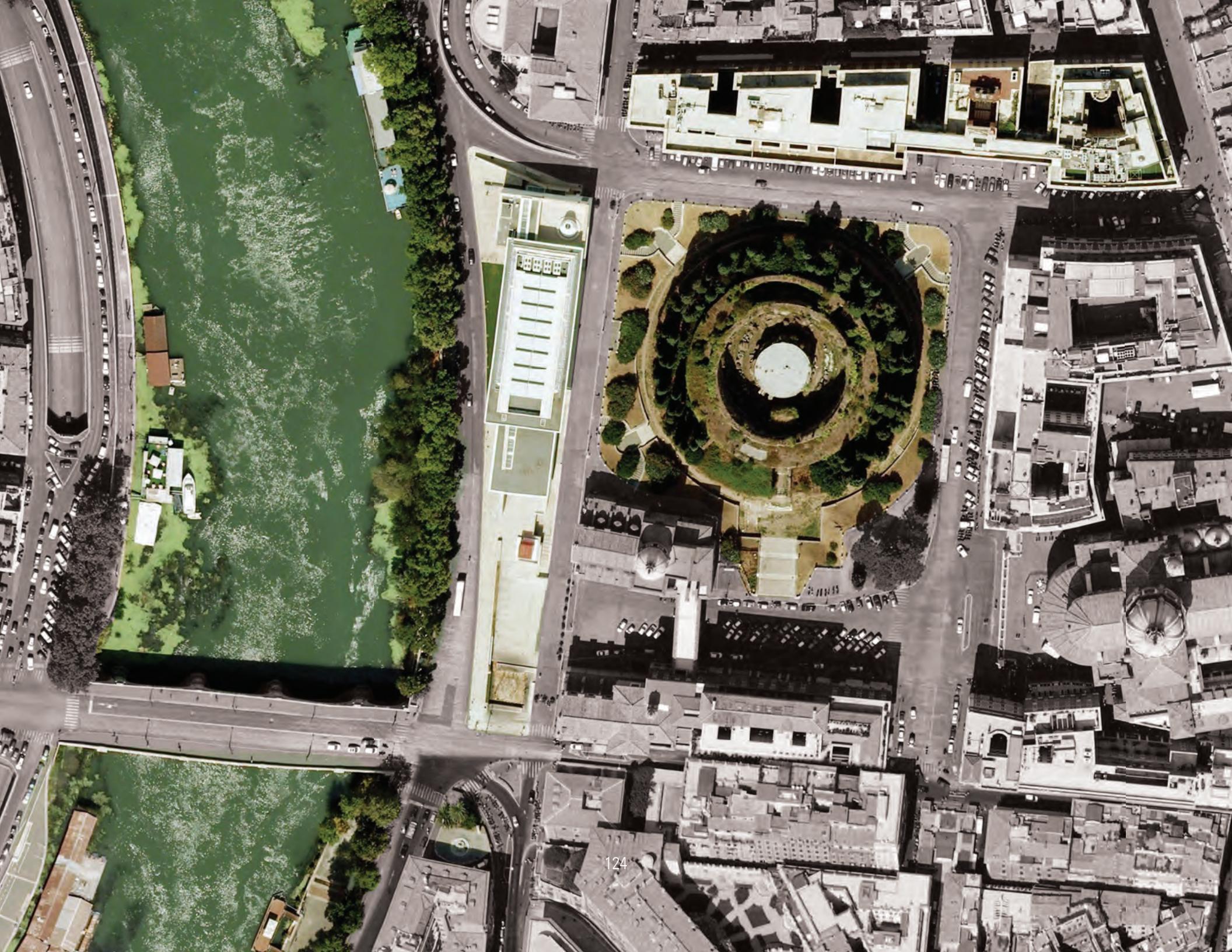
"a work of architecture as a point of intersection, the interaction of forces and energies proceeding from diverse locations whose momentary deflagration explains a concrete and particular architectural situation, action, and production."

- Ignasi de Solà -Morales, *Differences*, page 16

A continuous void, nine-kilometres long, and one-hundred meters wide bisects Rome. Not only is the void central and well connected to the entire city, the site has a vast history and immense ecological value, as old as Rome herself. As tragic as the 19th century erasure of the site was, this undervalued landscape now provides the Rome with the opportunities for new cultural, social, leisure, ecological and transportation networks. The Tiber River can, and must be more than "an urban void lined by plane trees and scrub growth" (K. B. Jones 2009, 2).

This thesis explores the Tiber as a new landscape and urban amenity for Rome. On the selected site, a symbolic intervention is proposed to reconcile the lost relationship between river and city.

fig. 3.3 Aerial map of Rome, highlighting the site featuring the Mausoleum of Augustus, Ara Pacis and former Ripetta river port, 2005.



THESIS SITE: PORTO DI RIPETTA

The Tiber River as a new Roman landscape is explored through a design intervention between a divorced river and a consistently transforming piazza. Although the Tiber River holds exciting possibilities for the future of Rome, in order to resolve this fragmented relationship, the river must be reconnected with its city – both physically and symbolically.

This thesis site was selected for three primary reasons: firstly, until the 19th century this was the most important river-city connection in Rome, and has since become the most disconnected after the construction of the floodwall.¹ Secondly, the Ripetta gauge is still the site that continually maps the river's flow and height.² Although the physical connection with Rome is broken, the Ripetta site is, and always has been, incredibly important to understanding the river. And, thirdly, this site, on the verge of the Tiber, is the only site in Rome to consistently transform during each major period since the Augustan era. The strong political and cultural associations with the artifacts and architecture have continually been reworked to reflect the city's current ideologies. This site, more than any other in Rome, can be the catalyst for enacting change. The elements on this site have an unmatched synergy that can provide an advantageous relationship for both the river and city.

fig. 3.4 Aerial map of the Ripetta site, 2007.

"Their sites are now occupied by ruins – not of the original buildings, but of various buildings that replaced them after they burnt down or were destroyed. One need hardly add that all these remnants of ancient Rome appear as scattered fragments in the jumble of the great city that has grown up in recent centuries, since the Renaissance. True, much of the old is still there, but buried under modern buildings. This is how the past survives in historic places like Rome." (Freud 2004, 8)

¹ Along this stretch of the Tiber, there is no pathway, there is only a narrow bank covered in silt and unmaintained scrub growth. Sadly, the river's devaluation has transformed this site from a cascading river piazza into an unkept bank of spontaneous growth and debris. A sad reflection of the river's current value in Rome.

² This information is updated every 15 minutes on the Region of Lazio's website, www.idrografico.roma.it

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

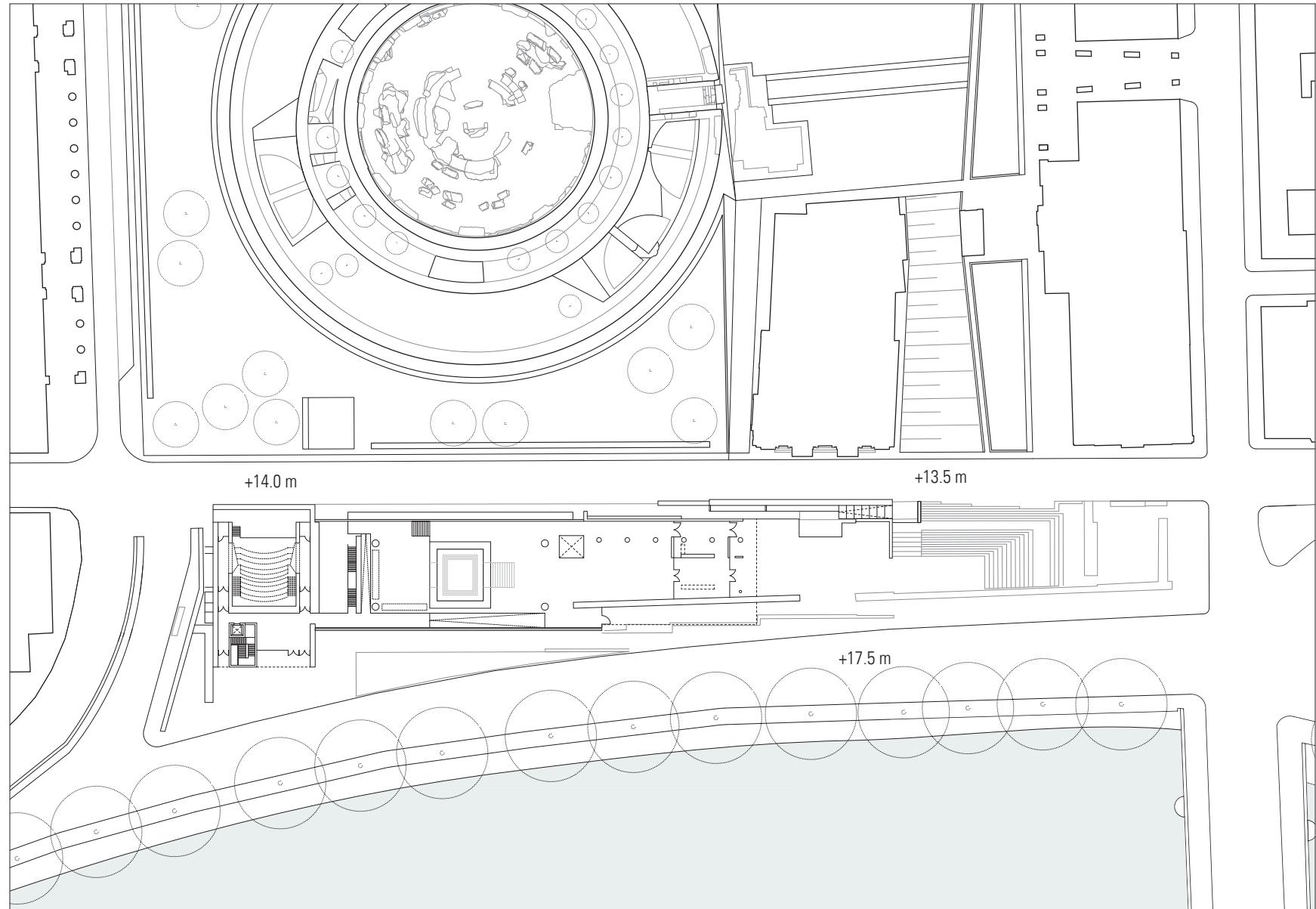


fig. 3.5 Existing Museo Dell'Ara Pacis, Upper Level Plan, 1:2000



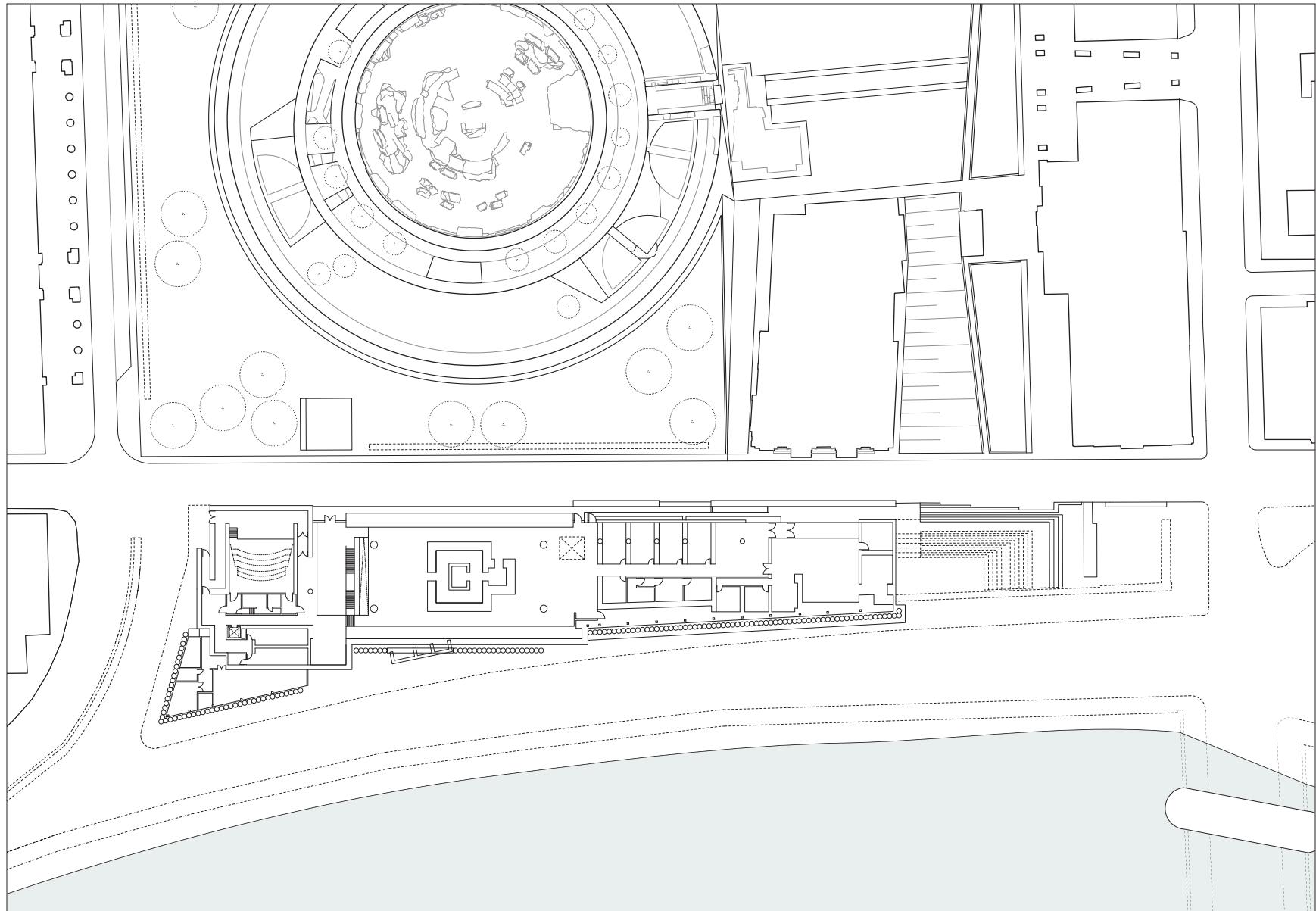
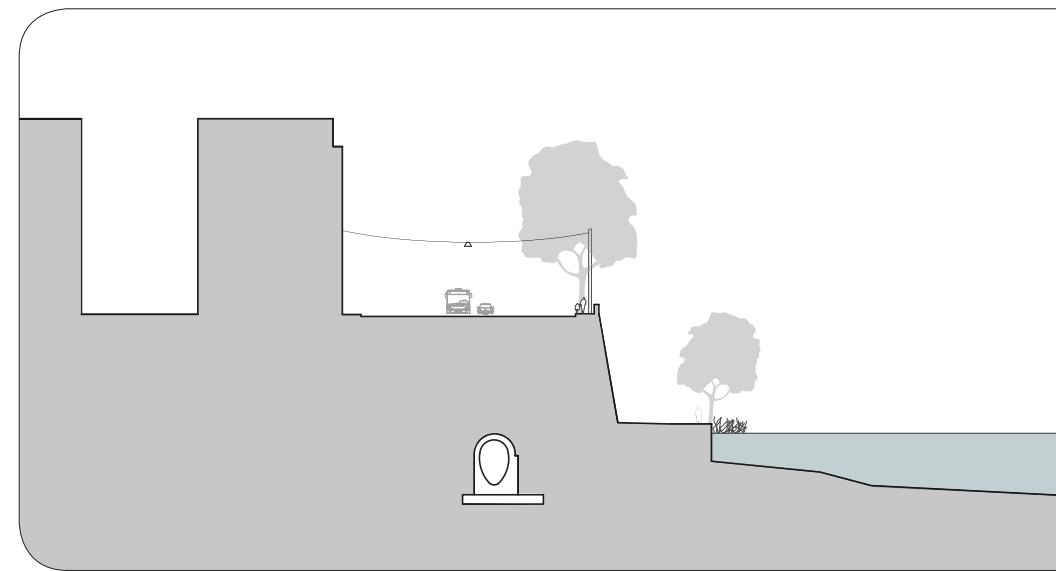
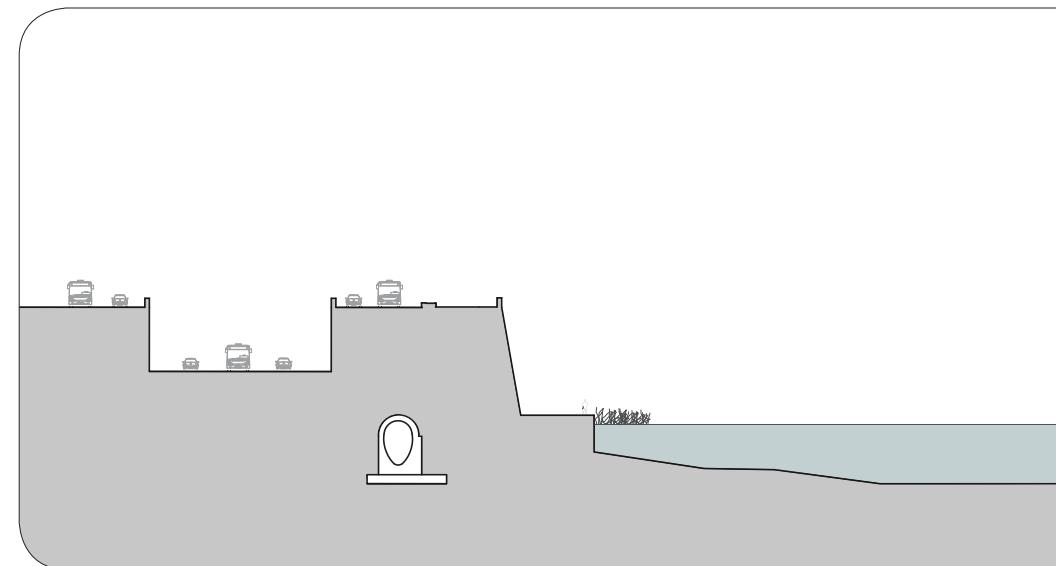
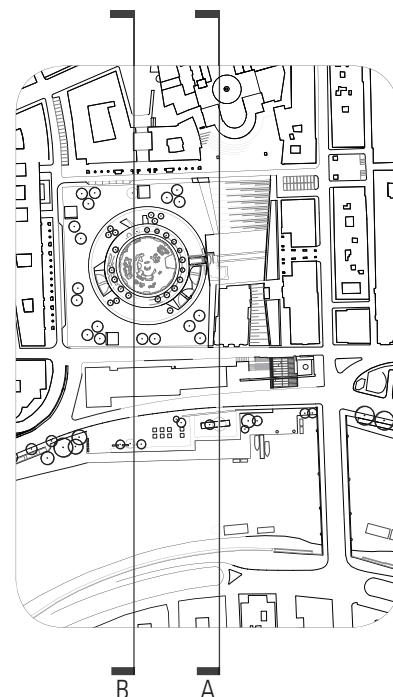


fig. 3.6 Existing Museo Dell'Ara Pacis, Lower Level Plan, 1:2000



REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

The key to evolution of the Tiber River is to redesign the river's sectional relationship.
(Istituto Nazionale di Urbanistica 2001)



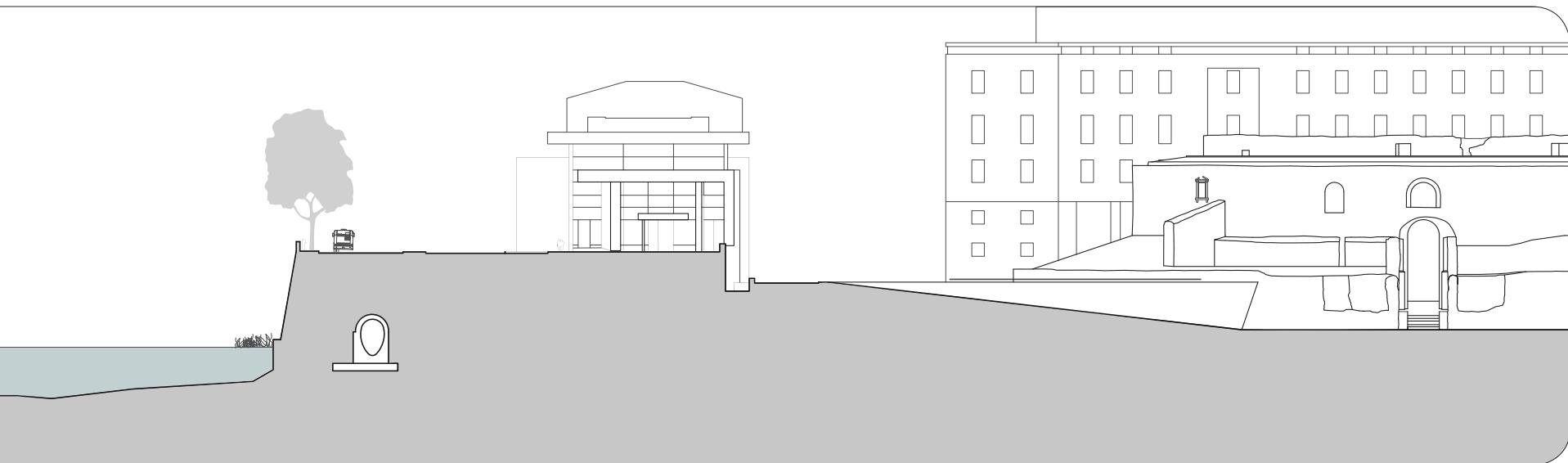


fig. 3.7 Existing Site Section A, 1:750

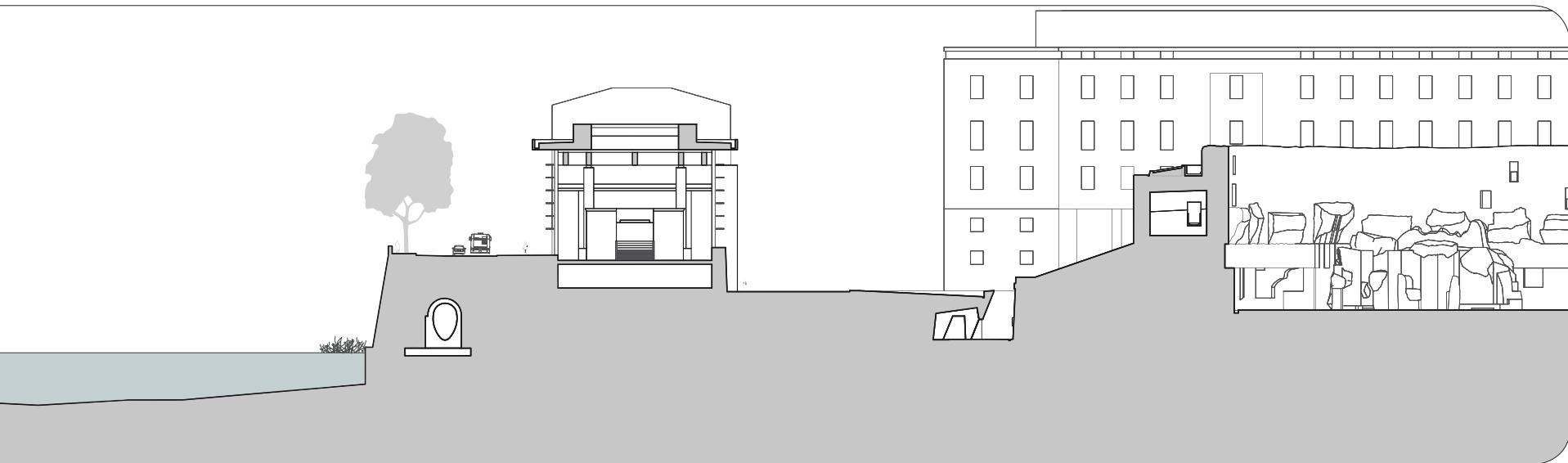


fig. 3.8 Existing Site Section B, 1:750

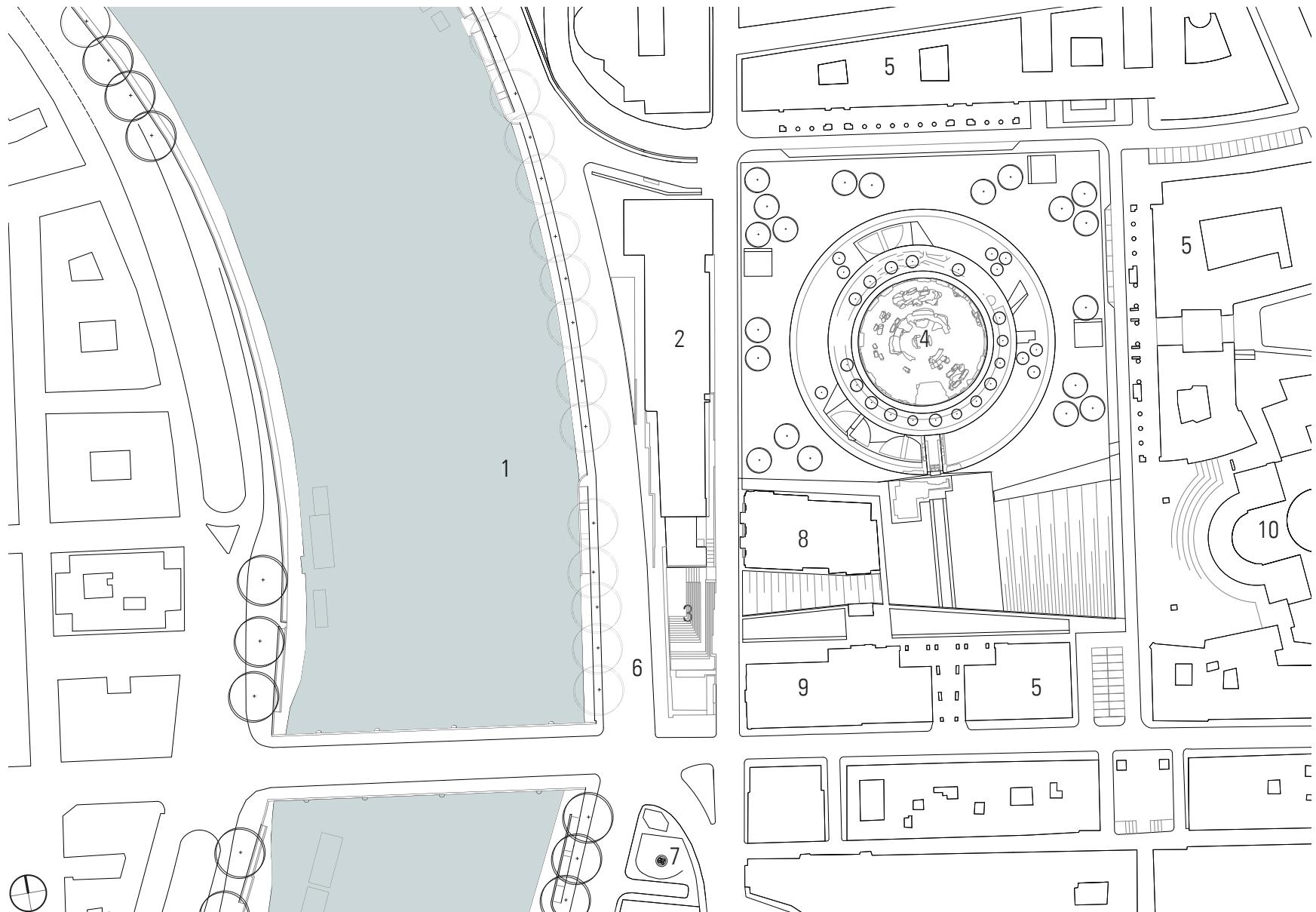


fig. 3.9 Current Site Plan. 1:2000

The Piazza Augusto Imperatore shown above according to Francesco Cellini's winning design proposal is currently under construction.

