

RÓMAI-PART DESIGN STRATEGIES: A FRAMEWORK FOR DESIGNING WITH COMMUNITY AND LANDSCAPE¹

A RÓMAI-PART TERVEZÉSI STRATÉGIÁJA; KÖZÖSSÉG ÉS TÁJ A TERVEZÉSI KERETRENDSZERBEN

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ABSTRACT

The political atmosphere surrounding public space projects in Budapest is approaching a critical turning point and a paradigm shift is needed. Heavy top-down government processes ignore the needs of citizens, which can be seen in recent projects such as Varosliget and here at Római-part. Located within District III in northern Budapest, the chosen design site is shown in Figure 1. The area is approximately three kilometers long and between 200 and 300 metres wide. It is approximately 70 hectares in size.

Design work is based on a typology method in which related yet distinct categories are identified for the promenade based on diverse site analyses. These typologies are then used to

categorize a series of design solutions informed by research and reference projects. The result is a Design Matrix which outlines possible design solutions for each typology situation.

Coinciding with this diploma work, the local community has been undertaking a process to explore their vision for the future of the area, while separately the municipal government is finalizing their own plan for a new flood protection system. This site will undergo significant change in the near future and the intent of this work is to outline many possible design solutions for each typology situation. In this way, the community can solve design challenges for the entire three kilometer shoreline in a flexible way by responding to unique situations along the promenade while still producing

¹ Diploma thesis 2017 master of arts in landscape architecture, Faculty of Landscape Architecture and Urbanism, Budapest. Szent István University

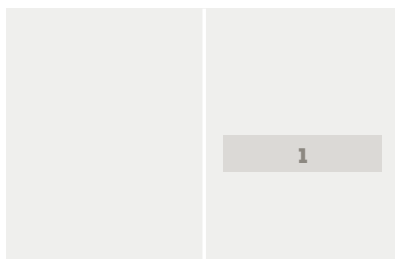
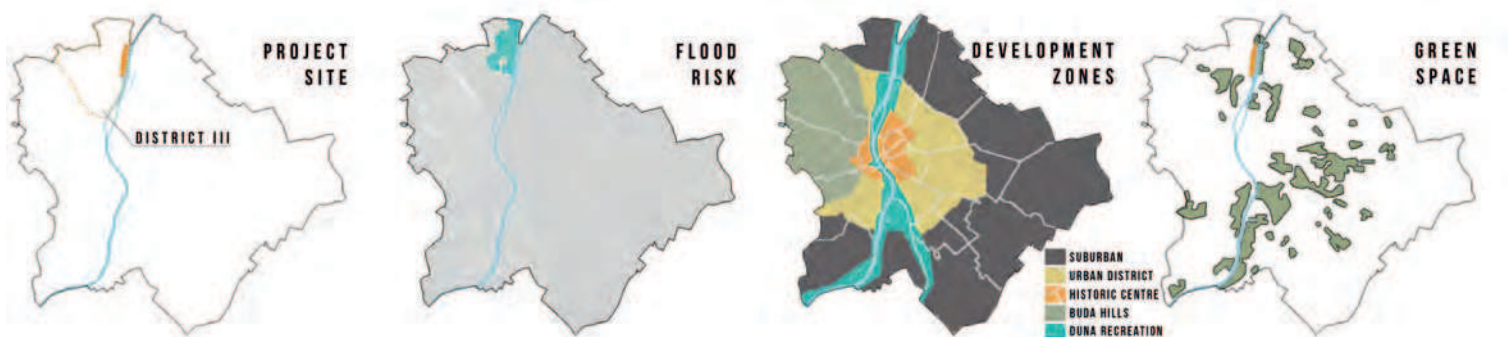


Fig. 1: Location of project.
(SOURCE: AUTHOR)



a unified design character. Both the process and the results of this work may be applicable to other riverfront situations within Hungary, Central Europe and possibly further afield. The design solutions proposed in this work are ultimately searching for better ways of harmonizing social and ecological systems.

INTRODUCTION

Our deep connection to water has been fundamental to our development and survival throughout the course of human history. Like many cities, Budapest lacks the ability to ‘touch the water’ of the Danube as the shores of the inner city consist of built embankments. Global climate change

is increasing the frequency and intensity of flooding across the globe. Now more than ever it is critical that we design our urban waterfronts so that they are resilient to emerging realities by working with natural systems. Landscape architecture must play a central role in changing the paradigm of how communities interact with and utilize water in the urban environment.

