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## Amos Rex Museum

### Write-up

#### Introduction

Amos Rex is a museum situated in the heart of Finland's capital city of Helsinki. The museum project by JKMM architects consisted of large gallery addition with a subtle restoration of the existing building. Helsinki is Finland's most southern city as it is situated on the shores of the Baltic Sea. The inland portion of Helsinki is the region of Kamppi, which is known for its density of shopping, tourism, historic architecture, and pedestrian-centred design. The region is known as the centre of Finland's urban culture as its plazas and buildings offer ideal venues for artists and festivals. The Amos Rex Museum adds to this urban typology with a unique urban space. This case study on the Amos Rex Museum will unpack how JKMM approached the design and integration of this project into the existing urban landscape through three sections with an associated diagram: History & Place, Urban Presents & Construction & Materials. History & Place will cover the history of Helsinki and the Kampii Region, the role of the existing 'Glass Palace' structure as well as the pedestrian focus of the area surrounding the Amox Rex Museum. Urban Presents will zoom in on the Amox Rex public plaza, its role in the urban context as well as its relationship to the interior galleries. Construction & Materials will zoom in further on the construction of the structure as well as the materials of the plaza surface and the interior finishes and strategies. The case

study concludes with an analysis of the relationships between the contemporary addition, the existing historic building and the urban context and culture.

## **History of the Site**

The Kamppi region was named after the Swedish word Kampen, meaning battle, which references the region's history as a military barracks and training zone during the Russian occupation of the 19th century.<sup>1</sup> Following the Finnish independence, Kamppi became home to the Jewish Narinkka Market. The market was a prominent area for Jewish merchants during the late 19th century. The year 1929 saw the end of the Narinkka market and it wasn't until the mid 1930's where the area saw any further development. In the mid 1930's the area was subject to the construction of two new modernist buildings built for the Olympic Games in which Finland competed successfully to host.<sup>2</sup> The two new modernist architectural expressions were the Lasipalatsi (Glass Palace) and the Tennispalatsi (Tennis Palace). These buildings were imperative catalysts to the area as they were designed to boost the profile of the Finnish capital.<sup>3</sup> The Tennispalatsi is now home to the Helsinki Art Museum (HAM) and the largest multiplex

cinema in Finland.<sup>4</sup> The former site of the Narinkka market is now home to the Narinkka Plaza in the heart of Kamppi center. This new plaza marks the Finnish redevelopment of the area in hopes of creating a pedestrian friendly cultural hub in the heart of the city.<sup>5</sup> The Kamppi centre, designed by various architects including Juhanni Pallasmaa and is home to many various programs which make it an ideal location for pedestrian traffic, retail opportunities, and for the culture of

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<sup>1</sup> "Works - PublicSpace," PUBLIC SPACE, accessed March 18, 2020, <https://www.publicspace.org/works/-/project/d169-underground-complex-in-kamppi-centre>

<sup>2</sup> My Helsinki, accessed March 18, 2020, <https://www.myhelsinki.fi/en/see-and-do-neighbourhoods/kamppi-and-kluuvi/kamppi>

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.



the city. The Kamppi centre is directly next to the Amos Rex site separated only by a long pub acting as a barrier between the two plazas. The Kamppi centre was an extensive redevelopment as it brought a central bus terminal, underground long-distance bus terminal, underground metro station, underground freight depot, underground parking, mid-rise shopping centre complete with a supermarket, restaurants, and various shops, as well as a complimenting amount of offices and residential apartments.<sup>6</sup> The Kamppi centre project set a new precedent for the redevelopment of the old district and paved a new plane for pedestrian movement by slipping all moto-car programs underground. Services were now buried but kept accessible, while the erected buildings supported the growing density of the region. This technique which was just developed found success and is only footsteps away from the Amos Rex project which would take inspiration from the Kamppi centre in its own redevelopment.