- 1. TIBER RIVER
- 2. MEIER'S MUSEO DELL'ARA PACIS
- 3. MEIER'S PIAZZA
- 4. MAUSOLEUM OF AUGUSTUS
- 5. MUSSOLINI'S FASCIST BUILDINGS
- 6. LUNGOTEVERE
- 7. PIAZZA DI RIPETTA
- 8. S. ROCCO
- 9. S. GIROLAMO
- 10. SANTI AMBROGIO E CARLO

CONCEPTUAL HISTORICAL THREADS

Today, at Piazza Augusto Imperatore, there is:

a large pile of earth and rock blocking the middle of this piazza, which houses the tomb of Augustus, Rome's first emperor. Its ancient stones are covered with a ragged crown of cypress trees.

The base of this uncharacteristically neglected-looking ruin has been excavated down to Year Zero, the street level two millennia ago, which was eighteen feet lower than the urban surface today; the area around the base now serves as a toilet for dogs. Above this pit, on two sides of the piazza are Fascist-style façades of the buildings constructed under Mussolini. On the third side are two Baroque churches, attached to another thirties building, and on the fourth side is the monumental sculptural frieze known as the Ara Pacis, or Altar of Peace, an early masterpiece of Roman art which was dedicated by Augustus in 9 B.C. If you line it up right, you can fit two thousand years of architectural history and three great eras of Roman builders (the emperors, the Popes, and the Fascists) in a single snapshot. (Seabrook 2005, 56)

This transforming and extremely controversial site has become the catalyst for constructing the contemporary city; it is the first – and only site within historic Rome to explore contemporary design. Except for the Museo dell'Ara Pacis, all modern construction in Rome has been limited to the periphery.³

The story of this site is a complex tale spanning the highs and lows of Roman architecture, history and politics for more than 2000 years. It begins in the early days of the Roman Empire with the construction of Augustus' mausoleum; continues through Mussolini's fascist architectural re-conception of Rome, and resumes with the architectural and political debate of constructing a contemporary identity for the city of Rome.

³ For a map of modern architectural projects in Rome, refer to page 212.

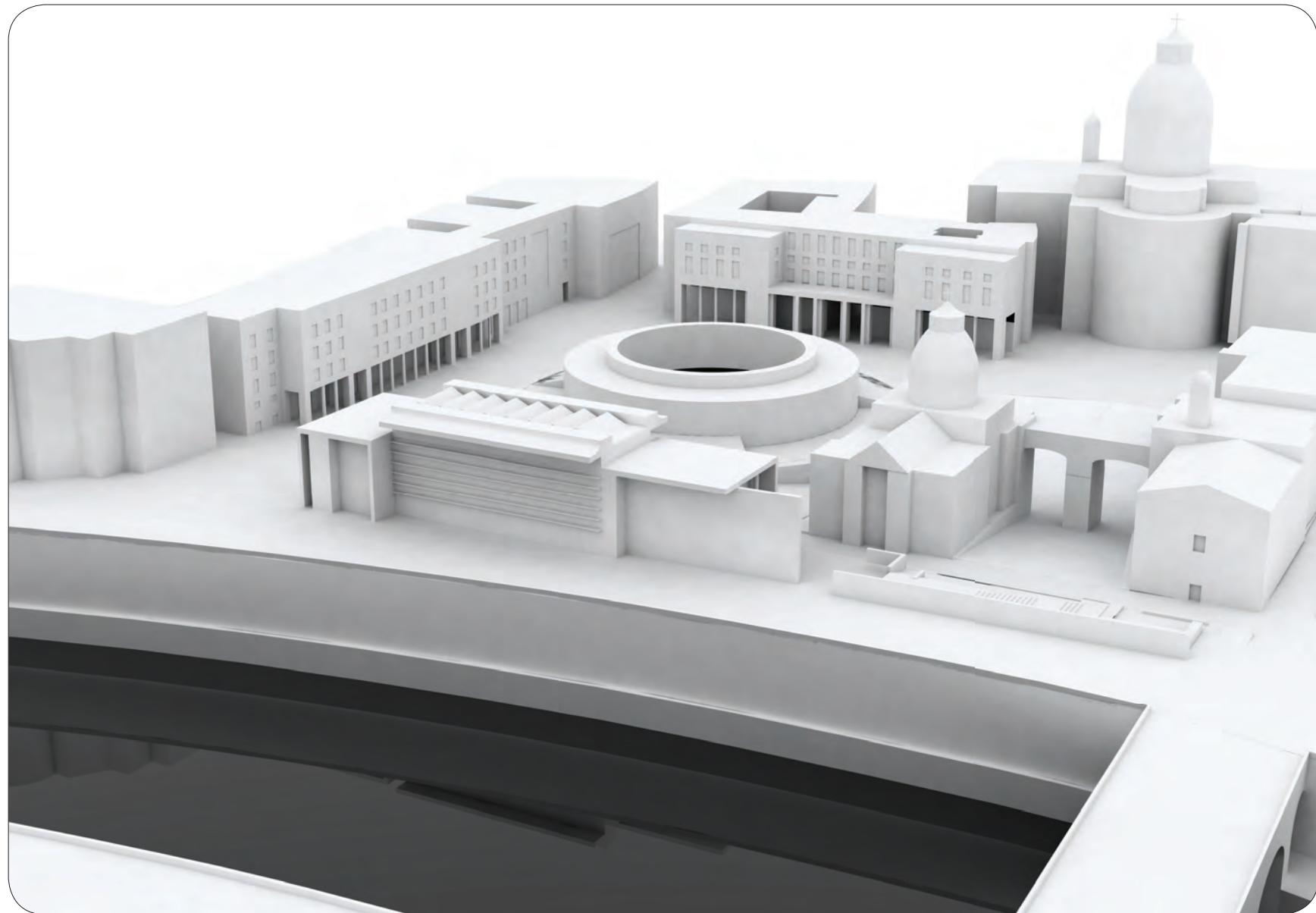


fig. 3.10 Existing Ripetta Site Axonometric

In 1993, Rome elected a new mayor, Francesco Rutelli. The young man from the left, believed, “cities are like languages... if a language doesn’t change, grow, and evolve, it dies. It is the same with cities – a city must be transformed from time to time.” (Seabrook 2005, 57) Rutelli had the desire to apply his beliefs to Rome. He acknowledged that:

other major European cities have done this, from Daniel Libeskind’s star-shaped Jewish Museum in Berlin, to Richard Rogers’s Millennium Dome, in London, and Richard Meier’s Museum of Contemporary Art, in Barcelona. Even if people detest the building (the Dome, for example, was vilified for many Londoners), they talk about it, and the debate gives the city a youthful energy that the Colosseum and the Pantheon can’t provide all by themselves. (Seabrook 2005, 57)

Shortly after his election to office, the mayor of Barcelona, Pasqual Maragall, invited Rutelli to Barcelona to visit Richard Meier’s new museum. Rutelli accepted the mayor’s offer and found himself enchanted by Meier’s contemporary project in the historic city. The architect’s iconic site-less style⁴, of a “rigorously minimalist [building], rejecting all ornamental flourishes except for those which can be achieved with white paint, glass, and light” (Seabrook 2005, 57) had a profound impact on the Roman mayor.

One year later, Rome’s mayor met Richard Meier, when they both attended a conference in Switzerland on the future of cities. Afterward, the two men met to discuss the future of Rome, and the possibility of Meier designing a millennial project for the city, a new museum to replace the decrepit fascist structure that was housing the Ara Pacis, a move that would prove controversial in Rome

Rutelli, a fan of Meier’s work, felt that a competition would be too time consuming, and prevent the project from being constructed on time for

⁴ Inspired by Le Corbusier’s idea that a building should not take its setting and context into account, it must be instead concerned with only the formal properties of the structure itself. (Seabrook 2005, 57)

the Year 2000 celebrations. In fact, in order to meet the timeline, the Ara Pacis project would have no public review, a risky, but bold decision made to fast track the new museum. (Seabrook 2005, 57) Thrilled by the offer, and Rutelli's eagerness, Meier accepted, "It's every architect's dream to build in the center of Rome, partly because it hasn't been done for so long." (Seabrook 2005, 57)

Meier began the year and a half long design process, and this project, like all his architecture, was inspired by his year studying at the American Academy in Rome in 1973. Meier reflects:

Rome taught me how to treat large interior spaces in an intimate way.... The way light comes in, the way you experience the space, move through the space – the sense of promenade. You don't try to duplicate that, but you hope you learn from it. It's what every architect comes to Rome for, to learn that. (Seabrook 2005, 57)

FIRST TRANSFORMATION

This transformative site's first architectural intervention was in 31 B.C., when Emperor Augustus began to build his monumental tomb after his defeat of Anthony and Cleopatra in the Battle of Actium. Sited on the left bank of the Tiber, his tomb was an "enormous round base of brick clad in gleaming white marble, on top of which sat a towering mound of earth that was planted with evergreens and Cyprus, in the style of the Etruscan tombs." (Seabrook 2005, 58) The constructed tomb would sit empty on this site for forty-two years, until Augustus' death.

In 13 A.D., one year before Emperor Augustus' death, the Roman senate commissioned the Ara Pacis⁵, (an elegant, yet large sculptural box containing a carved marble altar), to honour their leader's triumphant return from Gaul and Spain, and the 'Pax Augusta', (Augustan Peace) in Rome.

One year later, in 14 A.D., Augustus died, and his ashes were placed inside a niche in his mausoleum, remaining there until the 5th century, when they mysteriously disappeared during one of the barbarian sacks on Rome.⁶ Over the following centuries, the tomb was slowly stripped of its luxurious materials, which were reused for other Roman construction, and the mausoleum began its metamorphosis. The structural shell transformed into a bear-baiting venue, a bullfighting arena, a garden, and, then into the site of Rome's main concert hall, which was constructed upon the ruin in 1908.

⁵ The Ara Pacis was originally located in the Campus Martius, and was strategically aligned with Augustus' sundial (or Horologium), a nearly 10 metres tall the granite obelisk was the largest sundial ever constructed. Many scholars speculate that the sundial was positioned to interact with other monuments, especially the nearby Ara Pacis. It seems entirely possible that the obelisk was carefully situated so that on September 23, the birthday of Augustus, the shadow of the obelisk would align perfectly with the Ara Pacis, reinforcing the message that "Augustus was born to bring peace to the world." (<http://www.idcrome.org/ap5.htm>)

⁶ There is some speculation that his ashes were brought to the Tiber River, and dumped, where they would have floated to sea.

SECOND TRANSFORMATION

In the 20th century, as Fascism spread across Italy, this structure, and the surrounding piazza, would radically transform yet again under Benito Mussolini's architectural re-configuration of Rome. In 1922, as the Fascist Party was about to take over, Mussolini declared, "Rome is our point of departure, our reference point. It is our symbol, or, if you will, our myth." (Seabrook 2005, 58) Soon after, the Fascist leader began symbolically aligning himself with imperial Rome, suggesting that he was in fact the 'Second Augustus', using "both new building and ruins to make his case." (Seabrook 2005, 58)

Mussolini believed that Rome needed to "liberate all of ancient Rome from mediocre disfigurements... Rome cannot and must not simply be a modern city in the banal sense of the word." (Seabrook 2005, 58-59) He began implementing his fascist vision on Rome.

Mussolini took the decayed ruins that inspired artists and poets of the eighteenth and nineteenth centuries and turned them into the monumental ruins that delighted Hitler, when he visited Rome in 1938, and that continue to draw tourists from all over the world today. (Seabrook 2005, 59)

Mussolini began to focus his attention on the architectural re-conception on the former-mausoleum⁷, which at the time was a concert hall, consumed by a mass of dense urban tissue.

7 Many archaeologists believe that Mussolini in fact was recreating the piazza, and tomb, for his final resting place as the 'Second Augustus'. However, his fate did not play out that way, instead, Mussolini was shot and killed on April 28 1945, by partisans. Instead of a monumental burial at the Mausoleum of Augustus, his body was hung upside down outside a gas station in Milan. Later, it was buried in an unmarked grave; where it was soon found and disinterred by Fascist loyalists, who then took the body to a monk's cell inside a charterhouse near Milan for safekeeping. Years later, his body was eventually returned to his hometown of Predappio, where it was reinterred. Today his grave has become a popular tourist attraction. (Seabrook 2005, 60)

He demolished all the buildings within a thousand-square-yard area around the mausoleum of Augustus, leaving only the two Baroque churches standing. Two new buildings were added, to form the north and east sides of the piazza, each fronted by porticoes of squat, massive columns that recall Mussolini's pugnacious physiognomy. (Seabrook 2005, 59)

Keeping true to the Fascist architectural tradition, Mussolini closely supervised the Italian rational architects during the design and construction of the new buildings that flanked the perimeters of Piazza Augusto Imperatore. “Rome’s ancient architectural vernacular – domes, vaults, cylinders, prisms – [were] reinterpreted with the rationalists’ interest in geometrical abstraction, resulting in buildings that were at their best, modernist and classical at the same time.” (Seabrook 2005, 59)

The design of the piazza was conceived by Vittorio Ballio Morpurgo, a Jewish architect, who originally designed architectural insertions as two-storey buildings, a more appropriate human scale for the piazza and its surrounding context, but by the time the buildings were under construction, he was pressured to swell their scale up to four-stories, a scale more in sync with the fascist’s grandiose ideals. And, as the excavation and construction of the piazza was nearing completion, Mussolini added his crowning achievement and ideological key, the Ara Pacis.

Mussolini ordered that Augustan artifact be relocated from its original site, where it was discovered buried underneath a 16th century palazzo near Via del Corso, to the piazza where it would be placed on its western edge between the mausoleum and the Tiber River. The Fascist leader used “Rome’s Augustan past to make the Fascist state seem inevitable – patrimony as destiny.” (Seabrook 2005, 59)



fig. 3.11 Mussolini admiring his relocation of the Ara Pacis monument at its inauguration in 1938.



fig. 3.12 The former Mausoleum of Augustus, during its incarnation as a concert hall, 1934.

Aerial photograph of the Mausoleum of Augustus site, while the former-tomb was housing a concert hall, before being reworked by Mussolini. Shortly after this image was taken, the urban fabric around the former-tomb would be destroyed, the concert hall would be taken down to its ancient ruins, and the Ara Pacis would be relocated here above the now-buried Porto di Ripetta, so that Mussolini could associate his fascist-style architecture with the greatness of Augustan Rome.



fig. 3.13 The Mausoleum of Augustus, during its transformation back into an Imperial ruin, 1937.



fig. 3.14 The Mausoleum of Augustus, the first Museo dell'Ara Pacis, and the fascist-style architecture, 1938.



fig. 3.15 The Mausoleum of Augustus with the Museo dell'Ara Pacis beyond.

To house the newly relocated Augustan artifact, Morpurgo designed a simple pavilion-like structure of glass, concrete and travertine. However, by 1938, Hitler had forced anti-Semitic Racial Laws, which forced Murpurgo off the project; it was taken over by a team of engineers who loosely followed the original design.

As Fascist movement lost popularity, and ultimately failed, the “piazza lost its status as prophecy and became, instead, a monumentally failed boast.” (Seabrook 2005, 60) By the 21st century, the 1930s version of the Ara Pacis would be gone, jointly due to the inadequate building envelope, which created detrimental microclimate for the artifact (Comune di Roma 2006, 33),⁸ and the stigma of its fascist association, an era of Roman history many are eager to erase.

⁸ The original building created a microclimate that did not ensure a constant temperature or humidity level, which ultimately left the ancient artifact at risk of deterioration. The artifact was also at risk due to the light penetration, which could be solved in the new building by design and improved building materials. The noise and pollution from the adjacent Lungotevere could also be reduced by using improved building materials, and better construction technique. (Comune di Rome 2006, 35)

THIRD TRANSFORMATION

In 1996, Richard Meier presented his Ara Pacis project to the city officials, after eighteen months of designing a “light, transparent, and inviting building.” (Seabrook 2005, 60) Meier wanted to change the perception of the piazza as conceived by Mussolini and felt that “the imposition Mussolini had made [was] an imposition of will on the environment – everything about it [was] huge.... It [was] out of scale with the rest of Rome, which has [a] very human scale.” (Seabrook 2005, 60)

Meier presented a modern, yet conservative building, with the same materiality as the original Ara Pacis pavilion: glass, concrete, and travertine. In addition to the feature gallery space that would hold the ancient artifact, Meier proposed adding a library, a bookstore, a café, a 500-person auditorium, and an administrative space below. However, before construction could begin, Meier needed to have approval from Rome’s superintendent of cultural heritage, from Italy’s superintendent of archeology and Italy’s superintendent of architecture – a difficult, and demanding crowd to please.

Every city has its battles between preservationists and developers, but in Rome the situation is greatly complicated by the fact that there are so many different Romes to preserve – classical Rome, medieval Rome, Renaissance Rome, Baroque Rome, eighteenth-century Rome, post-unification-of-Italy Rome, and Fascist Rome. Each successive Rome is built on top (and in many cases of) previous Romes – more than two thousand years of history is squashed into dozens of feet of dense rubble.... This is Roma che Sparisce, or Vanishing Rome, the underground city that impinges on the surface city in countless ways, the Rome that Freud was thinking of when he famously used the city as a metaphor for the human unconscious in “Civilizations and Its Discontents.” (Seabrook 2005, 60)

Since Mussolini, Rome’s “superintendents have treated the *centro storico* as if it were finished. With so much restoration and excavation to be

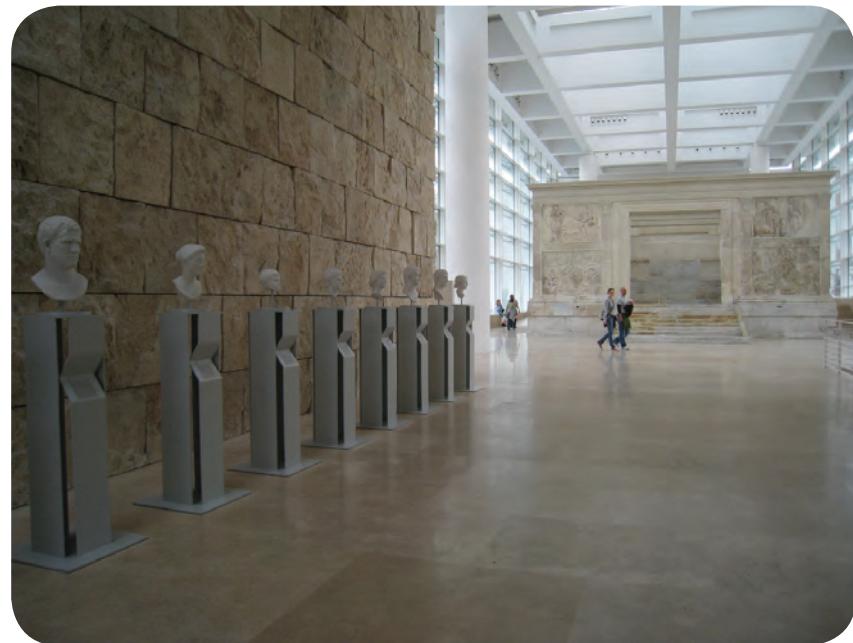


fig. 3.16 Richard Meier’s Museo Dell’Ara Pacis Interior.



fig. 3.17 The Ara Pacis, paint-bombed in protest, 2009.

done, it didn't make sense to waste resources on new buildings." (Seabrook 2005, 61) This attitude towards planning and architecture has carried forward to present day.⁹

Italy's robust preservation laws make it difficult to renovate, remove or otherwise tinker with anything deemed to be of historical significance, and that includes most of central Rome. The laws have protected the capital from newer architectural eyesores but have left it ill-equipped to deal with the stresses of a modern metropolis. (Kahn 2007)

As Mayor Rutelli tried to get the new museum project going, he was met with opposition from city officials, in particular Adriano La Regina, the superintendent of archaeological heritage. La Regina adamantly defended Vanishing Rome against the invasion of modernity.¹⁰ Eventually, La Regina, gave consent to Meier to begin the new museum, but in the late 1990s, he began utilizing stall tactics to slow down, or even stop the new project entirely.¹¹ In 2000, La Regina allowed for Meier to continue construction, however by 2001 he stopped the project again, deciding to now re-excavate the north and south sides of the site.¹² At this time, La Regina implemented

9 As Francesco Garofalo, a Roman architect said "They would rather leave a lot empty, in the hope of one day excavating it, than allow anything to be built. It's insane." (Seabrook 2005, 61)

10 La Regina's immensely successful career was "measured mainly in absences – buildings not built; roads removed, acreage excavated." (Seabrook 2005, 61)

11 La Regina began drilling core samples around the site, searching for an archaeological reason to prevent the new construction in the historic centre. After two years of effort, La Regina had no significant findings. Perhaps this is because when looking at the historical section of the river, it is clear that the area of the contention was not present until the construction of the embankment walls at the end of the 19th century. The site was mainly infill, and any traces of the previous river port and customhouse were not directly underneath Meier's site, they were buried deep below the Lungotevere, the edge of the piazza, and Ponte Cavour.

12 The continual starting and stopping of construction was a economically draining, for the contractor, Fabrizio Di Amato, who began demanding that the city would need to pay for the idle equipment and wages of workers.

another stall tacit, and decided that the Ara Pacis artifact was in fact too fragile to move. He demanded that if the new building were to proceed, the construction would have to take place around it.

By the time Mayor Rutelli had left office, the Ara Pacis was an unfinished construction site, and the newly elected mayor, Walter Veltroni, although in favour of the project, did not have the same level of personal involvement in it. Although many politicians and government officials publicly spoke out about their disgust for this building without a “sense of place” (Seabrook 2005, 62),¹³ the first building was long gone and the second one was already under construction. Again, the project was re-examined, with city officials pondering the idea of digging the site down to ‘Year Zero’. When the contractor heard their idea, he agreed that was possible only if the city would financially reimburse him. And, with that statement, the officials fell out of favour with returning the piazza to Augustan Rome, and Meier’s Ara Pacis resumed construction. (Seabrook 2005)

The new museum was finishing construction and nearly ready for its opening in 2006, a decade after the project was commissioned, when on a tour through the lower administration space everyone was dumbfounded by the spectacular view out to the mausoleum. The future of the museum – and the piazza would be radically impacted by their discovery. It was instantly

¹³ Other political figures, such as the Minister of Culture, Vittorio Sgarbi, would appear on national television to verbally bash the contemporary project. On one broadcast, Sgarbi went as far as to say “In America, you could never allow the mayor of New York and Richard Meier to build around the Statue of Liberty.” (Seabrook 2005, 61) Others from the arts community, such as MOMA’s chief curator, Terence Riley, spoke out in favour of the project, declaring “Of all the well-known contemporary architects, Meier is probably the most classical, in the sense of proportion, and his sympathy for the urban fabric.... Roman architecture has been exported to virtually every corner of the globe – the neo-classical style is the vernacular for almost all important civic, ecclesiastical, or commercial buildings from Shanghai to New York – and to erect barriers that prevent the flow of style from moving the other way seems capricious.” (Seabrook 2005, 62)

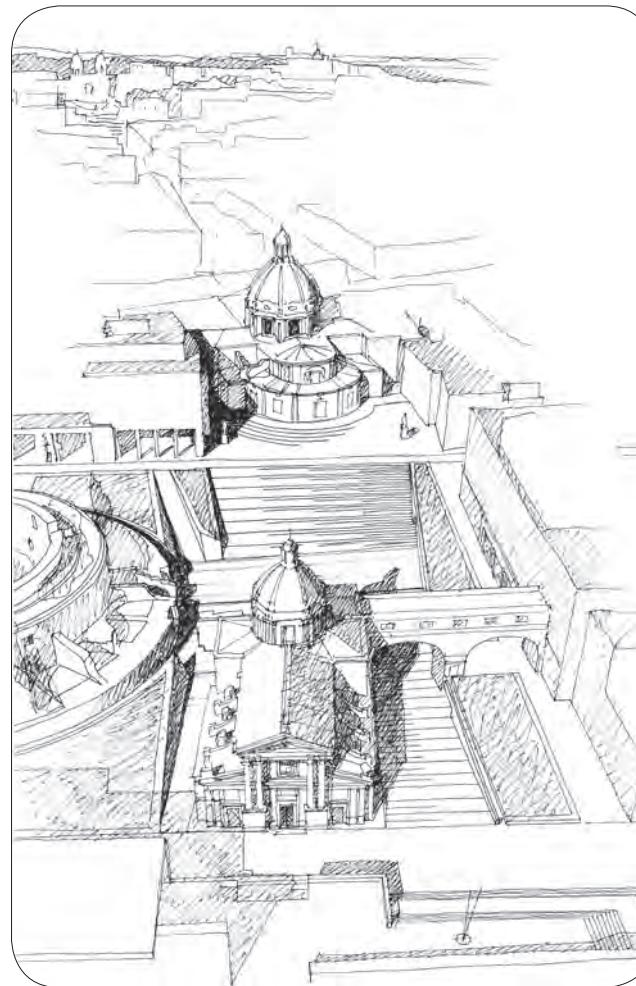


fig. 3.18 Sketch of the proposed Piazza Augusto Imperatore.



fig. 3.19 'Valentino a Roma: 40 Years of Style', Museo dell'Ara Pacis, 2007

determined that a space with this view could not be administrative space, it was too important – it would be a gallery.

Hastily the lower floor of the Ara Pacis museum was turned into a gallery, keeping the original low ceiling height, office bays, (which have become small curated displays on the history of the discovery and restoration of the Ara Pacis artifact), overhead fluorescent lighting, and individual climate control.

This decision to create a gallery at the Ara Pacis has become a very significant contribution to Rome – and to this piazza. For Rome, the new venue, 'Ara Artis,'¹⁴ has been the catalyst for some of the most exciting exhibitions and events in the city in recent years. Artists are attracted to the idea of displaying their work within a contemporary venue, against an ancient background.¹⁵ Not only has it made this building a sought-after venue, it is the impetus to another transformation on the site, the mausoleum itself.

In 2005, as construction on the museum was nearing completion, the Comune di Roma introduced an '*open*' design competition. Finalists were chosen from the submissions, including several Roman architects, for the transformation of the tomb. (Europaconcorsi Srl n.d.)

In July of 2006, Francesco Cellini's design was announced as the winning proposal. His objective aimed to resolve the fragmented site by reconciling its complex layers and re-focusing the mausoleum as the main protagonist. (Europaconcorsi Srl n.d.)

Also In 2005, the city council started a study to pedestrianize the section of the Lungotevere in Augusta, between the Museo dell'Ara Pacis and the Tiber River. The study included the proposal of a vehicular underpass, and parking facility, in order to create a city-level piazza and balconies that look down to the Tiber. This idea aimed to recover the lost relationship.

¹⁴ 'Ara Artis' is a term coined by Achille Bonito Oliva. (Comune Di Roma 2008, 24).