An important question coming out of this work is the idea of who’s opinion and vision matters and is taken into consideration when making important community decisions. At Római-part there are 70 families living within the site, 55,000 residents at risk of flood damage, a large diverse group of regular visitors and government and development interests. These visions do not

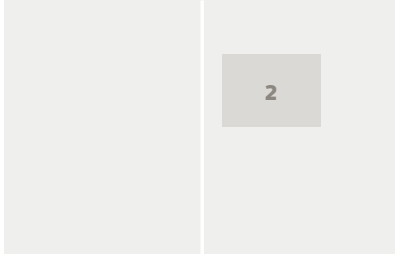


Fig. 2: Historic photos: 1. rowing, 1955; 2. populus alleys, 1969; 3. 'Adria' boathouse, 1930; 4. flooding, 1940. (SOURCE: FORTEPAN. "HISTORIC PHOTOS", ACCESSED MAY 12, 2017 [HTTP://FORTEPAN.HU/](http://fortepan.hu/))

conform to one another and, as is often the case, the designer is looked upon to reconcile the many diverse views of stakeholders. The method of flood protection that is chosen and ultimately constructed will have serious and widespread implications for the future use and character of the Római-part promenade.

In 1799 and 1838 the majority of Budapest was devastated by severe flooding of the Danube. Since this time, permanent flood protection systems have been engineered for all the riverbanks within the municipal borders, with the exception of Római-part. A review of select historic photos provides some insight into the past condition and character of the promenade, slope, beach and vegetation. Evidence of the importance of rowing and water sports is clearly seen. In 1842, the first rowing competition on record was held at Római-part. In 1892, the rowing association operated 23 boat-houses. Historic photos provide us a glimpse into the architectural history of the site and several buildings of importance which still exist are seen, including several boat houses and the former postal service hotel which is currently abandoned. Several boathouses still remain in operation today (Figure 2).

The current landscape contains elements both natural and constructed, consisting of a gallery forest which has been significantly altered over decades and centuries of use. It is defined by the direct interaction with the Danube as a floodplain and by its natural and

ecological connection to the Buda hills located several kilometers to the west. Alleys of *Populus nigra* are used along several property lines and are a defining feature of the current vegetation pattern. The current government proposal for flood protection along the shoreline will require the cutting of approximately 2000 existing trees.² While many of these trees are underbrush, several high quality mature trees would also be lost and the entire character and ecology of the shoreline would be altered. The riparian area along the Danube offers many ecological values, including flood protection, water filtering, habitat provision, ecological corridors, recreational and aesthetic values, spiritual and mental values and erosion prevention.³ Having a wide riparian zone is critical for reducing and delaying flood impacts by allowing the floodwaters and storm runoff to seep into the soil and recharge the groundwater, while also allowing sediment to deposit supporting the stream bank and improving water quality.⁴ In addition, the gallery forest is also very important for human comfort and local microclimate within the study area, as well as being important to the historical character of the area.

LITERATURE REVIEW

Several different 'toolkits' were reviewed for this work, including previous thesis works, professional

² ERBO PLAN, *Budapest District III Római Part Temporary Design of Flood Protection Environmental Impact Assessment*, 2013, p.55-56
³ Water and Rivers Commission, (Australia, 2000), accessed: May 12, 2017 https://www.water.wa.gov.au/_data/assets/pdf_file/0008/3113/11441.pdf
⁴ Unknown author, "Stream Notes: Riparian Buffer", accessed May 12, 2017 <https://www.bae.ncsu.edu/programs/extension/wqg/sri/riparian5.pdf>



ROWING - 1955



POPULUS ALLEYS - 1969



ADRIA BOATHOUSE - 1930



FLOODING - 1940

works and other works published on the internet. The book *River.Space. Design.* (2013) also provided guidance to the overall approach and the gave context for the current state of contemporary theoretical approaches to river shore development strategies, helping to ensure that this work was more appropriately grounded in a proper theoretical place and time.

An attempt was made to find a reference project for as many design matrix items as possible. Each project contains elements which relate to the given category, however it may only be one small aspect of a larger project. Several reference projects are presented and these projects are meant to provide mostly built examples of floodable landscape design and to show the wide range of approaches that are possible. These projects include some type of development. This is relevant given several unique buildings currently sit abandoned along Római-part and these represent an opportunity to experiment flood-proof

adaptive reuse. This may include removing the ground floor walls and reinforcing the existing support pillars to act as stilts or leaving the ground floor to flood while refurbishing upper floors.

Choice of material is critical to achieve resilient landscape design in a floodplain. Concrete and finished metal both have a strong capacity to withstand regular flooding. There is an opportunity to reuse materials in the future design of the promenade. This can both reduce the environmental footprint of the development and also create a tangible connection between the past and the future of Római-part.

ANALYSIS

Large tracts of green space can be seen approximately 1.5 kilometers from the site and there are opportunities to connect the Danube directly to the greenbelt surrounding the city. It is important to consider Római-part



Fig. 3: Site analysis
- path types; existing
land use; values,
opportunities and
constraints;
gateways, entrances
and views.
(SOURCE: AUTHOR)

within the context of the larger regional green network. The Aquincum roman ruins are located approximately 1 kilometer from the Római-part. This provides insight into the long and interesting history of the site and also represents an important opportunity to better integrate Római-part into the district and help to revitalize the shoreline.

Other important adjacent green spaces are the nearby Óbuda Island (Óbudai-sziget / Hajógyári-sziget) and People's Island (Nepsziget). These islands are an important destination for Római-part rowers. Óbuda Island is connected by the public boat service. Óbuda Island also hosts the annual Sziget Festival, one of the largest open-air music festivals in Europe. The festival is another important opportunity to revitalize Római-part.