Redevelopment of a modernist 1936 building designed by Viljo Revell, Niilo Kokko and Heimo Riihimäki, called the **Lasipalatsi** (Glass Palace). The building was donated to the private museum foundation with approval to build the new museum. However, the building was restricted to rise in height. The Lasipalatsi building holds the cinema lobby as well as the 550-seat auditorium. Restricted by the height limit, urban context, and historic building, the designers decided to create a new urban plaza by excavating two storeys down, creating a void from the removal of 13,000 cubic metres of rock.<sup>7</sup>

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<sup>6</sup> "Kamppi Center," Wikipedia (Wikimedia Foundation, March 12, 2020), [https://en.wikipedia.org/wiki/Kamppi\\_Center](https://en.wikipedia.org/wiki/Kamppi_Center)

<sup>7</sup> Wright, Herbert. 2019. "Metaphysical Helsinki." *Abitare*. March 27, 2019. <http://www.abitare.it/en/architecture/projects/2019/03/30/jkmm-new-amos-rex-helsinki/>.

## Pedestrian Focused Future

As noted above, the Kamppi centre brought the necessary infrastructure to encourage pedestrian movement, however, the entire Kamppi region takes advantage of pedestrian infrastructure through its redevelopment over the years. The Kamppi region stretches from the Baltic sea to the Hietalahti Market Square, with long streets densely occupied

by shops and retail offers the ideal pedestrian commute complete with stimuli around each corner.<sup>8</sup> The areas many office spaces are home to over 26,000 people during the work day and the abundant supply of restaurants and shops support the daily commute. The Baana is a pedestrian project built in 2012 in which an old railway pass was redeveloped into a popular cycling and pedestrian path in which provides uninterrupted pathways through Helsinki while also providing meeting points along the way in the form of benches and sports areas<sup>9</sup>. The Baana connects the Kamppi region to the sea and stitches together several important cultural buildings such as the Kiasma museum, Helsinki Art Museum (formerly Tennispalatsi), Kamppi Centre, Finnish Museum of Natural History, Mannerheim Square, Amos Rex Museum, and comes to a symbolic end with the famous Helsinki Central station by Finnish architect Eliel Saarinen. The Baana is just one of many projects within the Kamppi area that reinforces the Finnish redevelopment of old infrastructure into new infrastructure supporting pedestrian movement. The history of the Kamppi region has always been relatively pedestrian, however, a few important redevelopment projects have returned the area to the pedestrian hub it once was back when it was a soldiers barracks and then market. The important work towards a pedestrian centred region occurred

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<sup>8</sup> My Helsinki, accessed March 18, 2020, <https://www.myhelsinki.fi/en/see-and-do-neighbourhoods/kamppi-and-kluuvi/kamppi>

<sup>9</sup> “Baana’: Reuse of an Old Railway Pass in Helsinki,” more than green, accessed March 18, 2020, <http://www.morethangreen.es/en/baana-pedestrian-and-bicycle-corridor-in-helsinki/>

previously to the Amos Rex Museum project providing an interesting opportunity to JKMM architects.

## Urban Analysis

The subterranean museum in Lasipalatsi square, performs as both an underground museum and an open public space above. The emerging skylights that light the spaces below accentuate the form of the public space, becoming a powerful gesture to enforce pedestrian activation and scale. The simplicity of the program above and complexity of the artificial landscape allow for a flexible space for summer and winter activities. The simplicity activates a public life that is celebrated in Scandinavian countries, from skate and snow boarders, playful children and bemused adults swing around this topographical landscape.<sup>10</sup> The undulating landscape is created by skylights with circular apertures that allow light to penetrate deep into the underground building. These openings not only allow light in but they also frame views of the surrounding architecture and allow curious plaza passersby to peek into the space below disseminating the divide between public and private spaces.<sup>11</sup> The relationship between outside and inside, creates a unique connection between the context and occupants of the gallery and plaza. The urban gesture was formulated through the constraints of the city to respect the buildings original height, but also through the constraints of creating contemporary galleries in existing historic buildings.<sup>12</sup> Therefore, it was decided to bury the building and give the surface to the public realm. This architectural gesture was inspired by the decision to sink the public infrastructure underground to create the Kamppi centre which is next door to the museum.