¹⁵ Since 2006, the Museo dell'Ara Pacis has hosted world-class exhibits including the work of: Valentino, , Bruno Munari, Jean Prouvé, Mimmo Palladino and Brian Eno.

Although city council has said numerous times that they are interested in this proposition. It is on-hold indefinitely pending funding, and seems very unlikely to ever proceed. (Comune di Roma 2005, 36) However, this does not seem to be an adequate solution to solve the river-city disconnect. Instead of looking down at the river from city level, it is imperative that there is a physical and symbolic to retrieve the forgotten relationship between Rome and the Tiber River.

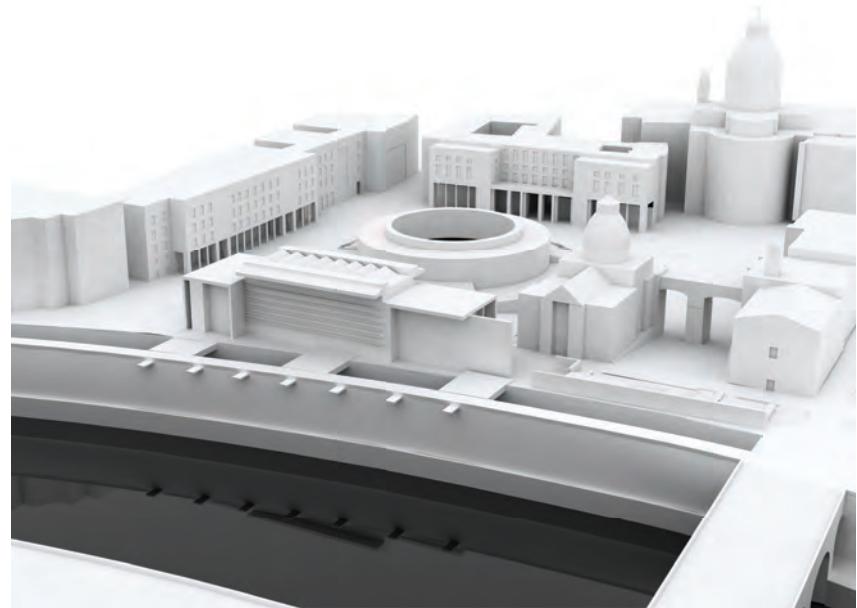


fig. 3.23 The city of Rome's proposed solution to solve the river-city disconnect.

DESIGN PRINCIPLES

VEHICULAR INFRASTRUCTURE

"The great autostrade or 'freeways, dating from the 1960s and the 1970s are today's magnificently engineered approaches to Rome. Yet once they end and vehicles are inside the Aurelian Walls, there are five miles of bumper-to-bumper congestion at all times of the day..." (Agnew, Rome 1995, 155)

Although it is said that *all roads lead to Rome*, when there, one instantly discovers that Rome's traffic problem is complex. The heavy reliance on vehicular, rather than fixed rail systems has lead to major congestion problems within the historic city boundaries. Today, vehicles stagnantly clog Rome's narrow streets, overwhelming the city with honking horns and exhaust fumes. Presently 2.4 million vehicles (1.8 million cars and 450,000 motorcycles) are on the streets of Rome each day. (ATAC 2010) This abundance of vehicular traffic is due to several factors¹⁶, a few of which include: the outdated public transit system that has made it more reliable for commuters to use private modes of transportation rather than depending on the underdeveloped metro which primarily consists of buses; a large percent of the Roman population now lives on the periphery of the city and is forced to commute to the historic centre or the EUR for either work or study¹⁷ (Agnew, Rome 1995, 156); the historic centre also attracts large crowds because it contains the majority of the city's recreational and cultural facilities¹⁸; the narrow streets of are often further congested by illegally-parked cars due



fig. 3.24 Automobile traffic clogging the streets and bridges of central Rome.

¹⁶ Other common causes of congestion include: the frequent work that has to be done to repair the city's deteriorating cobblestone streets, sewers, water and power lines; political demonstrations; heavy pedestrian traffic in shopping and tourist areas; and the difficulty in finding legal parking spaces. Rome is notoriously short on off-street parking facilities and does not have enough 'park and ride' spaces to encourage people to leave their cars at metro stations, and use public transportation instead. (Agnew, Rome, 1995, 159)

¹⁷ In the 1990s, it was estimated that over 130,000 commuted to Rome from the surrounding communities on a daily basis; 41% to work and 44% to attend either school or university (Agnew, Rome, 1995, 156)

¹⁸ Cultural facilities are heavily concentrated in the city centre. Over one-half of the cinemas, 86% of the theatres, 85% of the museums, and 78% of the concert halls are in the Comune of Rome are situated in the central four *circoscrizioni*. (Agnew, Rome, 1995, 166)



fig. 3.25 Traffic cop choreographing the dance of Roman traffic.

to the insufficient number of off-street parking facilities (Agnew, Rome 1995, 159), and pedestrians appropriating the streets.

The narrow and meandering streets of Rome were never intended for automobile traffic – the city was not designed for efficiency; instead, it grew organically over thousands of years.¹⁹ There have been periodic attempts to widen the streets to better accommodate the city's surplus of vehicles, which has ironically exacerbated the problem, funneling more traffic into the narrow network of streets.²⁰ (Agnew, Rome 1995, 157) Now many parts of the city, especially in the historic centre are one-way, or 'car-free' zones, known as the *Zone Traffico Limitato*, or 'ZTL'.²¹ This has put further pressure on the boulevards. To traverse Rome, one may either enter the long line of vehicles practically parked along the *Lungotevere*, or weave through an unorganized network of narrow medieval streets. During peak hours, traffic police choreograph the crowds of cars, buses, and scooters that overtake the street. To make matters worse, illegally parked cars often encroach on the already narrow roads, sidewalks, and piazzas. Urban Rome only has the capacity to legally park 78,080 of the 1.8 million cars traversing the streets each day, and 23,000 of the 450,000 motorcycles. (ATAC 2010) Perhaps the relatively

¹⁹ The organic growth of the urban fabric was halted after the Fascist Period and the historic centre of Rome went without change for nearly six decades.

²⁰ In Fascist Period, the city was reconfigured creating a few strategic linear cuts within the ancient city fabric, including Via dei Foro Imperiali and Via della Conciliazione. In the 1870s the Lungotevere and Via Nazionale, were added to this network to counteract the overwhelming number of serpentine streets. (Agnew, Rome, 1995, 157)

²¹ The ZTL have been created in historic locations of the urban centre where traffic cameras, 32 electronic bollards and 3 policed gates control access to the streets of Rome. (ATAC 2010) The daytime zones are in effect Monday to Friday from 6:30 to 18:00 and Saturday from 14:00 to 18:00; the evening zones are in effect Saturday and Sunday from 23:00 to 3:00. (Comune di Roma 2003) While these zones filter cars from the narrow streets, they do not discourage traffic from using the Lungotevere roads, which results in mass congestion. Perhaps including the Lungotevere as a part of the Limited Traffic Zones, even if only on weekends could drastically change the experience of the river's edge. (More information and maps of Rome's ZTL can be found at: [http://www.comune.roma.it/was/wps/portal/!ut/p/_s.7_0_A/7_0_21L?menuPage=/Area_di_navigazione/Sezioni_del_portale/Municipi/Municipio_I_\(1\)/Muoversi_nel_Municipio/ZTL/](http://www.comune.roma.it/was/wps/portal/!ut/p/_s.7_0_A/7_0_21L?menuPage=/Area_di_navigazione/Sezioni_del_portale/Municipi/Municipio_I_(1)/Muoversi_nel_Municipio/ZTL/))

inexpensive price of short-term metered parking, at €1 per hour²² for cars (and free for motorcycles), does not discourage enough drivers.²³ Many of these parallel-parking spaces are located within the two perimeter lanes of the Lungotevere, the city's main artery, where the act of finding a spot, and then parking makes the already congested motorway much worse. The lack of legal parking spaces has created a culture of inventive drivers, who are able to park their small cars in interesting positions, locations and masses.²⁴ Often small piazzas are overcome with swarms of cars and motorcycles to the point where pedestrians must carefully weave their way through.

Not only is Rome a walkable city, and with the upgrades to the metro system, there is no reason for Romans to heavily rely on private automobiles as a primary means of transportation within the urban centre of the city. To further discourage the use of cars within this zone, it is imperative that there are parking stations at 'interchange points' within the outer ring of the city, where drivers can park and transfer to the metro to travel within the city's urban core.²⁵ (ATAC 2010) Rome's lack of public parking in the centre makes these interchange points crucial for encouraging drivers to transition to the metro when heading into Rome's centre.

Numerous studies have shown that Romans often cite the congestion problem plaguing Rome as the cities most serious problem. (Agnew, Rome 1995, 159)

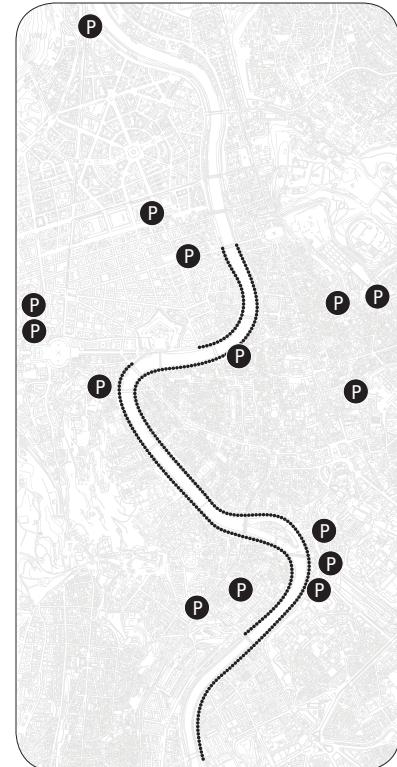


fig. 3.26 Parking meters at frequent intervals along the Lungotevere.

fig. 3.27 Public parking lots and legal parallel parking spaces along the Lungotevere.

22 In 2008, parking along the Lungotevere was €1 per hour.

23 Recently ATAC has even implemented a system where you can send a text message to them to pay for metered parking. (ATAC 2010)

24 Private parking in urban Rome is incredibly expensive, purchasing a private underground parking space in Trastevere can cost in excess of €100,000.

25 Currently there are 30 interchange points on the periphery of Rome. (ATAC 2010)

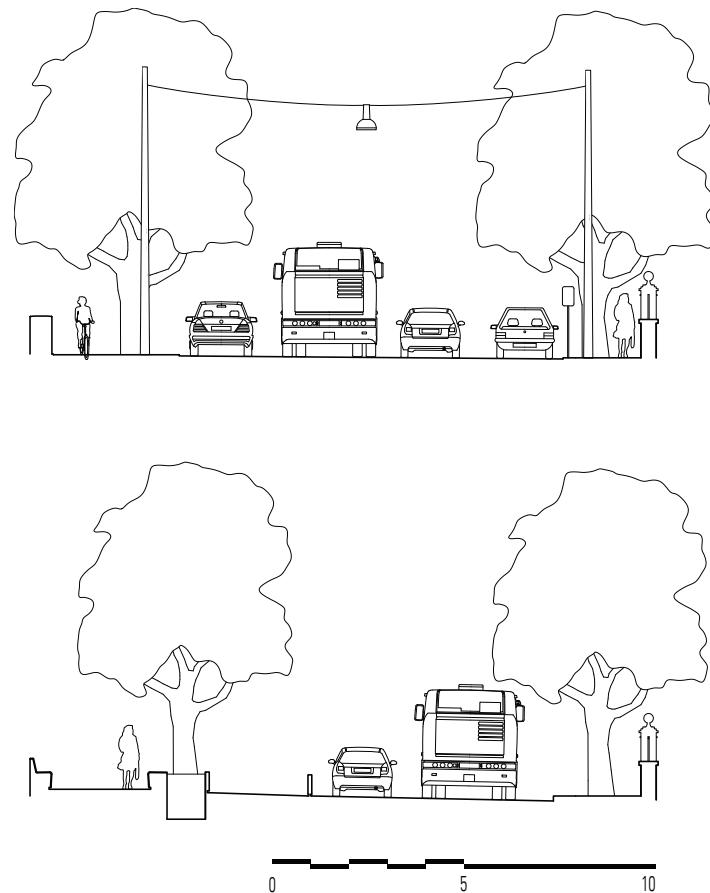


fig. 3.28 Lungotevere della Farnesina, Existing and Proposed.

LUNGOTEVERE

The Lungotevere boulevards are Rome's main thoroughfares. These continuous four-lane roads flank both the left and right banks of the river through urban Rome. Constructed as part of Canevari's embankment proposal, these roads were conceived before cars and buses were introduced to the city. Today cars, buses and motorcycles slowly move along the upper edges of the river at all hours of the day. Although these roads are four-lanes wide, only two of the lanes are used for moving vehicles, including the buses of the city's major public transit routes. The buses frequently stop along the road, significantly slowing down traffic, however; a large unrecognized cause of this congestion is the parked (and parking) cars and garbage bins which occupy two lanes of traffic 24 hours a day. In its current state, Rome's main artery is biased towards parked vehicles, rather than its intended use as an efficient cross city thoroughfare. The heavy traffic, noise and exhaust fumes experienced along the Lungotevere discourse pedestrians from walking the upper bank of the Tiber. Furthermore, the pedestrians are confined to a narrow path consumed by overgrown plane trees with large trunks and snagging roots that lift up the asphalt, making for a difficult and unpleasant stroll.

The city's solution to solve this inner-city congestion is to simply bury the Lungotevere. While this solution *may* work, it is incredibly expensive, and perhaps even unnecessary with the implementation of a world-class metro system expected to fully operational by 2015.²⁶ Submerging the road beneath the city is a laborious solution, not only does this involve moving sewers, and communication cables, it also means uncovering another strata of archaeological artifacts which could stall – or even stop the project entirely. A few historic sections along the river, near the city's iconic monuments have already been buried, and other strategic locations are on hold pending

funding. Although many are in favour of this plan, this does not seem to be an adequate solution. While the interment of portions of this road has freed up land adjacent to the upper edge of the Tiber, it is a costly and ineffective solution.

In fact, the burial of the Lungotevere, adjacent to Castel Sant'Angelo, has not lead to the reconnection of the city to its river as indirectly intended, and the traffic problems have not been solved. It is not practical to solve Rome's vehicular congestion through the addition of roads. It is necessary to discourage the use of cars within the boundaries of a walkable historic city not designed for cars. The only way to ease the congestion along this route, is for Rome to re-conceive its transit system to focus on the connectivity between water, rail, subway, and vehicular networks. (Istituto Nazionale di Urbanistica 2001, 107) The public transit improvements will relieve congestion on the Lungotevere, presenting the opportunity for the introduction of extraordinary public space along the Tiber's upper edge. However, to unequivocally retrieve the river, it is important to also connect the river's bank.

²⁶ Rome's proposed metro system is expected to be introduced in phases from 2011 to 2015. (ATAC 2010)

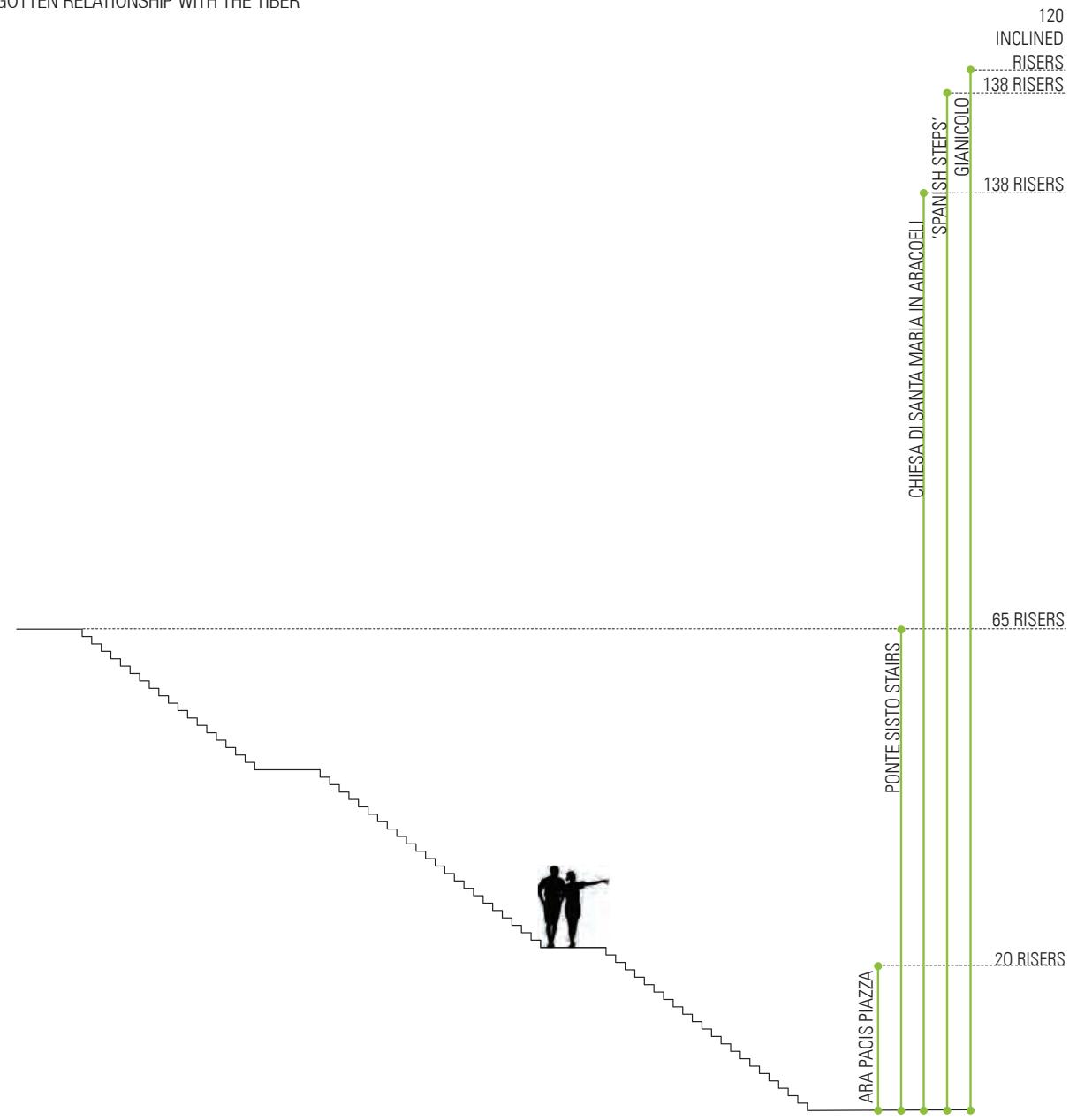


fig. 3.29 Rome's iconic stairs.

Many people do not cross the river's threshold and descend to its banks because of its stairs. Not only are they narrow and steep, but the upper treads are often soaked with urine, projecting a foul smell from the river to the city. In some instances, the stairways beside some of the city's most notable landmarks are inhabited by vagrants, who set up makeshift settlements inside the unused infrastructure, severing the public link between the city and the river.

At first glance, the stairs to the river seem cumbersome, but upon further investigation, the river is a lot closer to the city than it first appears. The daunting threshold has deterred people from descending to the Tiber's banks, turning the river into an un-patrolled landscape that only collects the sporadic athlete, illegal immigrant, vagrant or inspired architecture student. If the descent to the river was enjoyable, it is feasible that the river would become a much greater urban amenity for all of Rome.



fig. 3.30 Staircase down to the Tiber River.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



fig. 3.31 Rome's existing metro lines.

ROME'S METRO SYSTEM

"Rome's subway system, with only two lines, A (dating from the 1960s) running from Ottaviano, north of the Vatican City, by way of Stazione Termini to Anagnina (on the south-east side of the city) and B (dating from the 1950s) running from Stazione Termini to the EUR and, since 1990, from Stazione Termini to Rebibia (on the north-east side of the city), is radically insufficient for such a larger metropolitan area." (Agnew, Rome 1995, 156-157)

Although much of its construction was planned during the Fascist Period of the 1930s, Rome is finally implementing a much-needed upgrade to its metro system.²⁷ In a city with such a vast archaeological presence, to say this is an immense undertaking in an enormous understatement. Currently the metro system consists of two underground lines, A and B, that diagonally cut through the city, with only one connection point. The metro system does not adequately serve the locals or tourists, and as a result, the system remains underutilized. However, Rome's transportation company, ATAC, is implementing a 'new' comprehensive proposal that will introduce two additional metro lines, C and D, while extending existing lines A and B. The new system, to be completed by 2015, will much better serve the city; creating transfer nodes, and extending the underground system into the peripheries.²⁸ For the first time, the public transportation network is being

27 "The standoff held until a few years ago, when planners and preservationists decided to bury the hatchet and work together on the new subway line. To reduce the line's environmental impact, the subway tunnel will be buried more than 80 feet [nearly 25 meters] below the surface, beneath even the earliest strata of archaeological remains." (Kahn 2007) Now, the planners and preservationists are working together to situate the stations and their entrances in the least disruptive places. The urban planners are being allowed to analyze the site before any major construction commences to prevent the destruction of any great historical remains. Some of the metro lines may need to slalom around the subterranean artifacts, but archaeologists are excited at the rare opportunity to dig through the very centre of the Eternal City. (Kahn 2007) The archaeologists will photograph and document the location of every artifact discovered during the excavation process, states Angelo Bottani head of Rome's preservation office. Then the preservation office will then decide which discoveries will be preserved, taken away or destroyed. (Kahn 2007)

28 The metro plans also involve shifting the city's main hub from Termini Station (a terminus station) to a new through-station at Tiburtina. In turn, Termini would be primarily used for regional transportation rather than municipal transportation.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

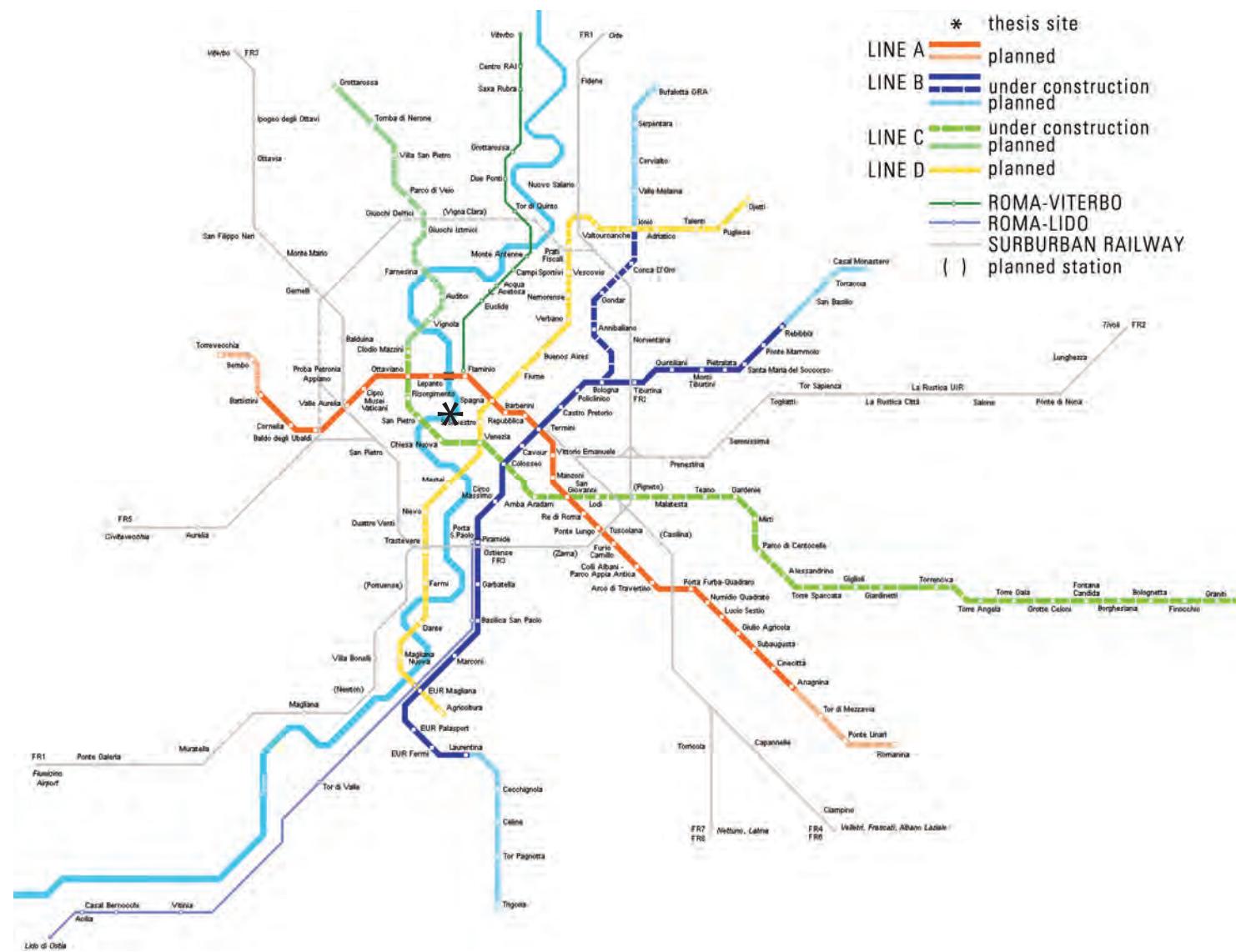


fig. 3.32 Rome's proposed metro, currently under construction.

conceived of, and expanded as one-system – a change that will revolutionize public transportation in Rome.²⁹

The “problem with extending the lines lies in the difficulty of tunneling into a city with such a vast wealth of archeological remains.” (Agnew, Rome 1995, 157) It is inevitable that artifacts will be discovered, as these plans call for more than 17.5 million cubic feet of soil to be unearthed. However, Rome can now follow the precedents set by Athens and Mexico City, who have strict preservation laws, but were able to bury new subway lines under their ancient cities. (Kahn 2007) The new subway lines will be buried under the first layers of Rome, nearly 25 meters below the present-day city, to limit the disruption of any undiscovered artifacts. (Kahn 2007) And, like Athens, Rome has plans to house the important ancient artifacts found during the construction in a museum designed within one of their metro stations.³⁰

The new metro system, will significantly reduce the traffic on Rome’s congested roads. Line C alone is estimated to carry up to 600,000 people per day, with a capacity of around 60,000 during peak hours (Metro C: Società di Progetto 2007), while Line D is expected to carry up to 400,000 people per day. (ATAC 2010) In addition to the drastic improvement of vehicular traffic, the city should also see positive environmental improvements. With the major efforts going into improving the public transportation system, and the continual increase in gasoline prices, it is inevitable that the people will begin to turn away from their cars and motorcycles. With fewer vehicles on the roads, moving and parked, prime urban spaces, such as the upper banks of the Tiber must be given back to pedestrians. These polluted and noisy corridors could become new networks of public space for the city.

²⁹ On January 1, 2010, the former bus company ATAC merged to become the largest transport company in Italy overseeing the metro, tram and bus transportation in Rome, remaining under the name ATAC. The merger aims to increase the efficiency and availability of Rome’s public transportation. (ATAC 2010)

³⁰ A large number of artifacts are expected to be found during the construction of the metro stations; (between street-level and 5m below grade) where station entrances, exits, and tunnel air vents will puncture through the over two millennia of the city’s historical layers. (Kahn 2007)



fig. 3.33 Dionysos’ head found during the construction of Rome’s 3rd metro line.