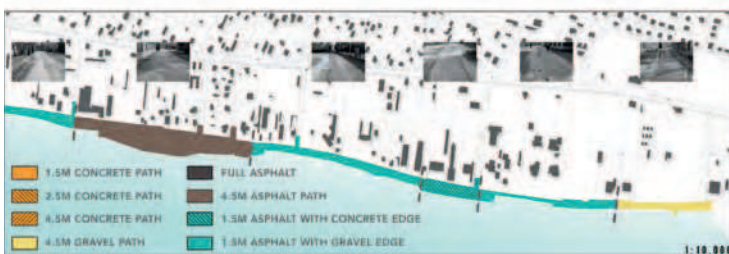
The entire Danube riverfront (including Római-part) was under the jurisdiction of the District III Council until 2010 when the Municipality decided to take control of all riverfront lands. Currently the shore is officially considered a recreational area, which permits only seasonal accommodations to be built. However, it has been suggested that several of these units are used as a primary dwelling year-round.

A proper 'area development plan' or 'development concept' for the plan area does not currently exist. This is an issue for flood planning and something the community would like to see happen before further decisions are made. Several properties within the plan area

are owned and leased by a state-owned agency. These properties represent an important opportunity for the future development of the promenade.

The existing infrastructure of paths, water accesses, buildings, transportation connections, utilities and parking clearly defines the current structure of the promenade and shoreline. Abandoned buildings can tell us of the rather complicated history of a site. These buildings also represent an opportunity for a unique redevelopment to take place. Saving these buildings can contribute to reinforcing a 'sense of place' and gaining notoriety for the area. A current character defining element is the waterfront food stalls located in various areas along the promenade. The largest collection is around the public boat stop. An existing land use map (Figure 3) shows a mix of uses along the Római-part promenade and several important functions and activities have been observed through extensive site visits, including walking and cycling, water sports, socializing and outdoor eating.

Specific analysis was undertaken on the existing path, shoreline and adjacent properties in order to identify existing typologies throughout the project site. The existing path was assessed based on the current width and material type. Entrances, gateways and views were mapped. Many vehicle entrances are present along the promenade and in several locations there are many narrow lots with residential 'summer



PATH TYPES



LAND USE



VALUES, OPPORTUNITIES AND CONSTRAINTS



GATEWAYS, ENTRANCES AND VIEWS

houses' with individual vehicle access. 13 gateways were identified and important views were also identified, representing a key development potential.

Visual connection, top of bank width and lot width were also assessed. There is a wide variety of existing lot widths along the promenade. Several large tracts of land still exist, many under state control. There are also several areas with narrow residential lots.

A Values, Opportunities and Constraints map summarizes key findings (Figure 3). The most important

opportunities identified are significant views, gateways, and vacant and abandoned lots. The key values identified are the existing tree canopy, the natural shoreline, existing boat-houses and river front food vendors. The constraints which were identified are the existing vehicle access points, the areas of restricted path width and the three current construction sites. In general, it was found that the promenade is in need of maintenance and repair. Many accesses to the beach are in unsafe condition. Equipment for docks

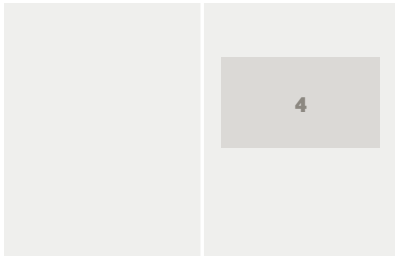


Fig. 4: Five existing typologies identified.
(SOURCE: AUTHOR)

and patios is stored along the top of bank and creates an unorganized appearance.

RESULT

Understanding sense of place (or *Genius Loci*) is important to the long term design success of an area or a space. According to the theories of Norberg-Schulz, the aim of (landscape) architecture is to pursue the “atmosphere, light conditions and sense-related experiences of the genius loci”.⁵ He believes that “nature is the basis for people’s interpretation and it is in relation to nature that places and objects take on meaning”.⁶

Having a clear identity helps residents connect with a place and ultimately take ownership over it. When local residents take ownership over a space it becomes more self-sustaining and economically prosperous. The idea of place is defined through ‘character’ and ‘experience’. Sensory experience is important in uncovering the *Genus Loci* of a space. It is within this context that design work was approached for Római-part. Significant time was spent during this project attempting to identify, appreciate and understand the *Genus Loci* of Római-part. This included site analyses, historic research, interviews, time spent on site during different seasons, colour palette analysis, observation and sketching.

A theoretical background is needed to develop goals and principles for the project, which in turn guide the

development of a Design Matrix. The intent of the matrix is to be used to solve design challenges for the entire three kilometer shoreline in a flexible way by responding to unique situations along the promenade while still producing a unified design character.