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<sup>10</sup> MacKeith, Peter. "Amos Rex Art Museum by JKMM Architects." *Architectural Record*, October 5, 2018. <https://www.architecturalrecord.com/articles/13644-amos-rex-art-museum-by-jkmm-architects>

<sup>11</sup> MacKeith, Peter. "Amos Rex Art Museum by JKMM Architects." *Architectural Record*, October 5, 2018. <https://www.architecturalrecord.com/articles/13644-amos-rex-art-museum-by-jkmm-architects>

<sup>12</sup> "Moonbase Helsinki: Amos Rex by JKMM Architects." *DesignCurial*, December 19, 2018. <http://www.designcurial.com/news/moonbase-helsinki-amos-rex-by-jkmm-architects-6897688/>.

Lead architect Asmo Jaakis stated that the challenge was to make the building visible without compromising the constraint of not building above the urban level **“what if the building refuses to go down completely? What if it’s bubbling up from the ground?”**.<sup>13</sup>

Many Scandinavian cities returned to celebrate public life and walkability. Similarly Helsinki offered compelling cultural centers through the Kamppi Square.<sup>14</sup> This moonscape looking plaza in the historic Lasipalatsi Square became a subterranean space with hillocks and funnels that turn the skylight to the sky and buildings.<sup>15</sup> The 1936 Lasipalatsi (Glass Palace) project was restored by Talli Architects in 1998. During the Amos Rex Museum addition, JKMM completed a very minimal restoration to Lasipalatsi.<sup>16</sup> The renovation added the museum's main entrance, foyer, administration offices, and restored the Bio Rex cinema. Lasipalatsi was designed by architecture students Kokko, Revell and Riihimaki in 1936 as a functionalist building, Talli Architects revitalized the original spirit of the building<sup>17</sup> with a sensitive restoration that is compelling and rich. The architects worked to restore it’s historic charm rather than change or adapt to new conditions. The fundamental lesson learned from the Lasipalatsi renovation is to restore and preserve historical buildings. The old buildings throughout Kampii shape and anchor the city's history and design culture. Being sensitive to the historic buildings establishes a design language and dialogue between contemporary and old design typologies. In many ways, the Amos Rex Museum contemporary addition and the restoration of Lasipalatsi has become a part of

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<sup>13</sup> MacKeith, Peter. “Amos Rex Art Museum by JKMM Architects.” *Architectural Record*, October 5, 2018. <https://www.architecturalrecord.com/articles/13644-amos-rex-art-museum-by-jkmm-architects>

<sup>14</sup> “Moonbase Helsinki: Amos Rex by JKMM Architects.” *DesignCurial*, December 19, 2018. [http://www.designcurial.com/news/moonbase-helsinki-amos-rex-by-jkmm-architects-6897688/..](http://www.designcurial.com/news/moonbase-helsinki-amos-rex-by-jkmm-architects-6897688/)

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

<sup>17</sup> “Lasipalatsi Restoration,” Talli, accessed March 18, 2020, <https://www.talli.fi/en/projects/lasipalatsi-restoration>

the design signature of Helsinki and ultimately a continuation of Kampii's urban culture.

## **Structure + Construction**

Amos Rex underground exhibition hall which creates dynamic spaces both on the exterior and interior. The bulging topographic forms that connect the plaza and gallery are constructed using a series of unique reinforced concrete elements. The structure is made of a series of domes which create large spans across the gallery plan.<sup>18</sup> The domes are designed using a cloister vault which essentially is 4 curved surfaces which meet at the center point.<sup>19</sup> The cloister vaults use a pre-stressed concrete beam along the perimeter of the vault to transfer the forces on the dome down through the walls into the foundations.<sup>20</sup> The domes create these large spans of up to 32m and high ceilings at around 10m at its highest point.<sup>21</sup> The architectural feature and structural challenge of this project is the large skylights that interrupt the dome structures. In close collaboration with the team, the structural engineers Sweco won the 2018 Concrete Structure of the year in Finland for the design of this unique structure.<sup>22</sup> In order to keep an open plan below post tensioned ring beams were used around the openings above.<sup>23</sup> This allowed the forces in the large dome to transfer around the aperture which brings light and plaza activity into the gallery space.