“One of Italy’s problems is that it doesn’t have enough museum space to hold all its artifacts. In fact designing the new subway line, the architects planned for the inevitable: a subterranean museum at the stations to hold significant pieces of antiquity expected to be dug up during construction.” (Kahn 2007)

RIVER NODES

"Perhaps Rome's increasingly dire traffic woes will now prompt the authorities to look at the Tiber seriously as a possible transit artery and to stock it with fast vessels like the motoscafi [(water taxis)] that ply the canals of Venice." (Hofmann 1986)

Before the erection of the embankments, the Tiber was used as a main transportation route that served those travelling to and from Rome, as a means of crossing the river, and as way to travel north and south within the city.

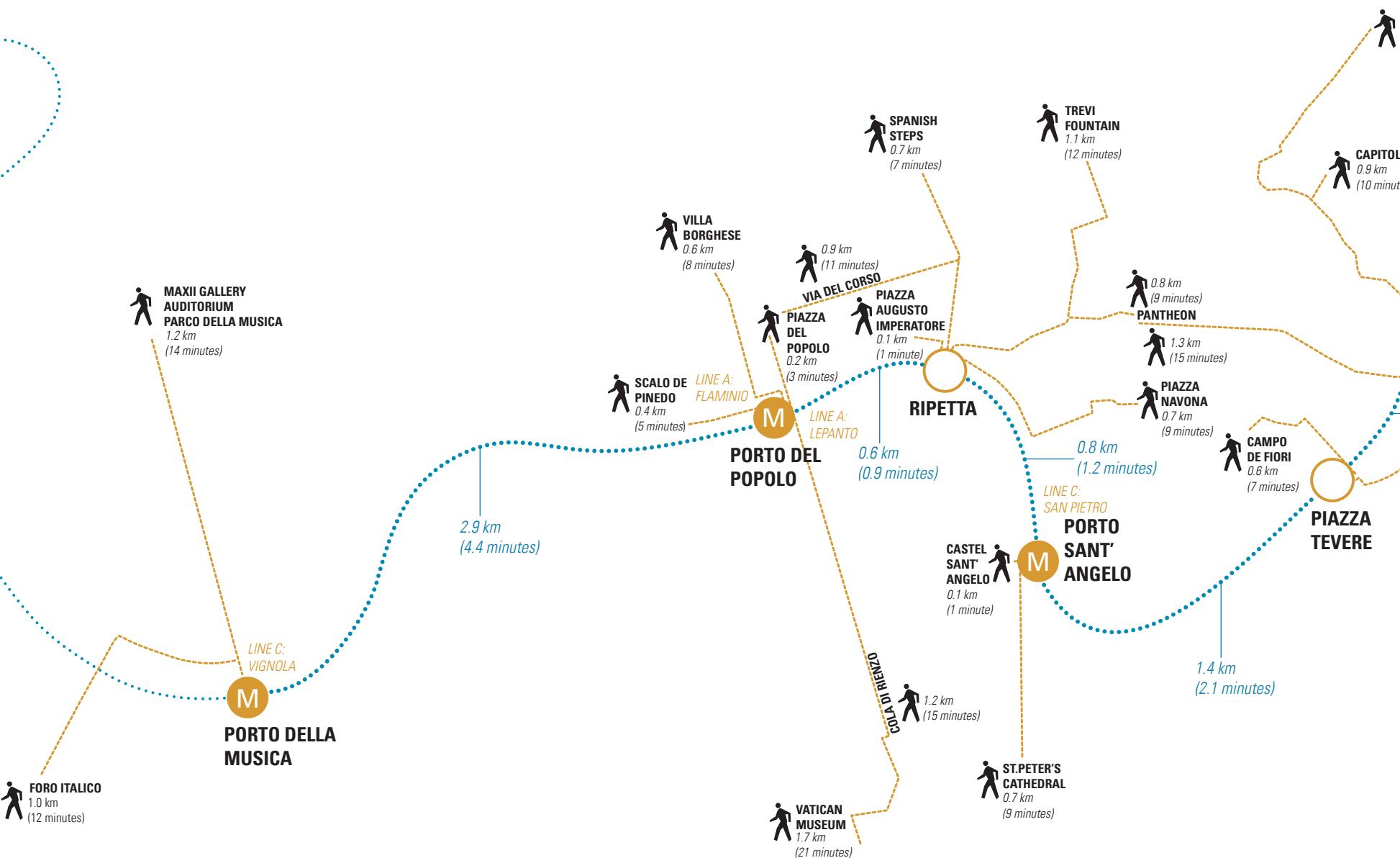
The river's close proximity to much of Rome further reinforces the river's value as a transportation belt. Rome could easily, and inexpensively³¹ expand its public transportation by reintroducing a water-based year-round transportation line.³² Nearly all of the city's monuments and attractions are within a kilometre of the Tiber River, making this traffic-free waterway a logical network for the expansion of the metro system. Not only is the Tiber within a short walking distance to major attractions, the Tiber is also located adjacent to several public transportation routes. The Tiber could provide numerous connection nodes at river level to the new underground metro lines, which are proposed to cross under the river at four locations. The water-based transit could also connect to a multitude of existing bus, and tram routes. This relatively inexpensive solution could give the Tiber a new use in the modern city that would not only repopulate the riverbanks; it would also help to depopulate the congested streets above.³³

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- 31 A river based transportation system would cost a fraction on the subterranean metro system under construction in Rome today. The cost incurred would include upgrading the accessibility to the banks, staff to run the new system, security, the purchase of new 'waterbuses', etc. Although, these would come at a cost, the transportation problem is often cited as Rome's worst problem; therefore it is safe to assume that Romans see it important to modernize this out-of-date system.
- 32 When necessary service along the Tiber could be temporarily stopped during periods of high-rain that have the potential to make river-travel unsafe.
- 33 Previous iterations of a Tiber-based transportation system, with six stops along the river projected that the cross-city route would go from over an hour by car to 24 minutes. (Hofmann 1986)



fig. 3.34 Tourist boat on the Tiber River.

Starting in 2003, the Municipality of Rome has sponsored a lackluster attempt to attract tourists to the Tiber River. (Battelli di Roma 2008) Where one can partake in an hour long hop-on-hop-off cruise, with a two-hour option of a wine or dinner cruise. This government funded project is marketed to visitors during peak tourist season, and fails to utilize the Tiber as a public transportation network, such as the boat-based transportation system in Venice.



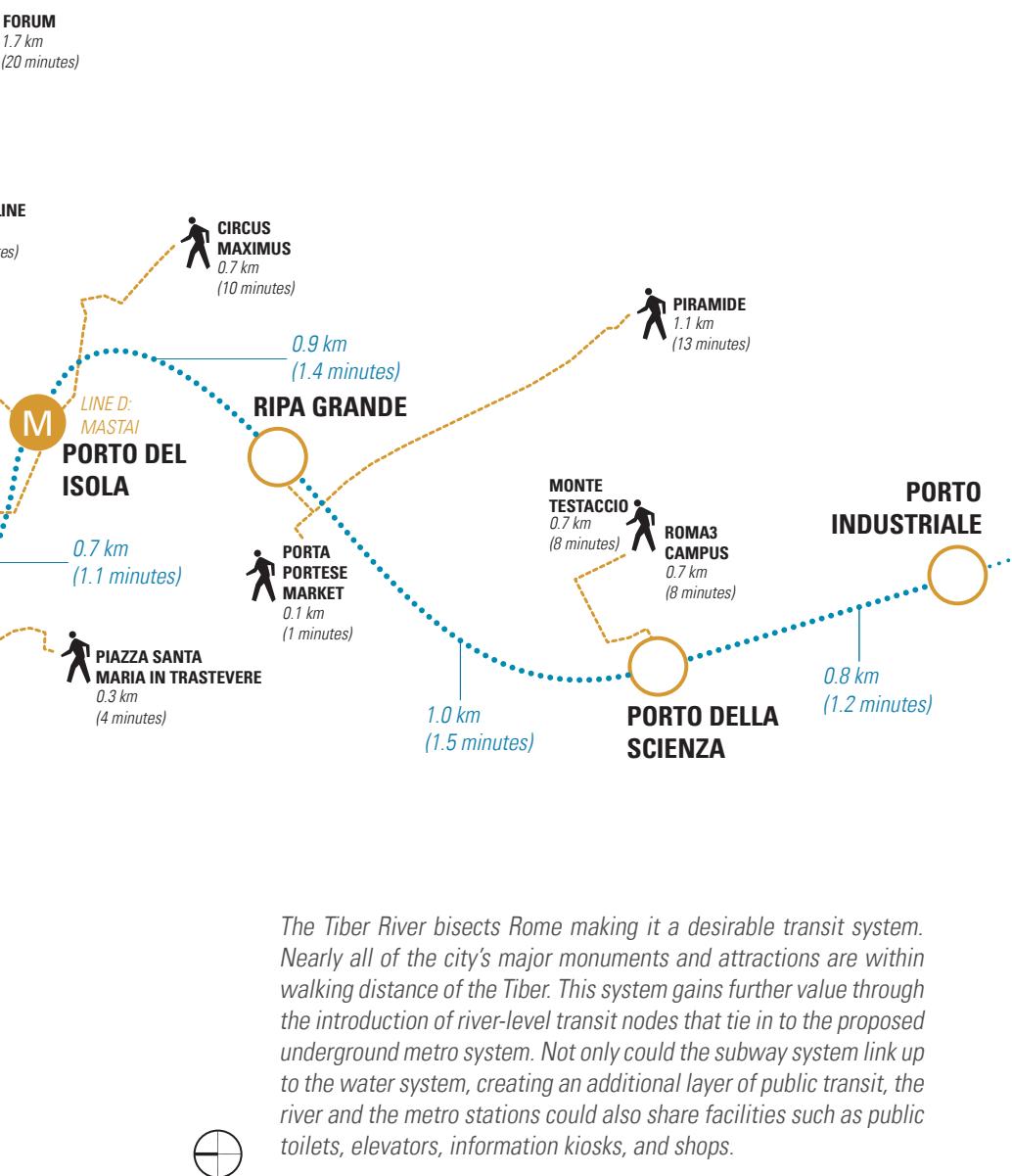


fig. 3.35 The Tiber River explored as a potential transportation network.

The Tiber River bisects Rome making it a desirable transit system. Nearly all of the city's major monuments and attractions are within walking distance of the Tiber. This system gains further value through the introduction of river-level transit nodes that tie in to the proposed underground metro system. Not only could the subway system link up to the water system, creating an additional layer of public transit, the river and the metro stations could also share facilities such as public toilets, elevators, information kiosks, and shops.

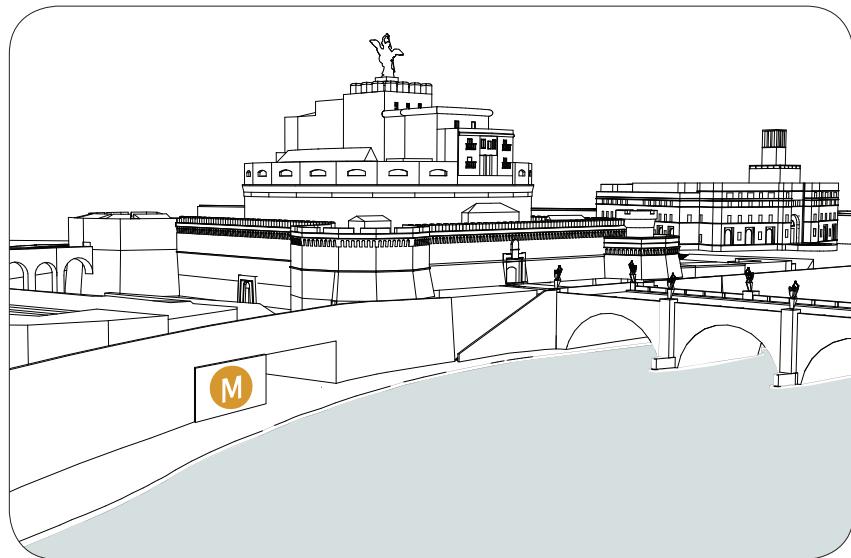


fig. 3.36 Proposed river-level metro entrance at Castel Sant'Angelo.

A fleet of 'waterbuses'³⁴ could traverse urban Rome through a series of nine river-based transportation nodes³⁵ that runs from the northern end of Rome at *Porto della Musica* to its southern end at *Porto Industrale*. If this transportation system proves to be successful, it is feasible to link to the EUR south of Rome, and to the historic sites and beaches of Ostia. As the *Urbanistica* plan suggests this system would be beneficial not only for daily traffic; it could also significantly improve the traffic chaos caused by events, such as soccer games, which wreak havoc on the roads.

³⁴ Waterbuses hold approximately 35 passengers and in urban corridors they average speeds of around 40 km/h. For approximate Tiber-based transit times (without stops included) refer to the adjacent diagram.

³⁵ The proposed nodes from north to south include: Il Nord Culturale, Porto del Popolo, Ripetta, Porto Sant'Angelo, Piazza Tevere, Porto del Isola, Ripa Grande, Il Sud Istituzionale, and Porto Industrale.

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



THE MYTHIC TIBER

The Tiber River was the site of some of Rome's well-known mythic tales. It was the river that protected the founding twins, drifting them to the site where they would found Rome; the Tiber was also the site where Horatius bravely fought off the attacking Etruscan army, protecting the city, and the Tiber in turn protected him and allowed him a safe return to Rome. Historically, this landscape was associated with divinities and water nymphs (Sanfilippo 1996, 18); its reputation in story seems to have outlasted its presence in the city itself. Before the river was walled in, it was the site of great celebrations. The Tiber was Rome's leisure landscape; bathers and fisherman flocked to its banks, crowds gathered to watch magnificent firework displays over its tawny waters, it was the site of boat races and mock battles, and those seeking cures sought out its renowned healing waters. Sadly, when the embankment walls were erected, the leisure landscape was lost.

Today, film has created a fictitious identity for the river. Filmmakers who understand the Tiber's importance want to suggest this river has a presence in the contemporary city, while in reality, the river is virtually an unoccupied void. Since the dance party upon the barge under the dim light of Castel Sant'Angelo in *Roman Holiday*, the River Tiber has been romanticized through film. A trend which still continues today with the Italian teen cult film *Tre Metri Sopra il Cielo*, where young lovers cement their love by writing their initials on locks and then securing them to the lamppost of Ponte Milvio.³⁶

³⁶ Since *Tre Metri Sopra il Cielo* came out in 2004, Ponte Milvio has become a popular hangout for some young Romans who want to live vicariously through the film's characters.

fig. 3.37 *Roman Holiday* screenshots

-3.45 Audrey Hepburn and Gregory Peck's infamous dance party below the dim light of Castel Sant'Angelo.

Inspired by the book and subsequent film adaptation, 'Tre Metri Sopra il Cielo', young lovers write their initials on a padlock and lock it to a lamppost on Ponte Milvio. Then in a symbolic act, they toss the key together into the Tiber below, ensuring their love will last for eternity.

This trend has rapidly spread from Roman and Italian teens to international tourists; and now there are even vendors selling padlocks at Ponte Milvio. The abundance of the romantic acts even toppled the lampposts on the ancient bridge in 2007. Following this, the locks kept appearing, and were immediately cut off the new lampposts. This enraged many Romans who began stating that "the left is against lovers". (Fisher 2007, 2) The city has now constructed six structurally sound posts and chains along the bridge for couples to safely fix their locks without causing Ponte Milvio any further damage. In addition to this, a website has been set up by the city where virtual locks can be added to a virtual version of Ponte Milvio. (Fisher 2007)



Although the river's presence has been glamourized as a backdrop for love stories and action scenes³⁷, in reality the river has virtually no presence within Rome.³⁸ It is clear that there is the desire for this romantic cinematic experience to be present on this river. New traditions, even those created in film, have begun to play out in reality, and are slowly drawing people back to the Tiber.

37 In 2006, *Mission Impossible III* featured Tom Cruise in a high-speed boat escape down the Tiber River, an unrealistic and impractical escape in Rome.

38 Many Romans have never had a single encounter with the Tiber River. Although they have lived in the city their whole lives, a majority of the people have never descended to river level. This is beginning to change slowly with the introduction of cultural and social events held sporadically along the Tiber's lower banks. (Discussion with Maria Margarita Segarra Lagunes on April 22, 2009 in Rome.)

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

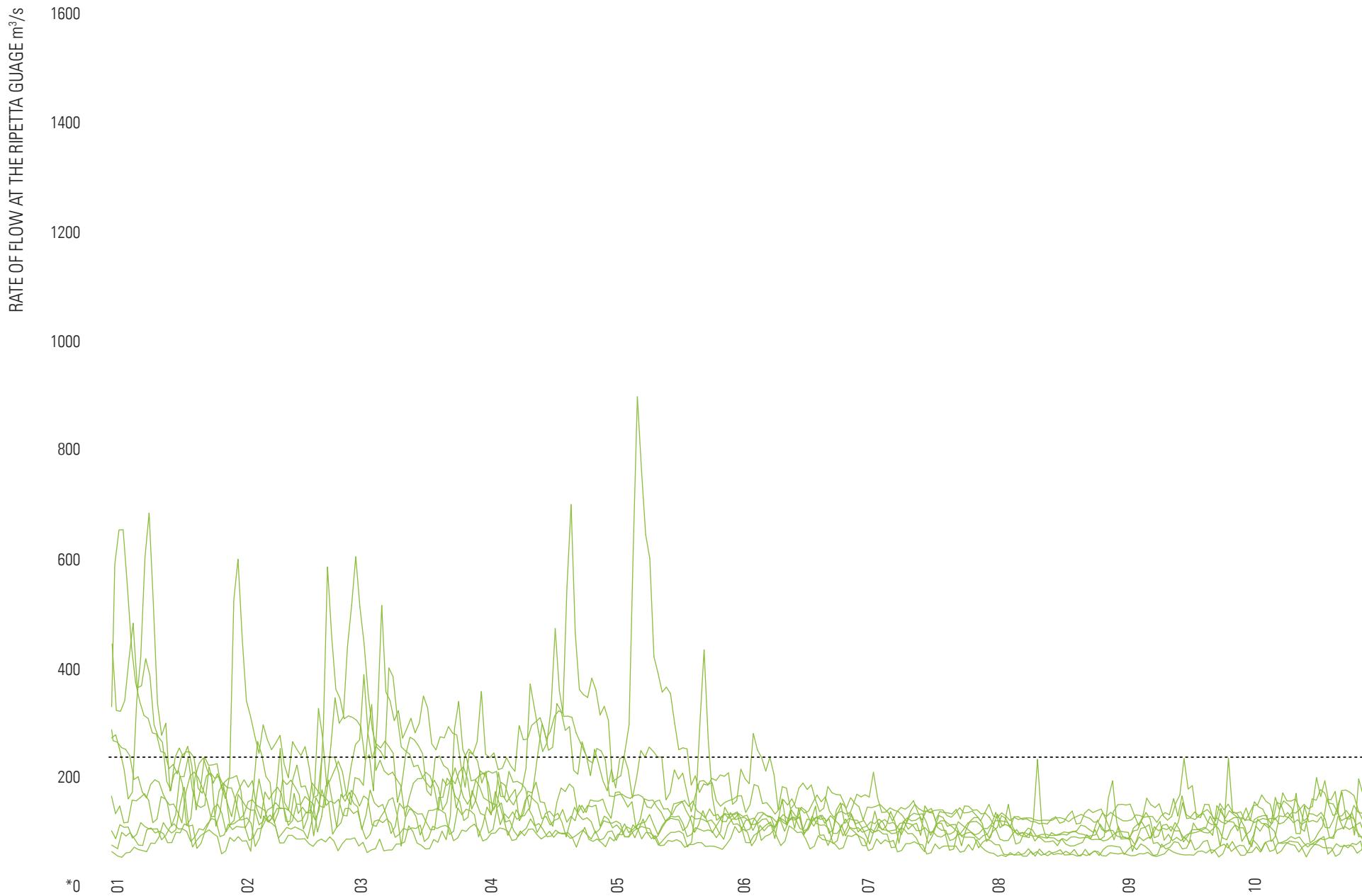
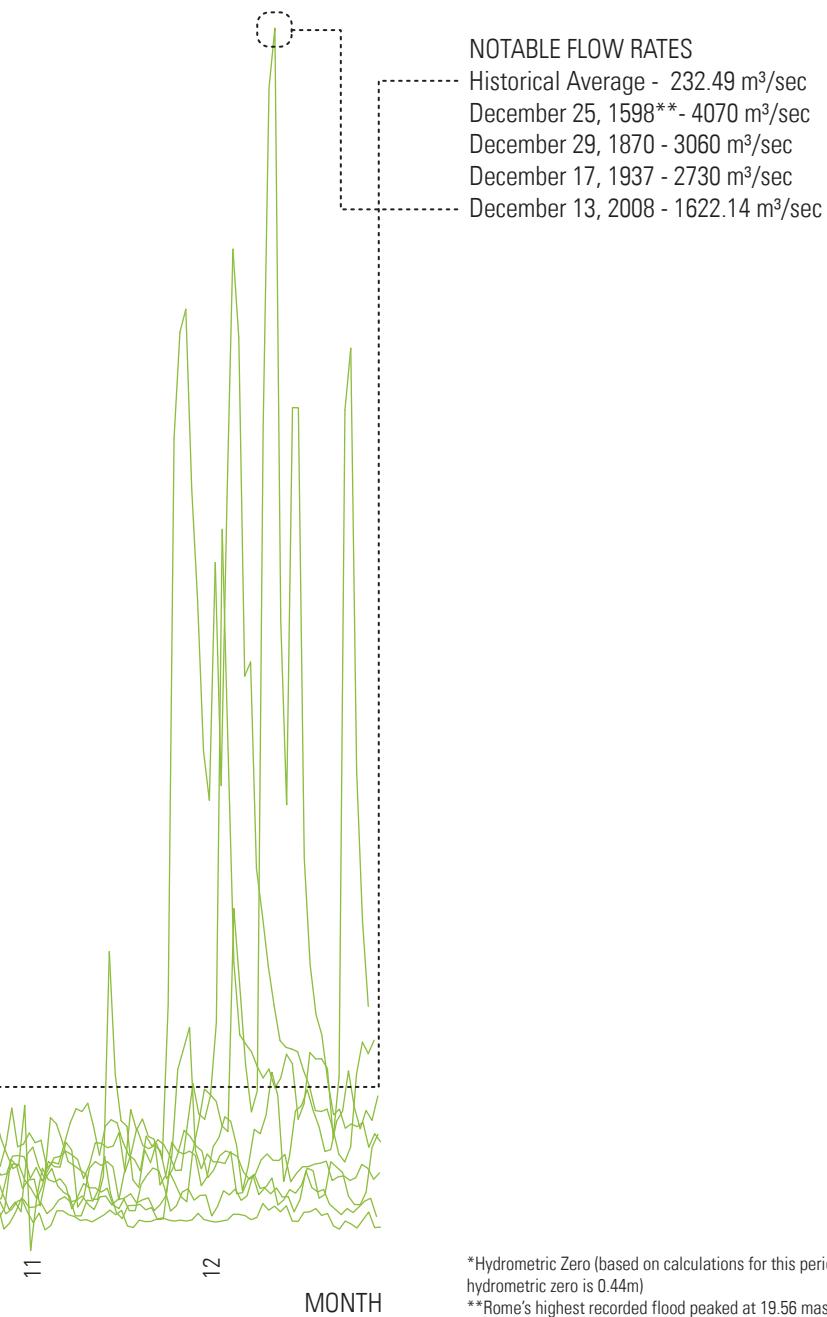


fig. 3.47 Daily average flow rate at the Ripetta gauge from 2000 to 2009.



DESIGN PROPOSAL

RIVER PATTERNS

Romans have been discouraged to intervene on their river, because of the its temperamental nature, however, with the understanding of the river's unique characteristics and the technological advancements in both flood prediction and flood prevention, the riverscape could be the future of historic Rome. As unruly as the Tiber River may seem, for half of the year it is a predictable and safe landscape. Although the river is known to rise, the Tiber River's patterns have remained constant since river data was first recorded nearly a thousand of years ago. It is now evident that prolonged rainfall and melting snow upstream, will cause the water level of the Tiber to rise from mid-November until June. During this time, the river's water will occasionally overtake the riverbank and creep up the embankment wall. Alternatively, study into Rome's fluvial history has clearly shown that there is no threat of inundation from June until mid-November. Understanding the Tiber's unique character and cyclical patterns is pivotal to informing new design strategies for this site.

CLASSIFICATION OF FLOOD ZONES

In reconceiving Rome's riverscape, a new logical site design approach must be created. This will inform future interventions. Through analyzing the river's daily, monthly, and yearly data, the embankment's section can be clearly divided into three distinct zones: high-risk, moderate-risk and low-risk. Each of these zones will possess unique design strategies and guidelines that will lead to site-conscious construction and programming along the Tiber.



fig. 3.48 Classifications of Tiber River Flood Zones

HIGH RISK - below 13 masl

This lower region of the Tiber River is flood prone, therefore seasonal installations can be in place when there is no risk of inundation from June until November. All elements installed in the 'high risk zone' must be removed or safely stored from early November until late May to prevent damage.

Interventions in this zone include: permanent groundworks, walkways, trees, seasonal installations, and architecture protected by floodgates.

MODERATE RISK - between 13 & 18 masl

This region of the Tiber River experiences periodic flooding. Installations in the 'moderate risk zone' may stay in place for the entire calendar year, however, they must be able to be removed quickly when the city is notified that the Corbara Dam upstream has been breached.

Interventions in this zone include: permanent street furniture, landscaping, cafes and shops with flood-safe design, and architecture protected by floodgates.

LOW RISK - above 18 masl

This upper region of the Tiber River is considered flood safe.

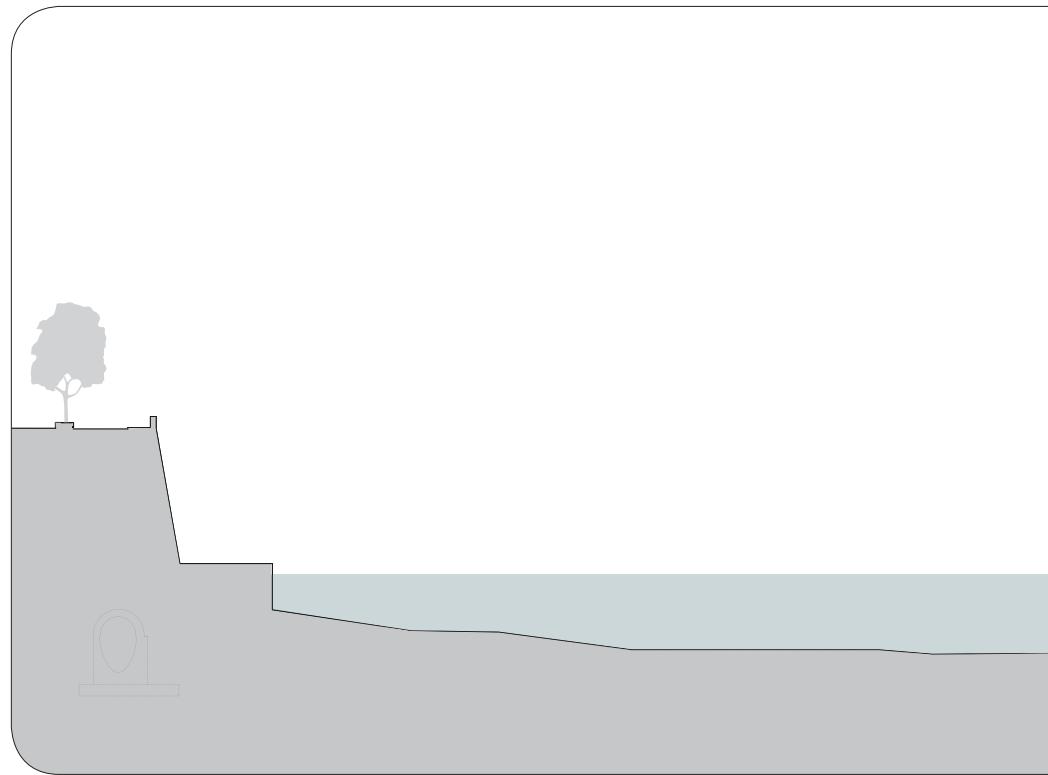
Interventions in this zone include: permanent architecture and landscaping with adequate drainage.