An appreciation of natural river dynamics and the ecologies they produce should serve as a baseline for resilient and inter-disciplinary design projects along the Danube. Római-part is both artificial and natural at the same time. Urban riverfronts have competing interests in which space must serve water, biota and social amenity. This paradox suggests that we should be striving for multi-functionality: Striking a balance for the interplay between ecology, flood protection and amenity.⁷

A general lack of acceptance and understanding of natural forces is a problem in spatial design disciplines and has defined landscape and architecture throughout the 20th Century. We need a new approach to the design of riverfront landscapes and this begins with improved comprehension of river dynamics and a new systemic approach to representing and designing with dynamic forces.⁸ The Design Matrix is an attempt to venture into this new field of complex temporal-spatial interplay between water dynamics and design tools.⁹ Understanding and illustrating the dynamic processes of an urban river environment are key to achieving effective design plans.

⁵ Gunila Jiven & Peter J. Larkham, “Sense of Place, Authenticity and Character: a Commentary”, *Journal of Urban Design*, Vol. 8, No. 1, 67-81, 2003, p.71

⁶ *Loc. cit.*

⁷ Martin Prominski et al., *River.Space. Design*. (Basel: Birkhauser, 2013), p.15

⁸ *Ibid*, p.17

⁹ *Loc. cit.*

EXISTING TYPOLOGIES



NATURAL SHORE

- Many Trees
- Wide Top of Bank
- Natural Transition from Beach Slope to Top of Bank



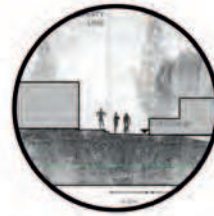
BUILT SHORE

- Many Small Lots, Buildings or Entrances
- Retaining Wall, Stairs or Pier at Top of Bank
- Usually Medium Top of Bank Width
- Some Vegetation



GATEWAY

- A Lot of Cross Traffic
- Usually Medium Top of Bank Width
- Ideal Place for Direct Water Access



CONSTRAINED PATH

- Bufes, Buildings or Fences on Both Sides of Path
- Narrow Top of Bank Width
- Usually Many Entrances



RIVER ACCESS

- Usually Few Trees
- Usually Medium or Wide Top of Bank
- Usually Building Located Near Property Line

Increasingly, flood plain areas are being used for building structures (either floating or elevated on piles) and as such, the Római-part area can still play host to new contemporary development under this scenario. In fact this is an opportunity to test and showcase innovative design appropriate for flood plains along the Danube River. The flood plain must be used intelligibly and practically to serve multiple needs.¹⁰ This is another aim of the Design Matrix.

The approach taken in this work is process-oriented and meant to be inclusive, suggesting that there are many possible solutions for the future Római-part promenade. However, it is critical that design interventions confront real problems of the place, including flooding, respecting history and incorporating the needs of the users and the adjacent neighborhoods. The final design of the promenade should be a democratic space representing a democratic process.

Based on site analysis, five existing typologies were identified (Figure

4). These typologies were then used to organize the possible design solutions which guided the approach to detailed design for the selected sites.