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<sup>18</sup> Saarinen, Sirkka. 2018. "Amos Rex ." Issuu. Betoni. October 4, 2018. [https://issuu.com/kivirakentaminen/docs/betoni\\_koko\\_lehti\\_3-2018](https://issuu.com/kivirakentaminen/docs/betoni_koko_lehti_3-2018).

<sup>19</sup> AMOS REX CELEBRATES WINNING THE CONCRETE STRUCTURE OF THE YEAR 2018 AWARD." Sweco Finland. Accessed March 15, 2020.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

## Interior Space

Amos Rex large free-span gallery spaces allow for flexibility when curating works of art. The unique spaces create striking atmospheres and allow art to be displayed in ways we haven't experienced. The gallery volumes also allow for artists to adapt and design installations for these spaces specifically.<sup>24</sup> The galleries opening exhibition Massless by teamLab was an interactive digital display which used the interior walls, ceilings and floors as the canvas, allowing the architecture to merge with the art creating an immersive experience for the users.<sup>25</sup> Prior to entering the large gallery spaces, the users enter the museum through the historic Lasipalatsi or Glass Palace. JKMM architects completed a subtle restoration on the 1936 structure which had been restored previously in the late 1990s. JKMM kept the interior as is with very effective alterations, including replacing the old neon sign which was a landmark for the Kamppi region.<sup>26</sup>

## Material

The topographic public plaza above Amos Rex galleries is clad in a unique shape the architects designed to traverse the undulating skylights.<sup>27</sup> The tiles are made of concrete, hinting at the structure below. The tiles have 3 circles that triangulate so they are able fit together and cover the unique surface. As the surface becomes

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<sup>24</sup> Siegal, Nina. "Amos Rex Museum Is Helsinki's New Homegrown Star." New York Times, September 5, 2018.

<https://www.nytimes.com/2018/09/05/arts/design/amos-rex-museum-is-helsinkis-new-homegrown-star.html>

<sup>25</sup> "Amox Rex Inaugural Exhibition: Massless." teamlab. Accessed March 13, 2020.

<https://www.teamlab.art/pt/e/amosrex/>.

<sup>26</sup> "Amox Rex Inaugural Exhibition: Massless." teamlab. Accessed March 13, 2020.

<https://www.teamlab.art/pt/e/amosrex/>.

<sup>27</sup> Siegal, Nina. "Amos Rex Museum Is Helsinki's New Homegrown Star." New York Times, September 5, 2018.

<https://www.nytimes.com/2018/09/05/arts/design/amos-rex-museum-is-helsinkis-new-homegrown-star.html>

more drastic, the large triangular tiles dissolve and simple circle tiles are used. This circular pattern is also used on the inside to clad the ceilings of the galleries, another subtle relationship revealed between inside and outside. As users enter the gallery spaces below a different ceiling condition is used to create a decompression space as you enter and exit the space.<sup>28</sup> A local lighting company created a custom light installation which weaves fabric amongst the ceilings 318 lights creating a soft texture that evokes a calming atmosphere.

## Critical Conclusion

In the short history of Amos Rex, it has become a contemporary landmark and innovative urban space as described by Kartio.<sup>29</sup> JKMM realized early on that it is important to cultivate the urban realm to improve public life and advocate for a healthy and happy city. The old buildings throughout Kampii shape and anchor the city's history and design culture. Being sensitive to the historic buildings establishes a design language and dialogue between contemporary and old design typologies. In many ways, the Amos Rex Museum's contemporary addition and the restoration of Lasipalatsi has become a part of the design signature of Helsinki and ultimately a continuation of Kampii's urban culture.

Asmo Jaaksi, founding partner at JKMM who has led the Amos Rex project says, "Integrating one of Finland's architecturally pioneering 1930s buildings - Lasipalatsi - as part of the Amos Rex project has been a moving experience. By adding a bold new layer to Lasipalatsi, we feel we are connecting past with present. We would like this to come across as a seamless extension as well as an exciting museum space very much of its time"<sup>30</sup>

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<sup>28</sup> Ibid.