THESIS DESIGN PROPOSAL

The programmatic layout of the proposed Museo dell'Ara Pacis Gallery Expansion has been designed to work with, not against, its temperamental site. The programmed levels are defined by the Tiber's predictable seasonal patterns, while aiming to resolve the site's complicated historical section.

At the Lungotevere street level, there is proposed piazza with views to both the Ara Pacis artifact and the Tiber River. Located at 18 meters above sea level, this piazza is considered to be 'low-risk' in terms of flooding. Therefore, this flexible public space allows for markets, cafes and seating to operate throughout the year with virtually no risk of inundation.

From this piazza there are a series of exterior public ramps that work with the gallery's facade, that bring the public from the Lungotevere level, to the gallery link level, and then down to the riverbank . These ramps follow the form of the building, while providing spectacular views to both the interior gallery space and the Tiber River.



The physical and symbolic idea driving the design is the re-connection of this site to the river. Alluding to the former Ripetta port, a grand staircase is inserted between Via dei Ripetta and the Tiber's banks. A series of steps, seats, and cascading water reflect the historical section of this site.

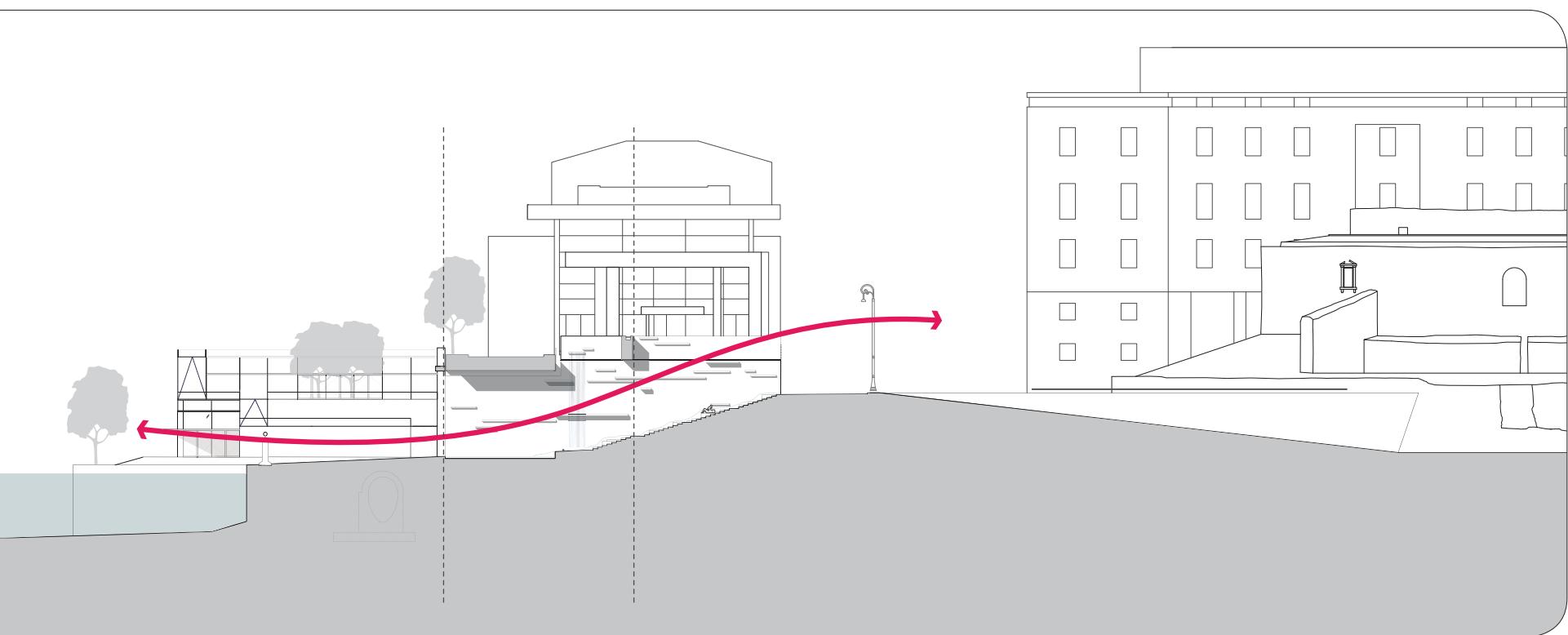


fig. 3.49 Ripetta Section Design Strategy.

MUSEO DELL'ARA PACIS' GALLERY EXPANSION:



fig. 3.50 Ripetta Site Axonometric, Existing.

The proposed gallery expansion connects to the existing Museo dell'Ara Pacis at Via dei Ripetta's street level. The extended gallery connects through a ramping corridor that passes under the Lungotevere. This 'gallery link level' adds an additional 1,600m² of interior programme, and 650m² of exterior programmable space.

At 13 meters above sea level, this floor is considered 'moderate risk' and would not experience flooding every year. However, when water does reach 13 meters above sea level, the city's early warning system would allow the gallery at least 24 hours to raise its protective flood walls and relocate its artifacts.

At the Tiber-level, an additional gallery operates during Rome's prime-tourist season, while during Rome's rainy-season, from mid-November to mid-May, the gallery is closed. The river-level gallery is designed with permeable flooring and durable water-safe materials that allow for the river to occupy the lower gallery when the water level rises. This recurring seasonal condition is observable from the gallery-level above.

This river-level gallery adds an additional 2,300m² of curated display space, as well as creating areas with an increased floor-to-floor height, providing the gallery with more flexible installation space. As well as public washrooms accessible from the riverbank and a tourist information point.

The extended gallery reflects Meier's horizontal rhythmic facade, and palette of white paint, travertine, and glass. This expansion increases the Museo dell'Ara Pacis' gross floor-area by nearly doubling it, providing the building with new and exciting opportunities to re-create the Ara Pacis as the *Ara Artis*.

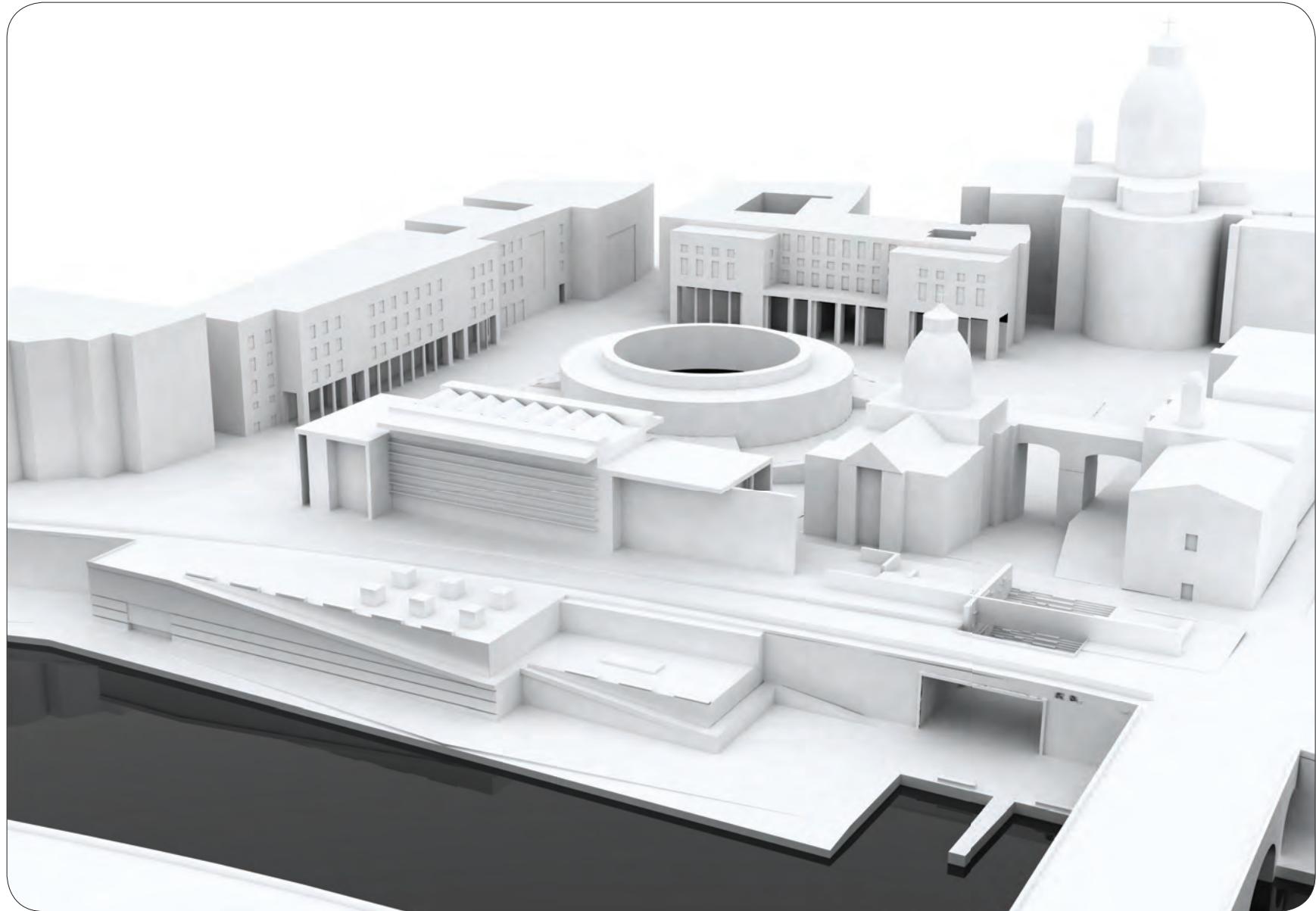


fig. 3.51 Ripetta Site Axonometric, Thesis Design Proposal.

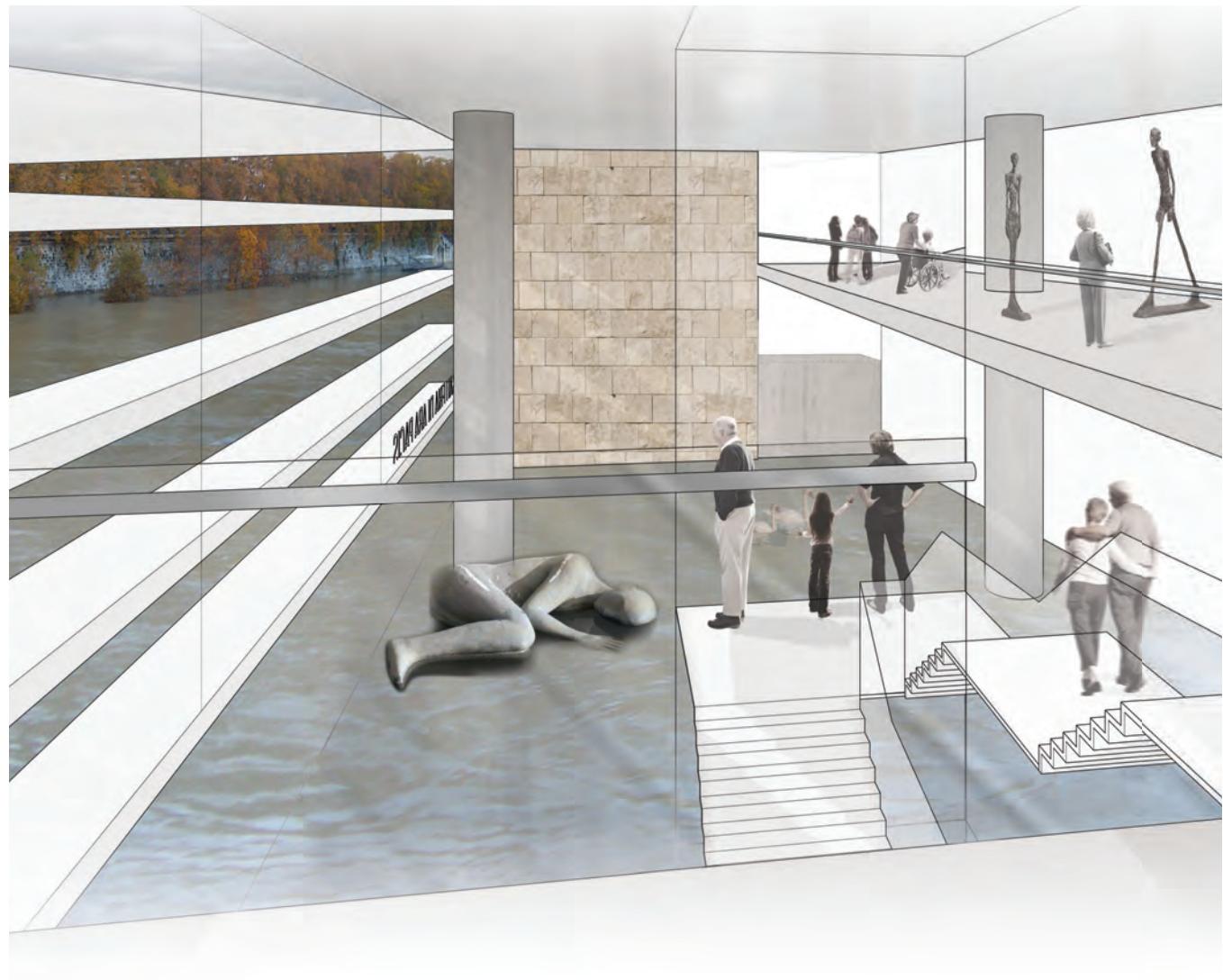


fig. 3.52 The flooded lower level of the Museo dell'Ara Pacis Gallery.

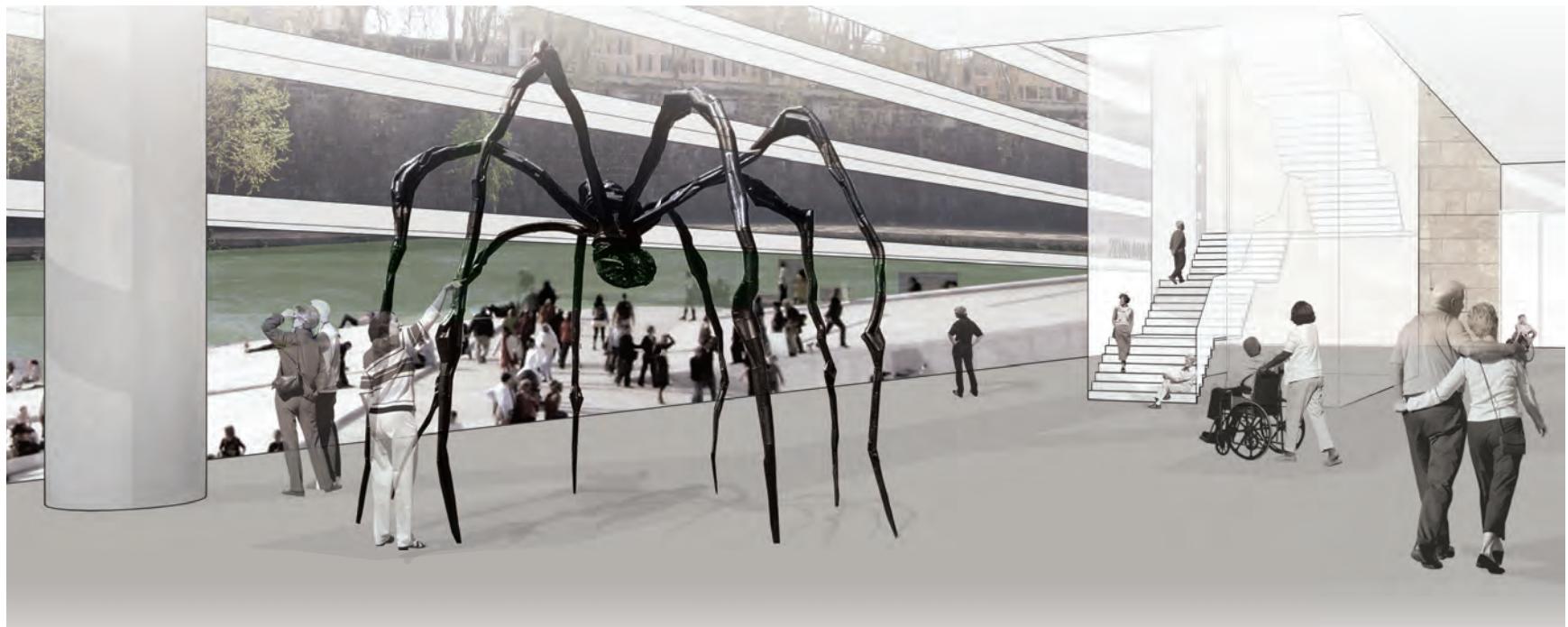


fig. 3.53 The river level of the Museo dell'Ara Pacis and Tiber-level piazza beyond.

RIVER-CITY LINK:

The physical and symbolic idea driving this design proposal is the reconnection of this site to the river. Alluding to the former-Ripetta port, a grand staircase is inserted between Via dei Ripetta and the Tiber's banks. A series of steps, seats, and cascading water reflect the historical section of this site.

The north wall, adjacent to the Ara Pacis' stairs, honours the historic flood levels through a series of '*lapidi*' flood-markers that inscribe the height of the Tiber's inundations. This recording of fluvial history illustrates the drama and power of this river.

The water cascades down the steps and the north wall, collecting in a wading pool located below the now-narrowed Lungotevere. There its image is mirrored by the reflective material that forms the underside of the road above.

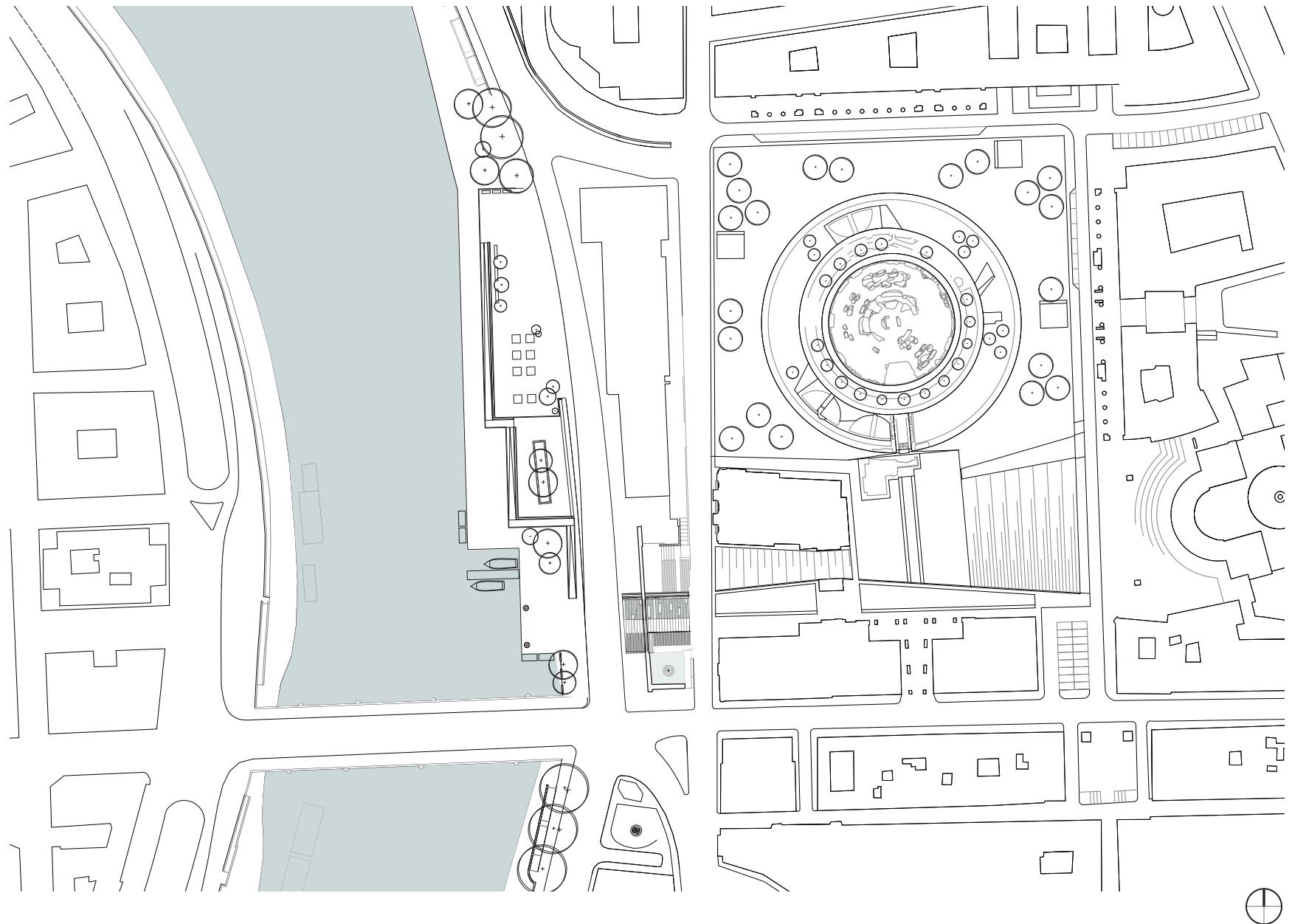
On the south wall of the river-city link, the smooth travertine is inscribed with the history and stories of the river, where you can learn about its untold history and discover the forgotten Rome as you descend to its banks.

At the bottom of the stairs and ramps, is a water-level piazza. Here, shops and cafes can open seasonally along the riverbank, and boats can dock providing additional services. The ground-plane of the public piazza is a shallow-ramped slope that works with the fluctuating water levels, while sporadic cuts in the ground's surface provide impromptu seating for those seeking a place to stop and take in this new Roman landscape.

Located here at the river's edge, there is also a metro stop for the proposed water-based transit system. From these nodes, one can easily travel north and south along the unpopulated river, or seamlessly connect to the city's upgraded public transportation system.

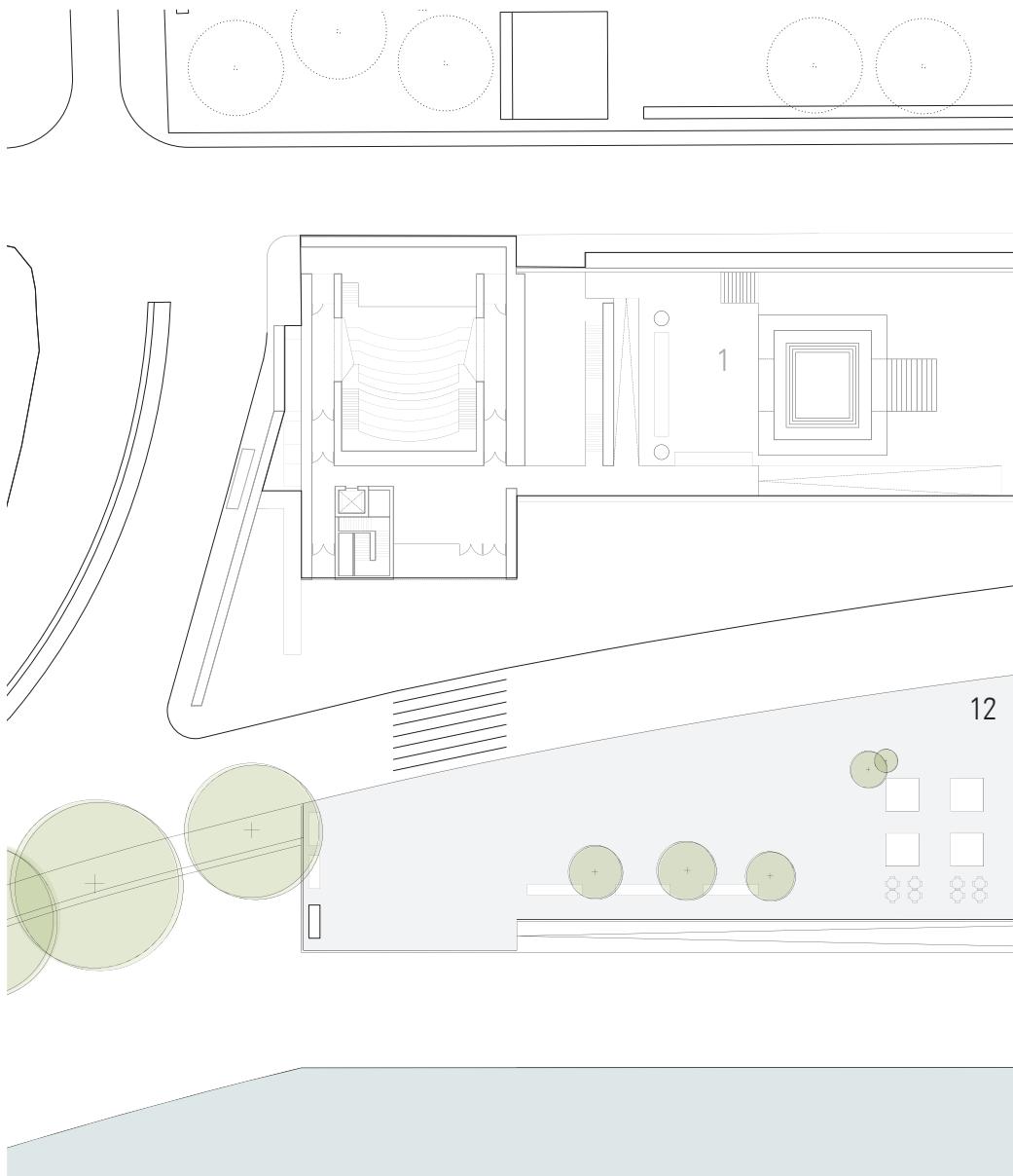
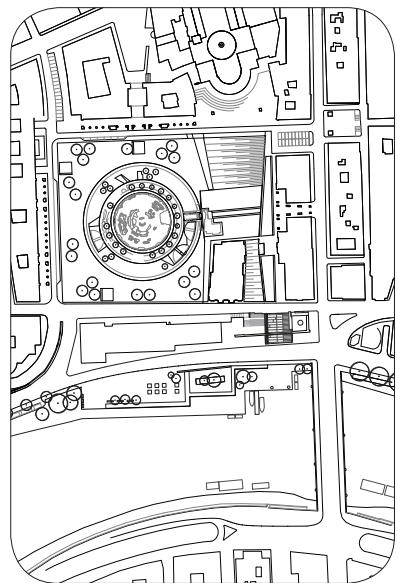


fig. 3.54 River-City Link



REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

- 1 EXISTING MUSEO DELL'ARA PACIS
- 2 EXISTING PIAZZA
- 3 PROPOSED LAPIDI 'FLOODMARK' WALL
- 4 PROPOSED RIVER-CITY LINK
- 5 RELOCATED RIPETTA FOUNTAIN
- 6 PROPOSED LUNGOTEVERE
(REDUCED TO 2 LANES)
- 7 PROPOSED RIVER PIAZZA
- 8 PROPOSED SCULPTURE GARDEN (+13m)
- 9 PROPOSED SUBTERRANEAN
LINK BETWEEN EXISTING
ARA PACIS AND EXPANSION
- 10 PROPOSED GALLERY
- 11 EXPANSION OF THE ARA PACIS
- 12 PROPOSED WATER-BASED TRANSIT
CITY LEVEL PIAZZA