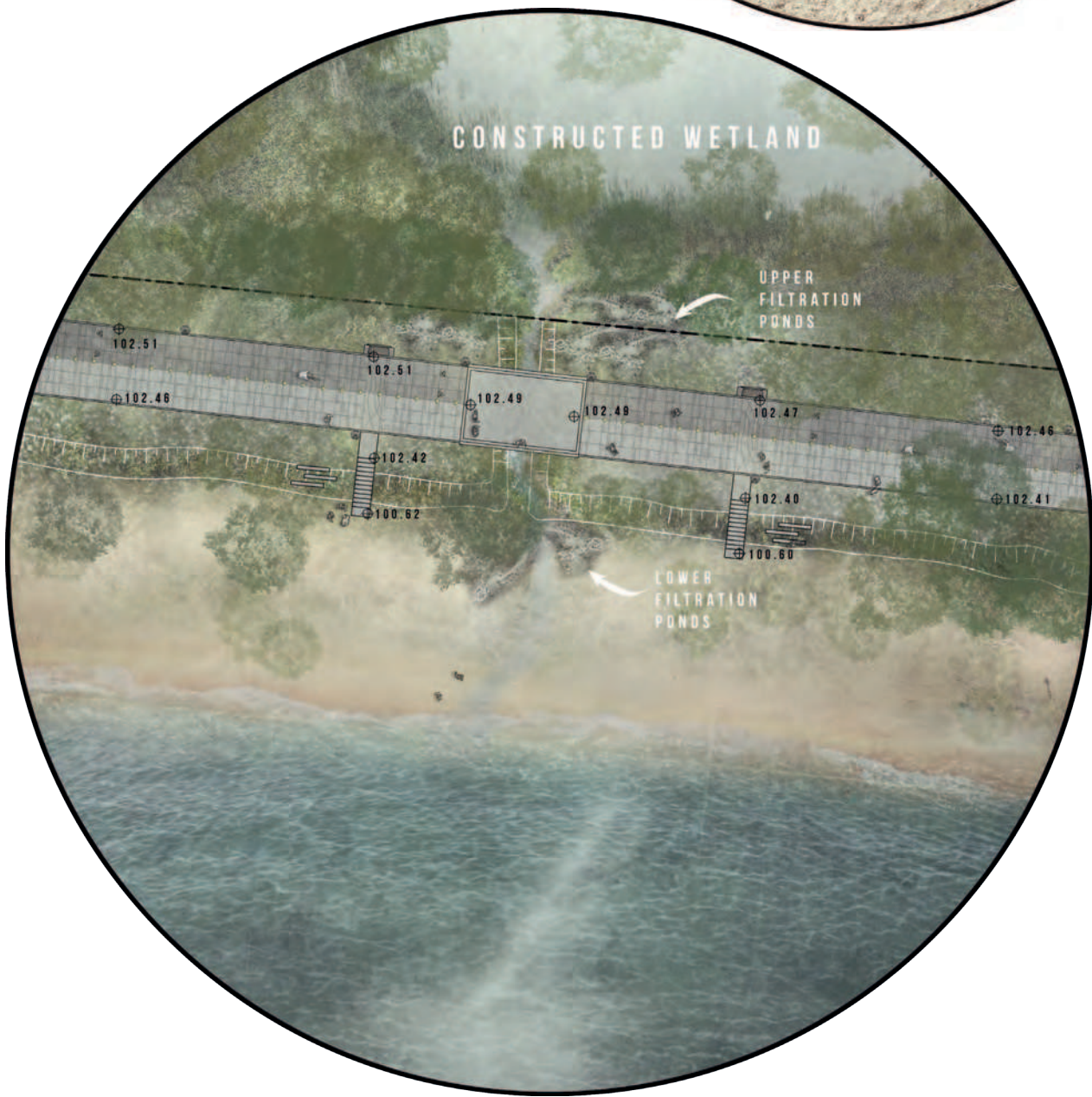
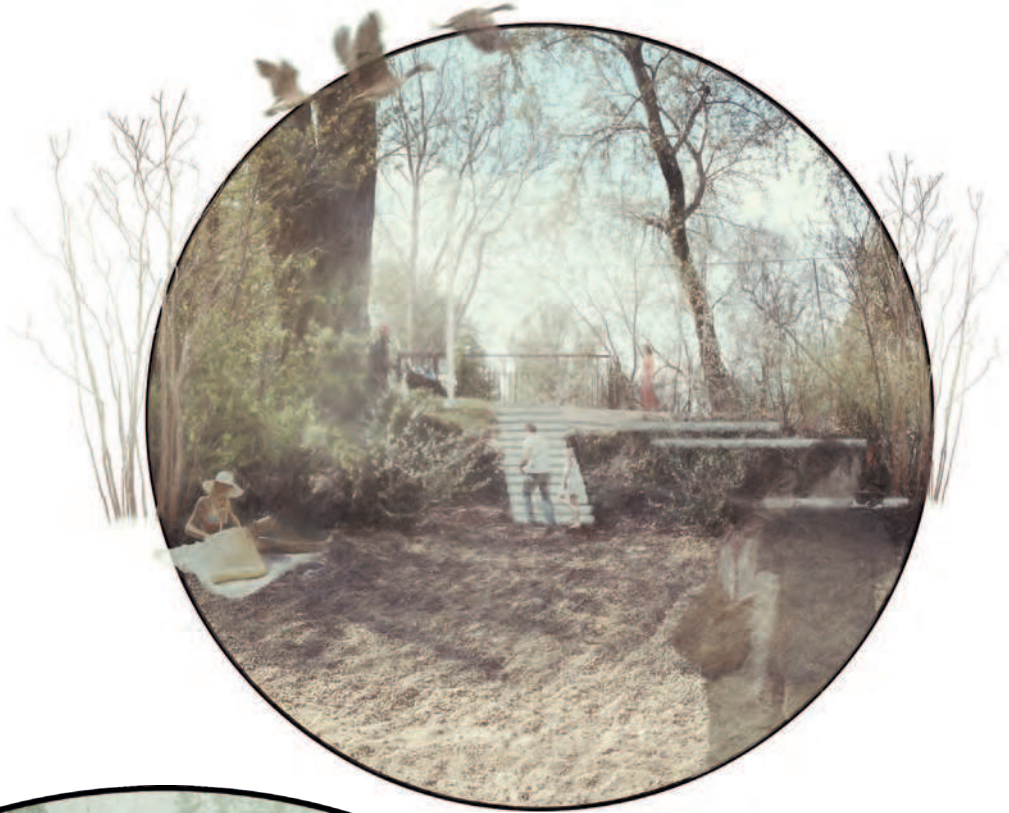
Natural Shore Typology

This is the most common typology along the promenade and it is used as a baseline in terms of design language and standards. This typology generally has good canopy cover with trees located between the path and the bank, on the bank and possibly below on the beach. It is also common to have trees located between the path and the private property line. This type generally has a medium to wide top of bank width and a natural transition from the top of bank to the river shore. Appropriate natural vegetation should be selected and focus should be placed on improving wildlife habitats, natural drainage solutions and other ecological connections.