<sup>29</sup> "Moonbase Helsinki: Amos Rex by JKMM Architects." DesignCurial, December 19, 2018. <http://www.designcurial.com/news/moonbase-helsinki-amos-rex-by-jkmm-architects-6897688/>.

<sup>30</sup>"JKMM Architects, Tuomas Uusheimo, Mika Huisman, Hannu Rytty, Angel Gil · Amos Rex," Divisare, accessed March 18, 2020, <https://divisare.com/projects/399841-jkmm-architects-tuomas-uusheimo-mika-huisman-hannu-rytky-angel-gil-amos-rex>)

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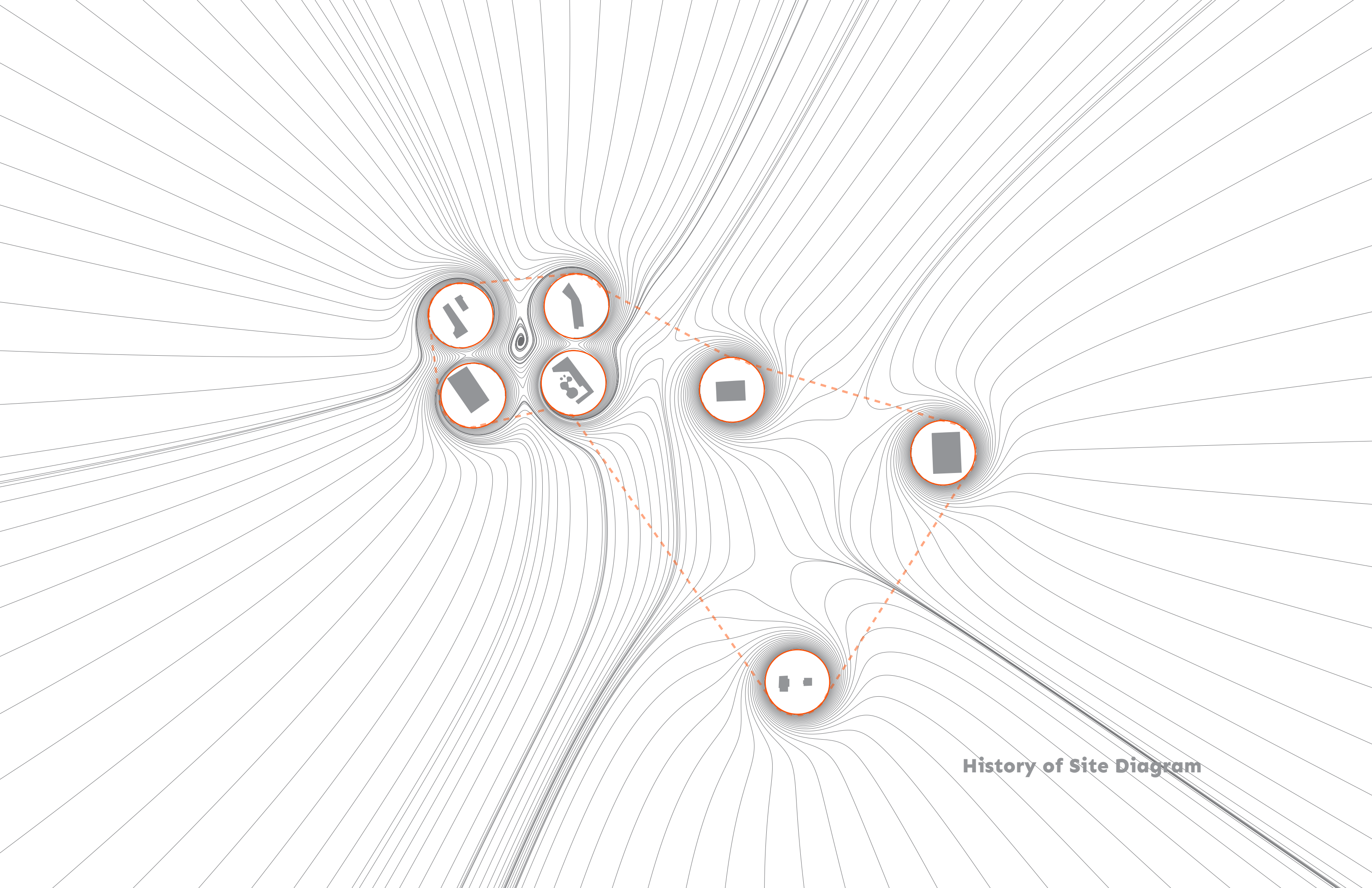