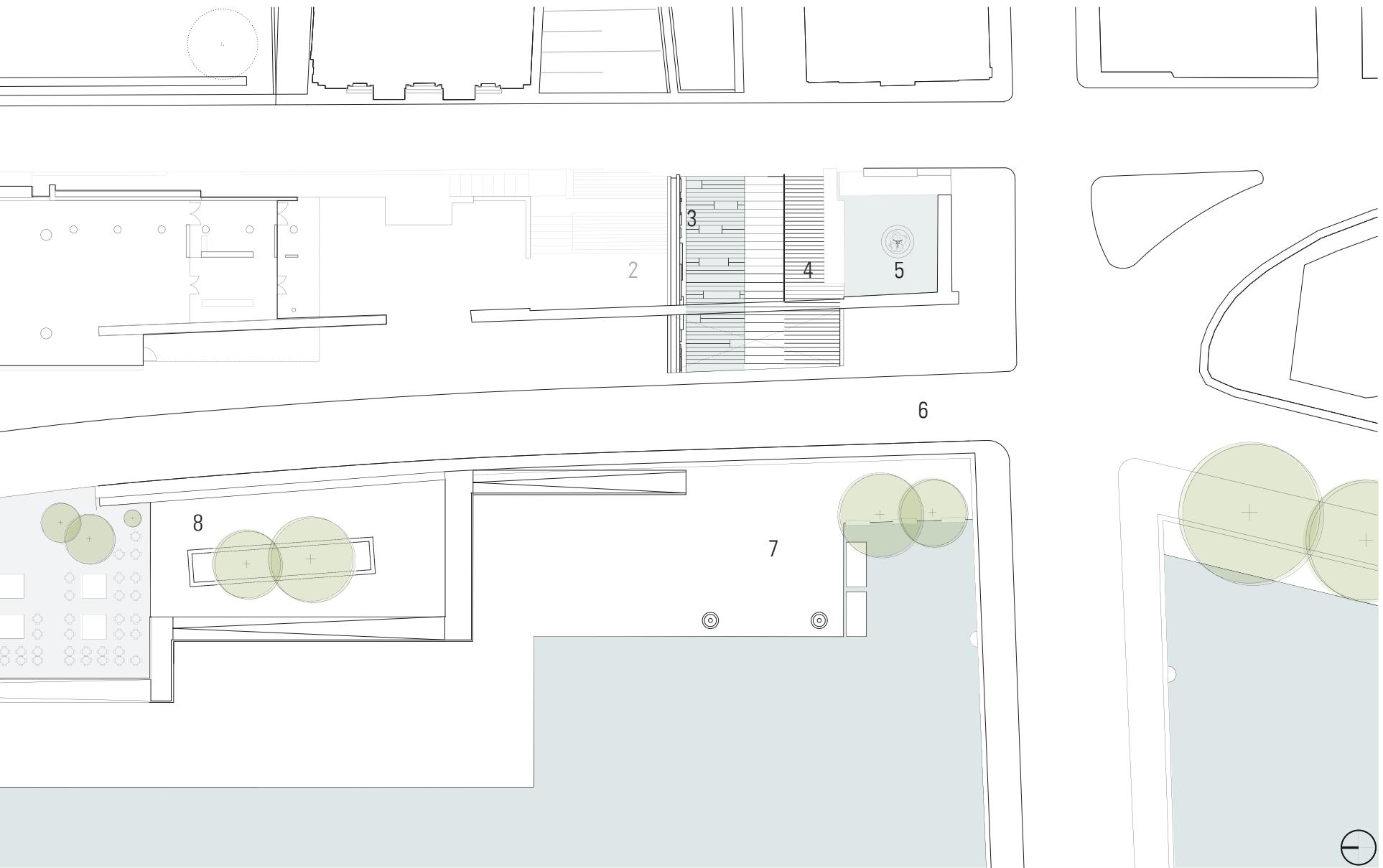
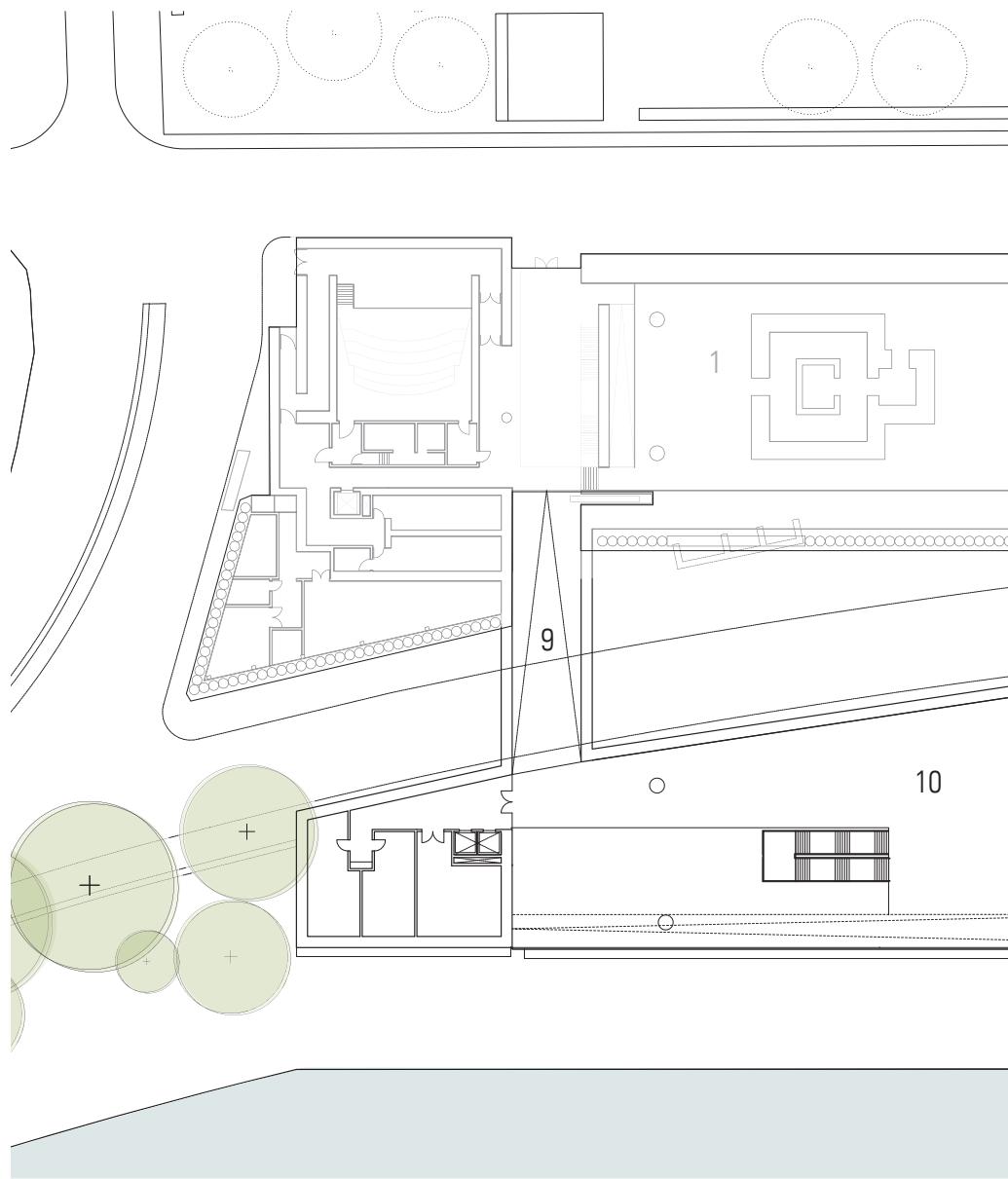
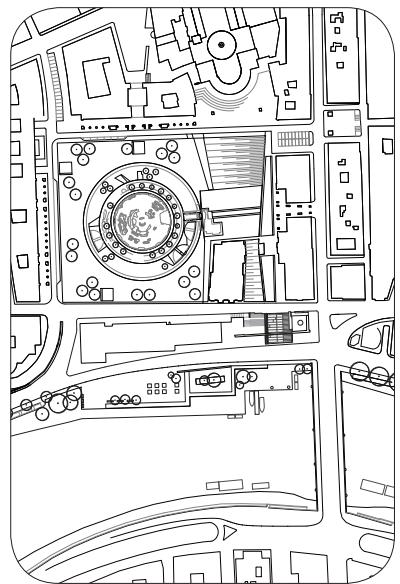


fig. 3.56 Proposed City Level, 1:750

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

- 1 EXISTING MUSEO DELL'ARA PACIS
- 2 EXISTING PIAZZA
- 3 PROPOSED LAPIDI 'FLOODMARK' WALL
- 4 PROPOSED RIVER-CITY LINK
- 5 RELOCATED RIPETTA FOUNTAIN
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(REDUCED TO 2 LANES)
- 7 PROPOSED RIVER PIAZZA
- 8 PROPOSED SCULPTURE GARDEN (+13m)
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LINK BETWEEN EXISTING
ARA PACIS AND EXPANSION
- 10 PROPOSED GALLERY
- 11 EXPANSION OF THE ARA PACIS
- 11 PROPOSED WATER-BASED TRANSIT



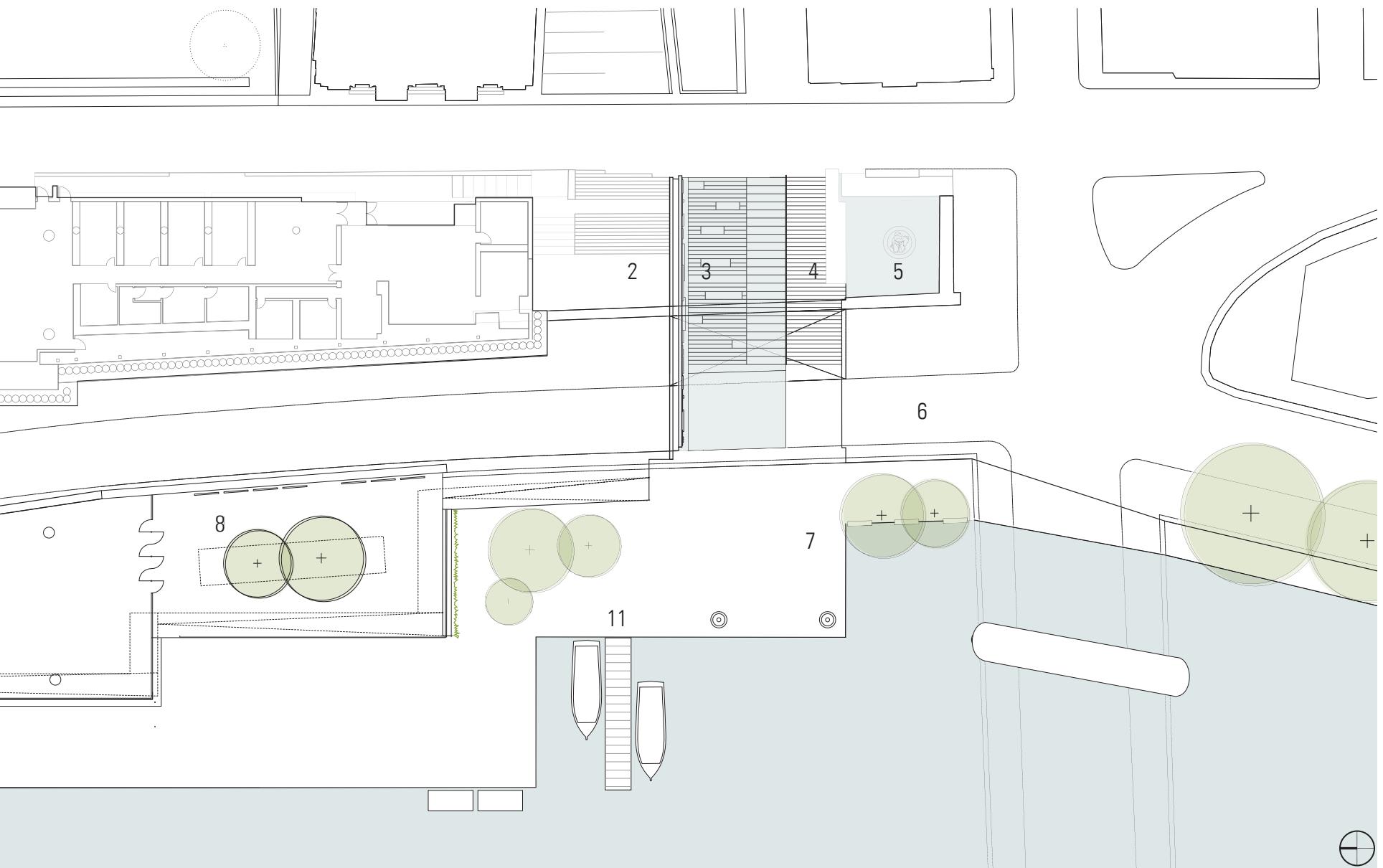
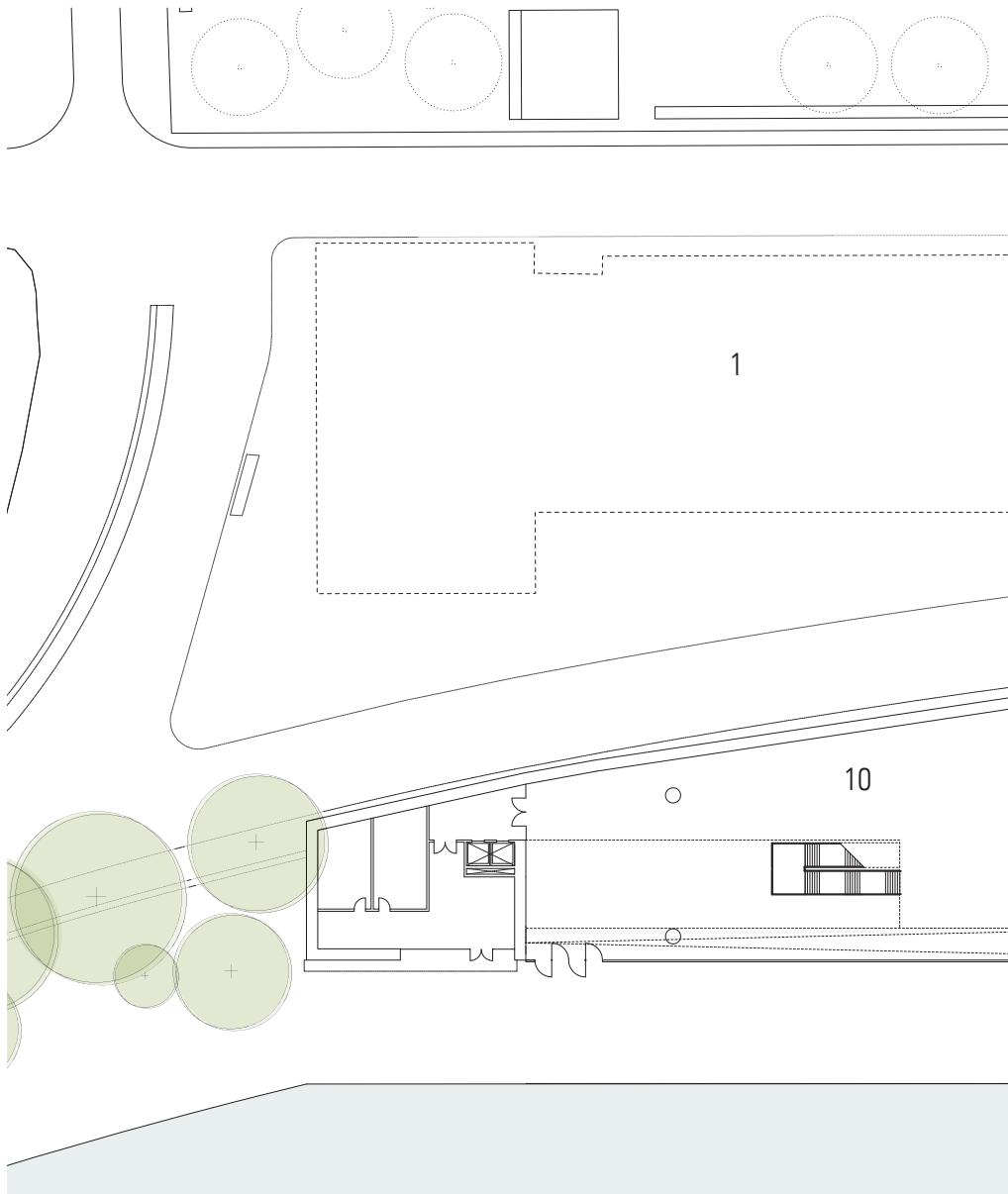
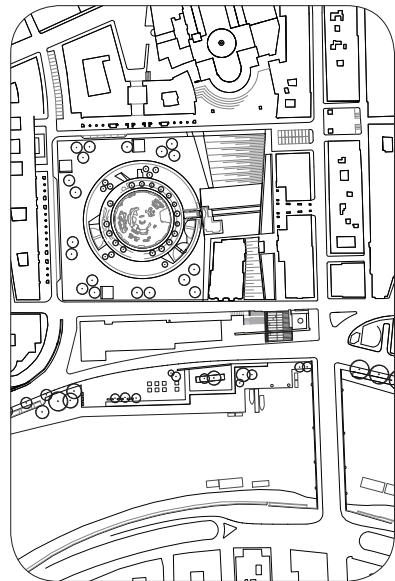


fig. 3.57 Proposed Gallery Link, 1:750

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER

- 1 EXISTING MUSEO DELL'ARA PACIS
- 2 EXISTING PIAZZA
- 3 PROPOSED LAPIDI 'FLOODMARK' WALL
- 4 PROPOSED RIVER-CITY LINK
- 5 RELOCATED RIPETTA FOUNTAIN
- 6 PROPOSED LUNGOTEVERE
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LINK BETWEEN EXISTING
ARA PACIS AND EXPANSION
- 10 PROPOSED GALLERY
- 11 PROPOSED WATER-BASED TRANSIT



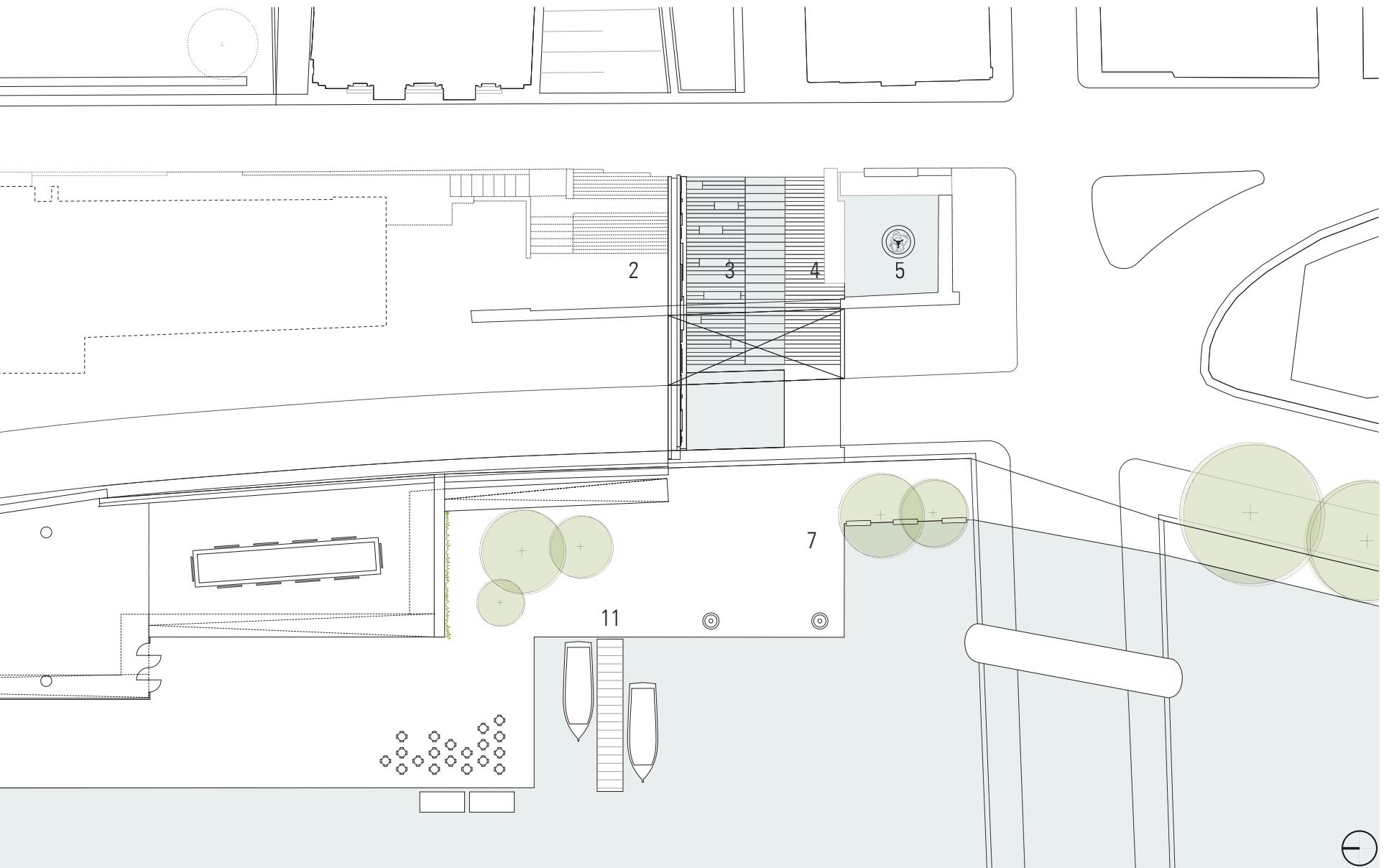
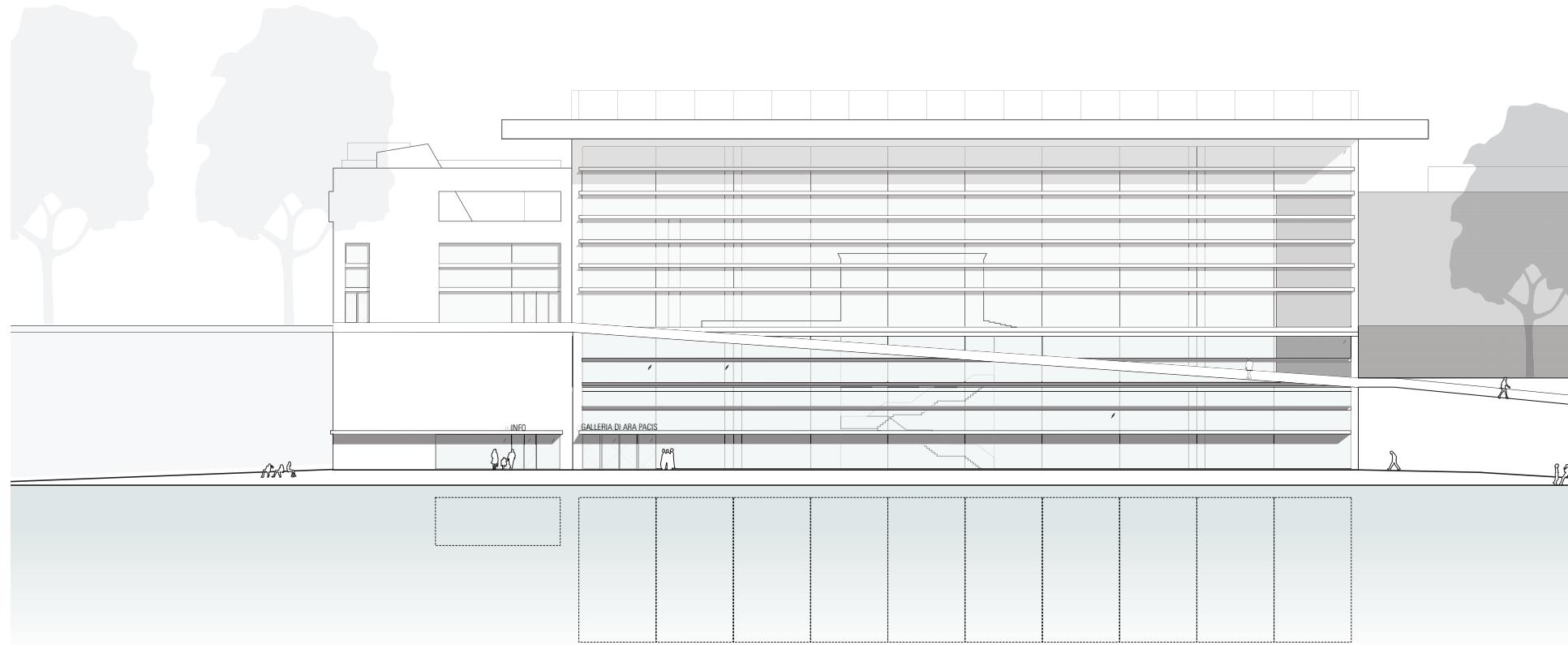