Built Shore Typology

This typology will generally have an altered transition from top of bank to

¹⁰ Ibid, p.90



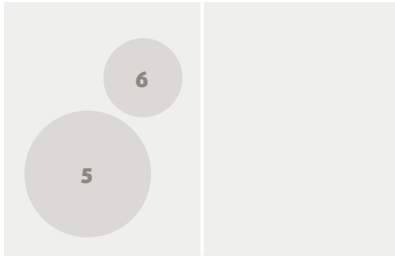


Fig. 5: Site plan
- design site one.

(SOURCE: AUTHOR)

Fig. 6: Visualization
- design site one.

(SOURCE: AUTHOR)

river shore, which includes retaining walls, stairs, or piers. There is usually some vegetation between the path and the top of bank or down below on the beach. The top of bank width varies but is generally medium. There are often many small lots with entrances or many small buildings possibly along the property line.

Gateway Typology

This typology includes any place which a perpendicular access road meets the promenade. There are 13 of these accesses located within the study area. Gateways may have a natural slope to the river or a built slope including retaining walls or concrete boat launches. There is often a lot of cross traffic with different travel modes and these are ideal places for direct river access. Parking and access is an important consideration for this typology, as is way finding and signage. Distinct and showy, yet still appropriate, vegetation should be planted and eye-catchers can be used as landmarks, such as small-scale wind turbines or bird nesting poles.

Constrained Path Typology

This typology may be the least common along the promenade, however requires

very different design techniques. In these situations buildings, fences, retaining walls or patios constrain the through path on both sides. In all cases there is either a narrow top of bank or narrow public right of way available. There are usually many entrances at these points and sometimes many narrow lots. Often there is only minimal vegetation. Organizing the limited public space available is a primary concern and this is an opportunity to explore unique solutions such as floating paths along the beach.

River Access Typology

This typology is particularly common along Római-part, partly owing to the historic popularity of rowing here and the existence of many boat houses. There are currently 53 concrete accesses to the river bank and about half are either in disrepair or are located adjacent to abandoned buildings or empty lots. Vegetation is generally minimal at these locations due to clearings needed for the access. Important considerations are the cross traffic of boats being transported to the river and the need for a storage and washing area in front of the boat house along the path.



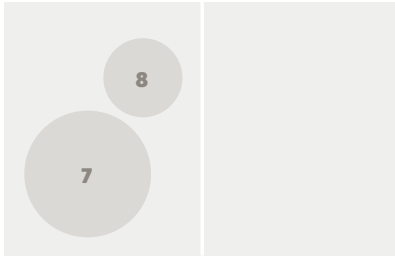


Fig. 7: Site plan
- design site two.

(SOURCE: AUTHOR)

Fig. 8: Visualization
- design site two.

(SOURCE: AUTHOR)

RECOMMENDATIONS AND CONCLUSION

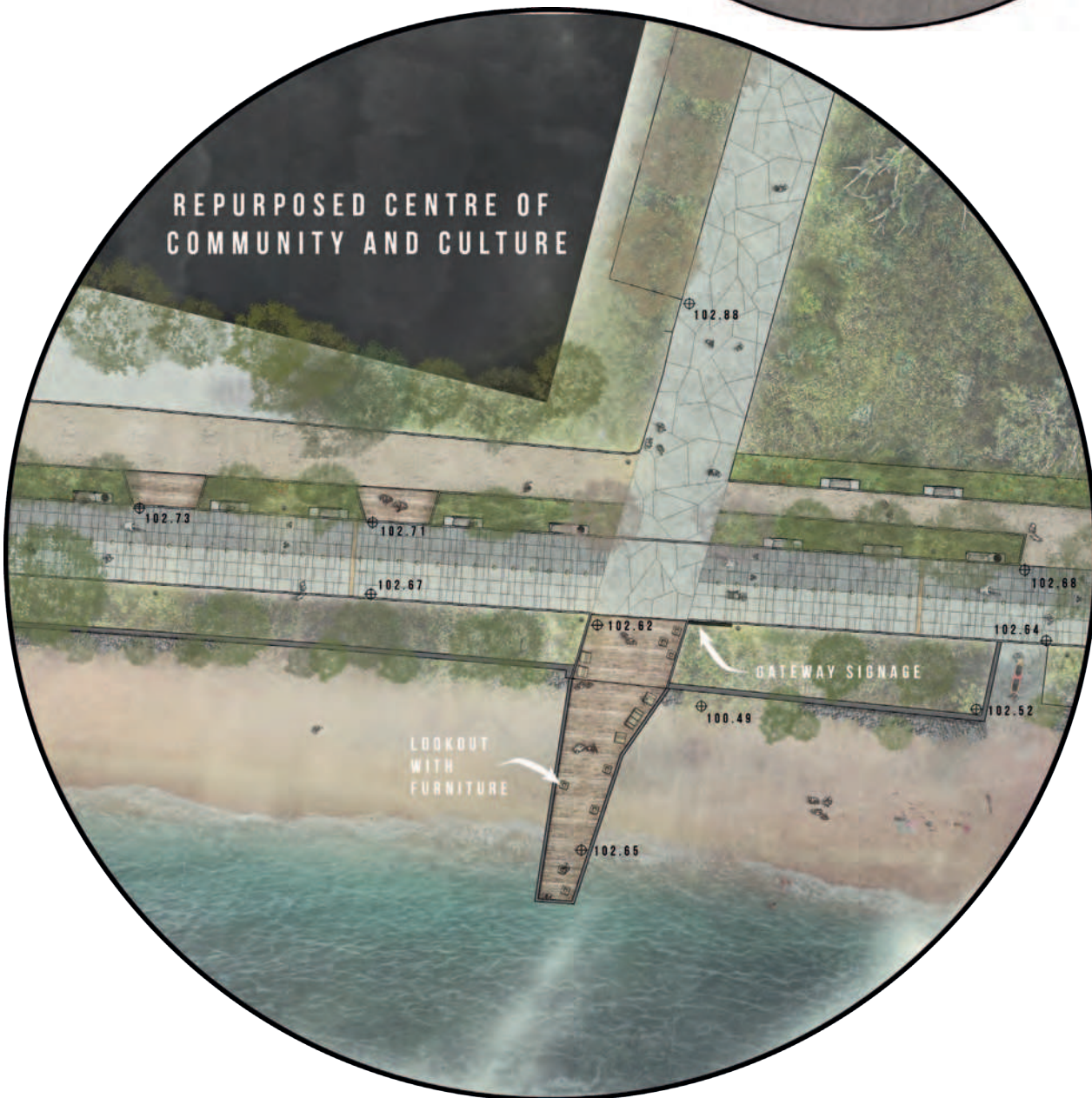
The Design Matrix is not meant to be a comprehensive list of solutions, but rather a varied selection of approaches which can be applicable to many different urban riverfront situations. Seven categories were defined using literature and reference projects: Tolerate (floodable elements), Adapt (floating elements), Resist (water-tight walls), Elevate (raised elements), Relocate (mobile elements), Embrace (ecological elements), and Play (active elements). These categories represent the approach of the designer. Both the typologies and matrix are meant to be transferable design tools.