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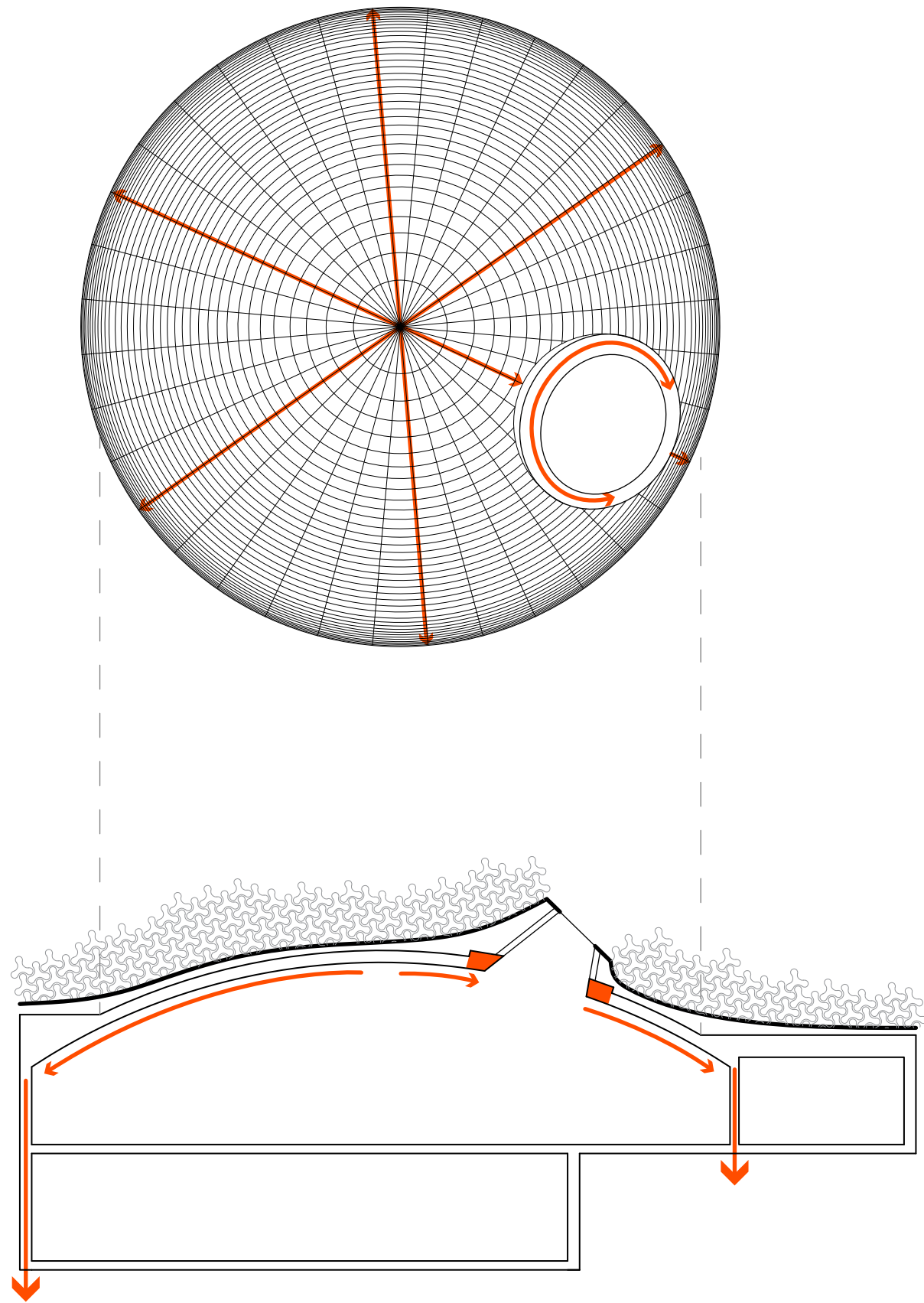
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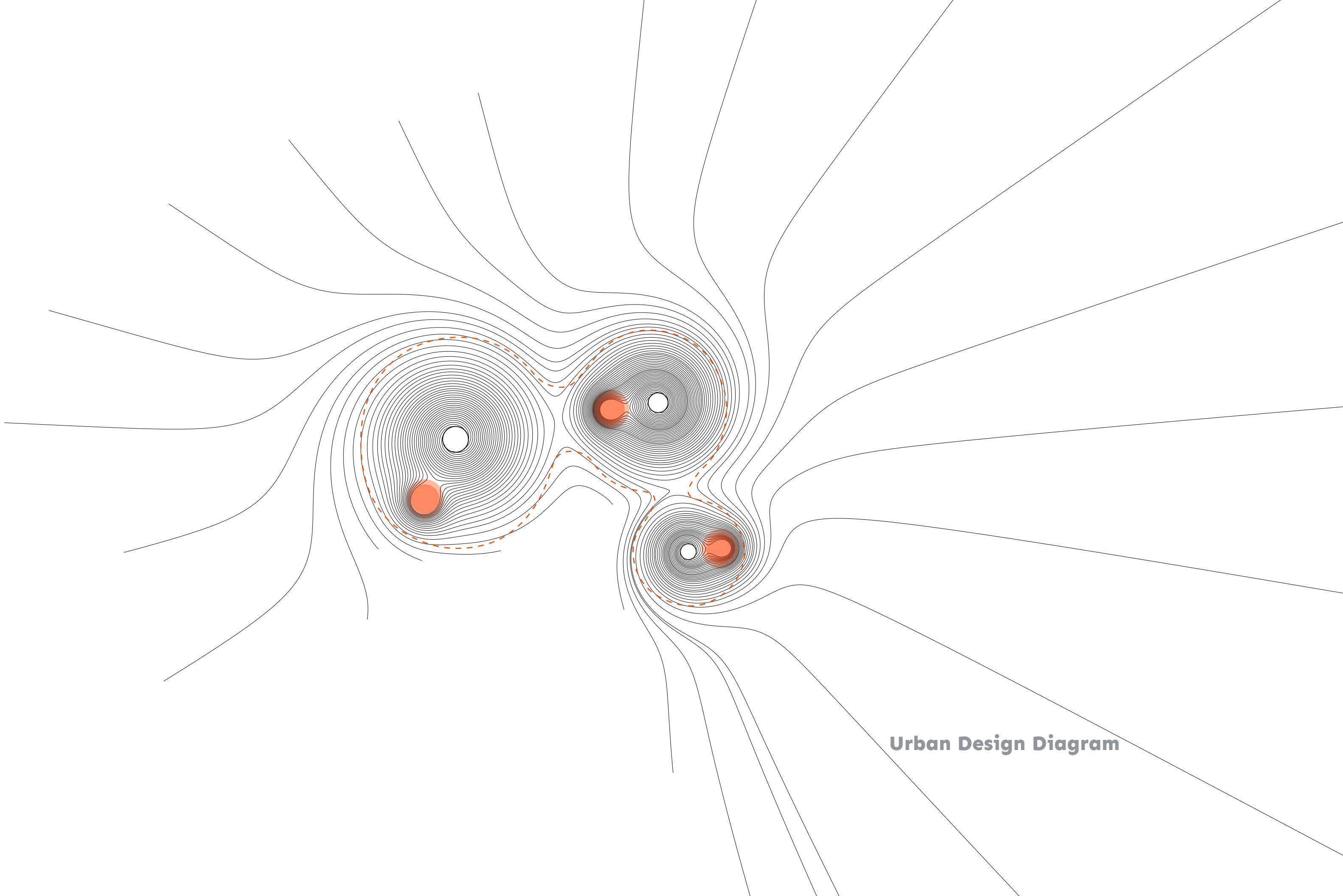
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**History of Site Diagram**



**Structural Design Diagram**



**Urban Design Diagram**