fig. 3.58 Proposed River Level, 1:750

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER



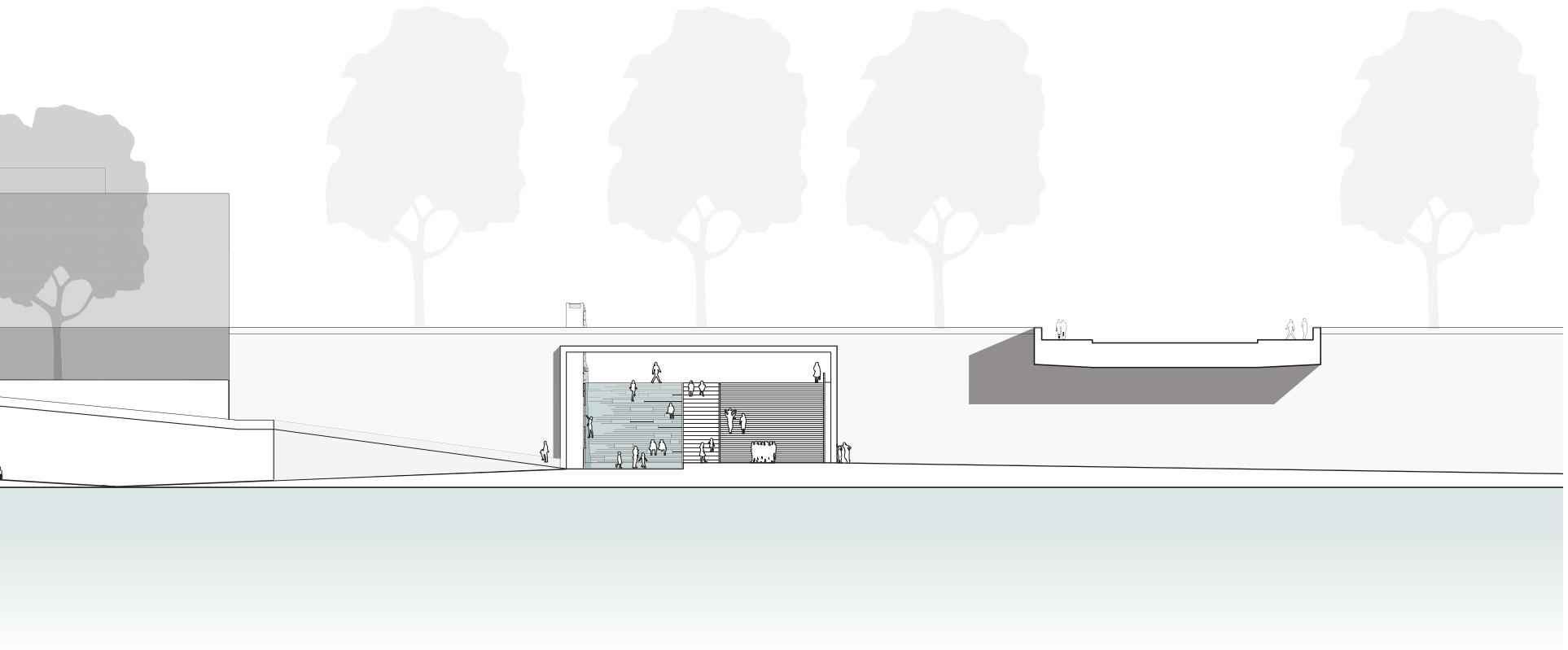
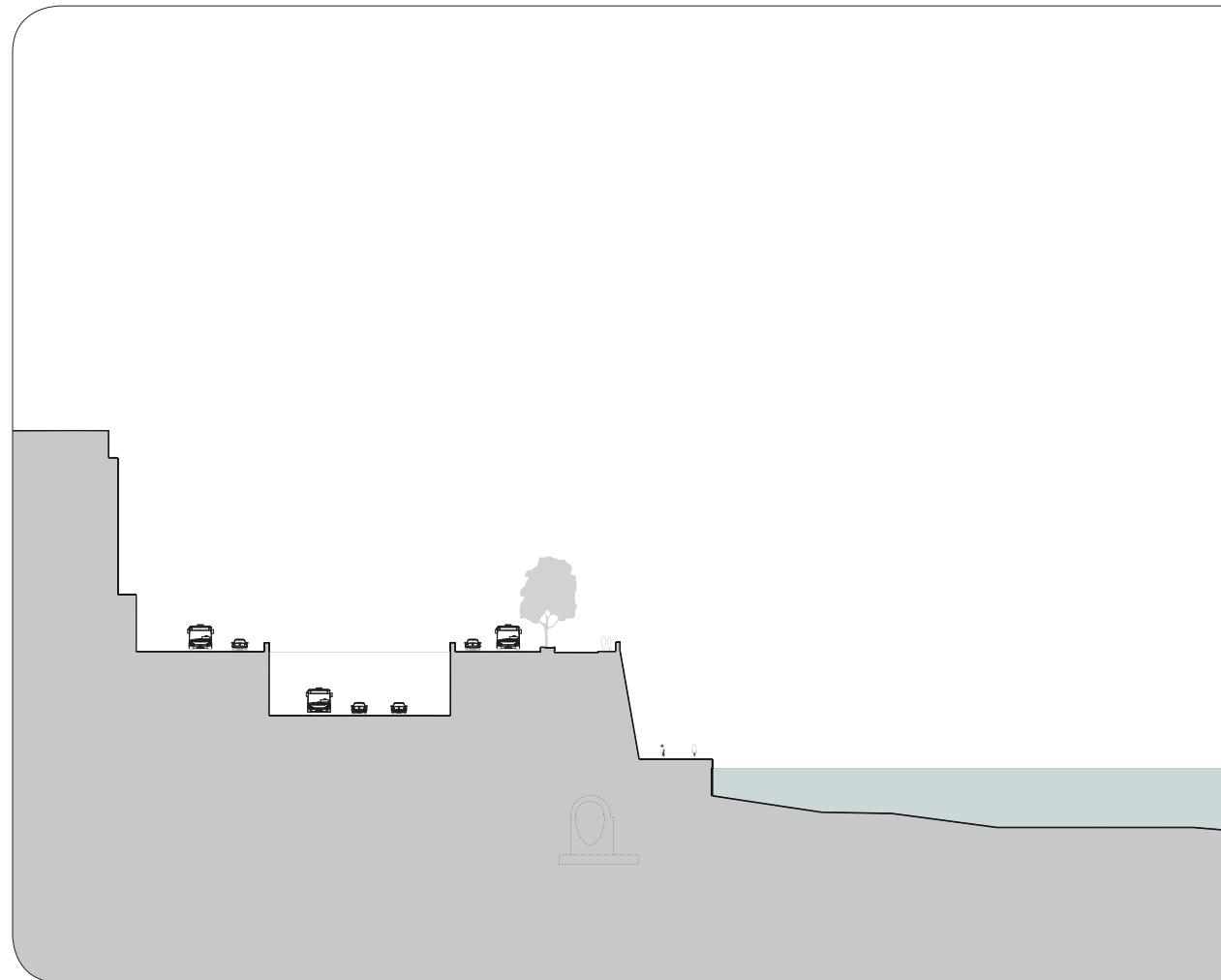
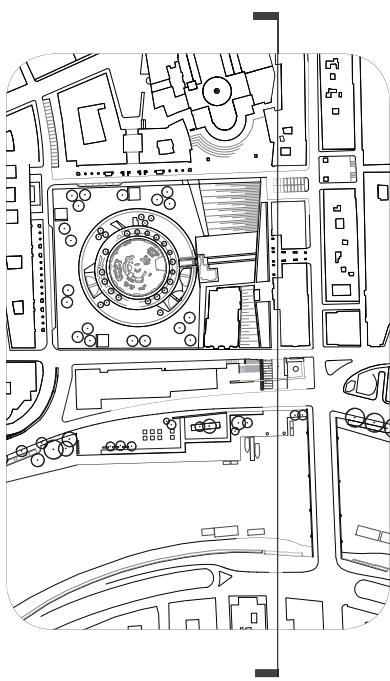


fig. 3.59 Proposed River Elevation, 1:750



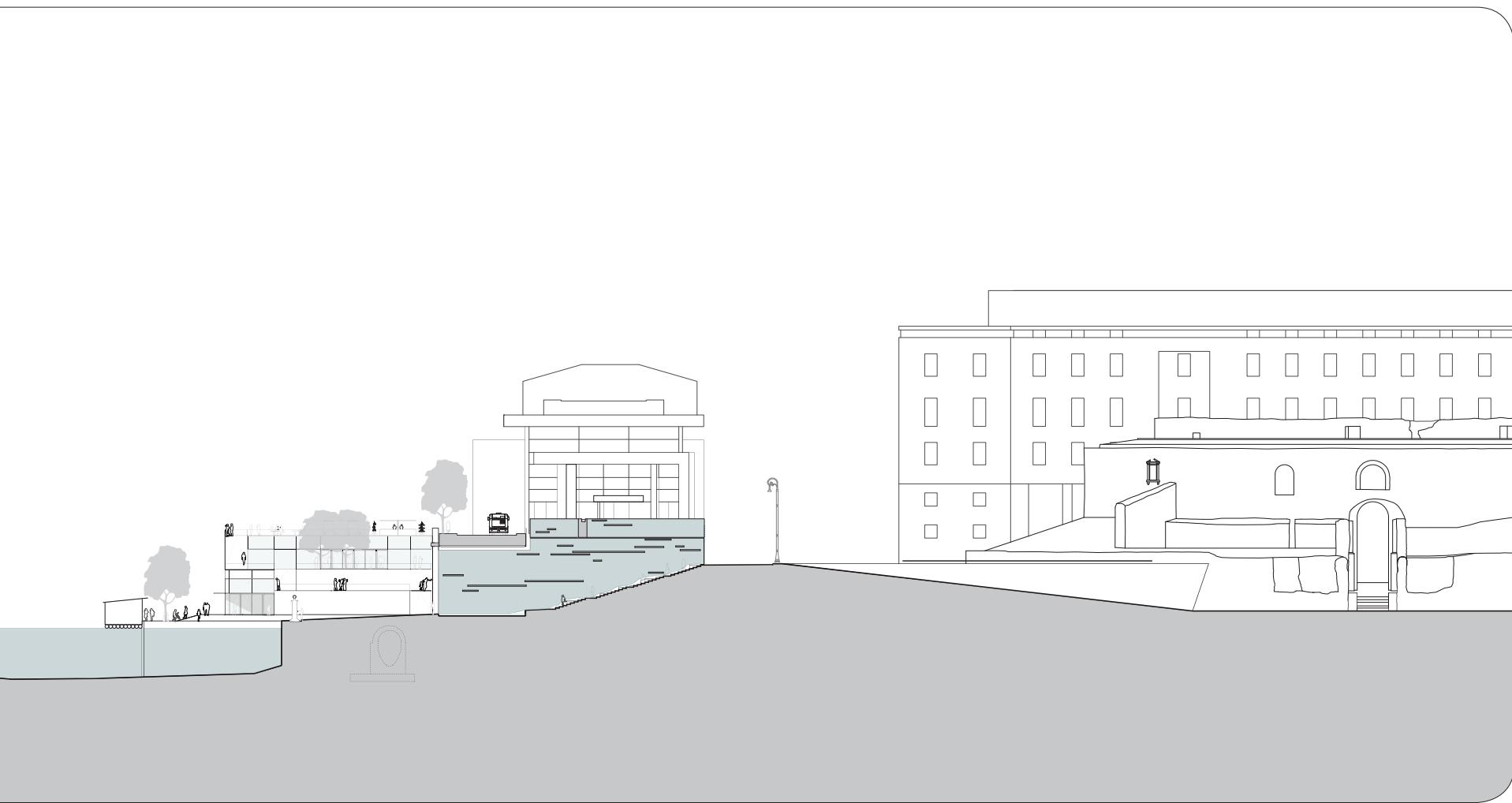


fig. 3.60 Section A, 1:750

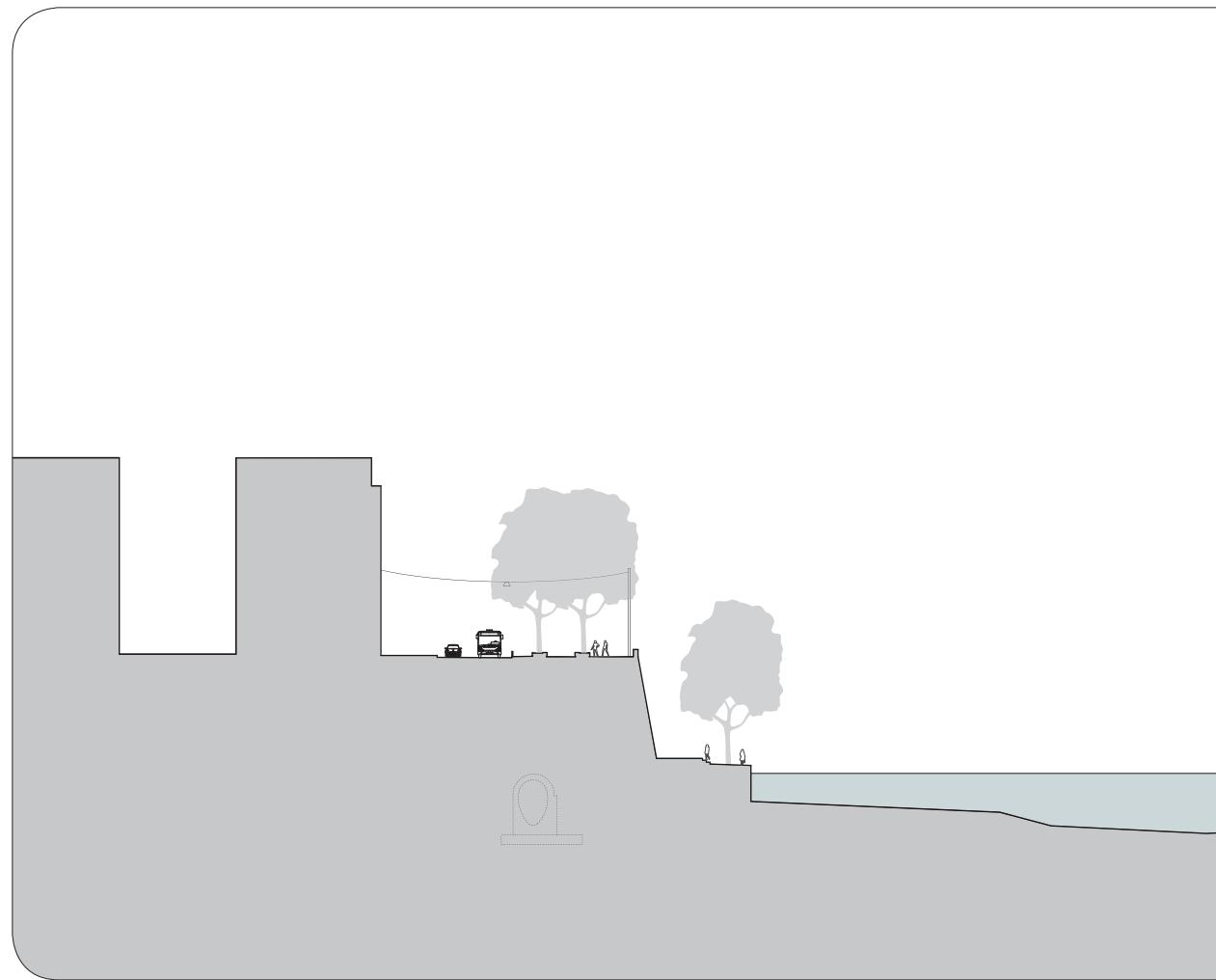
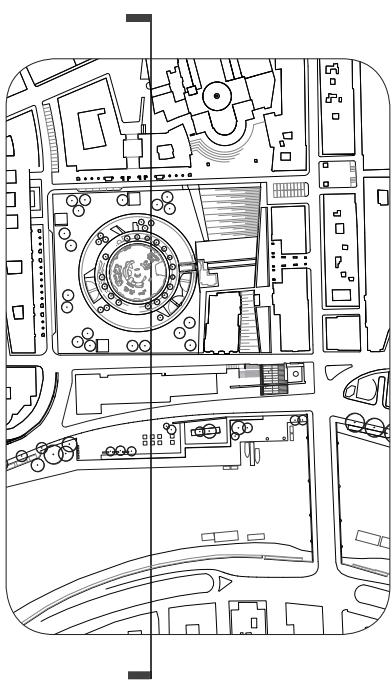
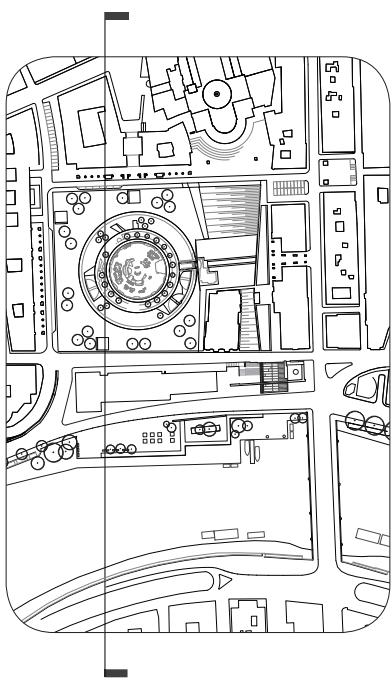




fig. 3.61 Section B, 1:750



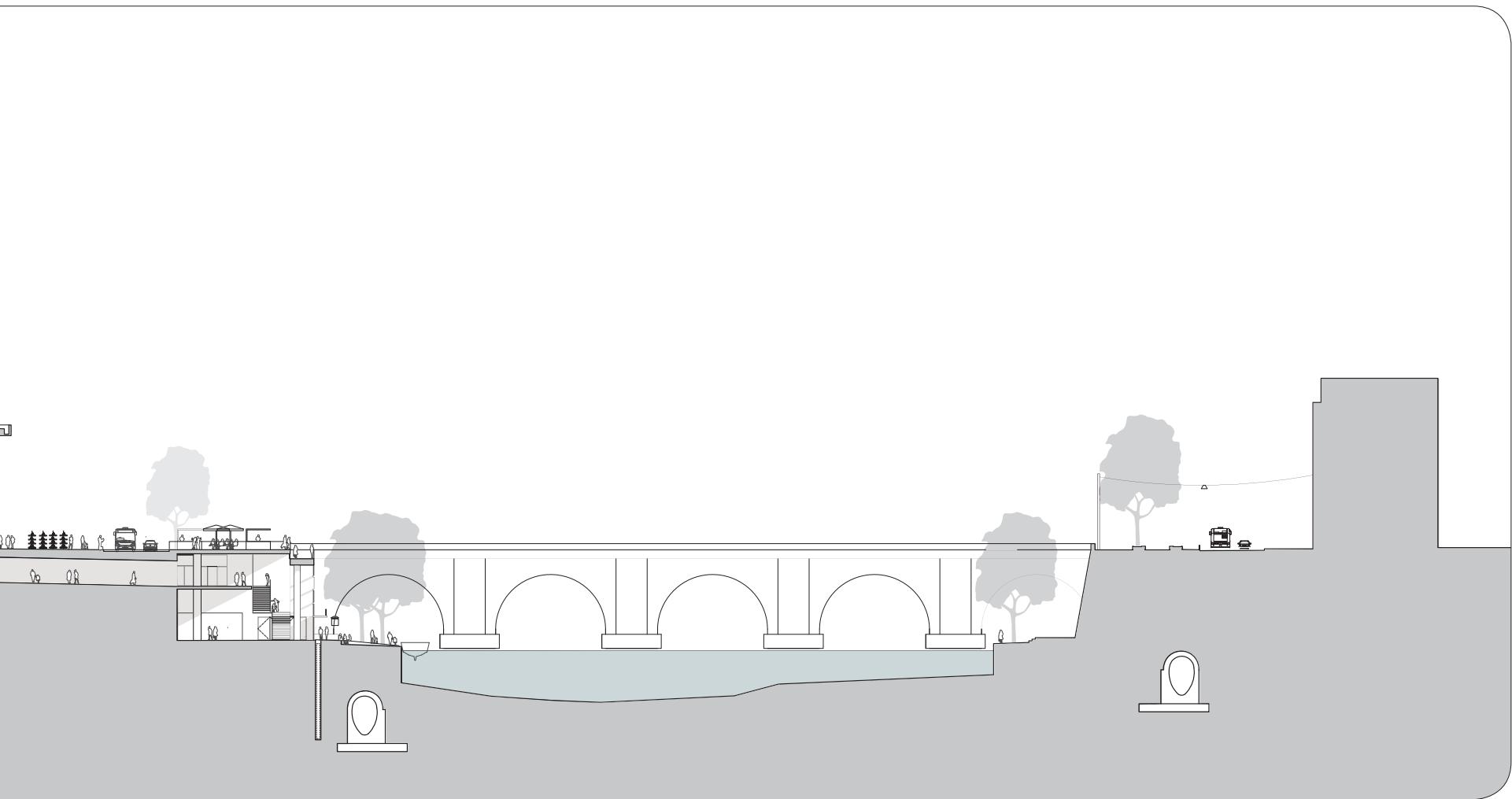
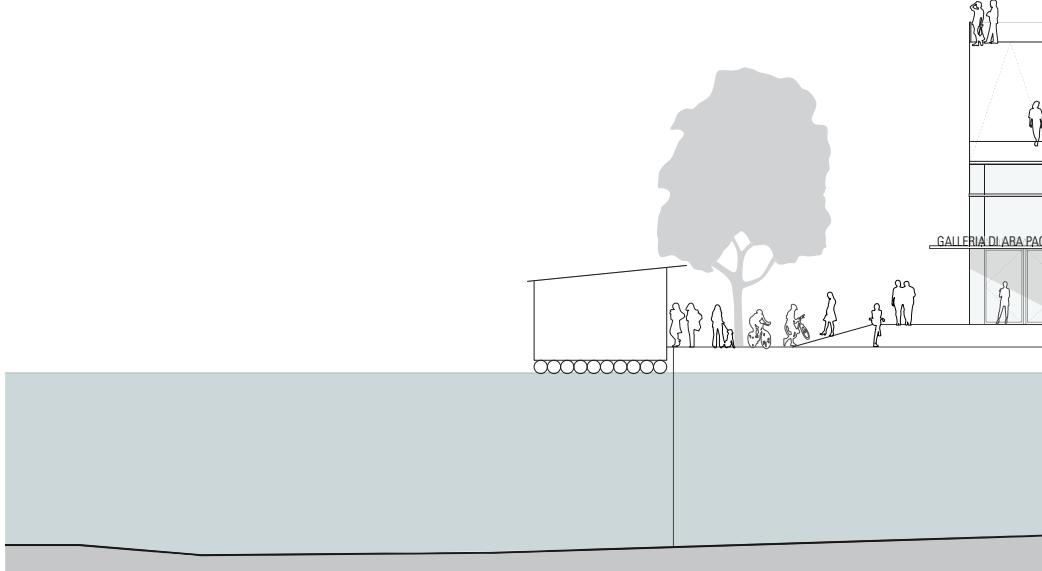
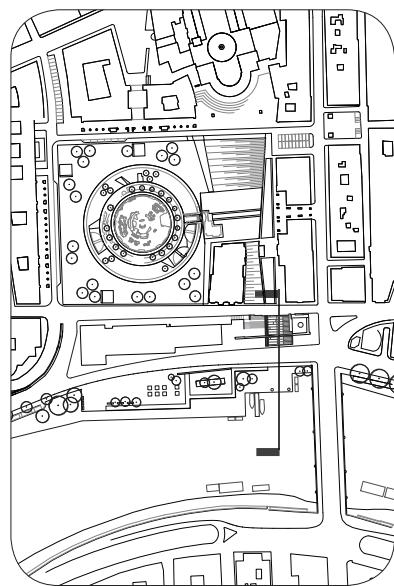


fig. 3.62 Section C, 1:750



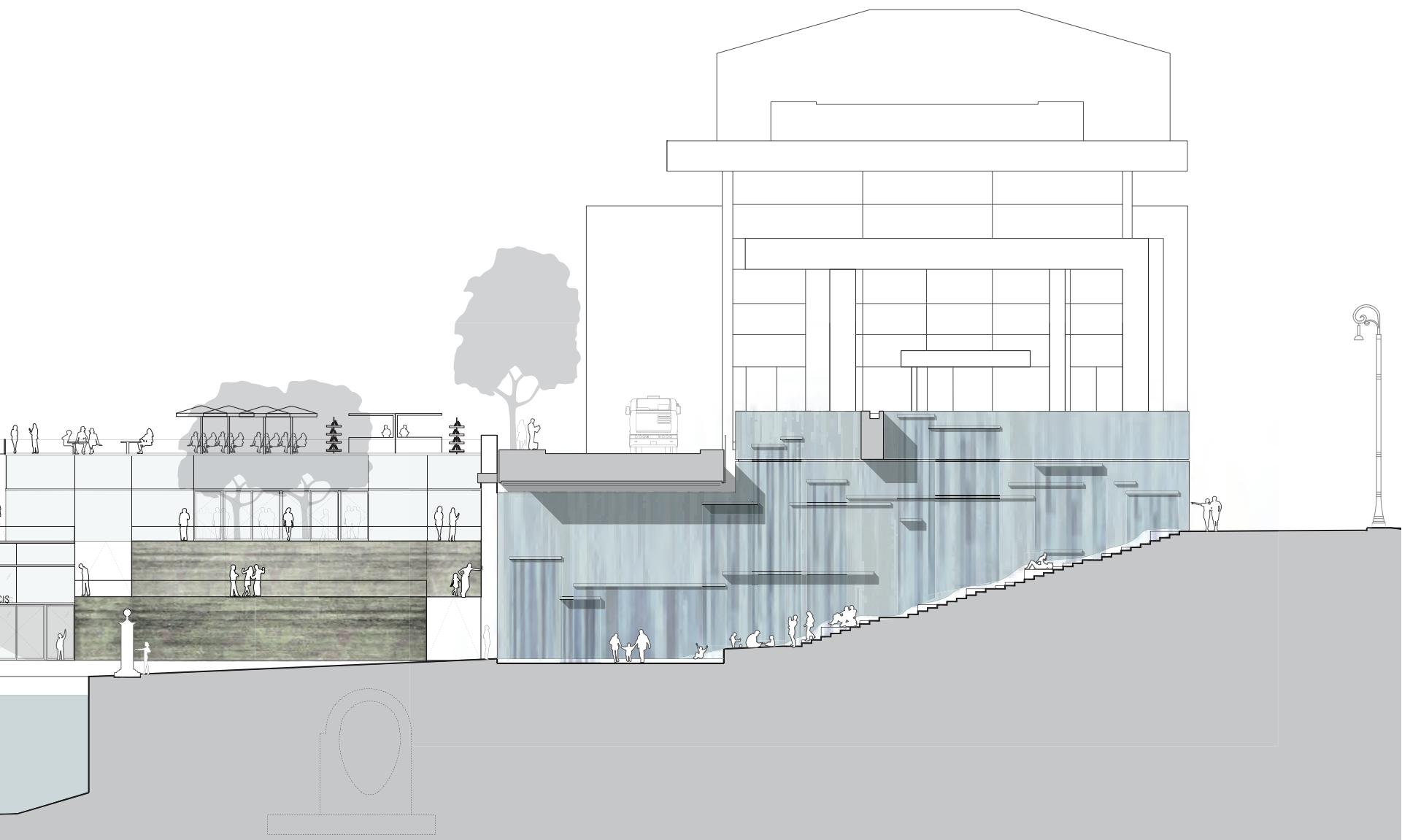
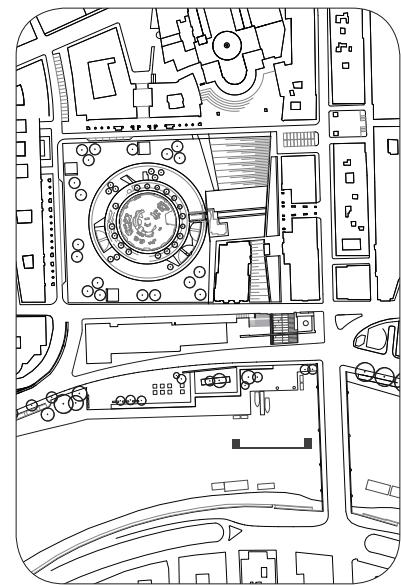