Detailed design work was carried out for three sites, each representing one of the existing typologies: Natural Shore, Built Shore and Gateway. The sites were chosen through site analysis as a good representative sample of each typology. Furthermore, the sites represent particular opportunities for future development potential and are of interest to the community groups. This detailed design work is not intended to show a finalized design solution, but rather to test the implementation

of the Design Matrix under a given approach and to provide the community with ideas and graphic representation of possible future scenarios.

Detailed Design Site One: Natural Shore Typology

An attempt is made to reduce the number of built elements, thereby keeping focus on the natural character of the shore. The intent is to suggest a simple and clear design language which contrasts the built and natural elements. For the Natural Shore Design Site, the chosen approach is Embrace (Ecological Elements). A large state-owned property adjacent to the promenade is re-imagined as a constructed wetland park which can capture and filter storm water, increase flood capacity of the area, and provide new community space. Development in the form of floating or elevated buildings may also be included. Filtration ponds are located on both sides of the promenade featuring appropriate wetland plants and flood-tolerant shrubs and herbs. Custom pavement delineation patterns add character to the promenade path and a clear cycle track is outlined using a darker concrete and brass or metal pavement inlays. Beach access is provided with a narrow



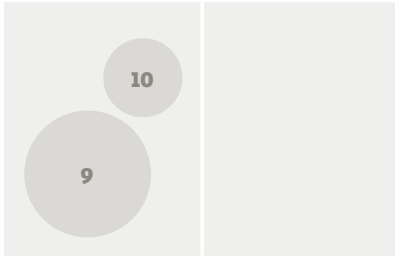


Fig. 9: Site plan
- design site three.
(SOURCE: AUTHOR)

Fig. 10: Visualization
- design site three.
(SOURCE: AUTHOR)

staircase that is simple yet formal, creating an elegant contrast between built elements and nature (Figures 5&6).

Detailed Design Site Two:

Built Shore Typology

For the Built Shore Design Site, the chosen approach is Tolerate (Floodable Elements). This site is defined by a series of organically shaped terraces designed around existing trees. Moving existing patios down onto the new terraces frees up space on the top of bank for restaurants and through traffic. This allows for more safe and orderly use of this busy area. Bicycles can be accommodated with dedicated space while food vendors have more room for customer queuing and deliveries. Centralized bicycle parking is also provided, as this is one of the most popular destinations along the promenade.

Over time, existing food stalls should be replaced with mobile stalls which can be moved to higher ground during floods. The use and character can still remain in this case. Food vendors sit on concrete pads surrounded by stabilised gravel made of Danube rock. Terraces are bordered by at-grade planting beds comprised of flood-tolerant grasses and wet meadow flowers (Figures 7&8).

Detailed Design Site Three: Gateway Typology

For the Gateway Design Site, the chosen approach is Adapt (Floating Elements). A lookout is placed in line with an important gateway access to the promenade located in front of the most significant building, the currently abandoned 14-storey former 'postal hotel'. The lookout and main path are designed to float when significant flood waters rise, held in place with anchored retractable cable stays.