fig. 3.63 Section A Enlarged, 1:250



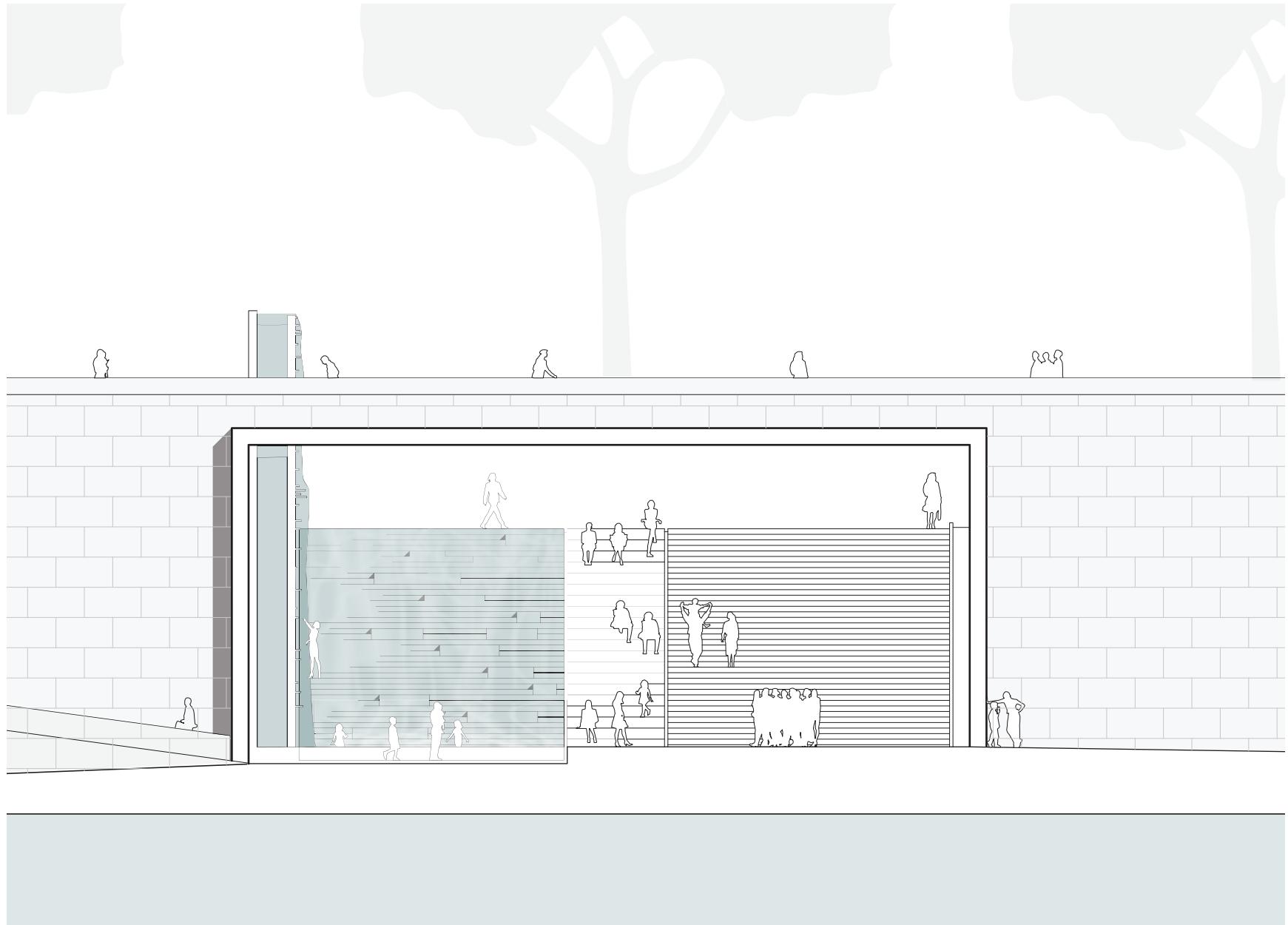




fig. 3.65 Link from Via di Ripetta to the Tiber River

REMEMBERING THE RIVER: THE RETRIEVAL OF ROME'S FORGOTTEN RELATIONSHIP WITH THE TIBER





fig. 3.66 Stairs to the Tiber River and Ara Pacis

REFLECTIONS

For over a century, the city of Rome has been disconnected from its river. This problem can be resolved by rethinking its sectional relationships and exploring the river's role within Rome. This proposed project is the starting point to retrieve Rome's forgotten landscape. This design intervention is a catalyst that begins to introduce a strategy for the river that works with its cyclical nature and allows for both temporary and permanent occupation of the river. It is the starting point for retrieving the forgotten river.

Historical efforts to engineer the river have not only failed, they have also destroyed Rome's connection to its river. Creating a new vision for the Tiber will provide access to the river and take advantage of useable space in order to successfully occupy it. Access is created by increasing visual and symbolic connections, creating a memorable descent to the river's edge, linking the river with key points in the city, and creating destinations along the riverscape.

This design proposal programmes the river in a way that anticipates the rhythm of the seasons, and with multiple layers of programme the river can be used for social, cultural, and leisure activities at all times of the day, and year.

At the Porto di Ripetta site, Romans and tourists can interact and connect with the river in multiple ways: the continuous promenade along lower and upper riverbanks encourages

pedestrian activity, while a new stair and ramp introduces a new axis providing a connection to the piazza above, and the water below. The river is also a beautiful backdrop to the gallery built into the site. The various gallery levels provide uniquely framed views and experiences of the water to Romans that do not currently exist anywhere in the city.

This thesis has explored the Tiber River as a strategic belt on both a city-scale and site-scale in order to reconcile the forgotten river with its city. Initial steps toward this reconciliation must address some major problems Rome is currently facing. In order to relieve vehicular congestion, the Lungotevere must become more efficient and the city must invest in its public transportation, including a water-based expansion of its transportation system along the Tiber River. Protection and enhancement of the natural ecological system is also important to the success of the riverscape.

Looking forward, further programming could include the increase of cultural and athletic activities on the left and right banks respectively. These nodal points would stimulate development that supports activities such as venues for music and art, resources and amenities for athletes, linking the river to Rome's historical sites and artifacts. And, finally, the new landscape allows for the creation of a stronger contemporary identity for the city, without compromising its rich historical fabric.



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APPENDIX

THE COMMISSION OF 1871

In an attempt to counteract the international embarrassment of the ‘Great Flood of 1870’, a commission was formed on the first day of the new year, and was known as, ‘*The Commission of 1871*’. (Courtenay 2003, 53) This commission, formed by the new Italian State, and the City of Rome, was charged “to study and propose means of rendering the floods of the Tiber innocuous to the city of Rome.” (Possenti 1871) The commission was made up of several politicians and engineersⁱ, as well as a member of the architecture and arts committee, a public health inspector, and was lead by a hydrological engineer, Raffaele Canevari. “While flood mitigation was the primary concern, the make-up of the committee reflects parallel agendas and priorities within the embankment project. The city beautification agenda and the concern for modernized public sanitation is clear” in the inclusion of the selected members. (Courtenay 2003, 53) The commission was also comprised of government members from both the city, and the new national government; this clearly indicated that “the project was beyond the material and economic capabilities of the city, and this also had political importance beyond the walls of city hall.” (Courtenay 2003, 53)

Each project submitted to the commission proposed the *final* solution, and permanent end, to Rome’s flooding problem, while creating a cleaner



fig. 4.1 Map of the pre-embanked Tiber River, 1830.
Before the flood walls were constructed, few bridges crossed the irregular river.

ⁱ The Commission of 1871 included eleven appointed members: Possenti, senator of the new state and vice president of public works in the city; Davincini, a parliamentary deputy; Turazza, an engineering professor from Padua; Armellini, a civil engineer of the state; Glori, an engineer of the city; Tatti, a civil engineer; Partini, a civil engineer; Castellini, a civil engineer; Betocchi, member of the Rome architecture and arts committee; Barilari, a public health inspector; and finally, Canevari, the head hydrological engineer. (Courtenay 2003, 53)

environment and “more scenic riverfront”. (Courtenay 2003, 47) The majority of the proposals submitted were not dramatically new; instead, they were resurrections of former spateⁱⁱ controlling proposals. (Courtenay 2003, 47) Strategies for taming the Tiber included: the regularization of the riverbanks, the construction of various types of embankment walls, the digging of overflow canals, the straightening of the river’s curves, the building of dams or a series of dams upstream of Rome, the diversion of the river’s tributaries, the diversion of the river itself, the excavation of a large port within the city boundaries, and the increase of the depth and width of the riverbed. (Aldrete 2007, 249)ⁱⁱⁱ

ii Spate - a sudden flood in a river, typically caused by heavy rainfall or melting snow. [Chiefly British] (Oxford Dictionary of English)

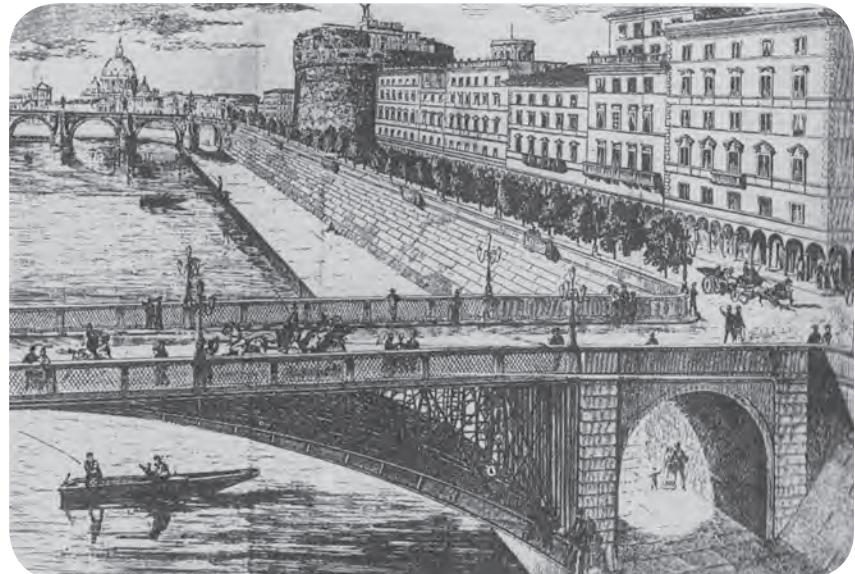
iii Designs offered and debated during the first half of the 1870s included: Vescovati's design for the embankment of the Tiber's urban corridor; Baccarini's plan for construction of branching canals to alleviate rising flood levels; Garibaldi's plan diverting Tiber through the Aniene to the east; Rullier's & Zucchelli's plan for a straight bed through Prati; Tomei's support for the development of a large reservoir within the watershed to control flow; Giordano's strategy for a series of small reservoirs and dams throughout the Tiber basin. (Courtenay 2003, 47)

FINAL SOLUTION PROPOSALS

"A new political, scientific and social momentum born during this period led to a host of proposals in the 1870s for liberating Rome from its problematic relationship with the river." (Courtenay 2003, 47) In the wake of this global embarrassment, it was decided that there must be a swift, and final solution to permanently solve the continual ruinous floods.



AMADEI & GARIBALDI: proposed to divert the course of the Tiber River to the southern edge of Rome. (Bocquet 2007, plate 5)



VESCOVALI: proposed to embank the river with stone walls set at 45-degree angles from Ponte Milvio to Ponte Industria, much like Canevari's proposal. He aimed to create a grand axis through the city with large avenues flanked by arcaded porticos that faced the river, and to construct sewers along the perimeter of the Tiber. (Courtenay 2003, 48)

fig. 4.2 Amadei & Garibaldi's Proposal

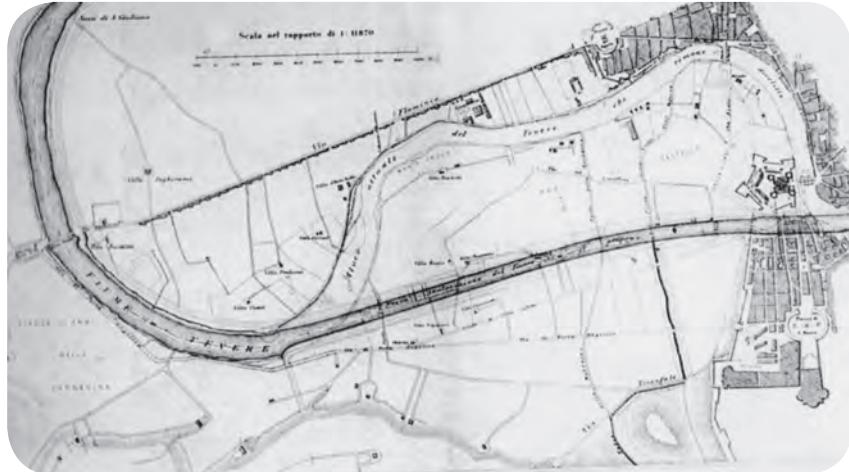
fig. 4.3 Vescovali's Proposal

fig. 4.4 Rullier's Proposal

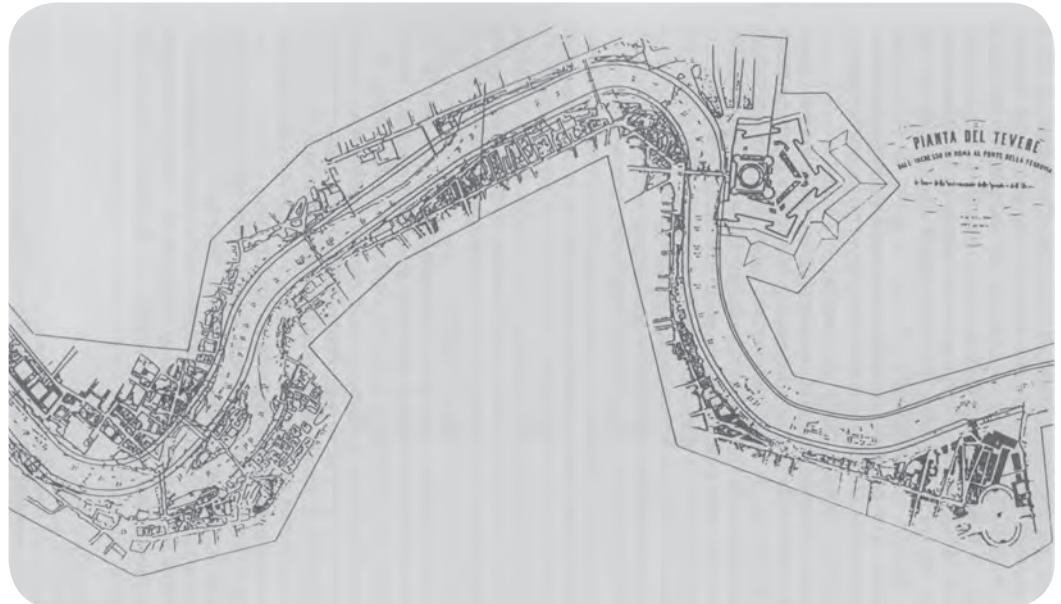
fig. 4.5 Zucchelli's Proposal



RULLIER: proposed a linear new riverbed to be constructed along the west edge of the city and the construction of a new river port. His aim was to make the Tiber into a vital shipping area – and Rome into a primary marine city. (Courtenay 2003, 50)



ZUCCHELLI: also proposed to construct a new riverbed to be constructed along the west edge of the city, passing through Prati and west of Castel Sant'Angelo before rejoining the river's natural course. (Courtenay 2003, 50)



CANEVARI: "Perhaps not surprisingly, in the end, the commission settled on one of the simplest and least expensive plans. Its author was Raffaele Canevari, a hydrological engineer and, most significantly, a member of the commission itself." (Aldrete 2007, 249) Canevari proposed that the Tiber be enclosed with a near-vertical embankment wall that ran the entire course of the river within the city. He suggested the walls be spaced at precisely one hundred meters, and any obstructions within the walls be removed – including Tiber Island and Ponte Rotto. His proposal also included that the excavation required to construct the walls would enable the ancient sewer system to be upgraded. Above these new sewers, he suggested implementing wide boulevards where traffic could efficiently travel through the centre of Rome. (Aldrete 2007, 249-250)

fig. 4.6 Canevari's Proposal

The public opinion seemed to be in favour of the full, or at least partial, deviation of the Tiber rather than a river embankment (Courtenay 2003, 51), but ultimately the river's destiny was a political decision. (Courtenay 2003, 52) The commission, perhaps persuaded by Canevari, deemed this overly expensive and unnecessarily difficult; a project that was beyond the expertise of the Italian state; and after all, this was to be *the great Italian infrastructural project*. In order for Rome to project the image of a proud European capital, it was imperative that her architecture and infrastructure reflect her newly acquired status. Rome followed the river precedents of her fellow European rivals, London and Parisⁱ, and like them, sought to canalize her temperamental river. By taming the Tiber's unruly waters, Rome could be considered a great 19th century capital city. (Courtenay 2003, 52)

In December of the following year, *The Commission of 1871* produced several publications, and a large atlas all proving that the construction of the river embankments, as proposed by the commission's own leader, Raffaele Canevari, was indeed the best method of protecting the city from its volatile river. (Courtenay 2003, 54) And, "over the next 20 years this project became perhaps the most significant urban developments within the city, a test of the engineering and prowess, financial fortitude and political willpower of the new *Roma Capitale*." (Courtenay 2003, 54)

ⁱ Romans followed the Parisian model of a city with broad boulevards, public monuments, and an embanked river when seeking to modernize the Italian capital. (Aldrete 2007, 248)

Although Rome is now 'embracing' modern architecture, with the exception of the Museo Dell'Ara Pacis, the embracing of it has been limited to its peripheries. Major constructions such as the MAXXI Gallery, and the Auditorium Parco Della Musica have been located in the northern-most district of Rome. Although this is the logical placement for new venues to avoid the lack of land available and the implications of construction in the historic core, one begins to wonder, where and how you could built within the historic cityscape without drastically altering the character of it.

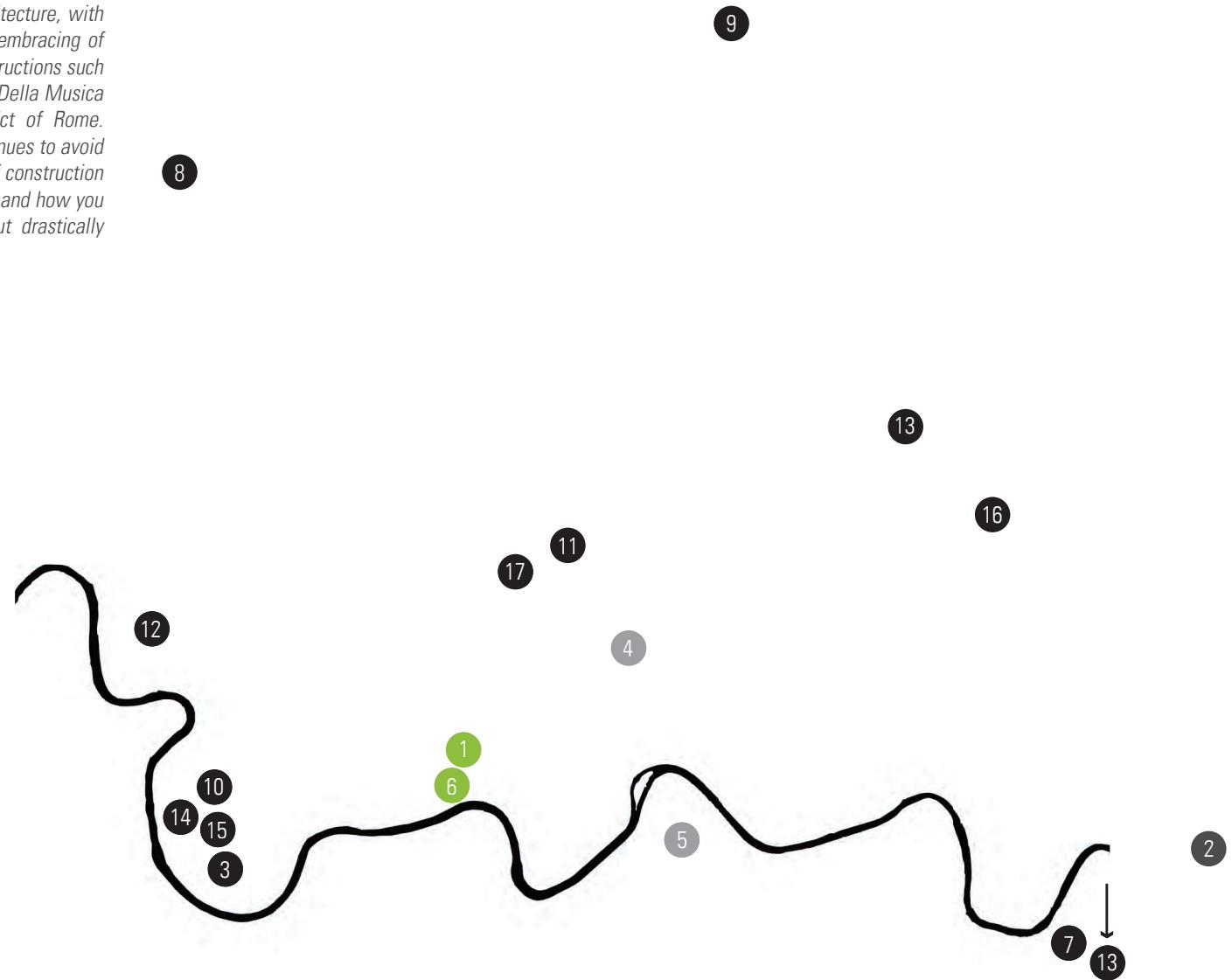


fig. 4.7 Modern architecture projects in Rome.

MAP OF MODERN ROME

UNDER CONSTRUCTION

- 1 MAUSOLEUM OF AUGUSTUS, Park | Architect: Francesco Cellini
 - 2 NEW CONGRESS HALL ('La Nuova Convention Centre' or 'The Cloud') | Architect: Massimiliano Fuksas / (Kiser 2004)
 - 2009**
 - 3 MAXXI NATIONAL MUSEUM OF THE XXI CENTURY ARTS, Modern Art Gallery | Architect: Zaha Hadid
 - 2008**
 - 4 TRAJAN'S MARKET, Museum [Renovation]
 - 2006**
 - 5 PIAZZA SAN COSIMATO, Market & Public Piazza [Renovation] | Architect: Lorenzo Pignatti
 - 6 MUSEO DELL'ARA PACIS, Museum | Architect: Richard Meier
 - 7 SANTO VOLTO DI GESÙ, Church | Architect: Sartogo Architetti Associati
 - 2004**
 - 8 TOR VERGATA LABORATORIES, Laboratory | Architect: Ian+
 - 2003**
 - 9 JUBILEE CHURCH (also referred as the 'Dio Padre Misericordioso') | Architect: Richard Meier
 - 2002**
 - 10 AUDITORIUM PARCO DELLA MUSICA, Concert Hall | Architect: Renzo Piano
 - RADISSON SAS ES, Hotel | Architect: King Roselli Architett
 - 1995**
 - 11 MOSQUE AND ISLAMIC CULTURE CENTRE, Mosque | Architect: Paolo Portoghesi
 - 1972**
 - 12 CORVIALE, Housing, (1972-1974 & 1975-1982) | Architects: Mario Fiorentino, F. Gorio, P.M. Lugli, G. Sterbini, M. Valori & others. / (Sherwood 2002)
 - 1962**
 - 13 OLYMPIC VILLAGE 1960, Mixed Use Development | Architect: Luigi Moretti
 - 1957**
 - 14 PALAZZETTO DELLO SPORTO, Sports Venue | Architect: Pier Luigi Nervi
 - 1952**
 - 15 MONUMENT OF FOSSE ARDEATINE, Monument | Architect: Giuseppe Perugini
 - 1950**
 - 16 TERMINI TRAIN STATION, Transit Station | Architects: Angelo Mazzoni, Montuori, and Vitellozzi
 - 17 IL GIRASOLE, (The Sunflower House), Housing | Architect: Luigi Moretti
- (source: <http://www.mimoa.eu/browse/projects/Italy/Rome/>)

During the M1 field trip flight from Palermo to Barcelona I came across an article written for the Clickair's (now Vueling) complementary airline magazine, Ling. This article called 'The Godly Stench of the Quai Aux Fleurs' forever changed how I saw rivers. Although this one page piece of writing was about the River Seine, my mind instantly reflected my memories of the Tiber's unique sights and smells, something I, unlike most, was lucky to remember.

THE GODLY STENCH OF THE QUAI AUX FLEURS

An olfactory exploration by Adam Biles

On the Quai aux Fleurs, where the river wall cuts away, two sets of steps drop towards the Seine and upon reaching it continue under. The steps form a small harbour into which the water fans and bulges, as though commanded by some power beneath the surface, before heaving itself back into the river's westward flow. Most visitors don't make it as far as the water, and the bottom steps have become an oasis for the lone wolf. As a rule, the sitter here is left undisturbed, the noise of the city a distant muffle above. I come for this tranquillity. I also come for the smell.

On a day of high tides and low winds, when the sky is an even marble grey and the water bottle-green, waiting here can at first feel desolate, as if waiting by the Styx for Charon to spirit you across. At length, however, the smell arrives, or rather you arrive to the smell, for it was there all along waiting for you. It is not a sweet smell, but neither is it repellent. To say so is like rejecting the colours of the spectrum because you can't stand the glare of white light. It's just an unruly scent of many strands, not all of which can be unravelled and not one of which can be said to hold the key to the others. There are acrid strands – oil and effluent, a reminder that this is a working river – but also hints of the organic, of the flora and dogged fauna that call the river home and, still more subtle, of the Burgundy soil from which the water springs. It's a smell that clears the nostrils and sharpens the nose, just like certain tastes sharpen the palette.

The smell changes with time. One day you may be struck by its alcoholic, almost medicinal tang, on another by something like damp leather. On yet another you might swear that you can actually smell the fish that drift listlessly just below the surface, the shape of fat bullets.

Why though, with all the perfumeries and 'boulangeries' in town awash with artfully seductive odours, would anyone seek this one out? For the pleasure? No, not quite. One morning several miles west, on the Allée des Cygnes, it was put to me like this: "That place smells like God would smell after a night in the dives of Pigalle." No matter that the breath of this unknown chatterer was spiced with hard liquor, for how right he was. Dragged down and dirty, of course, but holy too – for

The smell changes with time. One day you may be struck by its alcoholic, almost medicinal tang, on another by something like damp leather. On yet another you might swear that you can actually smell the fish that drift listlessly just below the surface

up through the industrial grime rises the irrepressible scent of Mother Earth, obstinately living!

I discovered the Quai aux Fleurs several years ago, shortly after arriving in Paris, and returned often. Once, descending the steps, I caught sight of something in the water. A battered armchair turning around and about in the current and, perched on its spinning apex, an angry, somewhat dizzy, but determined-looking gull. Watching it spiral away, I smiled. Like a peppercorn floating in a bowl of soup, here was a concentration of the difficult mix of flavours that made up the river: the natural, the man-made, the breathtakingly elegant and the dizzyingly absurd. The intangible, contradictory aroma of an intangible, contradictory city. For the smell of this river, more than any other, is for me the smell of Paris. The one smell that is truly of the city. The smell of nowhere else but here.

ADAM BILES is Paris correspondent for Ling. A collection of fiction and poetry featuring his work, *The Place In Which We Find Ourselves*, was published last year. It is available in Europe from Shakespeare & Company, Paris, and online at www.findourselves.com

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