A powder-coat metal railing has been custom designed to be used where required, including the lookout and the small bridge at design site one. Wood is used as a ground material for the lookout. Adjacent to the lookout is a large information and welcome board.

The promenade path is bordered by at-grade planting beds comprised of flood-tolerant grasses and wet meadow flowers. Benches are set in the planters. Secondary paths and meeting areas are provided and should consist of crushed river rock or stabilized gravel. The retaining walls currently exist on site and are only slightly altered to accommodate the lookout. Significant trees can also be retained as the proposed alignment only requires the removal of some scrub brush (Figures 9&10).

General Recommendations

The choice of furniture, materials and plants should consider how to reduce on-going maintenance costs and consider life-cycle costs. Storm water from surrounding areas can be re-directed to new public space areas and be treated naturally using vegetation filtration prior to being released into the Danube.

Plants have been selected to provide ecological services, minimize maintenance, and offer aesthetic value. Appropriate wetland species with high water filtering capacity have been proposed for use in constructed ponds along the natural shore of the promenade. Amphibious plants have been selected for use below the top of bank and in other low laying areas. Flood tolerant shrubs and herbs can be used on top of the slope and in planters.

A mobile sauna or bath has been suggested previously for the Danube River and Római-part is an ideal location for this. Seasonal camping and temporary event spaces are recommended as a use for future development lands prior to development and for state-owned lands as part of a larger plan for future public use of the area. Temporary event spaces could include tents and structures along the shore or on top of retaining walls.

It is also recommended that negotiations begin to increase and improve public boat service to Római-part. This may include a new floating pick-up/drop-off point along the shore. Bicycle paths and primary paths should be

designed in a way which also support emergency, delivery and private vehicle accesses to the promenade. Negotiating with the Bubi bicycle rental company is an important recommendation for increasing future usage of the promenade. Bicycling is perhaps the most convenient option to reach the shore from the central city and having this service can greatly increase accessibility for tourists and for those who do not own a bicycle. Having a Bubi station located at Római-part and at the Újpest-Városkapu M3 metro stop would create a new direct connection to the city centre via the Újpesti Vasúti rail bridge.

There are opportunities for either individuals or a group of property owners to develop smaller-scale flood defenses that may not protect against the worst floods, but can protect against smaller seasonal flooding. This type of defense can also be cleverly designed into future development of the promenade.

Communication is critical for the public to become empowered and to develop a democratic public space. We must fight against the privatization of public space by informing and engaging local citizens as agents of change within the urban environment. Decision-makers, community groups, politicians and developers must all take a long-term approach when planning and designing the future of Római-part. Planners and landscape architects need to work to create partnerships through trust and the community must be an active participant in the urban environment. ©

A RÓMAI-PART TERVEZÉSI STRATÉGIÁJA; KÖZÖSSÉG ÉS TÁJ A TERVEZÉSI KERETRENDSZERBEN¹

A budapesti közterületi beruházások sajátos politikai atmoszférája kritikus helyzetet kezd előidézni, s alighanem paradigmaváltásra van szükség. Az erős kormányzati irányítási rendszer nem veszi figyelembe a helyiek, a városlakók igényeit. Jól példázza ezt a Városliget esete, s most a Római-part átépítésének terve az új árvízvédelmi rendszerrel.

A diplomatervben a közel 3 kilométeres Római-part részletes és komplex analízise alapján egy tipológia rendszert dolgoztam ki a sétány jellegének, karakterének kategorizálásával. A tipológia alapján, a Római-partra készült kutatások és tervek segítségével készültek a tervi javaslatok, melyek ily módon egy tervezési mátrixba rendeződtek. A tervmátrix adja a lehetséges tervi megoldásokat minden egyes típusra, partszakaszkarakterre. A diplomaterv készítésének időszakában a helyi közösség demonstrációt szervezett, hogy ily módon fejezze ki

tiltakozását a Fővárosi Önkormányzat új árvízvédelmi rendszerével szemben, amely drasztikus változásokat eredményezhet már a közeljövőben a partsáv ökológiai rendszerében és rekreációs adottságaiban. A diplomamunka tervi változatok sorozatát adja minden egyes partsávtípusra, ami segítséget jelenthet a helyi közösségnek a tervezési kihívások megválaszolásában a teljes 3 kilométeres szakaszon. A tervváltozatok alkalmasak az egyedi karakter megformálására is. Mind a tervezési módszertan, mind a tervi javaslatok alkalmasak lehetnek széleskörű hasznosításra, más folyóvíz menti területeken, akár Magyarországon, vagy Közép-Európában, s talán azon túl is. A tervezési metodika, a tipológia, a tervezési mátrix és a tervek a társadalmi és ökológiai rendszerek harmonikus kapcsolatának erősítését, egyensúlyozását szolgálják. ©

¹ *Diplomaterv, 2017. MLA. Tájépítészeti és Településtervezési Kar, Budapest. Szent István Egyetem. Tájépítész és kertművész angol nyelvű képzési program (MLA)*